PREDICTING OKLAHOMA STATE LEGISLATIVE RACES WITH OCKHAM'S RAZOR

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Predicting elections accurately has long been a useful exercise. For scholars, prospective prediction is a test of their understanding of electoral dynamics. For candidates and activists, prospective prediction helps efficient resource allocation. For the public and the media, prospective prediction helps in following and understanding campaigns (see Lewis-Beck and Rice, 1984; Jones, 1999).

The 2008 Oklahoma state legislative elections were historic. Although nationally the tide was strongly in the opposite direction, Republicans, for the first time, took control of both state legislative houses. It might be thought that predicting the outcome overall and for the 125 individual legislative races would involve taking formal notice of some dynamic new forces. More likely, the 2008 result was the product of a gradual change, a slow strengthening of the Republican Party, and a corresponding weakening of the Democratic side of the electoral equation. A robust prediction method would have measures that incorporate these changes.

What are the parameters of the Oklahoma legislative election equation? Losers typically attribute the outcome to their party's weakness, not getting enough of the promised support and problems at the top of the ticket. Winners attribute the outcome to their campaign's staying on the high ground, focusing on the issues, and knocking on doors. In sum, losers blame others while winners credit themselves (Kingdon, 1968).

Political observers have long noted incumbents usually win. In Oklahoma this is because people rarely run against them and Oklahoma does not permit write-in votes (Van Ness, 1992). In 2008, 104 of the 125 candidates were incumbents. Exactly half had no major party opponent. Term limits took effect in 2004, retiring entrenched Democrat incumbents, opening the door for Republicans (Farmer, 2007). By 2008, a majority of the incumbent candidates were Republicans (59), not Democrats (45).

Party can mean several things. It can represent the direction and force of political winds blowing outside and around the district, it can represent the political composition of the district and it can represent the recent voting tendency of the district. While the political winds were blowing the Democrats' way nationally in 2008, they were blowing Republican in Oklahoma (Overall and Lindley, 2008). District political composition is measured by party registration, Oklahoma being a state that registers voters by political party. The district's voting tendency is measured by the normal vote (Campbell, Converse, Miller and Stokes 1966:9-39). The Republican Normal Vote (RNV) was calculated by averaging the 2006 Republican vote for four minor state-wide offices, Lieutenant Governor, Auditor and Inspector, Labor Commissioner and Insurance Commissioner. As these offices are murky and, at best, dimly perceived by almost every voter. They give a good base for predicting a district's anticipated Republican vote. For House districts there was little relation between party registration and the RNV ($R^2 = .054$); for Senate districts voting in 2008 the relationship was much stronger ($R^2 = .875$).

Money is important. People are more willing to give, and give more to candidates they think will win. So, in a sense, how much money is raised is a gauge of a candidate's chances, similar, in a way, to how parimutuel betting establishes odds at racetracks. Likewise, money can make a candidate better known and improve chances of winning. Money on hand August 15th was used as a measure of money raised.

Political scientists attribute any particular legislative race's outcome to incumbency, party and money (Darcy, Brewer and Clay, 1984).

DATA

Data used for the various models was information available from public records prior to August 15, 2008. Most of it was collected from the websites of the Oklahoma Ethics Commission, or the Oklahoma State Election Board. While we did not use U.S. Census data here, state legislative district level information is available on line.[2]

Quantified variables used were District Party Registration (DPR), Aggregate Total Campaign Receipts (ATCR), Funds Remaining as of August 15, 2008 (FR), Candidate Incumbency (CI), District Outcome in the Previous Election (RE) and the RNV.

District Party Registration, overall, favored Democrats for both House (average 49%-39%) and Senate (47%-41%) districts. The two party Aggregate Total Campaign Receipts favored Republican House (64%-36%) and Democratic Senate (53%-47%) candidates. Incumbency favored Republican House (49-36) and Senate (10-9) candidates. The District's Previous Election outcome favored Republican House (57-44) and Senate (14-10) candidates. The RNV favored Democrats in the House (47%) and Senate (48%).

ADDITIVE PROSPECTIVE MODELS

An additive election prediction model is one in which a variable's impact on the prediction is the same regardless of the status of the candidate or district on other variables. We developed three additive models that differed in the variables included as well as the weights assigned them. Weights all summed to 1 while variables were all coded so as to range from zero to one. Thus, each variable contributed a known proportion to the additive models' predictions. Models gave each candidate a score. The candidate with the higher score in the district was the predicted winner. The three prediction equations are shown in Table 3.

Table 1. House Data

	November 4, 2008 Candidates or Filing, Primary Winner[1]		Incumbent[2]		2006 Result[2]		Campaign Receipts[3]		Party Registration[4]				Funds Remaining[5]		
Dist	Dem	Rep	Dem	Rep	D	R	Dem	Rep	Dem	Rep	Ind	Total	Dem	Rep	2006 RNV[6]
1	Bailey	Farley			1		9,719	4,100	13,453	1,960	887	16,300	119	2,255	0.3844
2	Smithson	Mann	1		1		18,432	600	14,016	3,717	1,256	18,989	9,842	50	0.3776
3	Brannon		1		1		3,900		13,107	3,440	1,724	18,271	9,241		0.3519
4	Brown		1		1		7,400		13,621	5,089	2,377	21,087	29,829		0.3338
5	Kerr	Cox		1		1	13,077	134,850	12,060	7,688	2,081	21,829	2,898	79,707	0.4379
6	Hoskin		1		1		48,693		12,765	6,263	1,772	20,800	36,742		0.3747
7	Glenn		1		1		5,550		12,189	4,727	1,949	18,865	11,588		0.3428
8	Sherrer		1		1		30,150		11,309	7,156	1,704	20,169	32,999		0.3930
9	Snyder	Jones		1		1	22,530	68,726	11,573	10,828	2,837	25,238	15,788	53,999	0.4880
10	Epperson	Martin		1		1	3,977	41,625	9,142	8,257	2,413	19,812	2,101	71,389	0.4936
11		Sears		1		1		41,633	7,885	13,874	2,693	24,452		32,691	0.5683
12	Rousselot		1		1		32,350		11,751	7,771	1,736	21,258	4,656		0.4226

