Selection Bias in Comparative Research
The Case of Incomplete Datasets *

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Abstract

Selection bias is an important but often neglected problem in comparative research. While some attention has been paid to this problem in comparative case studies, this is less the case in broader cross-national studies. One way in which this problem appears in this context is through the way the data used is generated. The paper discusses three examples: studies of the success of newly formed political parties, research on protest events, and recent work on ethnic conflict. In all cases the data at hand is likely to be afflicted by selection bias. Failing to take into consideration this problem leads to serious biases in the estimation of simple relationships. Empirical examples illustrate a possible solution (a variation of a Tobit model) to the problems in these cases. The paper also discusses results of Monte Carlo simulations, illustrating under what conditions the proposed estimation procedures lead to improved results.

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Here I report in more detail the results of the Monte Carlo simulations referred to in the main paper. First, I report in a set of the tables the mean estimated slope coefficients for the samples stemming from different sizes of the population. Tables 1-4 report the results for original sample sizes of 100, 250, 500, and 1000 respectively.

Then I depict graphically the root mean-squared errors of the slope estimates for some settings of the Monte Carlo Simulations (Figures 1-7). I refrain from depicting graphically the results for population sizes of 100, since almost systematically the root mean-squared errors from the truncated regression are larger than those obtained from OLS. In addition, I only depict graphically the root mean-squared errors for the datasets generated from population sizes of 1000 with the selection equation parameters of $\gamma_1 = -\sqrt{0.5}$ and $\gamma_2 = \sqrt{0.5}$. But in the subsequent tables (Tables 5-8) I report the root mean-squared errors for all Monte Carlo settings, thus also the numbers used for figures 1-7. Finally, in the last set of tables (9-12) I report the number of estimations for all Monte Carlo settings which converged after 1000 iterations.

Finally, in table 13 I report the descriptive statics of the variables used in three empirical examples.

Table 1: Mean estimated slope coefficient ($\overline{\beta_1}$) of Monte Carlo estimations (n=100)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
$\gamma_1 = -1, \gamma_2 = 0$																		
0.1	0.97	0.77	0.96	0.81	0.95	0.78	0.96	0.77	0.96	0.83	0.96	0.84	0.97	0.88	0.98	0.89	0.99	0.90
0.2	0.91	0.71	0.90	0.69	0.90	0.69	0.91	0.71	0.92	0.75	0.92	0.78	0.93	0.83	0.95	0.86	0.97	0.88
0.3	0.85	0.57	0.82	0.56	0.85	0.65	0.85	0.66	0.86	0.68	0.88	0.73	0.90	0.79	0.92	0.82	0.95	0.86
0.4	0.76	0.54	0.75	0.52	0.78	0.58	0.80	0.64	0.81	0.67	0.84	0.70	0.87	0.73	0.89	0.81	0.93	0.84
0.5	0.66	0.45	0.68	0.50	0.71	0.57	0.74	0.63	0.77	0.68	0.80	0.69	0.83	0.74	0.86	0.78	0.92	0.82
0.6	0.60	0.40	0.62	0.48	0.65	0.60	0.68	0.66	0.72	0.66	0.76	0.68	0.80	0.76	0.84	0.76	0.90	0.82
0.7	0.51	0.28	0.55	0.47	0.59	0.60	0.63	0.73	0.67	0.70	0.72	0.75	0.76	0.76	0.81	0.79	0.88	0.81
0.8	0.46	0.29	0.50	0.54	0.53	0.69	0.57	0.80	0.63	0.80	0.67	0.82	0.73	0.83	0.79	0.82	0.86	0.80
0.9	0.36	0.37	0.43	0.63	0.47	0.79	0.52	0.95	0.57	0.95	0.64	0.94	0.69	0.91	0.76	0.84	0.85	0.81
$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$																		
0.1	0.97	0.87	0.98	0.85	0.98	0.94	0.98	0.91	0.98	0.90	0.98	0.88	0.98	0.93	0.99	0.93	0.99	0.93
0.2	0.95	0.87	0.97	1.17	0.95	0.83	0.94	0.84	0.96	0.86	0.96	0.88	0.97	0.88	0.97	0.92	0.98	0.91
0.3	0.92	0.75	0.93	0.76	0.91	0.92	0.92	0.82	0.93	0.86	0.93	0.87	0.94	0.88	0.96	0.92	0.97	0.91
0.4	0.90	0.63	0.89	0.71	0.88	0.88	0.88	0.85	0.90	0.83	0.91	0.89	0.92	0.89	0.94	0.91	0.96	0.89
0.5	0.83	0.53	0.82	0.67	0.85	0.75	0.84	0.81	0.87	0.89	0.89	0.90	0.90	0.91	0.92	0.93	0.95	0.90
0.6	0.78	0.52	0.79	0.64	0.82	0.79	0.83	0.87	0.84	0.90	0.86	0.92	0.88	0.94	0.91	0.94	0.94	0.92
0.7	0.75	0.45	0.78	0.64	0.78	0.78	0.80	0.87	0.81	0.94	0.83	0.96	0.86	0.98	0.89	0.96	0.93	0.94
0.8	0.73	0.48	0.74	0.69	0.75	0.88	0.77	0.92	0.78	0.98	0.82	1.01	0.84	1.03	0.87	0.99	0.91	0.96
0.9	0.65	0.41	0.68	0.66	0.72	0.94	0.74	1.03	0.75	1.05	0.79	1.05	0.82	1.03	0.85	1.02	0.91	0.96
$\gamma_1 = -1, \gamma_2 = 1$																		
0.1	0.97	0.84	0.97	0.87	0.98	0.88	0.98	0.89	0.98	0.90	0.99	0.90	0.99	0.94	0.99	0.92	0.99	0.93
0.2	0.94	0.75	0.94	0.82	0.94	0.85	0.95	0.82	0.95	0.88	0.96	0.88	0.97	0.91	0.97	0.91	0.98	0.92
0.3	0.86	0.68	0.92	0.77	0.91	0.80	0.92	0.84	0.92	0.88	0.94	0.89	0.94	0.90	0.95	0.90	0.97	0.90
0.4	0.87	0.67	0.87	0.68	0.88	0.79	0.88	0.83	0.90	0.85	0.91	0.88	0.92	0.92	0.94	0.91	0.96	0.90
0.5	0.84	0.62	0.83	0.63	0.85	0.78	0.86	0.83	0.87	0.87	0.89	0.89	0.90	0.91	0.92	0.93	0.95	0.93
0.6	0.79	0.60	0.80	0.67	0.82	0.79	0.83	0.86	0.84	0.88	0.87	0.91	0.88	0.94	0.91	0.96	0.94	0.93
0.7	0.77	0.57	0.78	0.65	0.78	0.77	0.80	0.89	0.81	0.89	0.83	0.97	0.86	0.96	0.89	0.98	0.93	0.93
0.8	0.72	0.57	0.74	0.69	0.75	0.85	0.77	0.92	0.78	1.01	0.81	1.03	0.84	1.01	0.87	1.02	0.92	0.95
0.9	0.66	0.51	0.68	0.66	0.72	0.87	0.74	0.99	0.76	1.06	0.78	1.06	0.82	1.05	0.85	1.05	0.91	1.00

