

Gordon Tullock: His journal and his scholarship*

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1. Introduction

Gordon Tullock has served as editor of *Public Choice*, the journal of the Public Choice Society, since its inception in 1966.¹ After 25 years of stewardship, Tullock has passed the reins to Professors Charles Rowley and Robert Tollison. As a part of the assessment of Tullock's contributions to economic science in general, and to the discipline of public choice in particular, this paper uses citation counts to address the following questions:

1. What place does *Public Choice* hold in economics and how has the journal progressed in quality under Tullock's stewardship (as determined by citation counts to published papers)?
2. To what extent has the journal been a conduit for Tullock's own contributions to public choice and how well have these contributions been cited?
3. How influential have Tullock's books and articles been to the whole of economic science?

With the establishment of the Social Science Citation Index and the recent accessibility of these data by computer, citation analysis in social science has increased in scope and acceptability.² Citation analysis has been used to rate and rank journal quality (Garfield, 1972; Gordon, 1981; Liebowitz and Palmer, 1984; Christenson and Sigelman, 1985), the productivity of academic departments and individual economists (Beilock, Polopolous and Correal, 1986; Broadus, 1967; Davis and Papanek, 1984; Laband, 1985; Medoff, 1990), and several have attempted to determine the relationship between citations and

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Table 1. Journals cited by *Public Choice*, 1986–1988

Rank	Journal	Totals	1988	1987	1986
1	A m Econ Rev	246	95	65	86
2	J Polit Econ	166	70	46	50
3	Amer Poli Sci Rev	161	48	69	44
4	J Law Econ	144	60	34	50
5	Econometrica	89	32	29	28
6	J Pub Econ	71	25	22	24
7	J Econ Theory	67	16	25	26
8	Amer J Poli Sci	65	34	17	14
9	Q J Econ	63	26	22	15
10	Nat Tax J	57	32	8	17
11	Southern Econ J	49	28	12	9
12	RE Stats	49	17	13	19
13	Econ Inquiry	47	14	19	14
14	Bell J Econ	43	14	11	18
15	Kyklos	35	13	9	13
16	RE Studies	33	9	9	15
17	Western Econ J	30	13	6	11
18	J Politics	27	10	7	10
19	Pub Finance Q	26	13	6	7
20	Economica	24	7	10	7
21	J Monetary Econ	22	11	0	11
22	Pub Finance	13	6	7	0
23	J Econ Lit	11	0	0	11
24	J Legal Studs	11	0	0	11
25	J Money CB	10	10	0	0
26	Economic J	10	0	10	0
27	Social Choice Welf	7	7	0	0
28	Intern Organ	7	0	0	7
29	Cato	6	6	0	0
30	Brit J Poli Sci	6	0	6	0
31	Theory and Decision	6	6	0	0

salary increases among academics (Diamond, 1985, 1986; Sauer, 1988). Finally, citation analysis has been used (Durden, 1991; Downing and Stafford, 1981) as a means of isolating “classic” books and articles in social choice.

2. Relationship of *Public Choice* to other journals

To address question 1, Table 1 ranks journals according to the total number of times they were cited by articles appearing in *Public Choice*. Table 2 displays similar information for journals citing *Public Choice* articles.

Table 1 suggests that *Public Choice* articles deal with topics of broad interest

Table 2. Journals citing *Public Choice*, 1986–1988

Rank	Journal	Totals	1988	1987	1986
1	Amer J Poli Sci	46	14	18	14
2	J Pub Econ	46	23	10	13
3	Amer Poli Sci Rev	45	20	12	13
4	Pub Finance Q	41	7	15	19
5	J Politics	35	10	6	19
6	J Labor Res	26	11	0	15
7	Va Law Rev	25	25	0	0
8	Amer Econ Rev	21	7	14	0
9	Texas Law Rev	19	9	10	0
10	Social Science Q	19	0	9	10
11	Southern Econ J	17	9	8	0
12	Social Choice Welf	16	0	16	0
13	J Conflict Resolut	13	0	13	0
14	Brit J Poli Sci	13	6	0	7
15	Kyklos	13	0	0	13
16	J I Theoretical Econ	12	6	6	0
17	Math Social Sci	11	0	11	0
18	J Pol Econ	10	10	0	0
19	Econ Inquiry	9	9	0	0
20	J Policy Anay Mgt	9	0	0	9
21	Pub Finance	8	0	8	0
22	Intern MF Papers	7	0	7	0
23	Theory Soc	7	0	7	0
24	J Money CB	7	7	0	0
25	Harv J Law Pub Col	7	7	0	0
26	Econ J	6	0	6	0
27	Theory and Decision	6	6	0	0
28	Cato J	6	0	0	6
29	Yale Law J	6	6	0	0
30	J Econ Behav Org	6	6	0	0
31	Western Pol Q	6	0	6	0
32	J Law Econ	5	0	0	5
33	Europ J Pol Res	5	0	0	5
34	Duke Law J	5	0	0	5

to economists working in theory, monetary economics and public finance and to scholars from political science. Table 2 accentuates the importance of the journal for theoretical and public finance topics and to interdisciplinary scholarship.

Table 3 ranks journals according to various citation measures using data from the 1988 *Social Science Citation Index*.³ The "Impact Factor" of a journal is the number of times the average article appearing in a journal during

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Table 3. Ranking economics journals by various citation measures — 1988

Rank	Journal	Impact Factor	Rank	Immed Index	Rank	Half- life	Rank	Total cites	Rank	Cts per year	Rank	Sum of ranks
1	J Pol Econ	2.25	8	0.49	8	10.0	1	4431	3	166.16	4	24
2	Yale Law J	4.36	3	0.95	5	8.8	15	2881	5	122.77	6	34
3	Econometrica	2.52	6	0.37	12	9.4	12	4709	2	187.11	3	35
4	Harvard Law J	8.70	1	3.11	1	6.3	35	4432	4	263.27	1	42
5	QJE	2.18	9	0.22	19	10.0	1	1912	7	71.70	8	44
6	Amer Econ Rev	1.71	12	0.24	17	9.3	13	5913	1	238.43	2	45
7	Rev Econ Std	1.58	15	0.32	13	10.0	1	1734	10	65.03	11	50
8	J Finan Ec	3.38	5	1.99	3	5.8	41	1902	8	122.97	5	62
9	J Law Econ	1.46	16	0.25	16	10.0	1	1233	13	46.24	19	65
10	J Legal Studs	2.31	7	1.42	4	7.9	22	965	16	45.81	20	69
11	J Finance	1.42	17	0.18	24	8.2	19	2154	6	98.15	7	73
12	Econ J	1.12	26	0.19	23	10.0	1	1567	11	58.76	13	74
13	J Econ Theory	1.16	25	0.21	21	9.9	10	1399	12	52.99	15	83
14	J Monet Econ	1.66	13	0.65	7	5.8	41	1082	14	69.96	9	84
15	J Econ Lit	5.43	2	0.42	9	7.0	30	710	22	38.04	25	88
16	Rev Econ Stat	0.66	43	0.12	29	10.0	1	1835	9	68.81	10	92
17	J Econometr	0.91	32	0.29	15	7.4	26	971	15	49.21	17	105
18	Demography	1.00	30	0.49	8	7.5	25	749	21	37.45	26	110
19	J Bus	1.22	22	0.14	28	7.9	22	807	18	38.31	24	114
20	Economist	4.26	4	2.35	2	2.3	57	356	47	58.04	14	124
21	Economica	1.23	21	0.04	40	10.0	1	695	23	26.06	41	126
21	J Econ Hist	1.62	14	0.20	22	7.8	23	599	29	28.80	38	126
22	Int Econ Rev	0.48	52	0.21	21	10.0	1	775	19	29.06	37	130
23	Brkngs Pap Ec Ac	2.07	10	0.17	25	7.6	25	537	33	26.50	40	133
24	Econ Hist Rev	1.18	24	0.32	13	9.3	13	490	36	19.76	50	136
25	Amer J Agr Econ	0.48	52	0.12	29	7.1	29	933	17	49.28	16	143
26	Ind Lab Rel Rev	1.08	28	0.16	26	5.2	45	608	28	43.85	22	149
27	J Money CB	1.21	23	0.09	32	6.2	36	539	32	32.60	31	154
28	Mon Labor Rev	0.87	34	0.14	28	6.1	37	589	30	36.21	27	156
29	J Int Econ	0.89	33	0.04	40	5.9	39	609	27	38.71	23	162
29	J Urban Econ	0.60	45	0.21	21	7.1	29	562	31	29.68	36	162
30	Regional Studs	1.38	18	0.14	28	5.8	41	436	38	28.19	39	164
31	J Hum Res	0.80	37	0.14	28	7.8	23	508	34	24.42	43	265
31	J Public Econ	0.41	57	0.04	40	8.1	20	767	20	35.51	28	165
31	World Dev	0.58	46	0.15	27	5.2	45	615	26	44.35	21	165
32	Pub Choice	0.66	43	0.11	30	7.0	30	562	31	30.11	35	169
33	Sloan Mgt Rev	1.10	27	0.41	10	5.9	40	344	48	21.86	45	170
34	Eur Econ Rev	0.68	42	0.21	21	5.7	42	495	35	32.57	32	172
35	Oxford Econ Pap	0.46	54	0.22	19	10.0	1	409	41	15.34	62	177
36	Southern Econ J	0.44	56	0.08	36	6.8	32	621	25	34.25	29	178
37	Econ Dev Cu Chg	0.69	41	0.17	25	8.8	15	402	42	17.13	57	181
37	J Fin Quant Anal	0.78	38	0.14	28	8.2	19	407	42	18.61	54	181
38	Economic Inq	0.69	41	0.10	31	6.9	31	453	37	24.62	42	182
39	Econ Pol Weekly	0.15	74	0.17	25	4.0	52	668	24	62.63	12	187
39	Nat Tax J	0.48	52	0.23	18	8.6	17	394	44	17.18	56	187
40	Rand J Econ	1.35	19	0.05	39	3.5	54	314	51	33.64	30	193