18	Harrison		1		1		875		16,039	3,790	1,676	21,505	16		0.3279
19	Pruett		1		1		1,350		17,241	2,360	1,456	21,057	10,939		0.2821
20	Roan		1		1		14,364		15,823	3,005	1,305	20,133	12,190		0.3074
21	Carey		1		1		4,500		14,759	4,251	2,489	21,499	1,870		0.3279
22	Hilliard		1		1		43,400		13,315	4,178	1,490	18,983	7,555		0.3887
23	Dodson	Tibbs		1		1	1,947	27,378	7,222	6,858	2,103	16,183	273	21,940	0.5033
24	Kouplen				1		60,436		13,618	4,044	1,544	19,206	8,306		0.3402
25	Starns	Thomsen		1		1	39,044	68,985	13,773	5,276	2,308	21,357	10,322	45,935	0.4143
26		Steele		1		1		39,508	10,819	6,750	2,424	19,993		17,421	0.4198
27	Kozara	Jett		1		1	800	22,350	10,432	6,434	2,249	19,115	41	115,465	0.4398
28	Kiesel	Shepard	1		1		52,846	2,400	12,027	4,738	1,432	18,197	35,214	1,760	0.4097
29		McNiel		1		1		64,430	9,416	7,758	2,007	19,181		56,422	0.4646
30	Crowder	McCullough		1		1	61,030	37,238	9,185	8,660	2,142	19,987	22,119	16,474	0.5078
31	Sherrill	Murphey		1		1	2,542	11,473	8,392	13,668	2,966	25,026	1,763	6,993	0.5905
32	Morgan		1		1		30,362		10,390	8,062	2,108	20,560	135,315		0.5215
33	Pierson	Denney		1		1	13,045	35,557	9,473	8,380	2,256	20,109	2,420	79,929	0.5098
34	Williams	Carlson				1	18,478	31,864	9,073	10,691	3,297	23,061	2,424	8,250	0.4725
35	Ensign	Duncan		1		1	1,450	14,675	10,177	8,480	1,914	20,571	324	10,149	0.4893
36	Bighorse	Fields	1		1		57,830	16,650	11,140	7,021	1,813	19,974	35,479	7,615	0.4281
37	Luttrell	Colle	1		1		11,450	303	8,111	9,301	2,298	19,710	27,876	200	0.5259
38		Dewitt		1		1		21,242	7,813	9,910	1,953	19,676		46,730	0.5175
39	Guhl	Cooksey		1		1	19,612	69,281	7,712	17,592	3,634	28,938	9,371	25,869	0.6177
40	Jones	Jackson		1		1	0	49,840	6,140	8,979	1,561	16,680		62,579	0.5670
41		Enns		1		1		69,396	7,304	15,630	2,294	25,228		0	0.6252
42	Perry	Billy		1		1	4,600	36,206	13,188	7,003	2,297	22,488	290	69,025	0.4626

	November 4, 2008 Candidates or Filing, Primary Winner[1]		Incumbent[2]		2006 Result[2]		Campaign Receipts[3]		Party Registration[4]				Funds Remaining[5]		
Dist	Dem	Rep	Dem	Rep	D	R	Dem	Rep	Dem	Rep	Ind	Total	Dem	Rep	2006 RNV[6]
43		Schwartz		1		1		35,392	7,883	13,604	2,799	24,286		22,910	0.5649
44	Nations	Barrett	1		1		34,175	2,618	10,106	7,395	3,238	20,739	39,189	139	0.3466
45	Collins	Stiles	1		1		58,192	16,703	11,163	9,405	3,363	23,931	44,054	6,511	0.4305
46	Norman	Martin		1		1	1,214	42,611	10,643	12,627	3,094	26,364	729	23,398	0.5169
47	Jackson	Osborn				1	22,950	39,836	10,250	11,173	2,880	24,303	2,387	3,893	*0.5342*
48	Moore	Ownbey				1	16,265	50,815	13,534	5,613	2,608	21,755	12,276	26,161	0.4753
49	Buck	Oliver			1		6,700	2,375	15,043	4,776	2,025	21,844	2,795	830	0.4323
50	Lawler	Johnson		1		1	22,312	49,297	12,389	7,066	1,724	21,179	19,576	30,561	0.4542
51	Cosgrove	Holland			1		18,734	86,875	13,114	6,323	2,015	21,452	13,999	12,331	0.4355
52	McMahan	Ortega			1		30,975	31,396	9,431	5,030	1,324	15,785	15,919	18,524	0.4965
53	Green	Terrill		1		1	7,010	61,467	9,116	12,832	3,093	25,041	1,905	30,784	0.5584
54		Wesselhoft		1		1		27,715	8,256	10,686	2,887	21,829		12,868	0.5457
55	McMullen		1		1		1,150		11,460	5,094	1,408	17,962	14,048		0.4292
56		Richardson		1		1		15,922	10,919	6,003	1,608	18,530		15,777	0.4356
57	Adams	Wright			1		33,940	51,374	10,008	8,174	2,034	20,216	952	8,047	0.5245
58		Hickman		1		1		300	7,186	11,217	1,953	20,356		10,091	0.5501
59	Russell	Sanders				1	2,260	74,589	7,602	10,471	1,246	19,319	1,241	1,168	0.5796
60	Walker	Gambill	1		1		32,295	11,965	12,800	5,853	1,832	20,485	20,012	458	0.4657
61	Shearer	Blackwell		1		1	5,050	5,277	6,291	9,517	2,069	17,877	3,038	44,421	0.6657