Table 2: Mean estimated slope coefficient ($\overline{\beta_1}$) of Monte Carlo estimations (n=250)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
$\gamma_1 = -1, \gamma_2 = 0$																		
0.1	0.94	0.78	0.94	0.80	0.94	0.80	0.95	0.81	0.95	0.81	0.96	0.84	0.97	0.87	0.98	0.90	0.98	0.91
0.2	0.86	0.70	0.87	0.71	0.88	0.75	0.89	0.76	0.91	0.78	0.92	0.80	0.93	0.82	0.95	0.86	0.97	0.89
0.3	0.79	0.60	0.81	0.68	0.82	0.70	0.84	0.73	0.86	0.74	0.88	0.76	0.90	0.79	0.92	0.83	0.95	0.87
0.4	0.71	0.55	0.75	0.65	0.76	0.70	0.79	0.72	0.81	0.74	0.84	0.74	0.87	0.76	0.89	0.81	0.93	0.84
0.5	0.65	0.54	0.68	0.65	0.71	0.69	0.73	0.72	0.76	0.74	0.79	0.73	0.83	0.77	0.87	0.78	0.92	0.84
0.6	0.58	0.52	0.62	0.69	0.65	0.71	0.68	0.76	0.72	0.78	0.75	0.78	0.79	0.77	0.84	0.80	0.90	0.82
0.7	0.50	0.57	0.55	0.73	0.59	0.80	0.63	0.86	0.67	0.86	0.71	0.84	0.76	0.81	0.81	0.82	0.88	0.82
0.8	0.42	0.61	0.48	0.82	0.53	0.91	0.57	0.95	0.62	0.95	0.67	0.94	0.73	0.92	0.79	0.86	0.86	0.82
0.9	0.37	0.64	0.42	0.99	0.47	1.09	0.52	1.05	0.58	1.05	0.63	1.03	0.69	0.97	0.76	0.91	0.84	0.84
$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$																		
0.1	0.95	0.82	0.96	0.83	0.97	0.87	0.97	0.87	0.97	0.89	0.97	0.91	0.97	0.91	0.98	0.92	0.99	0.94
0.2	0.91	0.75	0.91	0.77	0.93	0.84	0.93	0.84	0.94	0.87	0.95	0.89	0.95	0.97	0.97	0.92	0.98	0.93
0.3	0.88	0.69	0.89	0.76	0.90	0.81	0.90	0.81	0.92	0.87	0.93	0.89	0.94	0.92	0.95	0.90	0.97	0.92
0.4	0.86	0.67	0.85	0.75	0.87	0.81	0.87	0.81	0.89	0.88	0.90	0.90	0.92	0.93	0.93	0.92	0.96	0.93
0.5	0.80	0.61	0.81	0.75	0.84	0.84	0.84	0.84	0.87	0.93	0.88	0.93	0.89	0.94	0.92	0.94	0.95	0.94
0.6	0.77	0.59	0.78	0.77	0.80	0.88	0.80	0.88	0.84	0.95	0.85	0.96	0.87	0.97	0.90	0.97	0.94	0.95
0.7	0.73	0.59	0.75	0.81	0.77	0.91	0.77	0.91	0.81	1.00	0.83	1.00	0.86	0.99	0.88	0.98	0.93	0.97
0.8	0.70	0.62	0.72	0.89	0.74	0.96	0.74	0.96	0.78	1.01	0.81	1.03	0.84	1.01	0.87	1.00	0.91	0.97
0.9	0.68	0.71	0.69	0.97	0.71	1.05	0.71	1.05	0.75	1.03	0.78	1.02	0.81	1.02	0.85	1.01	0.90	0.97
$\gamma_1 = -1, \gamma_2 = 1$																		
0.1	0.94	0.82	0.96	0.87	0.97	0.88	0.97	0.88	0.97	0.89	0.98	0.91	0.98	0.91	0.98	0.93	0.99	0.93
0.2	0.93	0.76	0.93	0.82	0.94	0.82	0.94	0.86	0.95	0.88	0.95	0.90	0.96	0.90	0.97	0.91	0.98	0.93
0.3	0.87	0.69	0.90	0.78	0.91	0.81	0.91	0.85	0.92	0.86	0.93	0.90	0.94	0.91	0.95	0.90	0.97	0.93
0.4	0.85	0.68	0.85	0.76	0.87	0.81	0.88	0.87	0.89	0.87	0.90	0.90	0.92	0.91	0.93	0.92	0.95	0.93
0.5	0.82	0.72	0.83	0.75	0.84	0.84	0.85	0.87	0.87	0.90	0.88	0.92	0.89	0.93	0.91	0.94	0.94	0.95
0.6	0.77	0.67	0.79	0.80	0.81	0.87	0.82	0.93	0.84	0.93	0.85	0.94	0.87	0.96	0.90	0.96	0.93	0.96
0.7	0.75	0.66	0.75	0.81	0.78	0.89	0.79	0.95	0.81	1.00	0.83	0.99	0.85	0.99	0.88	0.98	0.92	0.97
0.8	0.72	0.64	0.72	0.85	0.74	0.95	0.76	1.02	0.78	1.01	0.81	1.03	0.83	1.01	0.87	1.01	0.91	0.99
0.9	0.69	0.73	0.69	0.95	0.72	1.00	0.74	1.05	0.76	1.04	0.78	1.04	0.81	1.03	0.85	1.01	0.90	0.99