Table 3. Continued

Rank	Journal	Impact Factor	Rank	Immed Index	Rank	Half- life	Rank	Total cites	Rank	Cts per year	Rank	Sum of ranks
41	J Reg Sci	0.52	49	0.08	36	7.9	22	423	40	20.08	48	195
41	Land Econ	0.49	51	0.22	19	7.7	24	367	46	17.87	55	195
42	J Acct Ec	1.86	11	0.20	22	4.9	47	222	59	16.99	58	197
43	IMF Staff Pap	0.84	35	0.09	32	7.3	27	309	52	15.87	60	206
44	Can J Econ	0.54	48	0.02	42	6.9	31	407	42	22.12	44	207
45	Econ Geogr	0.81	36	0.01	43	9.2	14	334	49	13.61	68	210
46	J Ind Econ	0.89	33	0.07	37	6.1	37	307	53	18.87	52	212
47	Reg Sci Urb Econ	0.62	44	0.38	11	6.0	38	241	57	15.06	63	213
48	J Dev Econ	0.39	59	0.17	25	5.9	39	324	50	20.59	47	220
49	Polit Ekon	0.68	42	0.15	27	2.6	56	215	62	31.01	34	221
49	Social Sci Q	0.37	60	0.06	38	7.3	27	375	45	19.26	51	221
50	J Math Econ	0.50	50	0.81	6	6.8	32	214	63	11.80	74	225
51	Int J Urb Reg	1.02	29	0.24	17	5.2	45	191	71	13.77	66	228
51	J Tax	0.14	75	0.29	15	1.7	58	215	62	47.43	18	228
52	Econ Lett	0.19	71	0.01	43	5.1	46	424	39	31.18	33	232
53	J Health Econ	1.33	20	0.18	24	3.4	55	151	78	16.65	59	236
54	Cambridge J Econ	0.50	50	0.09	32	7.2	28	242	56	12.60	72	238
55	Econ Soc	0.37	60	0.08	36	10.0	1	228	58	8.55	85	240
56	Kyklos	0.60	45	0.12	29	6.9	31	217	61	11.79	75	241
56	Probl Communism	0.98	31	0.21	21	4.0	52	164	76	15.38	61	241
57	Urban Studs	0.46	54	0.08	36	7.3	27	246	55	12.64	71	243
58	J Econ Iss	0.45	55	0.04	40	4.5	50	252	54	21.00	46	245
59	J Econ Beh Org	0.56	47	0.18	24	6.2	36	201	70	12.16	73	250
60	Oxford B Econ St	1.21	23	0.01	43	4.8	48	189	72	14.77	65	251
60	Pap Reg Sci Assn	0.39	59	0.01	43	9.7	11	241	57	9.32	81	251
61	Rev Rad Pol Econ	0.62	44	0.01	43	10.0	1	168	75	6.30	89	252
62	J Dev Studs	0.48	52	0.11	30	5.3	44	211	64	14.93	64	254
62	J Labor Econ	0.70	40	0.01	43	3.8	53	202	69	19.93	49	254
62	Nat Res J	0.27	67	0.15	27	7.7	24	220	60	10.71	76	254
63	Weltwirtsch Econ	0.36	61	0.11	30	7.4	26	207	66	10.49	77	260
64	Man Sch Econ Soc	0.18	72	0.32	13	10.0	1	138	80	5.18	95	261
65	J Comp Econ	0.77	39	0.04	40	5.1	46	186	73	13.68	67	265
66	Exp Econ Hist	0.77	39	0.11	30	7.0	30	135	81	7.23	87	267
67	Rev Income Weal	0.56	47	0.11	30	6.6	34	155	77	8.81	83	271
68	Soviet Studs	0.40	58	0.09	32	7.1	29	180	74	9.51	79	272
69	J Evn Econ Mgt	0.36	61	0.03	41	7.4	26	203	68	10.29	78	274
70	Appl Econ	0.30	65	0.05	39	4.1	51	205	67	18.75	53	275
71	Scand J Econ	0.28	66	0.06	38	5.9	39	208	65	13.22	69	277
72	J Leisure Res	0.17	73	0.09	32	10.0	1	138	80	5.18	94	280
73	J Po Keynes Econ	0.36	61	0.03	14	3.8	53	129	82	12.73	70	280
74	Socio Econ Pl Sc	0.34	62	0.22	20	5.4	43	135	81	9.38	80	286
75	Scot J Pol Econ	0.33	63	0.01	43	9.7	11	139	79	5.37	93	289
76	Econ Rec	0.22	69	0.01	43	10.0	1	117	86	4.39	97	296
77	J Agr Econ	0.39	59	0.19	23	4.8	48	118	85	9.22	82	297
78	Hist Pol Econ	0.26	68	0.06	38	8.0	21	123	84	5.77	91	302

Table 3. Continued

Rank	Journal	Impact Factor	Rank	Immed Index	Rank	Half- life	Rank	Total cites	Rank	Cts per year	Rank	Sum of ranks
79	Pub Financ	0.18	72	0.10	31	8.7	16	110	88	4.74	96	303
80	Q Rev Econ Bus	0.20	70	0.01	43	10.0	1	63	92	2.36	99	305
81	J Econ Dyn Contr	0.12	76	0.10	31	7.1	29	127	83	6.71	88	307
82	J Labor Res	0.47	53	0.08	36	4.8	48	107	90	8.36	86	313
83	J Bus Econ Stat	0.31	64	0.01	43	8.4	18	60	93	2.68	98	316
84	J Bank Finan	0.27	67	0.01	43	6.7	33	111	87	6.21	90	320
85	Amer J Econ Soc	0.17	73	0.01	43	7.3	27	108	89	5.55	92	324
86	ARUEA J	0.37	60	0.01	43	4.6	49	105	91	8.56	84	327

1986–1987 was cited in 1988. It is simply total articles, including notes, divided into the total number of cites. The “Immediacy Index” is citations in 1988 divided by articles appearing in 1988. The “Half-Life” is a measure of the longevity of published articles. For example, to say that the half-life of the *Journal of Political Economy* is ten years, means that half the citations for 1988 were to articles which appeared in the journal during the previous ten years. To make the comparisons more relevant, Table 3 includes only those journals which have existed long enough to establish a measure of half-life, and ten years is the maximum reported. “Total Cites” is the number of cites to all articles published. “Cites Per Year” is the average number of cites up to 1989 for the number of years equaling twice the journal’s half-life.