62	Warren	Shannon		1		1	1,500	75,674	8,873	5,433	2,232	16,538	1,450	10,077	0.4791
63		Armes		1		1		14,050	11,298	4,859	1,833	17,990		36,240	0.4155
64		Coody		1		1		900	9,197	4,867	2,573	16,637		25,648	0.4343
65	Dorman		1		1		6,360		8,361	3,898	1,492	13,751	3,530		0.4221
66	Lamons	Ramey	1		1		69,711	550	8,557	6,137	2,554	17,248	168,017	512	0.4043
67	Lantos	Peterson		1		1	6,220	17,195	6,263	18,313	2,898	27,474	4,488	28,656	0.6669
68		Benge		1		1		61,175	8,349	9,320	2,250	19,919		79,348	0.4960
69		Jordan		1		1		33,175	7,346	17,543	3,288	28,177		21,421	0.6286
70		Peters		1		1		75,873	8,444	13,584	2,242	24,270		169,943	0.5197
71	Bullock	Sullivan		1		1	10,176	33,981	8,558	9,962	2,670	21,190	3,753	22,767	0.4869
72	Scott	Kirkpatrick			1		36,637	0	8,141	2,613	1,829	12,583	1,254	0	0.2828
73	Shumate		1		1		47,960		14,539	1,545	1,526	17,610	19,739		0.1127
74		Derby		1		1		59,179	9,049	15,393	3,134	27,576		32,130	0.5561
75		Kirby				1		18,215	6,934	9,659	2,428	19,021		166,235	0.5384
76		Wright		1		1		12,080	6,503	13,823	2,563	22,889		21,681	0.6043
77	Proctor		1		1		39,433		7,889	5,696	2,309	15,894	53,094		0.4218
78	McDaniel	Matlock	1		1		18,500	2,320	9,199	8,885	2,410	20,494	42,508	2,320	0.4494
79	Hawkins	Watson		1		1	950	29,990	7,140	11,803	2,385	21,328	881	21,562	0.5750
80		Ritze				1		28,162	7,134	15,177	2,616	24,927		0	0.6130
81		Miller		1		1		102,580	7,281	14,019	3,035	24,335		120,999	0.5574
82	Anderson	Liebmann		1		1	5,284	106,311	9,055	17,019	3,220	29,294	4,072	97,532	0.5953
83	Holzberger	McDaniel		1		1	990	37,975	9,748	13,876	3,250	26,874	1,081	48,254	0.5561

	November 4, 2008 Candidates or Filing, Primary Winner[1]		Incumbent[2]		2006 Result[2]		Campaign Receipts[3]		Party Registration[4]				Funds Remaining[5]		
Dist	Dem	Rep	Dem	Rep	D	R	Dem	Rep	Dem	Rep	Ind	Total	Dem	Rep	2006 RNV[6]
84	Marlett	Kern		1		1	6,610	24,129	7,260	8,862	2,501	18,623	1,048	17,139	0.5706
85	Robey	Dank		1		1	43,609	147,385	9,412	11,428	2,357	23,197	24,026	18,287	0.5178
86	Auffet		1		1		22,025		12,881	5,546	1,499	19,926	6,081		0.3995
87	Orwig	Nelson				1	29,716	41,099	9,052	8,118	2,747	19,917	21,834	10,060	0.4728
88	McAffrey		1		1		27,717		7,791	4,414	2,712	14,917	14,837		0.3352
89	Hamilton		1		1		9,693		4,847	2,365	1,941	9,153	9,610		0.3828
90	James	Key		1		1	6,225	20,399	6,371	6,810	2,375	15,556	5,831	9,886	0.5475
91		Reynolds		1		1		40,016	9,142	14,206	3,101	26,449		150	0.5542
92	Morrissette		1		1		75,560		7,746	4,492	2,597	14,835	58,547		0.4133
93	Castillo	Christian			1		23,029	25,542	7,035	4,431	2,273	13,739	1,242	7,553	0.4539
94	Inman	Coulter	1		1		48,135	2,749	9,235	6,745	2,893	18,873	42,853	986	0.4812
95	Walker	Joyner		1		1	18,428	27,037	8,500	7,653	2,675	18,828	7,639	24,735	0.5177
96	Hunter	Moore				1	48,231	21,407	8,958	14,099	3,099	26,156	25,238	11	0.5739
97	Shelton	Lott	1		1		31,027	500	15,533	4,317	2,159	22,009	5,158	13	0.2575
98	Frederick	Trebilcock		1		1	5,635	63,600	7,781	13,257	2,493	23,531	308	3,581	0.6002
99	Pittman	Linzy	1		1		36,347	1,710	13,405	3,017	2,239	18,661	8,208	-332	0.2086
100	Baggett	Thompson		1		1	11,899	137,972	7,601	10,849	2,812	21,262	6,213	117,260	0.5801
101	Lewis	Banz		1		1	5,933	42,793	9,994	9,670	3,070	22,734	3,116	20,080	0.5150
		Total	36	49	44	57			1,037,594	820,960	228,958	2,087,512			

1 *Candidates for State Elective Office 2008* Lists all candidates who filed for office June 2-4, 2008 http://www.ok.gov/launch.php?url=http%3A%2F%2Fwww.elections.state.ok.us%2F; Candidates For General Election November 4, 2008. Lists all candidates on November 4, 2008 Ballot http://www.ok.gov/launch.php?url=http%3A%2F%2Fwww.elections.state.ok.us%2F

2 List of State Senators of Representatives Elected in 2006 or 2004 by District http://www.ok.gov/launch.php?url=http%3A%2F%2Fwww.oksenate.gov%2F; List of State House members Elected in 2006 by District http://www.okhouse.gov/Members/MemberListing.aspx

3 Oklahoma Ethics Commission. http://www.ok.gov/oec/

4 *Party Registration by Oklahoma State Legislative District September 2008* made available from the Oklahoma State Board of Elections.

5 Oklahoma Ethics Commission. http://www.ok.gov/oec/

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Computed from precinct level 2006 voting results aggregated into legislative districts. The Republican Normal Vote (RNV) is the average of the district percent of the vote gained by the Republican candidate for Lieutenant Governor (Hiett), Auditor and Inspector (Jones), Labor Commissioner (Reneau), an Insurance Comissioner (Case).