Table 3: Mean estimated slope coefficient ($\overline{\beta_1}$) of Monte Carlo estimations (n=500)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
$\gamma_1 = -1, \gamma_2 = 0$																		
0.1	0.94	0.75	0.94	0.79	0.95	0.80	0.95	0.82	0.96	0.83	0.96	0.85	0.97	0.89	0.97	0.91	0.98	0.92
0.2	0.87	0.68	0.88	0.74	0.89	0.74	0.90	0.77	0.91	0.79	0.92	0.81	0.93	0.84	0.95	0.87	0.97	0.90
0.3	0.80	0.61	0.81	0.68	0.83	0.71	0.84	0.73	0.86	0.76	0.88	0.78	0.90	0.80	0.92	0.84	0.95	0.87
0.4	0.72	0.56	0.75	0.65	0.77	0.71	0.79	0.75	0.81	0.75	0.84	0.76	0.86	0.77	0.89	0.82	0.93	0.85
0.5	0.65	0.54	0.68	0.67	0.71	0.72	0.74	0.77	0.76	0.78	0.80	0.77	0.83	0.77	0.87	0.80	0.92	0.84
0.6	0.58	0.56	0.62	0.69	0.65	0.79	0.69	0.82	0.72	0.84	0.75	0.85	0.80	0.81	0.84	0.79	0.90	0.82
0.7	0.50	0.62	0.55	0.79	0.60	0.87	0.63	0.94	0.67	0.96	0.71	0.93	0.76	0.88	0.82	0.82	0.88	0.83
0.8	0.43	0.70	0.49	0.90	0.54	1.02	0.58	1.05	0.62	1.03	0.68	1.01	0.73	0.97	0.79	0.87	0.86	0.83
0.9	0.36	0.86	0.42	1.04	0.48	1.06	0.53	1.06	0.58	1.05	0.64	1.00	0.69	1.01	0.76	0.95	0.85	0.85
$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$																		
0.1	0.97	0.85	0.97	0.90	0.98	0.92	0.98	0.91	0.97	0.91	0.95	0.93	0.98	0.92	0.98	0.95	0.99	0.94
0.2	0.93	0.79	0.93	0.85	0.94	0.88	0.94	0.88	0.95	0.92	0.95	0.93	0.96	0.92	0.97	0.93	0.98	0.95
0.3	0.89	0.75	0.90	0.82	0.90	0.86	0.91	0.89	0.92	0.91	0.93	0.95	0.94	0.93	0.95	0.94	0.97	0.95
0.4	0.85	0.72	0.87	0.83	0.87	0.88	0.88	0.92	0.89	0.93	0.91	0.98	0.92	0.95	0.94	0.96	0.96	0.95
0.5	0.81	0.69	0.83	0.84	0.84	0.91	0.85	0.95	0.87	0.96	0.88	1.00	0.90	0.98	0.92	0.98	0.95	0.96
0.6	0.78	0.76	0.79	0.88	0.81	0.95	0.82	0.99	0.84	1.00	0.86	1.02	0.88	1.00	0.91	0.99	0.94	0.98
0.7	0.74	0.74	0.76	0.92	0.78	0.98	0.79	1.01	0.81	1.02	0.84	1.02	0.86	1.01	0.89	1.01	0.93	1.00
0.8	0.70	0.84	0.72	0.96	0.74	1.03	0.76	1.02	0.79	1.02	0.81	1.01	0.84	1.01	0.87	1.01	0.92	1.00
0.9	0.67	0.96	0.69	1.03	0.71	1.02	0.74	1.02	0.76	1.01	0.79	1.01	0.82	1.01	0.86	1.01	0.91	1.01
$\gamma_1 = -1, \gamma_2 = 1$																		
0.1	0.97	0.88	0.97	0.91	0.97	0.91	0.97	0.90	0.98	0.92	0.98	0.92	0.98	0.94	0.98	0.94	0.99	0.94
0.2	0.93	0.80	0.94	0.87	0.94	0.87	0.94	0.89	0.95	0.90	0.95	0.92	0.96	0.91	0.97	0.93	0.98	0.94
0.3	0.89	0.77	0.90	0.82	0.91	0.85	0.91	0.88	0.92	0.90	0.93	0.91	0.94	0.93	0.95	0.93	0.97	0.94
0.4	0.87	0.74	0.86	0.80	0.87	0.87	0.89	0.91	0.90	0.93	0.91	0.93	0.92	0.95	0.93	0.95	0.96	0.95
0.5	0.83	0.72	0.83	0.81	0.84	0.90	0.86	0.93	0.87	0.94	0.88	0.96	0.90	0.97	0.92	0.97	0.95	0.97
0.6	0.78	0.72	0.80	0.85	0.81	0.93	0.83	0.96	0.84	0.98	0.86	0.99	0.88	1.00	0.90	0.99	0.94	0.98
0.7	0.74	0.75	0.76	0.87	0.78	0.95	0.80	0.99	0.81	1.01	0.84	1.01	0.86	1.02	0.89	1.01	0.92	1.00
0.8	0.71	0.81	0.73	0.91	0.75	1.01	0.77	1.03	0.79	1.02	0.81	1.02	0.84	1.02	0.87	1.01	0.91	1.01
0.9	0.66	0.92	0.69	1.02	0.72	1.04	0.74	1.03	0.76	1.02	0.79	1.01	0.82	1.01	0.85	1.02	0.90	1.01

Table 4: Mean estimated slope coefficient ($\overline{\beta_1}$) of Monte Carlo estimations (n=1000, $\gamma_1 = -1, \gamma_2 = 0$)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
	$\gamma_1 = -1, \gamma_2 = 0$																	
0.1	0.93	0.80	0.94	0.82	0.94	0.85	0.95	0.85	0.96	0.86	0.96	0.87	0.97	0.89	0.98	0.91	0.99	0.92
0.2	0.86	0.71	0.88	0.76	0.89	0.79	0.90	0.80	0.91	0.80	0.92	0.82	0.93	0.85	0.95	0.88	0.97	0.89
0.3	0.79	0.68	0.81	0.74	0.83	0.75	0.85	0.77	0.86	0.77	0.88	0.78	0.90	0.81	0.92	0.84	0.95	0.87
0.4	0.72	0.65	0.75	0.72	0.77	0.76	0.79	0.75	0.81	0.75	0.84	0.77	0.87	0.78	0.90	0.82	0.94	0.84
0.5	0.65	0.65	0.68	0.76	0.71	0.80	0.74	0.79	0.77	0.79	0.80	0.78	0.83	0.79	0.87	0.80	0.92	0.82
0.6	0.57	0.72	0.62	0.84	0.65	0.89	0.69	0.90	0.72	0.88	0.76	0.85	0.80	0.80	0.84	0.79	0.90	0.81
0.7	0.50	0.78	0.56	0.95	0.59	1.01	0.63	1.02	0.67	0.99	0.72	0.97	0.76	0.89	0.82	0.82	0.88	0.80
0.8	0.43	0.91	0.49	1.02	0.54	1.07	0.58	1.07	0.63	1.03	0.68	1.02	0.73	1.00	0.79	0.89	0.86	0.82
0.9	0.36	1.04	0.42	1.08	0.48	1.06	0.53	1.06	0.58	1.04	0.64	1.00	0.70	1.00	0.76	0.97	0.85	0.85
	$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$																	
0.1	0.97	0.92	0.97	0.92	0.97	0.92	0.97	0.92	0.98	0.92	0.98	0.93	0.98	0.94	0.99	0.94	0.99	0.95
0.2	0.93	0.85	0.93	0.88	0.94	0.89	0.95	0.92	0.95	0.92	0.95	0.93	0.96	0.93	0.97	0.94	0.98	0.95
0.3	0.89	0.85	0.90	0.90	0.91	0.93	0.92	0.94	0.92	0.93	0.93	0.95	0.94	0.96	0.95	0.96	0.97	0.96
0.4	0.85	0.83	0.86	0.91	0.88	0.96	0.89	0.97	0.90	0.97	0.91	0.98	0.92	0.98	0.94	0.99	0.96	0.97
0.5	0.81	0.84	0.83	0.95	0.84	0.97	0.86	1.00	0.87	1.01	0.88	1.00	0.90	1.00	0.92	1.00	0.95	0.99
0.6	0.77	0.87	0.79	0.98	0.81	1.01	0.83	1.02	0.84	1.03	0.86	1.02	0.88	1.01	0.90	1.01	0.94	1.00
0.7	0.74	0.91	0.76	1.01	0.78	1.03	0.80	1.03	0.82	1.02	0.84	1.02	0.86	1.01	0.89	1.01	0.93	1.01
0.8	0.70	0.96	0.72	1.04	0.74	1.03	0.77	1.02	0.79	1.02	0.81	1.01	0.84	1.01	0.87	1.01	0.92	1.01
0.9	0.66	1.02	0.69	1.04	0.71	1.03	0.73	1.02	0.76	1.01	0.79	1.01	0.82	1.01	0.86	1.01	0.91	1.01
	$\gamma_1 = -1, \gamma_2 = 1$																	
0.1	0.96	0.90	0.97	0.92	0.97	0.93	0.98	0.93	0.98	0.93	0.98	0.93	0.98	0.93	0.99	0.95	0.99	0.95
0.2	0.92	0.86	0.94	0.90	0.94	0.90	0.95	0.91	0.95	0.92	0.96	0.93	0.96	0.94	0.97	0.94	0.98	0.95
0.3	0.89	0.83	0.90	0.88	0.91	0.90	0.92	0.93	0.92	0.92	0.93	0.95	0.94	0.96	0.95	0.96	0.97	0.96
0.4	0.85	0.84	0.87	0.90	0.88	0.91	0.89	0.93	0.90	0.95	0.91	0.96	0.92	0.98	0.94	0.98	0.96	0.97
0.5	0.82	0.83	0.83	0.91	0.84	0.92	0.86	0.97	0.87	0.99	0.88	0.99	0.90	1.00	0.92	1.00	0.95	0.99
0.6	0.78	0.82	0.80	0.93	0.81	0.95	0.83	1.00	0.84	1.02	0.86	1.02	0.88	1.02	0.90	1.02	0.94	1.00
0.7	0.74	0.84	0.76	0.97	0.78	1.01	0.80	1.03	0.82	1.03	0.84	1.03	0.86	1.02	0.89	1.01	0.93	1.01
0.8	0.71	0.93	0.73	1.03	0.75	1.04	0.77	1.03	0.79	1.03	0.81	1.02	0.84	1.02	0.87	1.01	0.91	1.01
0.9	0.67	1.02	0.69	1.04	0.71	1.04	0.74	1.03	0.76	1.01	0.79	1.01	0.82	1.01	0.85	1.01	0.90	1.01