Journals are arranged according to the “Combined Rank” measure in the last column. This number is the sum of ranks for the journal in all four categories. Journals are listed according to the lowest combined total. Overall, *Public Choice* ranked about in the middle of the distribution in 1988.

While Table 3 provides a comprehensive measure of *Public Choice*’s current ranking within a large population of economics journals, Table 4 attempts a glimpse at *Public Choice*’s recent history in terms of journal rankings. To provide a relevant benchmark, *Public Choice* is compared with 23 economics journals that could be considered similar in terms of quality and/or degree of specialization. The first three columns of Table 4 record the ranking of *Public Choice* and the 23 other journals relative to all social science journals in the years 1978, 1983 and 1988 on the basis of total cites.

Between 1978 and 1988, 16 of the 24 journals improved their ranking while eight journals lost ground. *Public Choice*’s ranking improved dramatically from 482 in 1978 to 211 in 1988. When only the 24 economics journals are ranked on the basis of total cites, the ranking of twelve journals worsened, eleven improved and one remained the same between 1978 and 1988. Once

Table 4. *Public Choice* ranking among journals, 1978–1988

Journal	Ranking among social science journals (total cites)			Ranking among comparable economics journals (total cites)		
	1978	1983	1988	1978	1983	1988
Pub Choice	482 ^a	226 ^b	211 ^c	14 ^d	9	9
Can J Ec	319	303	325	10	17	17
Economica	121	129	157	1	2	3
Ec Inquiry	877	284	265	22	15	15
Int Ec Rev	138 ^c	121	143	2	1	1
Ind Lab Rel Rev	491	143	196	15	3	6
J Ec History	195	238	200	3	10	8
J Hum Res	225	181	240	6	6	12
JMCB	249	210	222	7	8	11
J Pub Ec	289	182	145	8	7	2
J Reg Sci	307	248	281	9	11	15
J Urb Ec	514	361	211	16	19	9
Kyklos	394	475	492	13	20	21
Land Ec	619	216	218	18	13	19
Ox Ec Papers	637	325	295	19	18	16
Pub Adm Rev	982	144	199	23	4	7
Pub Finance	601	841	772	17	24	23
Pub Fin Q	860	799	854	21	23	24
Reg Sci Urb Ec	1247	633	455	24	22	20
Reg Studies	326	265	274	11	14	14
Scand J Ec	672	496	511	20	21	22
Soc Sci Q	217	251	314	5	12	18
So Ec J	200	167	187	4	5	4
World Dev	357	289	192	12	16	5

^a The journal's rank out of a total of 1,285 journals.

^b The journal's rank out of a total of 1,358 journals.

^c The journal's rank out of a total of 1,382 journals.

^d The journal's rank out of a total of the 24 comparable journals listed.

^e This journal's ranking for 1979 since it did not appear in the 1978 report.

again, *Public Choice*'s ranking improved significantly, from 14 to 9 over that period. However, all of the improvement occurred in the first five-year period (1978 to 1983).

3. Most-cited articles in *Public Choice* and Tullock's contribution

To what extent have Tullock's *Public Choice* offerings influenced other scholars in the sub-discipline of public choice? Table 5 lists, by year published, the

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Table 5. The most cited articles published in *Public Choice*

Author	Year	Cites	Cites/Yr	Article
Wagner, Richard E.	1966	19	0.8	"Pressure groups and political entrepreneurs," 1: 161-170.
Thompson, Earl A.	1966	15	0.7	"A pareto optimal group decision process," 1: 133-140.
Davis, Otto A. Melvin J. Hinich	1968	23	1.1	"On the power and importance of the mean preference in a mathematical model of democratic choice," 5: 59-73.
Tullock, Gordon	1969	38	1.8	"Federalism: problems of scale," 6: 19-30
Hinich, Melvin Peter Ordeshook	1969	36	1.8	"Abstention and equilibrium in the electoral process, 7: 81-107.
Olsen, Edgar O.	1969	23	1.2	"A normative theory of transfers," 6: 39-59.
Haefele, Edwin T.	1970	15	0.8	"Coalitions, minority representation, and vote trading probabilities," 8: 75-91.
Buchanan, James M.	1970	17	0.9	"Notes for an economic theory of socialism," 8: 29-44.
Clarke, Edward H.	1971	92	5.1	"Multipart pricing of public goods," 11: 17-34.
Tullock, Gordon	1971	30	1.7	"The paradox of revolution," 11: 89-100.
Frey, Bruno S.	1971	22	1.2	"Why do high income people participate in politics," 11: 101-106.
Buchanan, James M.	1971	18	1.0	"Principles of urban-fiscal strategy," 11: 1-16.
Stigler, George J.	1972	81	4.8	"Economic competition and political competition," 13: 91-106.
Kadane, Joseph B.	1972	31	1.8	"On division of the question," 13: 47-54.
Daly, George Fred Giertz	1972	16	.9	"Benevolence, malevolence and economic theory," 13: 1-20.
Fraser, John	1972	16	.9	"Political participation and income level: An exchange," 13: 115-118.
Tollison, Robert C. Thomas D. Willett	1973	48	3.0	"Some simple economics of voting and non voting," 16: 59-72.
Barzel, Yoram Eugene Silberberg	1973	45	2.8	"Is the act of voting rational?" 16: 51-58.

Table 5. Continued

Author	Year	Cites	Cites/Yr	Article
Eckert, Ross D.	1973	45	2.8	"On the incentives of regulators: The case of taxicabs," 14: 83-100.
Brody, Richard Benjamin I. Page	1973	42	2.6	"Indifference, alienation and rational decisions: The effects of candidate evaluations on turnout and the vote," 15: 1-18.
Ahlbrandt, Rogers	1973	40	2.5	"Efficiency in the provision of fire services," 16: 1-16.
Sloss, Judith	1973	32	2.0	"Stable outcomes in majority voting games," 15: 19-48.
Barro, Robert J.	1973	31	1.9	"The control of politicians: An economic model," 14: 19-42.
Bernholz, Peter	1973	28	1.75	"Logrolling, arrow paradox and cyclical majorities," 15: 87-96.
Migué, Jean-Luc Gérard Bélanger	1974	81	5.4	"Toward a general theory of managerial discretion," 17: 27-42.
Welch, William P.	1974	53	3.5	"The economics of campaign funds," 20: 83-98.
Tullock, Gordon	1974	41	2.7	"Dynamic hypothesis of democracy," 17: 127-132.
De Alessi, Louis	1974	31	2.1	"An economic analysis of government ownership and regulation: Theory and the evidence from the electric power industry," 19: 1-42.
Lepper, Susan	1974	27	1.8	"Voting behavior and aggregate policy targets," 18: 67-82.
Ben-Zion, Uri Zev Eytan	1974	26	1.7	"On money, votes, and policy in democratic society," 17: 1-10.
McGuire, Martin C.	1974	26	1.7	"Group size, group homogeneity and the aggregate provision of a pure public good under Cournot behavior," 18: 107-126.
Cebula, Richard J.	1974	22	1.5	"Local government policies and migration: An analysis for SMSA's in the United States," 18: 85-95.