Table 2. Senate Data

	November 4, 2008 Candidates or Filing, Primary Winner[1]		Incumbent[2]		2006 Result[2]		Campaign Receipts[3]		Party Registration[4]				Funds Remaining[5]		
Dist	Dem	Rep	Dem	Rep	D	R	Dem	Rep	Dem	Rep	Ind	Total	Dem	Rep	2006 RNV[6]
1	Wyrick		1		1		61,791		26,094	12,753	4,316	43,163	53,745		0.4160
3	Wilson		1		1		6,550		29,472	11,146	4,061	44,679	2,752		0.4179
5	Ellis	Miller			1		28,082	0	31,176	4,396	2,330	37,902	7,459	0	0.3547
7	Lerblance	Sherrill	1		1		144,532	66,600	34,659	6,713	3,067	44,439	79,990		0.3482
9	Garrison		1		1		84,390		29,369	10,336	4,820	44,525	50,764		0.3606
11	McIntyre		1		1		45,335		23,395	4,273	3,601	31,269	46,490		0.1811
13	Paddack		1		1		359,929		29,097	9,500	4,092	42,689	295,437		0.4022
15	Drum	Nichols		1		1	100,660	232,510	22,068	23,545	6,372	51,985	85,619	177,172	0.4662
17	Laster	Rominger	1		1		150,117	200	21,975	15,431	4,975	42,381	103,903	29	0.4577
19		Anderson		1		1		60,626	13,540	22,242	3,715	39,497		22,341	0.5885
21	Murphy	Halligan			1		69,965	254,273	19,976	19,994	5,932	45,902	58,959	163,388	0.4845
23		Justice		1		1		57,576	20,896	17,321	4,467	42,684		84,595	0.4947
25		Mazzei		1		1		136,402	13,673	34,676	5,839	54,188		81,397	0.6601
27	Peach	Marlatt				1	16,975	70,675	14,387	22,094	4,113	40,594	12,477	17,200	0.6178
29		Ford		1		1		76,982	19,467	21,078	4,880	45,425		71,523	0.5307
31	Erwin	Barrington		1		1	81,940	171,056	23,184	10,070	3,959	37,213	65,506	109,697	0.4292

33	Adelson	Casey	1		1		406,336	2,584	19,231	16,924	5,518	41,673	290,580	0	0.4251
35		Stanislawski				1		147,725	16,722	29,005	5,486	51,213		19,750	0.5700
37	Riley	Newberry	1			1	215,531	136,304	17,396	25,429	5,449	48,274	148,039	39,598	0.5667
39		Crain		1		1		54,725	16,053	21,458	4,744	42,255		47,329	0.5448
41	Taylor	Jolley		1		1	0	123,012	15,655	34,334	7,153	57,142	0	71,417	0.6185
43	Boren	Reynolds		1		1	5,365	134,598	18,661	16,469	6,167	41,297	1,862	135,671	0.5101
45		Russell				1		120,771	16,358	23,485	6,038	45,881		25,110	0.5692
47		Lamb		1		1		48,500	18,063	30,606	6,706	55,375		62,023	0.5860
		Total	9	10	10	14			510,567	443,278	117,800	1,071,645			

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2 List of State Senators of Representatives Elected in 2006 or 2004 by District http://www.ok.gov/launch.php?url=http%3A%2F%2Fwww.oksenate.gov%2F; List of State House members Elected in 2006 by District http://www.okhouse.gov/Members/MemberListing.aspx

3 Oklahoma Ethics Commission. http://www.ok.gov/oec/

4 *Party Registration by Oklahoma State Legislative District September 2008* made available from the Oklahoma State Board of Elections.

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Table 3. Additive Prediction Models

	Weight		
Variable	Model 1	Model 2	Model 3
DPR Party Registration/Total Registration	0.2	0.275	0.29
ATCR Candidate Money/(Candidate Money + Opponent Money)	0.18	0.275	0.33
CI Candidate Incumbent	0.3	0.35	0.38
RE Party Won Seat in Last Election	0.2	0.1	0
FR Candidate Funds Remaining/(Candidate + Opponent Funds Remaining)	0.12	0	0
Total	1	1	1

The goal was a model that could accurately predict election results from months out with the fewest variables.

The models predicted the elections without noticing the overall political tendency, last minute campaign efforts, the campaign itself, or the quality and effort of the candidates. The assumption was that in the competitive environment of the campaign these factors tended to be balanced – or encapsulated within the variables used.

ALGORITHMIC PROSPECTIVE MODEL

The algorithmic model used past election information, incumbency and an assumption about the overall political tendency in 2008. Rather than

being an additive model, it followed a decision tree. The model incorporates four assumptions.

1. If there is only one major party candidate (Republican or Democrat) that candidate will win.
2. The Republican Normal Vote (RNV) represents the vote a Republican candidate in a district can expect, all things being equal.
3. Incumbents can expect to gain an additional five percent over their party's normal vote.
4. There is a trend favoring Oklahoma Republicans in 2008 allowing Republican legislative candidates to expect an additional five percent over their normal vote.

Thus, the effect of a variable on the prediction depends on the status of the candidate on other variables, unlike additive models in which each variable has the same effect on the prediction regardless of the candidate's status on other variables.

PREDICTIONS

Each model, additive or algorithmic, showed a solid Republican house win. Two additive models predicted a 44-57 house split favoring the Republicans, the other a 43-58 split. The algorithmic model predicted the actual 40-61 split. For the Senate, two additive models predicted a Republican victory of 10-14, which would give Republicans control when continuing members were added. The other additive model predicted a Republican victory of 11-13, which, with the continuing members, 13-11, favoring the Democrats, would continue an evenly split Senate. The algorithmic model accurately predicted a Republican advantage (9-15) and a Republican Senate takeover.

Each of the four prospective models produced similar results with the number of prediction errors varying from six (the third additive model and the algorithmic model) to eight (the second additive model). The algorithmic model's six errors cancelled each other out, however, to accurately predict exact House and Senate party balances.

The best models turned out to be the simplest, the additive model using District Party Registration (DPR), Aggregate Total Campaign Receipts (ATCR), and Candidate Incumbency (CI) and the algorithmic model using whether or not there is a contest, incumbency, the RNV and the Oklahoma political tide.

All predictions were made public prior to the election.

Table 4. Algorithmic Model Decision Rule

Decision Rule																		
																		Prediction
How Many Candidates?	⇒	One Candidate			⇒	Which Party?	⇒	R							⇒	R
							⇒	D							⇒	D
	⇒	Two Candidates	⇒	Is there an Incumbent in the Race?	⇒	Incumbent	⇒	Which Party?	⇒	R	⇒	What is the RNV?	⇒	RNV≥40%	⇒	R
													⇒	RNV<40%	⇒	D
									⇒	D	⇒	What is the RNV?	⇒	RNV>50%	⇒	R
													⇒	RNV<50%	⇒	D
					⇒	No Incumbent					⇒	What is the RNV?	⇒	RNV>45%	⇒	R
													⇒	RNV<45%	⇒	D

RETROSPECTIVE MODEL

After the election we examined the accuracy of the predictions as well as the relationship between the election outcome and each of the variables used in the additive models.

We can calculate the number of errors that would be made from predicting the election outcome with one variable in the most efficient manner. The money advantage accurately predicts all but five races, four in the House and one in the Senate while the previous result in the district predicts all but seven and incumbency all but eight House and Senate races. Party registration, in contrast, incorrectly predicts 32 races.