Figure 1: Root mean-squared error of slope estimate ($rmse(\beta_1)$) as a function of degree of selection and correlation among error terms (n=250) $\gamma_1 = -1, \gamma_2 = 0$)

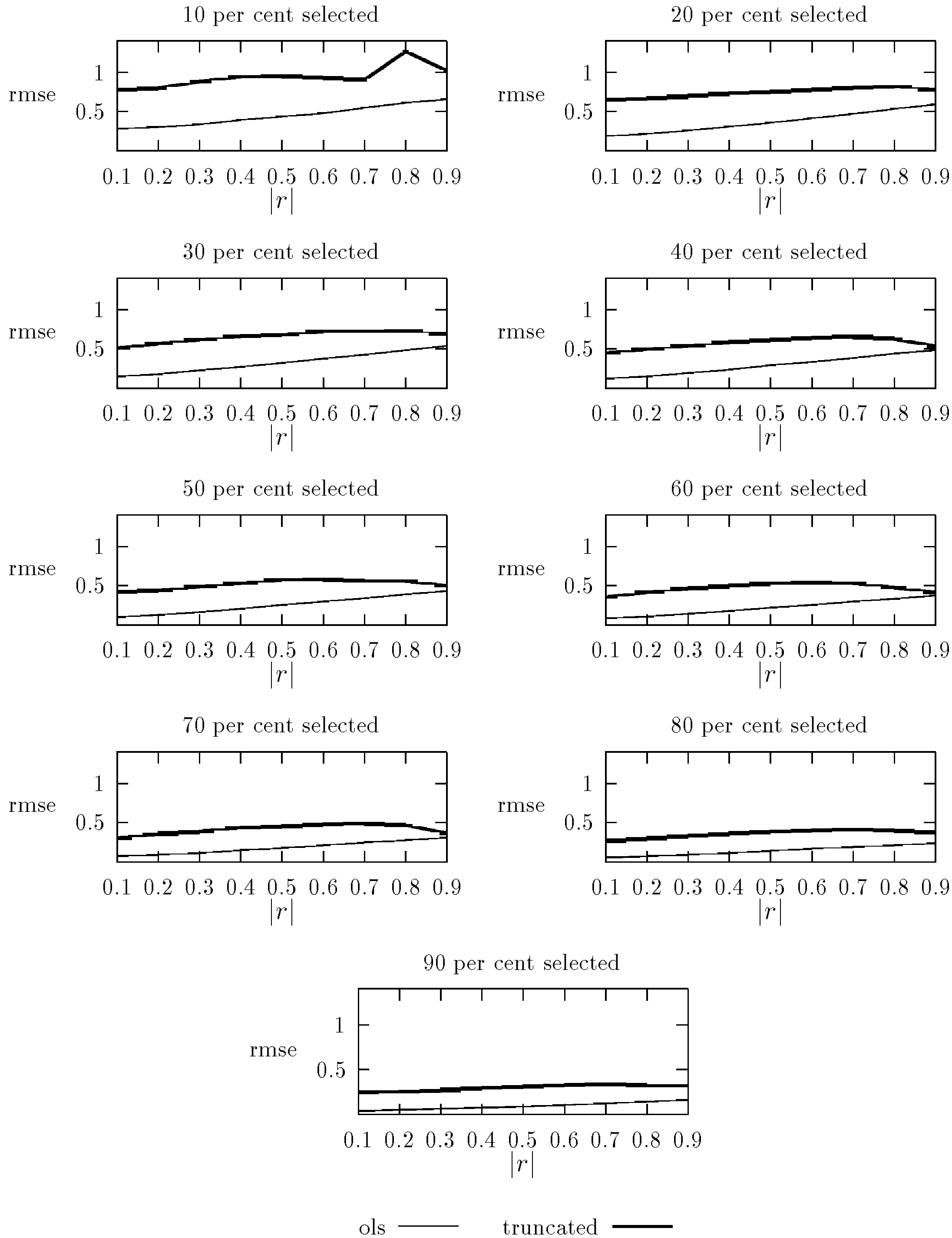

Figure 2: Root mean-squared error of slope estimate ($rmse(\beta_1)$) as a function of degree of selection and correlation among error terms (n=500) $\gamma_1 = -1, \gamma_2 = 0$)