Table 5. Continued

Author	Year	Cites	Cites/Yr	Article
Bernholz, Peter	1974	15	1.0	"Is a paretian liberal really impossible?" 20: 99-108.
Spann, Robert M.	1974	14	.9	"Collective Consumption of Private Goods," 20: 63-82.
Silberman, Jonathan Garey Durden	1975	27	1.9	"The rational behavior theory of voter participation: The evidence from congressional elections," 23: 101-108.
Scherr, Bruce Emerson M. Babb	1975	20	1.4	"Pricing public goods: An experiment with two proposed pricing systems," 23: 35-48.
Wagner, Richard E.	1976	66	5.1	"Revenue structure, fiscal illusion, and budgetary choice," 25: 45-62.
Hansson, Bengt	1976	20	1.5	"The existence of group preference functions," 28: 89-96.
Pittman, Russell	1976	20	1.5	"The effects of industry concentration and regulation on contributions in three 1972 U.S. senate campaigns," 27: 71-80.
Settle, Russell Burton A. Abrams	1976	17	1.3	"The determinants of voter participation: A more general model," 27: 81-90.
Straffin, Philip D. Jr.	1977	30	2.5	"Homogeneity, independence, and power indices," 30: 107-118.
Groves, Theodore John Ledyard	1977	30	2.5	"Some limitations of demand-revealing processes," 29: 107-124
Pittman, Russell	1977	27	2.25	"Market structure and campaign contributions," 31: 37-52.
Buchanan, James M. Gordon Tullock	1977	24	2.0	"The expanding public sector: Wagner squared," 31: 147-150.
Loeb, Martin	1977	16	1.3	"Alternative versions of the demand-revealing process," 29: 15-26.
Miller, Gary J.	1977	13	1.1	"Bureaucratic compliance as a game on the unit square," 29: 37-52.
Romer, Thomas Howard Rosenthal	1978	120	10.9	"Political resource allocation, controlled agendas, and the status quo," 33: 27-44.

Table 5. Continued

Author	Year	Cites	Cites/Yr	Article
Inman, Robert P.	1978	61	5.5	"Testing political economy's 'as if' proposition: Is the median income voter really decisive?" 33: 45-66.
Abrams, Burton A. Mark D. Schmitz	1978	35	3.2	"The 'crowding out' effect of government transfers on private charitable contributions," 33: 29-42.
Levy, Ferdinand Gloria M. Shatto	1978	20	1.9	"The evaluation of corporate contributions," 33: 19-28.
Frey, Bruno S. Friedrich Schneider	1979	33	3.3	"An econometric model with an endogenous government sector," 34: 29-44.
Bennett, James T. Manuel H. Johnson	1979	20	2.0	"Public versus private provision of collective goods and services: Garbage collection revisited," 34: 55-63.
Deacon, Robert T.	1979	17	1.7	"The expenditure effects of alternative public supply institutions," 34: 381-397.
Mackay, Robert J C.L. Weaver	1979	16	1.6	"On the mutuality of interests between bureaus and high demand review committees: A perverse result," 34: 481-491.
Shepsle, Kenneth A. Barry R. Weingast	1981	67	8.4	"Structure-induced equilibrium and legislative choice," 37: 503-521.
Tullock, Gordon	1981	55	6.7	"Why so much stability?" 37: 189-203.
Chappell, Henry W., Jr.	1981	23	2.9	"Campaign contributions and voting on the cargo preference bill: A comparison in simultaneous models," 36: 301-313.
Welch, William P.	1981	21	2.6	"Money and votes: A simultaneous equation model," 36: 209-235.
Merrill, S., III	1981	17	2.1	"Strategic decisions under one-stage multi-candidate voting systems," 36: 115-135.
Schwartz, Thomas	1981	17	2.1	"The universal-instability theorem," 37: 487-503
Fishburn, Peter Steven J. Brams	1981	15	1.9	"Approval voting, condorcet's principle and runoff elections," 36: 89-115.
Fiorina, Morris P.	1982	35	5.0	"Legislative choice of regulatory forms: Legal process or administrative process?" 39: 33-67.

Table 5. Continued

Author	Year	Cites	Cites/Yr	Article
Barke, Richard P. William H. Riker	1982	14	2.0	"A political theory of regulation with some observations on railway abandonments," 39: 73-107.
Laney, L.O. Thomas D. Willet	1983	37	6.2	"Presidential politics, budget deficits, and monetary policy in the United States," 40: 53-69.
Meltzer, Allan S.F. Richard	1983	16	2.7	"Tests of a rational theory of the size of government," 41: 403-419
Weingast, Barry R.	1984	28	5.6	"The congressional-bureaucratic system: A principal-agent perspective (with applications to the SEC)," 44: 147-193.
Weede, Erick	1984	18	3.6	"Democracy, creeping socialism, and ideological socialism in rent-seeking societies," 44: 349-367.
Ledyard, John O.	1984	15	3.0	"The pure theory of large two-candidate elections," 44: 7-43
Corcoran, Will J.	1984	10	2.0	"Long-run equilibrium and total expenditures in rent-seeking," 43: 89-95.
Jacobson, Gary	1985	16	4.0	"Money and votes reconsidered: Congressional elections, 1972-1982," 47: 7-63.
Higgins, R.S. W.F. Shugart, II R.D. Tollison	1985	14	3.5	"Free entry and efficient rent-seeking (efficient rents 2)," 46: 247-259.
Corcoran, Will G.V. Karels	1985	13	3.3	"Rent-seeking behavior in the long-run (efficient rents 1)," 46: 227-247.
Tullock, Gordon	1985	10	2.5	"Back to the bog (efficient rents 3)," 46: 259-265.

most-cited articles published from 1966, when the journal was founded, until 1985.⁴ Tullock is responsible, in whole or in part, for six of the 73 most influential articles. No other author's name appears as frequently in Table 5, and only 8 papers have more cites than Tullock's most-cited work.

The list of most influential articles is narrowed further in Table 6. Here, those articles receiving 40 or more total cites or averaging 10 or more cites per

Text continued on page 188.

Table 6. Articles with 40 or more total cites or 4 cites per year (numbers in parentheses following volume number and pages are total cites and cites per year, respectively)

Romer, Thomas and Howard Rosenthal (1978), "Political resource allocation, controlled agendas, and the status quo," 33: 27-44. (120, 10.9)

A simple model of collective expenditure determination with agenda-setting behavior is analyzed. The political allocation process examined is one in which control of the agenda by an agenda setter results in monopoly power for the setter because of barriers to entry in the formulation of alternatives. The setter exercises a threat over the voters by confronting them with a "take-it-or-leave-it" choice. Although controlled agendas appear to minimize decision costs they have efficiency properties that are troubling.

Clarke, Edward H. (1971), "Multipart pricing of public goods," 11: 17-34. (92, 5.1)

Economists have long argued that public goods, by their nature, do not lend themselves to market pricing. This is the result of either prohibitive transactions costs or free-rider behavior or both. This paper proposes a pricing scheme which induces individuals to reveal their true demand schedules and eliminates the revealed preference or free-rider problem. In this scheme, the individual's true demand price is set equal to his derived marginal supply price at the actual level of output. This mechanism for public good pricing eliminates the usual incentives to behave strategically because the individual cannot improve his own situation by revealing his demand incorrectly. It is also argued that, setting information costs aside, this pricing mechanism would cost no more than alternative arrangements for choosing public goods. Moreover, there is no *a priori* reason to believe that individuals would not economize on information costs as efficiently as under any other system.

Migué, Jean-Luc and Gérard Bélanger (1974), "Toward a general theory of managerial discretion," 17: 27-42. (81, 5.4)

Traditionally, the analysis of managerial discretion within the context of bureaus and nonprofit institutions has been grounded in the specification of a utility function for the manager. Here, the problem is seen as one in which the manager apportions *his* budget, consisting of the discretionary profit generated by the organization, among goods and services in the form of utility producing expenses. Among the more important conclusions derived from this approach is that bureau budgets are too large but bureau output may not be and bureaucrats as well as legislators are lobbied. The article is followed by a very instructive Comment by Niskanen and subsequent Reply by the authors.

Stigler, George (1972), "Economic competition and political competition," 13: 91-106. (81, 4.8)

Similarities between economic and political competition are explored and analogies are drawn. It is argued, for example, that the competition among firms for customers is analogous to the competition among local governments for residents. Hotelling's model of spatial competition is used to illustrate political competition in the traditional sense as competition among parties but is found to be less than adequate in this regard. This notwithstanding, the basic point is carried through that political competition, even between parties, is, fundamentally, alike economic competition.