We wrote two OLS regression equations using the additive predictors and the 2008 election results. All variables were coded 0/1 with the election result coded 1 for a Democratic win and 0 for a Republican win. The OLS regression equations were as follows.

House

Outcome = .1100 + .0584 (Democrat is Incumbent) -.0966 (Republican is Incumbent) + .2484 (Democrat won in 2006) + .1396 (Democrat has no Opponent) - .0154 (Republican has no opponent) + .6321 (Democrat raised more money than Republican) - .0425 (Democratic Registration Exceeds Republican) - .1397 (Democrat has more Money at Hand than Republican)

Senate

Outcome = -.1922 - .0425 (Democrat is Incumbent) +.0694 (Republican is Incumbent) + .4512 (Democrat won in 2004) + .0337 (Democrat has no Opponent) + .0831 (Republican has no opponent) + .4936 (Democrat raised more money than Republican) + .1955 (Democratic Registration Exceeds Republican) + .0756 (Democrat has more Money at Hand than Republican)

The equations allow two errors predicting the House results and zero errors predicting to the Senate outcome. The predictions are based on knowing the outcome, however. This can be seen by the difference between the House and Senate equations where six of the nine partial slopes have different signs. Only the aggregate campaign fund

Table 5. House of Representatives Model Predictions

				Additive Models									
				Model 1			Model 2			Model 3			
	November 4, 2008 Candidates or Filing, Primary Winner[1]			Score			Score			Score			Algorithmic
District	D	R	2008 Result	D	R	2008 Prediction	D	R	2008 Prediction	D	R	2008 Prediction	Model Prediction
1	Bailey	Farley	D	0.5977	0.1914	D	0.5204	0.1147	D	0.4714	0.1328	D	D
2	Smithson	Mann	D	0.9413	0.0454	D	0.9193	0.0625	D	0.9136	0.0672	D	D
3	Brannon		D	0.9435	0.0377	D	0.9223	0.0518	D	0.9180	0.0546	D	D
4	Brown		D	0.9292	0.0483	D	0.9026	0.0664	D	0.8973	0.0700	D	D
5	Kerr	Cox	R	0.1306	0.8503	R	0.1762	0.7975	R	0.1894	0.7830	R	R
6	Hoskin		D	0.9227	0.0602	D	0.8938	0.0828	D	0.8880	0.0873	D	D
7	Glenn		D	0.9292	0.0501	D	0.9027	0.0689	D	0.8974	0.0727	D	D
8	Sherrer		D	0.9121	0.0710	D	0.8792	0.0976	D	0.8726	0.1029	D	D
9	Snyder	Jones	R	0.1633	0.8142	R	0.1940	0.7751	R	0.2145	0.7529	R	R
10	Epperson	Martin	R	0.1114	0.8642	R	0.1509	0.8156	R	0.1626	0.8021	R	R
11		Sears	R	0.0645	0.9135	R	0.0887	0.8810	R	0.0935	0.8745	R	R
12	Rousselot		D	0.9106	0.0731	D	0.8770	0.1005	D	0.8703	0.1060	D	D
13	McPeak	Lienhart	D	0.9200	0.0574	D	0.8903	0.0787	D	0.8826	0.0847	D	**R***
14	Blankenship	Faught	R	0.1994	0.7779	R	0.2618	0.7070	R	0.2888	0.6783	R	**D***

15	Canmaday		D	0.9601	0.0287	D	0.9451	0.0395	D	0.9422	0.0416	D	D
16	Shoemake		D	0.9396	0.0431	D	0.9169	0.0593	D	0.9124	0.0625	D	D
17	Renegar		D	0.9577	0.0292	D	0.9418	0.0402	D	0.9387	0.0424	D	D
18	Harrison		D	0.9492	0.0352	D	0.9301	0.0485	D	0.9263	0.0511	D	D
19	Pruett		D	0.9638	0.0224	D	0.9502	0.0308	D	0.9474	0.0325	D	D
20	Roan		D	0.9572	0.0299	D	0.9411	0.0410	D	0.9379	0.0433	D	D
21	Carey		D	0.9373	0.0395	D	0.9138	0.0544	D	0.9091	0.0573	D	D
22	Hilliard		D	0.9403	0.0440	D	0.9179	0.0605	D	0.9134	0.0638	D	D
23	Dodson	Tibbs	R	0.1027	0.8713	R	0.1410	0.8233	R	0.1513	0.8110	R	R
24	Kouplen		D	0.7418	0.0421	D	0.5700	0.0579	D	0.5356	0.0611	D	D
25	Starns	Thomsen	R	0.2161	0.7623	R	0.2767	0.6935	R	0.3063	0.6624	R	R
26		Steele	R	0.1082	0.8675	R	0.1488	0.8178	R	0.1569	0.8079	R	R
27	Kozara	Jett	R	0.1154	0.8611	R	0.1596	0.8081	R	0.1697	0.7962	R	R
28	Kiesel	Shepard	D	0.9187	0.0656	D	0.8948	0.0835	D	0.8873	0.0898	D	D
29		McNiel	R	0.0982	0.8809	R	0.1350	0.8362	R	0.1424	0.8273	R	R
30	Crowder	McCullough	R	0.2725	0.7061	R	0.2972	0.6734	R	0.3382	0.6307	R	R
31	Sherrill	Murphey	R	0.1239	0.8524	R	0.1421	0.8253	R	0.1571	0.8085	R	R
32	Morgan		D	0.9011	0.0784	D	0.8640	0.1078	D	0.8566	0.1137	D	D
33	Pierson	Denney	R	0.1461	0.8315	R	0.2034	0.7658	R	0.2252	0.7423	R	R
34	Williams	Carlson	D	0.1720	0.4994	**R***	0.2091	0.4016	**R***	0.2352	0.3433	**R***	**R***
35	Ensign	Duncan	R	0.1188	0.8625	R	0.1608	0.8136	R	0.1731	0.7999	R	R
36	Bighorse	Fields	R	0.8501	0.1317	**D***	0.8169	0.1581	**D***	0.7980	0.1757	**D***	**D***
37	Luttrell	Colle	D	0.8768	0.0999	D	0.8311	0.1369	D	0.8208	0.1454	D	**R***
38		Dewitt	R	0.0794	0.9007	R	0.1092	0.8635	R	0.1152	0.8561	R	R
39	Guhl	Cooksey	R	0.1249	0.8500	R	0.1340	0.8315	R	0.1501	0.8135	R	R