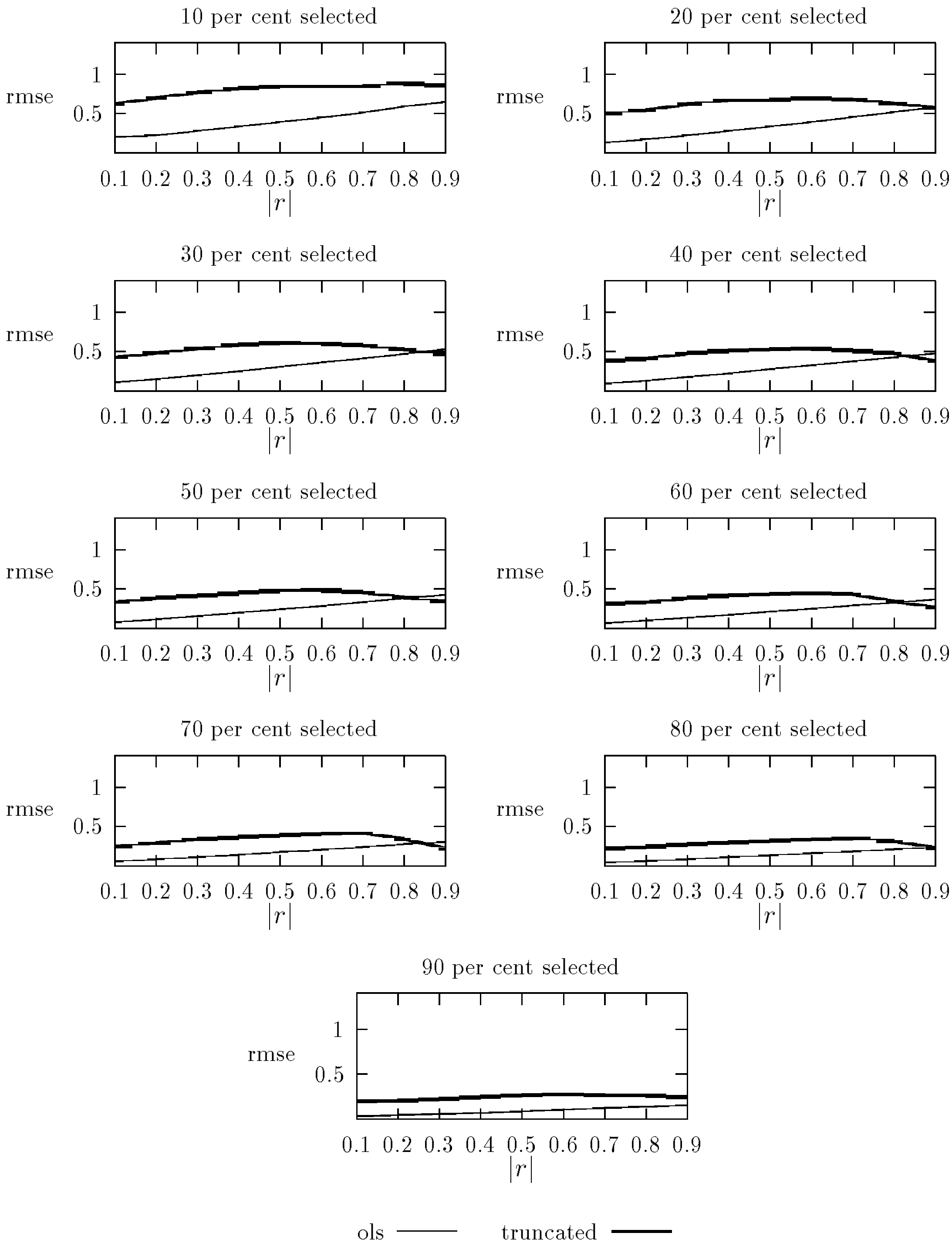

Figure 3: Root mean-squared error of slope estimate ($rmse(\beta_1)$) as a function of degree of selection and correlation among error terms (n=1000) $\gamma_1 = -1, \gamma_2 = 0$)

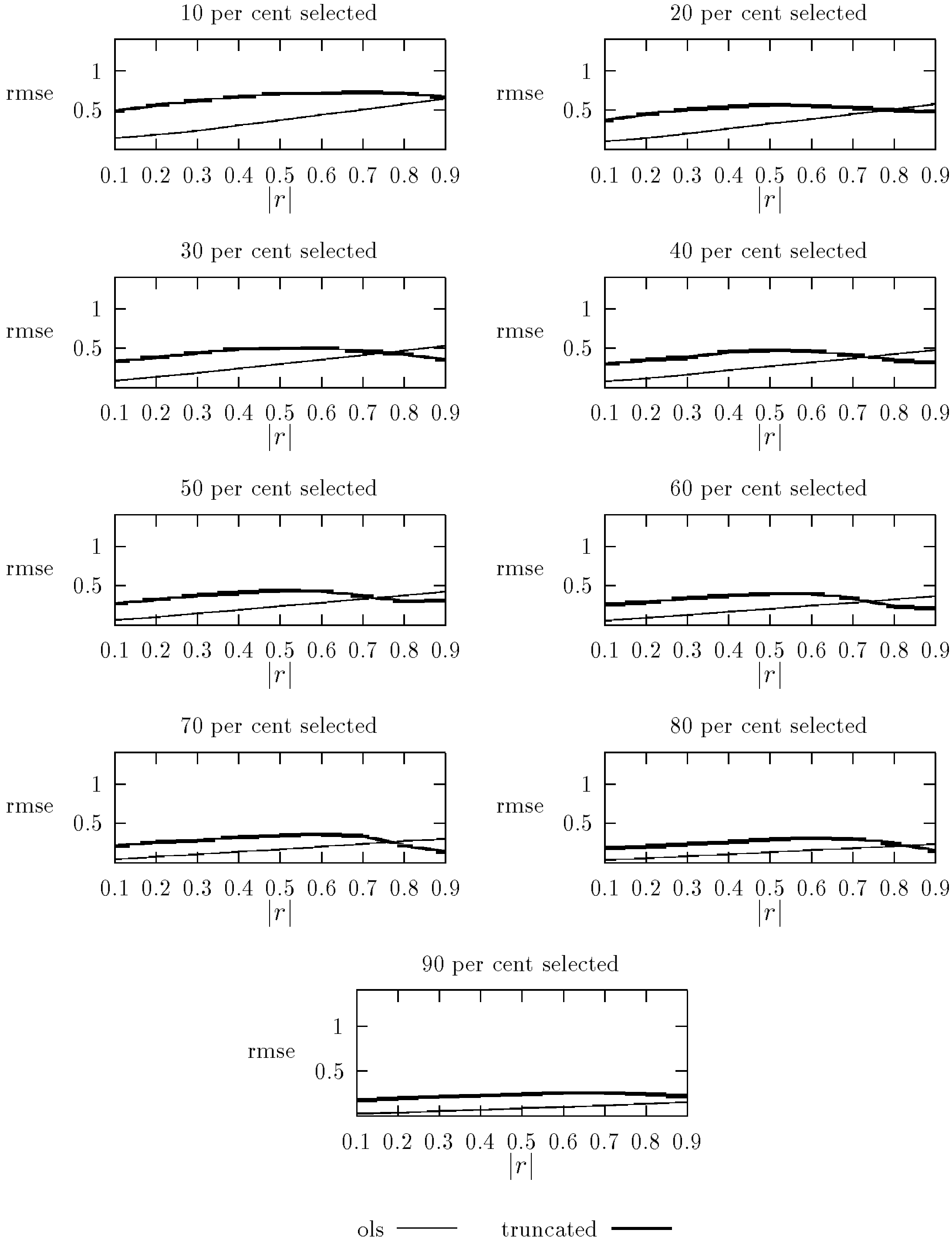

Figure 4: Root mean-squared error of slope estimate ($rmse(\beta_1)$) as a function of degree of selection and correlation among error terms (n=1000) $\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$)