Shepsle, Kenneth A. and Barry R. Weingast (1981), "Structure-induced equilibrium and legislative choice," 37: 503-521. (67, 8.4)

Prior research on pure majority rule voting reached and refined the conclusion that, formally, majority rule is without an equilibrium and, therefore, unstable. This is in contradiction to the ob-

Table 6. Continued.

servation that realworld legislatures appear to generate stable outcomes without endless cycling, policy reversals and constantly shifting majorities. It is demonstrated here that such legislatures induce stable decisionmaking by developing institutional arrangements that restrict the potential for legislative exchange (e.g., logrolling) to upset the equilibrium. Procedures in the U.S. Congress such as the committee proposal process and the Rules Committee are cited as examples of the type of institutional mechanism that renders majority rule outcomes stable.

Wagner, Richard (1976), "Revenue structure, fiscal illusion, and budgetary choice," 25: 45-62. (66, 5.1)

Will a complex revenue structure such as an array of small taxes affect the stock of taxpayer knowledge causing fiscal illusion in the form of modified taxpayer perceptions of the price of public output? It is hypothesized that the more complex the government's revenue structure, the less accurate is the individual's perception of the cost of government and the greater will be the level of public expenditure. An empirical test of this hypothesis produces results that support this notion and the more general idea of fiscal illusion. The implied policy conclusion is straightforward, the simpler the revenue structure the better.

Inman, Robert (1978), "Testing political economy's 'as if' proposition: Is the median voter really decisive?" 33: 45-66. (61, 5.6)

Is the median voter the family with the median income so that governments act "as if" they are maximizing the well-being of the median income family? This study provides the first empirical test of the hypothesis that the median income voter is decisive in the political allocation of resources. From the analysis of a sample of Long Island school districts the conclusion is drawn that the median voter model is a useful explanation of how single-service budgets are determined. It was also found that voter participation had little effect on spending outcomes.

Welch, William, P. (1974), "The economics of campaign funds," 20: 83-93. (53, 3.5)

This is one of the first papers to apply economic analysis to the financing of political campaigns by developing a model of the transformation of economic power into political power. Political influence is treated as an input and the demand for it, as reflected in its VMP, is actually the supply of campaign funds. The demand for funds by politicians is determined by their marginal product in terms of votes. In an empirical test of the theory, the marginal product schedule of expenditures is negatively sloped and rather steep which is interpreted as an argument for public financing of campaigns.

Tullock, Gordon (1981), "Why so much stability?" 37: 189-203. (55, 6.9)

This paper attempts to explain how it is that theory, based on Arrow's Impossibility Theorem, predicts that a democratic legislative process will be plagued with cycling and an inability to form stable coalitions while real-world political decision-making processes are quite stable. Moreover, stability exists at all levels of government and a given "equilibrium of coalitions" often remains so over rather long periods of time. The answer is simple and based on the first proposition in public choice theory . . . that if a certain condition exists in the political sector, it is an optimum, from an interest group perspective. For those in position to change existing arrangements, gains from trade must be possible for anything to happen and such (major) shifts do not often occur. The key to understanding the process is the logrolling which is characteristic of representative systems and it is the ability to logroll which prevents breakdowns that result in entirely unproductive stale-

Table 6. Continued.

mates. Several examples are provided of stable decision processes, relying on game theory as the basis for the discussion. However, the piece is considerably more intuitive than mathematical. A major contribution is that the author, as he so often does, uses practical discussions laced with intuitive insight in a way that advances understanding and provokes thought.

Tollison, Robert C. and Thomas D. Willet (1973), "Some simple economics of voting and non-voting," 16: 59-72. (48, 3.0)

An economic model of the voting decision should be able to explain both the absolute level of voter turnout and the relative turnouts of high-income and low-income voters. It is argued here that "narrow" economic models (i.e., those that include only economic arguments) of the voting decision are incapable of explaining either of the above and could benefit from the inclusion of non-economic variables in the decision problem. With respect to the impact of information on the incentive to vote, they conclude, qualitatively, that information has no systematic effect. Sociological variables (e.g., feeling a duty of vote) are probably quite important, especially in explaining patterns of voting with respect to income. Finally, it is suggested that the negative externality from non-voting be treated analogously to pollution externalities — perhaps a tax on nonvoting?

Barzel, Yoram and Eugene Silberberg (1973), "Is the act of voting rational?" 16: 51-58. (45, 2.8)

It is demonstrated that variation in voter turnout across different elections is the result of wealth-maximizing behavior on the part of voters. The act of voting is not an irrational act because individuals make the decision on the basis of average rather than marginal quantities. Even though a single vote may seem insignificant, particularly in a large election, what is important is whether a given voter ends up providing the swing vote. The probability of this happening in a close election is greater than in those where the outcome is more certain. An empirical investigation of the turnout in gubernatorial elections provides support for the argument that people will be more likely to vote when the cost is low and the probability that they will affect the outcome is high.

Eckert, Ross, D. (1973), "On the incentives of regulators: The case of taxicabs," 83-100. (45, 2.8)

Because of differences in cost and rewards, regulatory commissions have less incentive to expand their regulatory burden in terms of the number of regulated firms and the regulatory workload than regulatory agencies. Members of regulatory commissions, for example, are more constrained in terms of compensation and term of office than are members of bureaucratic agencies. The hypothesis is examined empirically by analyzing data on the regulation of taxicabs in over 30 American cities. It is found that the incidence of monopoly or the geographical cartelization of a market is greater in cities where commissions regulate the industry. The hypothesis presented here also implies that uniform rates will be found more frequently in cities regulated by commissions as will be the prohibition of driver rental operations. The data support both of these implications. Also presented is a brief regulatory history of taxicab regulation in four major cities (Washington, D.C., Baltimore, Los Angeles and New York). These case studies appear to support the basic premise of the paper that the propensity to establish monopolized markets will be greater for regulatory commissions than regulatory agencies.

Brody, Richard and Benjamin I. Page (1973), "Indifference, Alienation and Rational Decisions: The Effects of Candidate Evaluations on Turnout and the Vote," 15: 1-18. (42, 2.6)

Do attitudes toward the candidates affect voter turnout and voter choice in U.S. Presidential elections? These questions are examined using data from the 1968 presidential election. Two

Table 6. Continued.

hypotheses of voter turnout are tested. The first is based on the rational model of non-voting and argues that abstention from voting reflects indifference toward the candidates. The second is derived from psychological models of voting and emphasizes alienation as the cause of non-voting. The empirical results give support to both explanations of non-voting, indifference and alienation. It was also found, however, that the effects of candidate evaluations on voter turnout are relatively small since almost half of Americans vote even when they are totally indifferent and alienated. Models that focus exclusively on candidate evaluations to explain voter turnout are inadequate. With respect to the impact of candidate evaluations on voter choice two models are also tested; the response strength model and the decision rule model. The data provided strong support for the latter model which was able to explain the behavior of 83% of the voters. Overall, the findings of this study provide significant support for rational decision theory by demonstrating that the behavior of individuals, including voting behavior, reflects an attempt to maximize expected utility.

Tullock, Gordon (1974), "Dynamic Hypothesis on Bureaucracy," 17: 127-132. (41, 2.7)

This note grew out of a review the author wrote of Niskanen's *Bureaucracy and Representative Government*. The demand for the services of bureaucracy by the average citizen and by bureaucrats is combined with a constant average and marginal cost of various bureaucracy sizes. The bureaucrats' demand exceeds that of the average citizen because they receive not only the services but also the salary. The politician purchases a compromise amount of bureaucracy which exceeds the amount considered optimal by the average citizen but is less than that demanded by bureaucrats. Such an outcome, however, can lead to a continuous expansion of the bureaucracy because if Congress increases the bureaucracy in period t , there will be more bureaucrats in period $t + 1$, shifting their demand outward and causing the politician's compromise outcome to be greater in the next period. From the perspective of the existing bureaucrats in period t there is a better solution. Instead of increasing the number of bureaucrats, the pay of each individual bureaucrat could be increased. They could continue to improve their pay by not replacing their ranks when someone died or retired. Over time, however, their political power would decline with their numbers and total spending on bureaucracy would approach the optimal government size associated with average citizen demand. We don't seem to observe bureaucracies following such a path in reality, however, because it is difficult to increase the incomes of existing bureaucrats without increasing the number of bureaucrats. In other words, incomes of existing bureaucrats are raised through expansion of the bureaucracy by increasing the number of supervisors needed. As bureaucracy size increases and the bureaucrat's political power grows, however, there will be a tendency to take more of the political rent in increased pay and less in increased size. This implies a different expansions path through time than suggested by the previous argument in which bureaucracy size began to fall immediately rather than growing at first and then declining. As the author points out, the problem with this hypothesis is that it is extremely difficult to test empirically.