	November 4, 2008 Candidates or Filing, Primary Winner[1]			Additive Models									
				Model 1			Model 2			Model 3			
				Score			Score			Score			
District	D	R	2008 Result	D	R	2008 Prediction	D	R	2008 Prediction	D	R	2008 Prediction	Algorithmic Model Prediction
40	Jones	Jackson	R	0.0736	0.9077	R	0.1012	0.8730	R	0.1068	0.8661	R	R
41		Enns	R	0.0579	0.9239	R	0.0796	0.8954	R	0.0840	0.8897	R	R
42	Perry	Billy	R	0.1381	0.8415	R	0.1923	0.7796	R	0.2073	0.7631	R	R
43		Schwartz	R	0.0649	0.9120	R	0.0893	0.8790	R	0.0941	0.8724	R	R
44	Nations	Barrett	D	0.8842	0.0845	D	0.8394	0.1176	D	0.8278	0.1269	D	D
45	Collins	Stiles	D	0.8377	0.1342	D	0.7919	0.1694	D	0.7717	0.1876	D	D
46	Norman	Martin	R	0.0893	0.8872	R	0.1186	0.8491	R	0.1262	0.8398	R	R
47	Jackson	Osborn	R	0.1958	0.4805	R	0.2165	0.4009	R	0.2429	0.3427	R	R
48	Moore	Ownbey	R	0.2064	0.4696	R	0.2378	0.3793	R	0.2604	0.3248	R	R
49	Buck	Oliver	D	0.6631	0.1183	D	0.4924	0.1321	D	0.4433	0.1498	D	D
50	Lawler	Johnson	R	0.2199	0.7638	R	0.2466	0.7311	R	0.2725	0.7039	R	R
51	Cosgrove	Holland	R	0.5180	0.2632	**D***	0.3169	0.3073	**D***	0.2358	0.3569	R	**D***
52	McMahan	Ortega	R	0.5643	0.2189	**D***	0.4009	0.2261	**D***	0.3372	0.2585	**D***	R
53	Green	Terrill	R	0.0982	0.8771	R	0.1283	0.8378	R	0.1394	0.8248	R	R
54		Wesselhoft	R	0.0756	0.8979	R	0.1040	0.8596	R	0.1097	0.8520	R	R
55	McMullen		D	0.9276	0.0567	D	0.9005	0.0780	D	0.8950	0.0822	D	D
56		Richardson	R	0.1179	0.8648	R	0.1620	0.8141	R	0.1709	0.8039	R	R

57	Adams	Wright	R	0.4833	0.2966	D*	0.3455	0.2768	D*	0.2748	0.3160	R	R
58		Hickman	R	0.0706	0.9102	R	0.0971	0.8765	R	0.1024	0.8698	R	R
59	Russell	Sanders	R	0.1458	0.5413	R	0.1163	0.5160	R	0.1238	0.4775	R	R
60	Walker	Gambill	D	0.8736	0.1085	D	0.8225	0.1529	D	0.8020	0.1721	D	D
61	Shearer	Blackwell	R	0.1661	0.8108	R	0.2312	0.7369	R	0.2634	0.7030	R	R
62	Warren	Shannon	R	0.1259	0.8471	R	0.1529	0.8100	R	0.1620	0.7989	R	R
63		Armes	R	0.1256	0.8540	R	0.1727	0.7993	R	0.1821	0.7883	R	R
64		Coody	R	0.1106	0.8585	R	0.1520	0.8054	R	0.1603	0.7948	R	R
65	Dorman		D	0.9216	0.0567	D	0.8922	0.0780	D	0.8863	0.0822	D	D
66	Lamons	Ramey	D	0.8974	0.0729	D	0.8593	0.1000	D	0.8513	0.1058	D	D
67	Lantos	Peterson	R	0.1097	0.8692	R	0.1357	0.8353	R	0.1538	0.8156	R	R
68		Benge	R	0.0838	0.8936	R	0.1153	0.8537	R	0.1216	0.8457	R	R
69		Jordan	R	0.0521	0.9245	R	0.0717	0.8962	R	0.0756	0.8906	R	R
70		Peters	R	0.0696	0.9119	R	0.0957	0.8789	R	0.1009	0.8723	R	R
71	Bullock	Sullivan	R	0.1392	0.8356	R	0.1744	0.7909	R	0.1932	0.7703	R	R
72	Scott	Kirkpatrick	D	0.7294	0.0415	D	0.5529	0.0571	D	0.5176	0.0602	D	D
73	Shumate		D	0.9651	0.0175	D	0.9520	0.0241	D	0.9494	0.0254	D	D
74		Derby	R	0.0656	0.9116	R	0.0902	0.8785	R	0.0952	0.8719	R	R
75		Kirby	R	0.0729	0.6016	R	0.1002	0.5146	R	0.1057	0.4773	R	R
76		Wright	R	0.0568	0.9208	R	0.0781	0.8911	R	0.0824	0.8851	R	R
77	Proctor		D	0.8993	0.0717	D	0.8615	0.0986	D	0.8539	0.1039	D	D
78	McDaniel	Matlock	D	0.8635	0.1130	D	0.8178	0.1499	D	0.8034	0.1625	D	D
79	Hawkins	Watson	R	0.0772	0.9004	R	0.1005	0.8687	R	0.1072	0.8604	R	R
80		Ritze	R	0.0572	0.6218	R	0.0787	0.5424	R	0.0830	0.5066	R	R
81		Miller	R	0.0598	0.9152	R	0.0823	0.8834	R	0.0868	0.8771	R	R