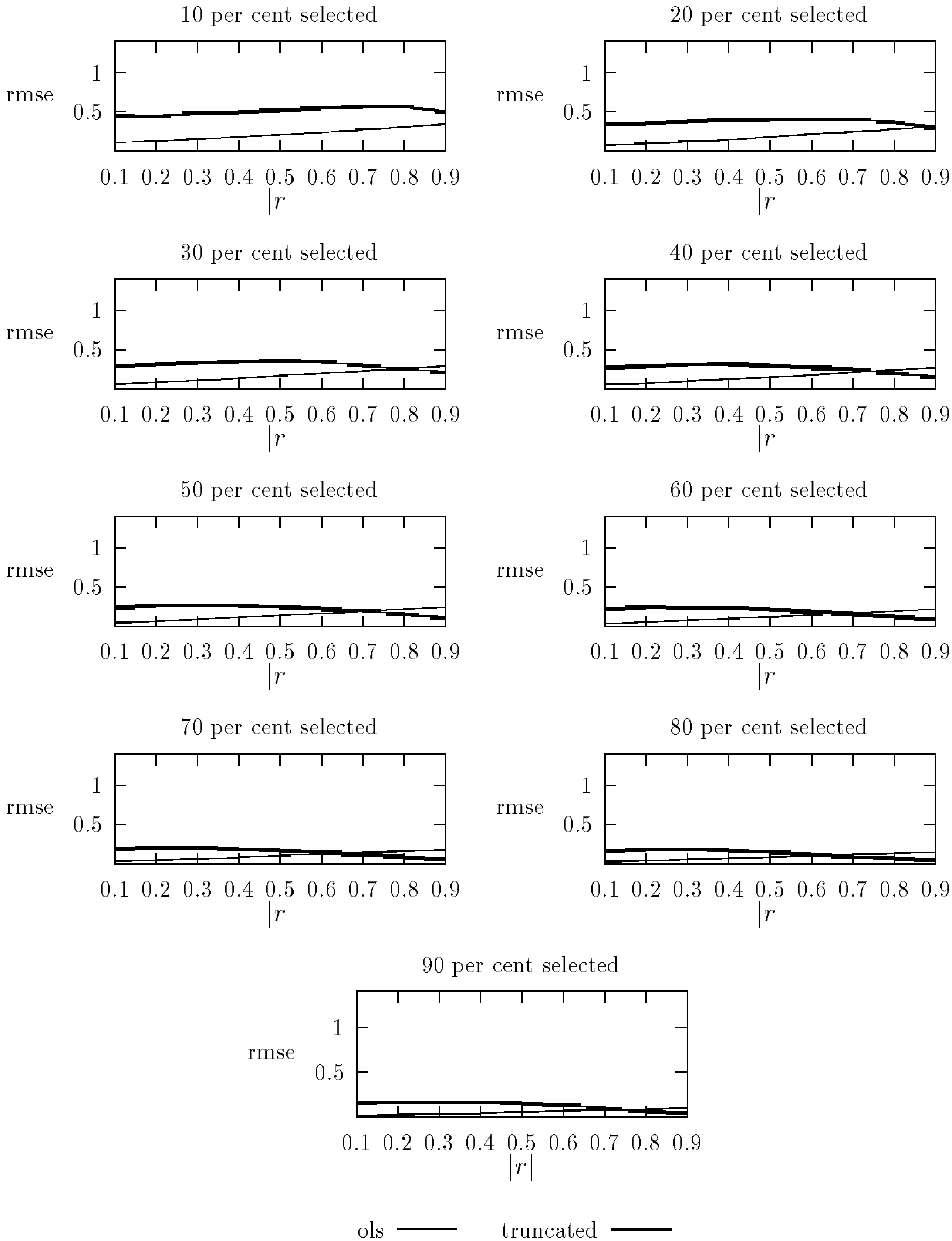

Figure 5: Root mean-squared error of slope estimate ($rmse(\beta_1)$) as a function of degree of selection and correlation among error terms (n=250) $\gamma_1 = -1, \gamma_2 = 1$)

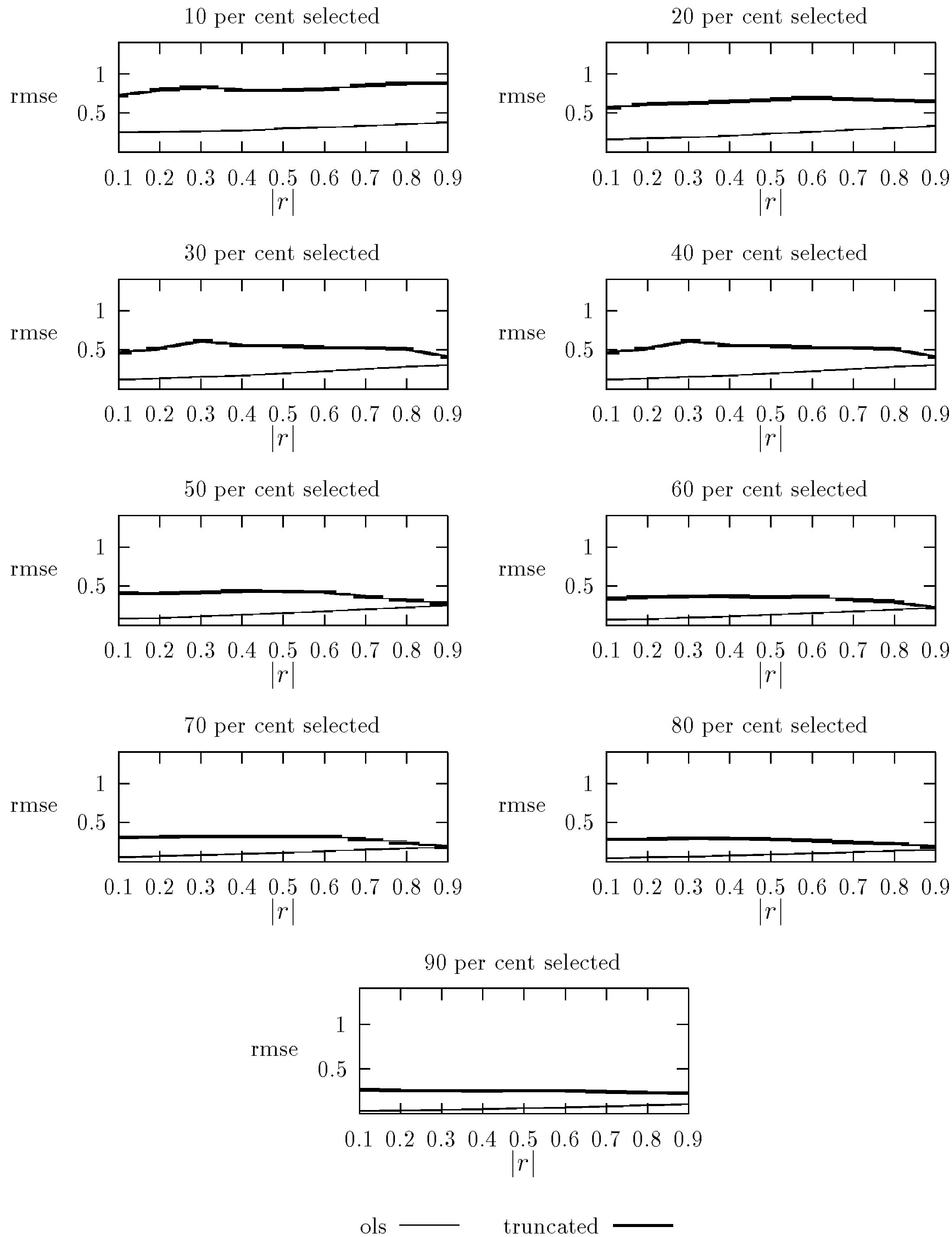

Figure 6: Root mean-squared error of slope estimate ($rmse(\beta_1)$) as a function of degree of selection and correlation among error terms (n=500) $\gamma_1 = -1, \gamma_2 = 1$)