Ahlbrandt, Rogers Jr. (1973), "Efficiency in the Provision of Fire Services," 16: 1-26. (40, 2.5)

This paper provides a carefully constructed empirical test of the hypothesis that a private, competitive supplier will be a lower cost producer of a service to a political unit than a bureaucratic producer within that same political unit. A data sample from 44 fire districts in the State of Washington, all of which were bureaucratic suppliers of fire services, was used to estimate an average cost function for supplying fire services by public-sector, bureaucratic producers. Cost per unit of output was found to be dependent of level of output, factor prices, technology, quality and environmental factors influencing production decisions. This estimated cost function was then used

Table 6. Continued.

as a predictive model to estimate the cost of supplying fire services to Scottsdale, Arizona if they were supplied by a bureaucratic producer. These costs were compared with the actual costs of supplying fire services to Scottsdale which are, in fact, supplied by a private, competitive producer. The actual cost per capita (\$3.78) was lower than the estimated cost per capita of a bureaucratic producer (\$7.10) and the difference was found to be statistically significant. The author is able to conclude that competitive supply of this service will, generally, result in greater production efficiency than bureaucratic supply.

Laney, L.O. and Thomas D. Willet (1983), "Presidential politics, budget deficits, and monetary policy in the United States," 40: 53-69. (37, 5.4)

This paper investigates, empirically, the extent to which monetary and fiscal policies may contribute to political business cycles. The authors first test a reaction function with annual changes in the money supply as the dependent variable and the high employment deficit as one of the independent variables. They found a strong positive association suggesting an accommodative monetary policy. Moreover, when a political component of the high employment deficit was isolated, the Fed may have been more than normally accommodative to this component. Although they uncovered no strong evidence that monetary policy contributes to the political business cycle, they estimated a second set of equations and did find strong connections between the deficit and the political business cycle, suggesting an accommodative fiscal policy. In general, this paper finds considerably more evidence linking stabilization policy and politics than many previous ones.

Fiorina, Morris P. (1982), "Legislative choice of regulatory forms: Legal process or administrative process?" 39: 33-67. (35, 4.5)

The paper explores when and why Congress chooses to regulate by establishing an agency for that purpose rather than providing laws to be enforced by the legal system. The author stresses the importance of historical perspective in understanding regulation both generally and specifically and develops several models of legislative choice of regulatory reforms, including "good government," "legislator benefit," "shift of responsibility," "rent-seeking," etc. Models generally provide strong theoretical underpinnings for future empirical work which the author hopes to see. While the discussions are thorough and provocative, definitive answers are not intended. Rather a series of possibilities is offered, with the implication that the most fruitful result is likely to begin with the economists' assumption that costs and benefits drive political behavior rather than the good government alternative assumption.

Weingast, Barry R. (1984), "The congressional bureaucratic system: A principal-agent perspective (with applications to the SEC)," 44: 147-193. (28, 5.5)

This paper takes a new and innovative approach to understanding the process by which regulatory policy is made. Most studies have concluded that it is regulatory agency which is dominant, but the author believes that it is really Congress, through committee and subcommittee activity, which dominates in setting and modifying regulatory controls. He proposes that a regulatory agency will be ineffective in implementing regulations or reforms until it has advanced to the stage where helping and supporting the activity provides net political benefits to members of Congress. Nothing will happen unless Congress wants it to and Congress will only be interested when political gains clearly outweigh costs. Weingast empirically tests his theory of congressional dominance using as a vehicle the 1975 reforms, initiated by the Securities and Exchange Commission, which deregulated broker-client pricing. The theory is generally vindicated by the results.

year are listed. Each of the 18 "highly influential" articles is listed along with a brief summary of each. Within this rather elite group of papers, Tullock has two entries. Of greatest influence among these two is the 1981 piece which notes and attempts to explain the observed stability (in contrast to the theoretically expected instability) of the majority voting process.⁵

The underpinning of public choice theory is the assumption that self-interest is the fundamental motive for political behavior and that such behavior can be largely explained using the standard tools of economic analysis.⁶ The articles identified in Tables 5 and 6 largely reflect the evolution and development of this central tenant of public choice in a variety of contexts. These two tables reflect the intellectual concerns of Tullock and the importance of his intellectual contribution to public choice through *Public Choice*.

4. Tullock's contributions to economic science in general

Gordon Tullock began a life of serious scholarship nearly forty years ago and published his first major article, "Hyper-inflation in China, 1937-40," (with Colin Campbell) in the June, 1954 issue of the *Journal of Political Economy* (*JPE*). From that time to the present, his work has exerted a major influence on scholarship in economics and political science.⁷

Tullock's first highly influential (62 cites) paper, "Problems of majority voting," *JPE* (December, 1959) quickly followed his early success and remains one of the fundamental works in the discipline, finding that "... majority voting is not by any means an optimal method of allocating resources. This fact should be taken into account in considering whether some aspects of our economy would better be handled by governmental or market techniques," (p. 579). The paper also champions the importance of log-rolling (with the resulting gains from trade) as a means of incorporating intensely held minority preferences. His "The general irrelevance of the general impossibility theorem," *Quarterly Journal of Economics* (May, 1967, 64 cites) and "Why so much stability," *Public Choice* (Spring, 1981, 55 cites) disparage the usefulness of Arrow's Paradox given the observed reality of stable voting coalitions. Procedural rules and logrolling are keys to understanding why real-world stability is the norm.

Tullock's work in the area of voting and public goods provision includes the somewhat unusual and much quoted (88 cites) "A new and superior process for making public choices," (with Nicholas Tideman), *JPE* (Oct., 1976). This paper proposes a solution to the chronic problem of how to motivate voters to reveal their true preferences for public goods, a necessary condition for socially optimal public goods production. Simply stated, the proposed solution is a tax system that alternately rewards and penalizes truthful vs. false presentation of the voters demand for the given public good.

Table 7. The publications of Gordon Tullock arranged by total citations

Citations	Books
1178	The Calculus of Consent: Logical Foundations of Constitutional Democracy (with James Buchanan) Ann Arbor, Michigan: University of Michigan Press, 1962). Paperback Edition (1965). Japanese Translation, 1979; Spanish Translation, 1980.
281	Toward a Theory of the Rent-Seeking Society (edited with James M. Buchanan and Robert D. Tollison) (Texas A&M University Press, 1981).
233	The Politics of Bureaucracy (Washington DC: Public Affairs Press, 1965); (Paperback, 1975; University Press of America, 1987).
184	Toward a Mathematics of Politics (Ann Arbor: University of Michigan Press, 1967); Paperback (1972).
80	The Logic of the Law (New York: Basic Books Inc., 1971); (University Press of America, 1988).
70	Private Wants, Public Means: An Economic Analysis of the Desirable Scope of Government (New York: Basic Books, Inc., 1970); Spanish Translation, 1979; Japanese Translation, 1984; University Press of America, 1988).
66	The New World of Economics: Explorations into the Human Experience (with Richard B. McKenzie) (Homewood, IL: Richard D. Irwin, Inc., 1975); 2nd Edition, 1978; 3rd Edition, 1980; 4th Edition, 1984; 5th Edition, <i>The Best of the New World of Economics ... and Then Some</i> , 1988; Spanish Translation, 1980; Japanese Translation, 1981; German Translation, 1984.
54	The Social Dilemma: The Economics of War and Revolution (Blacksburg, VA: Center for Study of Public Choice, 1974); Japanese Translation, 1979.
30	The Economics of Income Redistribution (Hingham, MA: Kluwer-Nijhoff Publishing, 1983); Second Printing, 1984.
28	The Organization of Inquiry (Durham, NC: Duke University Press, 1965); University Press of America, 1987.
25	Trials on Trial: The Pure Theory of Legal Procedure (New York: Columbia University Press, 1980).