	November 4, 2008 Candidates or Filing, Primary Winner[1]			Additive Models									
				Model 1			Model 2			Model 3			
District	D	R	2008 Result	Score D	Score R	2008 Prediction	Score D	Score R	2008 Prediction	Score D	Score R	2008 Prediction	Algorithmic Model Prediction
82	Anderson	Liebmann	R	0.0752	0.9029	R	0.0980	0.8717	R	0.1053	0.8629	R	R
83	Holzberger	McDaniel	R	0.0797	0.8961	R	0.1067	0.8600	R	0.1136	0.8514	R	R
84	Marlett	Kern	R	0.1236	0.8496	R	0.1663	0.7967	R	0.1840	0.7770	R	R
85	Robey	Dank	R	0.1904	0.7893	R	0.1744	0.7977	R	0.1930	0.7775	R	R
86	Auffet		D	0.9293	0.0557	D	0.9028	0.0765	D	0.8975	0.0807	D	D
87	Orwig	Nelson	R	0.2486	0.4238	R	0.2404	0.3717	R	0.2703	0.3097	R	R
88	McAffrey		D	0.9045	0.0592	D	0.8686	0.0814	D	0.8615	0.0858	D	D
89	Hamilton		D	0.9059	0.0517	D	0.8706	0.0711	D	0.8636	0.0749	D	D
90	James	Key	R	0.1685	0.8010	R	0.1769	0.7811	R	0.1959	0.7598	R	R
91		Reynolds	R	0.0691	0.9074	R	0.0951	0.8727	R	0.1002	0.8658	R	R
92	Morrissette		D	0.9044	0.0606	D	0.8686	0.0833	D	0.8614	0.0878	D	D
93	Castillo	Christian	R	0.5047	0.2622	**D***	0.3712	0.2333	**D***	0.3050	0.2671	**D***	R
94	Inman	Coulter	D	0.8854	0.0839	D	0.8447	0.1131	D	0.8341	0.1215	D	D
95	Walker	Joyner	R	0.1916	0.7800	R	0.2356	0.7253	R	0.2647	0.6941	R	R
96	Hunter	Moore	R	0.3131	0.3632	R	0.2846	0.3328	R	0.3279	0.2578	**D***	R

97	Shelton	Lott	D	0.9380	0.0424	D	0.9147	0.0583	D	0.9094	0.0621	D	D
98	Frederick	Trebilcock	R	0.0903	0.8885	R	0.1133	0.8575	R	0.1228	0.8465	R	R
99	Pittman	Linzy	D	0.9406	0.0354	D	0.9102	0.0568	D	0.9035	0.0617	D	D
100	Baggett	Thompson	R	0.0918	0.8817	R	0.1201	0.8435	R	0.1299	0.8318	R	R
101	Lewis	Banz	R	0.1260	0.8470	R	0.1544	0.8085	R	0.1677	0.7932	R	R
		D	40			44			44			43	40
		R	61			57			57			58	61
		Total	101			101			101			101	101
		Errors				6			6			5	6

*Incorrect predictions

Table 7. Type of Race and 2008 Outcome

House	Winner		
Type of Race	Democrat	Republican	Total
Democrat with No Opponent	24	0	24
Republican with No Opponent	0	20	20
Contest	16	41	57
Total	40	61	101

?

? ^{2} = 52.88 df = 2 p < 3.28E-12 V^2 = 0.524

Errors = 16

Table 13. Type of Race and 2008 Outcome

Senate	Winner		
Type of Race	Democrat	Republican	Total
No Opponent Democrat	5	0	5
No Opponent Republican	0	8	8
Contest	4	7	11
Total	9	15	24

? ^{2} = 13.13 df = 2 p < 0.00140 V^2 = 0.547

Errors = 4

Table 8. Incumbency and 2008 Outcome

House	Winner		
Incumbency	Democrat	Republican	Total
D Incumbent	35	1	36
R Incumbent	0	49	49
Open	5	11	16
Total	40	61	101

? ^{2} = 82.56 df = 2 p < 1.18E-18 V^2 = 0.817
Errors = 6

Table 9. Party Registration and 2008 Outcome

House	Winner		
P Registration	Democrat	Republican	Total
D Advantage	38	27	65
R Advantage	2	34	36
Total	40	61	101

? ^{2} = 27.11 df = 1 p < 1.92E-07 V^2 = 0.268
Errors = 29

Table 14. Incumbency and 2008 Outcome

Senate	Winner		
Incumbency	Democrat	Republican	Total
D Incumbent	8	1	9
R Incumbent	0	10	10
Open	1	4	5
Total	9	15	24

? ^{2} = 16.8\79 df = 2 p < 0.000226 V^2 = 0.699
Errors = 2

Table 15. Party Registration and 2008 Outcome

Senate	Winner		
P Registration	Democrat	Republican	Total
D Advantage	9	3	12
R Advantage	0	12	12
Total	9	15	24

? ^{2} = 14.40 df = 1 p < 0.000148 V^2 = 0.6
Errors = 3

Table 10. Money Advantage and 2008 Outcome

House	Winner		
$ Advantage	Democrat	Republican	Total
D Advantage	39	3	42
R Advantage	1	58	59
Total	40	61	101

? ^{2} = 85.24 df = 1 p < 2.64E-20 V^2 = 0.844
Errors = 4

Table 11. Previous Result and 2008 Outcome

House	Winner		
2006 Winner	Democrat	Republican	Total
Democrat	39	5	44
Republican	1	56	57
Total	40	61	101

? ^{2} = 78.36 df = 1 p < 8.578E-19 V^2 = 0.776
Errors = 6

Table 16. Money Advantage and 2008 Outcome

Senate	Winner		
$ Advantage	Democrat	Republican	Total
D Advantage	9	1	10
R Advantage	0	14	14
Total	9	15	24

? ^{2} = 20.16 df = 1 p < 7.12E-06 V^2 = 0.84
Errors = 1

Table 17. Previous Result and 2008 Outcome

Senate	Winner		
2004 Winner	Democrat	Republican	Total
Democrat	9	1	10
Republican	0	14	14
Total	9	15	24

? ^{2} = 20.16 df = 1 p < 7.12E-06 V^2 = 0.84
Errors = 1

Table 12. Money Left and 2008 Outcome

House	Winner		
$ Left Advantage	Democrat	Republican	Total
D Advantage	38	7	45
R Advantage	2	54	56
Total	40	61	101

$?^2 = 68.22$ df = 1 $p < 1.46E\text{-}16$ $V^2 = 0.675$

Errors = 9

Table 18. Money Left and 2008 Outcome

Senate	Winner		
$ Left Advantage	Democrat	Republican	Total
D Advantage	5	5	10
R Advantage	4	10	14
Total	9	15	24