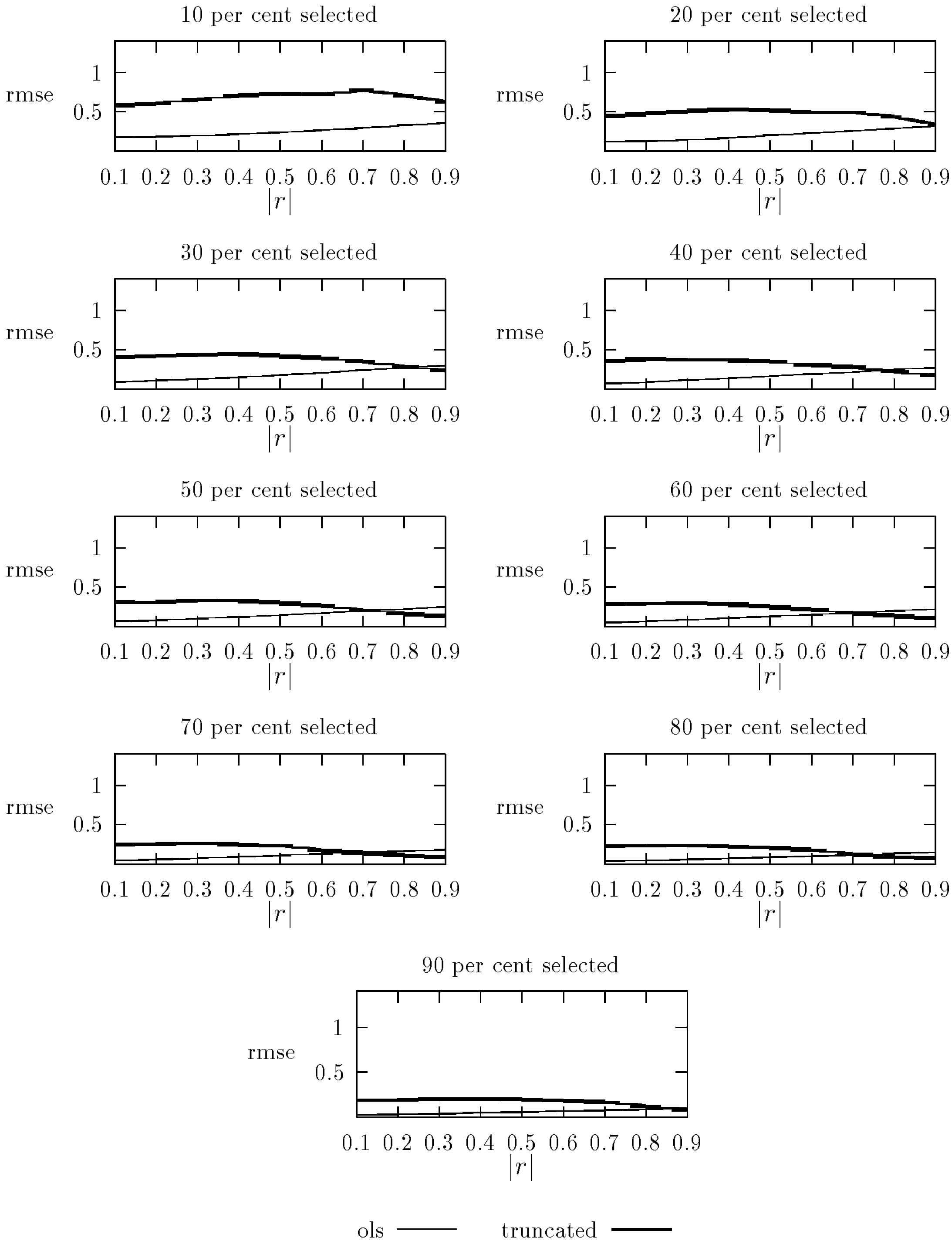

Figure 7: Root mean-squared error of slope estimate ($rmse(\beta_1)$) as a function of degree of selection and correlation among error terms (n=1000) $\gamma_1 = -1, \gamma_2 = 1$)