Citations	Main papers
241	The Welfare Costs of Tariffs, Monopolies and Theft, <i>Western Economic Journal</i> 5:(June 1967): 224–232.
95	Polluter's Profits and Political Response: Direct Controls Versus Taxes (with James M. Buchanan), <i>American Economic Review</i> 65 (March 1975): 139–147.
88	A New and Superior Process for Making Social Choices, (with T. Nicolaus Tideman), <i>Journal of Political Economy</i> 84.6 (October 1976): 1145–1159.
72	Does Punishment Deter Crime? <i>The Public Interest</i> 36 (Summer 1974): 103–111.
64	The General Irrelevance of the General Impossibility Theorem, <i>Quarterly Journal of Economics</i> 81 (May 1967): 256–270.
62	Problems of Majority voting, <i>Journal of Political Economy</i> 67 (December 1959): 572–579.
55	Why So Much Stability? <i>Public Choice</i> 37.2 (1981): 189–202.
49	The Transitional Gains Trap, <i>Bell Journal of Economics</i> 6 (Autumn 1975): 671–678.
44	The Charity of the Uncharitable, <i>Western Economic Journal</i> 9 (December 1971): 379–392.
34	Federalism: Problems of Scale, <i>Public Choice</i> 6 (Spring 1969): 19–29.

Table 7. Continued

Citations	Main papers
31	A Simple Algebraic Logrolling Model, <i>American Economic Review</i> 60 (June 1970): 419–426.
31	Entry Barriers in Politics, <i>American Economic Review</i> 55 (May 1965): 458–466.
30	The Paradox of Revolution, <i>Public Choice</i> 11 (Fall 1971): 89–99.
23	An Economic Approach to Crime, <i>Social Science Quarterly</i> 50 (June 1969): 59–71.
19	Inheritance Justified, <i>Journal of Law and Economics</i> 14 (October 1971): 465–474.
18	The Cost of Transfers, <i>Kyklos</i> 24, Fasc. 4 (1971): 629–643.
15	Information without Profit, <i>Papers on Non-Market Decision Making</i> 1 (1966): 141–159.
13	Computer Simulation of a Small Voting System (with Colin Campbell), <i>Economic Journal</i> 80 (March 1970): 97–104.
13	Competing Monies, <i>Journal of Money, Credit and Banking</i> (November 1975): 491–497.
13	The Rhetoric and Reality of Redistribution, <i>Southern Economic Journal</i> 47.4 (April 1981): 895–907.
12	Social Cost and Government Action, <i>American Economic Review</i> 59 (May 1969): 189–197.
12	Economic Imperialism, in James M. Buchanan, Robert D. Tollison, and Gordon Tullock (eds.), <i>Theory of Public Choice: Political Applications</i> (Ann Arbor: University of Michigan Press, 1972), 317–329.
12	The Edge of the Jungle, in Gordon Tullock (ed.), <i>Explorations in the Theory of Anarchy</i> (Blacksburg, VA: Center for Study of Public Choice, 1972), 65–75.
11	Altruism, Malice, and Public Goods, <i>Journal of Social and Biological Structures</i> 1 (January 1978): 3–9.
Citations	Short papers, comments, communications
44	Dynamic Hypothesis on Bureaucracy, <i>Public Choice</i> 19 (Fall 1974): 127–131.
34	Public Decisions as Public Goods, <i>Journal of Political Economy</i> 79 (July/August 1971): 913–918.
24	The Expanding Public Sector: Wagner Squared (with James M. Buchanan), <i>Public Choice</i> 31 (Fall 1977): 147–150.
16	The Coal Tit as a Careful Shopper, <i>The American Naturalist</i> 105 (January/February 1971): 77–80.
14	Publication Decisions and Tests of Significance: Comment, <i>Journal of the American Statistical Association</i> 54 (September 1959): 593.
14	Two Kinds of Legal Efficiency, <i>Hofstra Law Review</i> 8 (Spring 1980): 659–669.

Among Tullock's important papers (of which there are many, as listed in the tables) the seminal (241 citations) "The welfare costs of tariffs, monopolies and theft," *Western Economic Journal* (June, 1967), stands out in two major respects. First, it launched the feverishly growing investigation of wealth-destroying rent-seeking behavior, in which competitors vie to capture rents created (usually) through government imposition or protection of monopolistic conditions. Second, the paper is a marvel of profound simplicity.

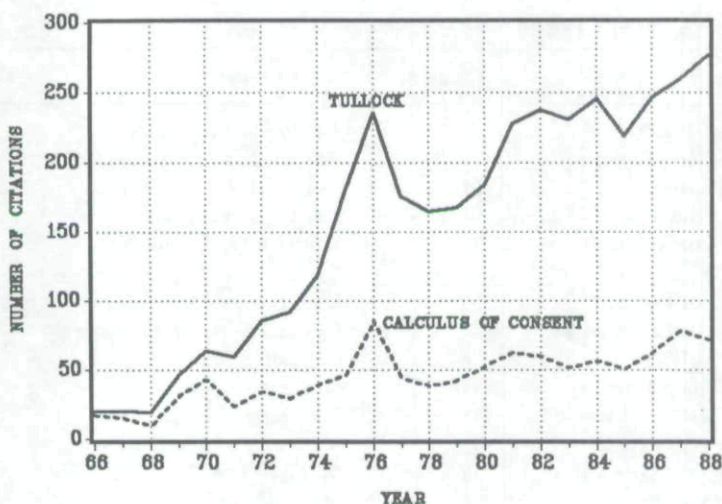


Figure 1. Citations for Tullock and The Calculus of Consent.

The *Calculus of Consent*, with James Buchanan is the achievement of a lifetime, far beyond the ability and even the dreams of most.⁸ The book (1178 citations) is one of the most influential works in political economy (Romer, 1988) and, with certain others (see Durden, 1991 for a listing) has provided the basis for development of the modern approach to analyzing collective decision-making in an economic (and constitutional) framework.

Table 7 summarizes citations through April, 1990,⁹ to the 11 of Tullock's books which have received 20 or more citations and to the 30 articles which have been cited 10 or more times.¹⁰ Figure 1 displays his citations by year which grew from less than 20 in 1966 to more than 340 in 1990. The *Calculus* accounts for about 20% of Tullock's 3991 citations, which includes all cites to co-authors. Tullock would rank in the top five among economists, excluding Nobel winners, listed by Medoff (1990) as those most-cited in the discipline. Tullock did not make the list because Medoff chose to evaluate only individuals younger than 65!

The *Calculus* is the flagship achievement, but other books have been highly influential, including *Toward a Theory of the Rent-Seeking Society*, with Rowley and Tollison, *The Politics of Bureaucracy*, and *Toward a Mathematics of Politics*, each of which have been cited more than 180 times. Tullock's papers appear in the best journals and many are well-cited. Besides those mentioned earlier, "Polluters profits and political response," with Buchanan (95 cites), "Does punishment deter crime," (72 cites) are notable among a quality list of contributions. His eclecticism is evident from articles in, for example, the *Journal of Social and Biological Structures*, *The American Naturalist*, and the *Hofstra Law Review*.