$?^2 = 1.14$ df = 1 $p < 0.2850$ $V^2 = 0.0476$

Errors = 9

Table 6. Senate Model Predictions

	November 4, 2008 Candidates or Filing, Primary Winner[1]			Additive Models									
				Model 1			Model 2			Model 3			
				Score			Score			Score			
District	D	R	2008 Result	D	R	2008 Prediction	D	R	2008 Prediction	D	R	2008 Prediction	Algorithmic Model Prediction
1	Wyrick		D	0.9209	0.059	D	0.8913	0.081	D	0.885	0.086	D	D
3	Wilson		D	0.9319	0.05	D	0.9064	0.069	D	0.901	0.072	D	D
5	Ellis	Miller	D	0.6645	0.023	D	0.6012	0.032	D	0.569	0.034	D	D
7	Lerblance	Sherrill	D	0.8992	0.087	D	0.8527	0.128	D	0.832	0.148	D	D
9	Garrison		D	0.9319	0.046	D	0.9064	0.064	D	0.901	0.067	D	D
11	McIntyre		D	0.9496	0.027	D	0.9308	0.038	D	0.927	0.04	D	D
13	Paddack		D	0.9363	0.045	D	0.9124	0.061	D	0.908	0.065	D	D
15	Drum	Nichols	R	0.1784	0.797	R	0.1998	0.766	R	0.223	0.742	R	R
17	Laster	Rominger	D	0.9034	0.073	D	0.8672	0.1	D	0.86	0.106	D	D
19		Anderson	R	0.0686	0.913	R	0.0943	0.88	R	0.099	0.873	R	R
21	Murphy	Halligan	R	0.3577	0.316	D*	0.279	0.335	R	0.197	0.385	R	R
23		Justice	R	0.0979	0.881	R	0.1346	0.837	R	0.142	0.828	R	R
25		Mazzei	R	0.0505	0.928	R	0.0694	0.901	R	0.073	0.896	R	R

27	Peach	Marlatt	R	0.1562	0.524	R	0.1507	0.471	R	0.167	0.424	R	R
29		Ford	R	0.0857	0.893	R	0.1179	0.853	R	0.124	0.845	R	R
31	Erwin	Barrington	R	0.2278	0.751	R	0.2604	0.71	R	0.288	0.682	R	R
33	Adelson	Casey	D	0.8912	0.082	D	0.8502	0.113	D	0.842	0.12	D	D
35		Stanislawski	R	0.0653	0.613	R	0.0898	0.531	R	0.095	0.494	R	R
37	Riley	Newberry	R	0.577	0.4	**D***	0.6176	0.351	**D***	0.687	0.281	**D***	R
39		Crain	R	0.076	0.902	R	0.1045	0.865	R	0.11	0.857	R	R
41	Taylor	Jolley	R	0.0548	0.92	R	0.0753	0.89	R	0.079	0.884	R	R
43	Boren	Reynolds	R	0.0989	0.871	R	0.1348	0.824	R	0.144	0.813	R	R
45		Russell	R	0.0713	0.602	R	0.098	0.516	R	0.103	0.478	R	R
47		Lamb	R	0.0652	0.911	R	0.0897	0.877	R	0.095	0.87	R	R
		D	9			11			10			10	9
		R	15			13			14			14	15
		Total	24			24			24			24	24
		Errors				2			1			1	0

*Incorrect predictions

differential and the outcome of the past election had strong coefficients. We would not expect these equations to predict with the same accuracy in other election years.

CONCLUSION

Ockham's razor is a philosophical principle calling for a model able to achieve accuracy with the fewest parameters. Retrospectively, the simplest model would be to predict from money advantage. The accuracy of the predictions would be better than any of the prospective additive or algorithmic models. But there is a danger of prospectively predicting with one variable. It assumes future Oklahoma legislative elections will follow the same pattern as the 2008 election. But elections are stochastic. Likely, future elections will follow the broad pattern of 2008 but with differences. Previous election results or incumbency might predict slightly better than money advantage. The differences between these variables and money in 2008 were small. Therefore models using several robust predictors are likely to yield better predictions over time than models using only one variable.

The best predictive model is likely one that includes whether two major party candidates contest the election, incumbency, the result of the previous election in the district, money advantage and the Republican Normal Vote.

NOTES

[1] R. Darcy is Regents Professor of Political Science and Statistics at Oklahoma State University; Gary Jones is Chairman of the Oklahoma Republican Party; Stephen Baldridge, Emily Berry, Chris Hill, Charm Hoehn, Jasmine Johnson and Whitney Martin are Oklahoma State University undergraduate students. The paper was originally prepared for the 2008 meeting of the Oklahoma Political Science Association at Cameron University in Lawton. Oklahoma State University undergraduates Lindsay Barbour, Eric Bloyed, Melinda Carter, Brad Cooley, Brandon Dyer, Jordan Ellis, Michael Gumbs, Matt Land, Austin Linton, Kai Mann, Josh Pillow, Ryan Pitman, Brett Stingley, and Sarah Viele contributed to that earlier paper. The authors are grateful to James Scott for timely assistance with the analysis.

[2]http://factfinder.census.gov/servlet/DCGeoSelectServlet?ds_name=DEC_2000_SLDS&_ts=209653995859

REFERENCES

Campbell, Angus, Philip E. Converse, Warren E. Miller and Donald E. Stokes. 1966. *Elections and the Political Order* (New York: Wiley).

Darcy, R., Margaret Brewer and Judy Clay. 1984. "Women in the Oklahoma Political System: State Legislative Elections." *Social Science Journal* 21 (January): 67-78.

Farmer, Rick. 2007. "The 2004 Partisan Transition in the Oklahoma House and Term Limits." *Oklahoma Politics* 16: 19-45.

Jones, Randall J. Jr. 1999. "Using Time-Series Models to Explain and Predict State Gubernatorial Election Outcomes: An Application to Oklahoma." *Oklahoma Politics* 8:1-15.

Kingdon, John. 1968. *Candidates for Office: Beliefs and Strategies* (New York: Random House).

Lewis-Beck, Michael S. and Tom W. Rice. 1984. "Forcasting U.S. House Elections." *Legislative Studies Quarterly* 9 (August):475-486.

Overall, Michael and Tom Lindley. 2008 "What's red all over? Oklahoma." *Tulsa World Thursday* November 6.

Van Ness, Joseph T. 1992. "Strategic Oklahoma Politicians: Analysis of the Oklahoma House of Representatives." *Oklahoma Politics* 1:35-48.