Table A: Model Fit of OLS and Heteroskedastic OLS

First difference — Expected Value Function					
Model	N	OLS	hetOLS	OLS_{lt}	$hetOLS_{lt}$
Symmetrical	500	.276	.276	.311	.311
	100	.270	.271	.301	.301
	30	.232	.234	.259	.258
Asymmetrical	500	.227	.209	.246	.245
	100	.229	.210	.248	.248
	30	.250	.239	.261	.259
One-sided	500	.137	.106	.113	.109
	100	.140	.111	.117	.112
	30	.143	.117	.122	.115
Bimodal	500	.272	.269	.556	.549
	100	.294	.288	.568	.549
	30	.247	.255	.468	.435
Efficiency — Expected Value Function					
Model	N	OLS	hetOLS	OLS_{lt}	$hetOLS_{lt}$
Symmetrical	500	161.0	160.3	205.0	203.4
	100	100.8	100.8	129.2	129.0
	30	80.0	89.8	99.8	112.8
Asymmetrical	500	113.5	256.5	156.7	152.0
	100	103.1	157.2	115.0	113.3
	30	92.2	98.0	105.6	109.4
One-sided	500	117.6	214.6	178.3	203.9
	100	114.5	109.0	121.1	121.3
	30	105.0	90.3	100.1	100.2
Bimodal	500	111.8	116.3	1002.0	978.8
	100	96.9	95.0	456.4	428.4
	30	98.1	101.2	245.9	233.0
Overconfidence — Expected Value Function					
Model	N	OLS	hetOLS	OLS_{lt}	$hetOLS_{lt}$
Symmetrical	500	91.0	91.7	106.9	107.7
	100	90.3	92.4	103.4	104.8
	30	85.1	96.4	100.1	111.4
Asymmetrical	500	100.8	90.9	113.1	112.4
	100	96.1	88.2	104.5	108.5
	30	95.0	94.7	100.3	108.6
One-sided	500	108.9	74.6	114.8	103.4
	100	103.8	77.3	106.7	99.6
	30	106.6	89.2	101.3	105.8
Bimodal	500	90.6	88.0	116.9	115.9
	100	90.0	86.0	122.3	117.4
	30	92.8	95.9	106.0	110.8

Values are comparisons between homoskedastic and heteroskeadastic OLS Monte Carlo estimates corresponding to the data in Tables 1-3. The "lt" subscript signifies that the proportion was transformed using a logit transformation.

Table B: Model Fit of Beta MLE vs. Alternatives

Model	N	Beta	OLS	OLS_{lt}	Beta_{alt}
Symmetrical	500	.0141	.0142	.0142	.0141
	100	.0140	.0141	.0141	.0140
	30	.0140	.0139	.0139	.0139
Asymmetrical	500	.0110	.0113	.0112	.0110
	100	.0101	.0104	.0103	.0101
	30	.0110	.0112	.0112	.0110
One-sided	500	.0196	.0199	.0234	.0196
	100	.0202	.0205	.0243	.0202
	30	.0189	.0191	.0230	.0190
Bimodal	500	.1034	.1035	.1226	.1035
	100	.0990	.0991	.1203	.0990
	30	.1016	.1007	.1198	.1019

Values are the mean squared prediction error. OLS models are all homoskedastic. The "lt" subscript signifies that the proportion was transformed using a logit transformation, and β_{alt} refers to the alternate approach to BMLE, as described in equations 11-15.

Table C: OLS vs. Beta Estimation — Keiser and Soss

	Percent Good Cause Exemptions	
Variable	BMLE	$\mathcal{D}$
Expected Value		
Constant	1.96	
	(1.49)	
Bureaucratic	.039	.034
Resources	(1.09)	
Bureaucratic	-.129**	-.069
Values	(-2.03)	
Number of	-.071**	-.101
Applications	(-5.26)	
Demand	-.273	-.052
	(-1.23)	
Economic	1.19**	.091
Capacity	(2.24)	
Democratic	.343**	.066
Government	(1.94)	
1991	.137	.025
	(0.83)	
1992	.147	.028
	(0.88)	
Dispersion		
Constant	-0.720	
	(-1.00)	
Bureaucratic	0.253**	
Values	(2.19)	
Number of	0.175**	
Applications	(4.90)	
Democratic	.348**	
Government	(1.41)	
N	140	
Mean Squared Error	.028	

T-statistics in parentheses. First differences calculated for each variable one standard deviation above and below its mean value while holding all other variables at their means. $**p < .05$ (one-tailed test).

Table D: Model Fit of OLS with Log Transformation

Model	N	MSE	$\mathcal{D}$	Efficiency	Overconfidence
Symmetrical	500	.0161	.296	117.0	107.5
	100	.0154	.304	144.1	111.6
	30	.0152	.258	107.8	108.9
Asymmetrical	500	.0124	.249	185.3	119.2
	100	.0112	.243	109.8	104.5
	30	.0123	.277	137.2	111.3
One-sided	500	.0207	.166	316.3	127.5
	100	.0214	.170	209.1	120.3
	30	.0200	.169	149.3	117.3
Bimodal	500	.1370	.254	161.1	92.8
	100	.1305	.269	122.9	94.1
	30	.1371	.237	109.4	94.2

Monte Carlo results generated using a homoskedastic OLS model with a log transformation and corresponding to the statistics in Tables 1-3.