Table 8. Journals citing Tullock seven or more times

Journal name	Citations	Journal name	Citations
Academy of Mgt Rev	11	J of Public Economics	42
Administration and Society	11	J of Soc and Biol Structures	7
Americal Behav Sci	25	J of Soc Polit and Econ St	10
American Econ Rev	94	J of Urban Economics	9
American J of Agr Econ	32	Jahrbuch for Sozialwissen	21
		Kyklos	81
American J of Poli Sci	36	Land Economics	22
American J of Econ and Soc	21	Law and Contemp Problems	9
American J of Sociol	8	Legislative Studies	17
American Poli Sci Rev	95	Management Decision	11
Annals of the Amer Acad of Political and Social Sci	13	Management Science	9
Australian J of Agr Econ	8	Mathematical Social Sci	9
Behavioral Science	8	Michigan Law Rev	16
Bell J of Econ	11	Minnesota Law Rev	13
British J of Poli Sci	17	Nationloekonomisk Tidskrift	9
Buffalo Law Rev	14	National Tax J	31
California Law Rev	14	Natural Resources J	10
Canadian J of Econ	23	Northwestern U Law Rev	13
Canadian J of Poli Sci	15	Oxford Econ Papers	16
Canadian J of Public Adm	12	Policy Review	8
Canadian Public Pol	16	Policy Sciences	15
Cato J	92	Policy Studies J	30
Columbia Law Rev	20	Political Studies	16
Cornell Law Rev	12	Politics and Society	7
Crime and Delinquency	7	Polity	12
Duke Law J	10	Public Admin Rev	38
Econometrica	26	Public Choice	668
Economic Inquiry	36	Public Finance	58
Economic J	27	Public Finance Q	59
Economic Letters	8	Public Policy	10
Economic Record	24	Publius the J of Federalis	15
Economist	7	Q J of Econ	26
Emory Law J	7	Q Rev of Econs and Bus	19
Environment and Planning C	12	Quality and Quantity	11
Ethics	14	Revue De Economie	15
European Economic Rev	9	Revue Francais De Sc Polit	7
European J Pol R	18	Review of Social Economy	17
Expl Econ Hist	17	Rivista Internazionale De	11
Georgetown Law J	13	Sciences Economiche	14
Growth and Change	7	Social Research	10
Harvard J of Law	11	Social Science J	8
Harvard Law Rev	26	Social Science Medicine	9
History of Political Econ	10	Social Science Q	21
Indiana Law	9	Social and ting	7
Internat J of Social Econ	7	South African J of Econ	9
		Southern Cal Law Rev	9

Table 8. Continued

Journal name	Citations	Journal name	Citations
International Organization	13	Southern Econ J	94
J of Accounting	7	Stanford Law Review	33
J of Amer Inst of Planners	12	Texas Law Rev	18
J of Conflict Resolution	14	Theory and Decision	14
J of Criminal Law	9	U of Chicago Law Rev	26
J of Econ Behavior	21	U of Penn Law Rev	19
J of Economic Education	9	UCLA Law Review	15
J of Economic Hist	8	Virginia Law Review	40
J of Economic Issues	47	Washington Law Review	7
J of Economic Literature	34	Weltwirtschaftliches Arch	12
J of Economic Theory	14	Western Econ J	11
J of Envir Econs and Mgt	22	Western Political Q	12
J of Inst and Theoret Econ	27	Wisconsin Law Rev	10
J of Internat Econ	8	Yale Law J	29
J of Labor Research	21	Zeitschrift fur Sociology	14
J of Law and Economics	43		
J of Legal Studies	40	Others (308 Journals)	540
J of Money, Credit, Bkng	8		
J of Political Economy	69	Totals	3991
J of Politics	26		

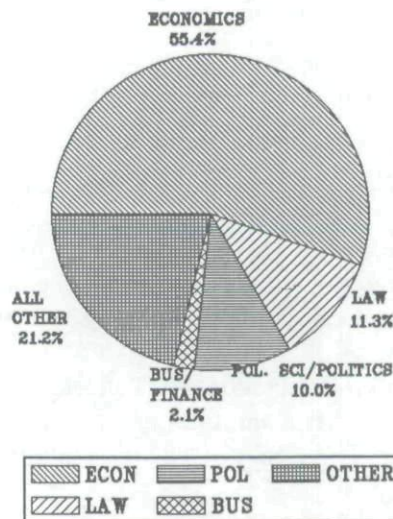


Figure 2. Citations to Tullock by journal discipline.

Table 8 lists those journals which have cited Tullock's work 7 or more times. The wide range and total number of journals shows the great breadth of his

Table 9. Citations to Tullock by discipline

Discipline	Citations
Anthropology	5
Architecture	2
Area Studies	4
Business/Management/Finance	85
Criminology	19
Economics	2212
Ecology/Environmental Studies	49
Education	22
Ethics	20
Geography	9
Health/Medicine	11
History	5
Information Science	7
International Relations	59
Law	452
Other	56
Philosophy	19
Planning/Development	18
Political Science/Politics	399
Policy Analysis/Policy Studies	109
Population/Demography	7
Psychology	64
Public Administration	74
Natural Science	20
Social Science/Interdisciplinary Studies	157
Sociology	87
Urban Studies	10
Totals	3991

influence, from the *Academy of Management Review* to *Zeitschrift für Soziologie*. Table 9, which records citations by discipline, emphasizes the interdisciplinary impact of the total body of work. (See Figure 2 for a simple breakdown).

Finally, Table 10 displays the citations for Tullock in the important "core" journals in the discipline. That about one-eighth of his total number of citations are in these journals is evidence of Tullock's major contributions to the evolution of economic ideas.

5. Summary

The results presented here suggest that *Public Choice* is broadly cited by economists and political scientists. The journal currently ranks, approximate-

Table 10. Total citations for Gordon Tullock in selected economic journals

Journal	Citations
American Economic Review	94
Bell Journal Economics	11
Econometrica	26
Economic Inquiry (WEJ)	47
Economic Journal	27
Journal Economic Literature	34
Journal Economic Theory	14
Journal Finance	4
Journal Law & Economics	43
JMCB	8
Journal Monetary Economics	1
Journal Political Economics	69
Quarterly Journal Economics	26
Review Economics & Statistics	6
Southern Economic Journal	94
Total	504
% of Total Citations	12.6%

ly, in the middle of the pack with respect to various citation measures. Also, since the late seventies, the journal's ranking has improved significantly relative to both social science journals and to comparable economics journals. Some of the papers published in *Public Choice* are well cited and several made a significant impact on the thinking of scholars in both economics and political science. Either through his work as editor or through his articles, the thought of Gordon Tullock is well represented in the elite group of articles published in *Public Choice*.

The analysis of citations in Section 4 shows that Tullock's ideas and writing have had considerable impact on the thinking of economists. His contributions are substantial, often multi-disciplinary, and certain to be enduring.

Notes

1. Until 1968, the journal was titled *Papers on Non-market Decision Making*.
2. The Institute for Scientific Information, Philadelphia, began publication of the series in 1966, but the computerized data are only available from 1972 to the present. The data base contains information on over 4,000 social science journals and includes citations to books, contributed articles, and unpublished manuscripts.
3. The rankings are meant to convey a general impression of the importance of each journal.
4. To be included in Table 5, an article must have received ten or more citations over its life or have averaged at least three cites per year.
5. Although, as Tullock has pointed out in private correspondence, many of those citing the paper have taken a negative view of the article's discussion and conclusions.

6. Tullock does not rule out purely altruistic behavior, but he (and public choice scholars generally) assign altruism a decidedly inferior role.
7. See *Democracy and Public Choice: Essays in Honor of Gordon Tullock*, edited by Charles K. Rowley, for a wide-ranging discussion of Tullock's work.
8. The *Calculus of Consent* was recently discussed in 25 year perspective during a conference at Florida State University. The conference proceedings are in the *Cato Journal* 8.2 (Spring/Summer, 1987). Review articles include those by Wagner (1988) who explores the relationships between the *Calculus* and the writings of Knut Wicksell, and by William C. Mitchell (1989) in which he delineates contributions by the *Calculus* to the development of ideas in both public choice economics and political science.
9. The last month for which the Institute's published citations were complete at the time this was written.
10. A bibliography of Tullock's publications, complete through 1986, is available in Rowley (1987).

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