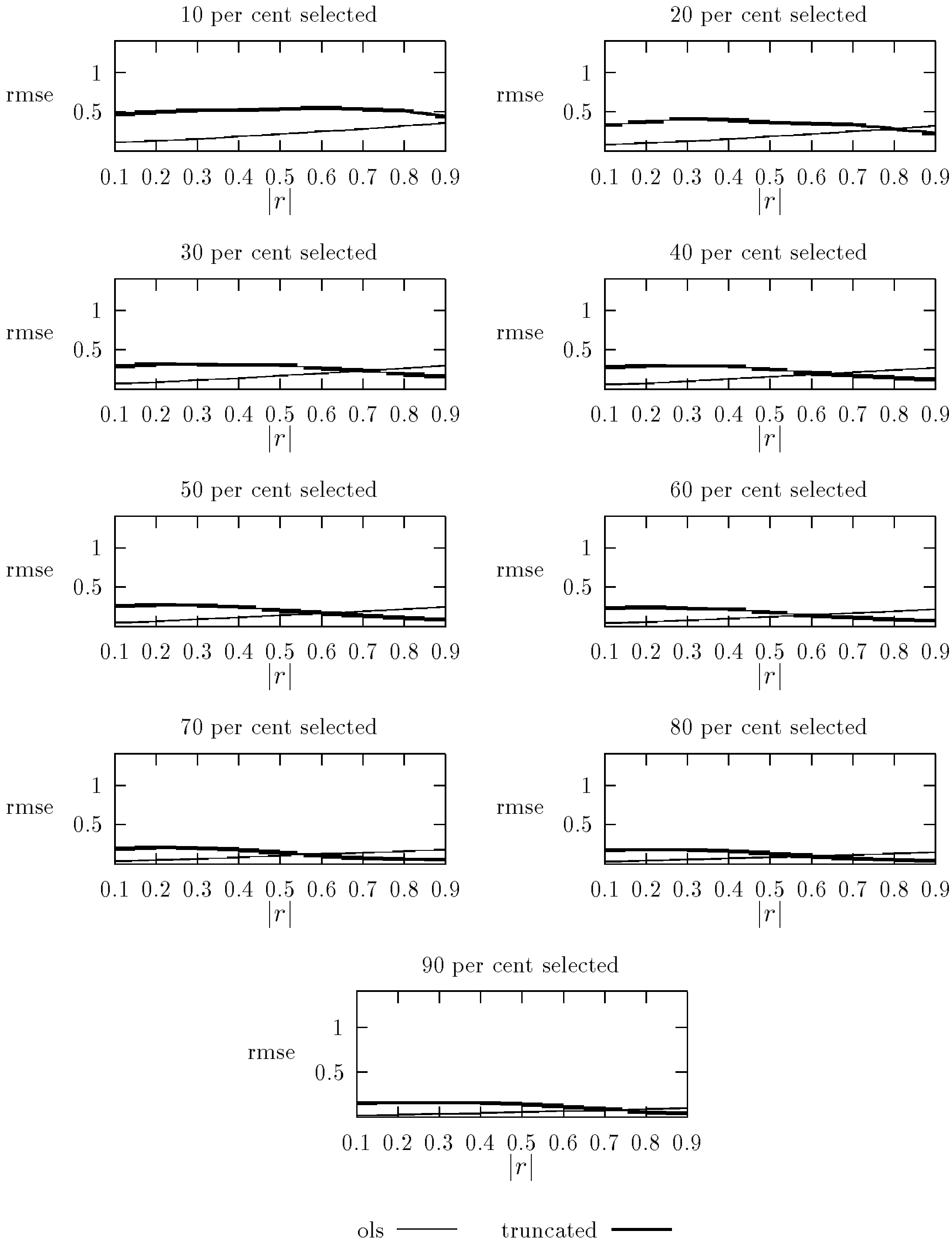

Table 5: Root mean squared errors of estimated slope coefficient ($rmse(\beta_1)$) of Monte Carlo estimations (n=100)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
	$\gamma_1 = -1, \gamma_2 = 0$																	
0.1	0.46	1.01	0.28	0.74	0.24	0.70	0.19	0.58	0.15	0.52	0.13	0.47	0.10	0.37	0.08	0.32	0.06	0.31
0.2	0.46	1.03	0.31	0.80	0.25	0.69	0.20	0.62	0.17	0.57	0.14	0.50	0.12	0.41	0.09	0.36	0.06	0.32
0.3	0.49	1.13	0.35	0.93	0.27	0.74	0.24	0.68	0.20	0.64	0.17	0.55	0.14	0.47	0.11	0.39	0.08	0.32
0.4	0.52	1.03	0.38	0.95	0.31	0.80	0.28	0.68	0.24	0.65	0.20	0.59	0.17	0.54	0.13	0.40	0.09	0.34
0.5	0.56	1.21	0.42	0.99	0.36	0.79	0.32	0.72	0.27	0.68	0.24	0.62	0.19	0.55	0.15	0.44	0.10	0.37
0.6	0.60	1.18	0.46	1.01	0.41	0.82	0.36	0.77	0.31	0.70	0.27	0.63	0.23	0.59	0.17	0.48	0.11	0.38
0.7	0.65	1.25	0.51	1.09	0.46	0.91	0.41	0.79	0.36	0.73	0.31	0.68	0.26	0.59	0.20	0.50	0.13	0.39
0.8	0.67	1.40	0.56	1.11	0.51	0.93	0.46	0.81	0.40	0.74	0.35	0.69	0.29	0.61	0.23	0.53	0.15	0.39
0.9	0.76	1.10	0.62	1.17	0.56	2.19	0.50	0.79	0.45	0.74	0.38	0.67	0.32	0.59	0.25	0.51	0.16	0.39
	$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$																	
0.1	0.39	0.82	0.27	0.69	0.20	0.61	0.16	0.58	0.13	0.47	0.10	0.45	0.08	0.40	0.06	0.40	0.05	0.38
0.2	0.40	0.87	0.26	0.75	0.19	0.61	0.16	0.56	0.13	0.47	0.11	0.48	0.09	0.43	0.07	0.44	0.05	0.41
0.3	0.44	0.96	0.27	0.74	0.21	0.70	0.17	0.56	0.15	0.53	0.12	0.51	0.10	0.46	0.08	0.43	0.06	0.41
0.4	0.43	0.93	0.28	0.87	0.23	0.69	0.19	0.60	0.16	0.56	0.14	0.54	0.11	0.45	0.09	0.41	0.07	0.40
0.5	0.46	0.91	0.31	0.84	0.24	0.68	0.21	0.61	0.18	0.59	0.15	0.55	0.13	0.49	0.10	0.44	0.07	0.41
0.6	0.46	0.92	0.31	0.87	0.27	0.75	0.22	0.66	0.20	0.60	0.18	0.56	0.15	0.48	0.12	0.45	0.08	0.40
0.7	0.42	0.88	0.32	0.89	0.29	0.80	0.25	0.68	0.23	0.61	0.20	0.54	0.16	0.49	0.13	0.44	0.09	0.41
0.8	0.47	0.88	0.36	0.93	0.31	0.83	0.27	0.69	0.24	0.62	0.21	0.53	0.18	0.48	0.15	0.47	0.10	0.41
0.9	0.46	0.94	0.39	0.88	0.34	0.85	0.30	0.66	0.27	0.58	0.24	0.56	0.20	0.50	0.16	0.47	0.11	0.41
	$\gamma_1 = -1, \gamma_2 = 1$																	
0.1	0.46	0.83	0.27	0.85	0.21	0.60	0.16	0.58	0.13	0.47	0.11	0.47	0.09	0.44	0.07	0.42	0.05	0.40
0.2	0.45	1.29	0.27	8.17	0.21	0.62	0.17	0.65	0.14	0.53	0.12	0.49	0.09	0.45	0.08	0.44	0.05	0.39
0.3	0.45	0.93	0.27	0.76	0.22	0.77	0.19	0.59	0.15	0.56	0.13	0.50	0.11	0.46	0.08	0.43	0.06	0.40
0.4	0.44	0.97	0.28	0.77	0.23	0.82	0.21	0.57	0.17	0.60	0.14	0.52	0.12	0.47	0.09	0.43	0.07	0.40
0.5	0.48	1.04	0.32	0.81	0.25	0.75	0.23	0.61	0.18	0.57	0.16	0.57	0.13	0.48	0.11	0.43	0.07	0.40
0.6	0.48	0.96	0.33	0.83	0.27	0.76	0.23	0.64	0.20	0.58	0.18	0.51	0.15	0.46	0.12	0.45	0.08	0.40
0.7	0.50	1.02	0.35	0.89	0.30	0.87	0.25	0.67	0.23	0.57	0.20	0.51	0.16	0.46	0.13	0.43	0.09	0.39
0.8	0.48	0.94	0.37	0.98	0.32	0.83	0.27	0.68	0.25	0.58	0.21	0.53	0.19	0.46	0.15	0.43	0.10	0.42
0.9	0.53	1.13	0.40	0.96	0.34	0.83	0.30	0.66	0.27	0.57	0.23	0.50	0.20	0.45	0.16	0.42	0.11	0.39

Table 6: Root mean squared errors of estimated slope coefficient ($rmse(\beta_1)$) of Monte Carlo estimations (n=250)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
									$\gamma_1 = -1, \gamma_2 = 0$									
0.1	0.29	0.78	0.19	0.65	0.15	0.51	0.12	0.45	0.10	0.42	0.08	0.35	0.07	0.31	0.05	0.26	0.04	0.25
0.2	0.30	0.80	0.22	0.67	0.18	0.57	0.15	0.50	0.12	0.44	0.11	0.42	0.09	0.35	0.07	0.30	0.05	0.25
0.3	0.34	0.89	0.26	0.70	0.22	0.62	0.19	0.54	0.16	0.49	0.14	0.46	0.12	0.39	0.09	0.33	0.06	0.27
0.4	0.39	0.95	0.31	0.73	0.27	0.66	0.23	0.58	0.21	0.53	0.18	0.49	0.15	0.44	0.12	0.36	0.08	0.30
0.5	0.44	0.95	0.36	0.75	0.32	0.68	0.29	0.61	0.25	0.57	0.22	0.53	0.18	0.45	0.14	0.39	0.09	0.31
0.6	0.48	0.94	0.42	0.78	0.37	0.72	0.33	0.64	0.30	0.58	0.26	0.54	0.21	0.48	0.17	0.40	0.11	0.33
0.7	0.55	0.90	0.48	0.80	0.43	0.72	0.38	0.66	0.34	0.56	0.29	0.53	0.25	0.50	0.19	0.42	0.12	0.34
0.8	0.62	1.27	0.53	0.82	0.48	0.73	0.44	0.62	0.39	0.56	0.33	0.48	0.28	0.47	0.22	0.40	0.14	0.32
0.9	0.66	1.02	0.59	0.78	0.54	0.69	0.48	0.53	0.43	0.49	0.37	0.41	0.31	0.36	0.24	0.37	0.16	0.33
									$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$									
0.1	0.24	0.67	0.15	0.56	0.12	0.46	0.10	0.43	0.08	0.35	0.07	0.33	0.05	0.32	0.04	0.30	0.03	0.27
0.2	0.25	0.76	0.16	0.54	0.13	0.51	0.11	0.43	0.09	0.38	0.08	0.32	0.07	0.33	0.05	0.30	0.04	0.27
0.3	0.26	0.73	0.18	0.60	0.15	0.51	0.13	0.46	0.11	0.41	0.10	0.34	0.08	0.30	0.07	0.29	0.04	0.27
0.4	0.26	0.73	0.20	0.64	0.17	0.52	0.15	0.47	0.13	0.41	0.11	0.36	0.10	0.33	0.08	0.28	0.05	0.28
0.5	0.28	1.67	0.22	0.61	0.19	0.55	0.17	0.50	0.15	0.43	0.13	0.38	0.12	0.34	0.09	0.29	0.06	0.26
0.6	0.31	0.84	0.25	0.63	0.22	0.55	0.20	0.49	0.18	0.42	0.15	0.37	0.13	0.33	0.11	0.28	0.07	0.26
0.7	0.32	0.87	0.28	0.65	0.24	0.55	0.22	0.46	0.20	0.40	0.18	0.36	0.15	0.32	0.12	0.28	0.08	0.27
0.8	0.34	0.91	0.31	0.66	0.27	0.53	0.25	0.45	0.23	0.38	0.20	0.34	0.17	0.30	0.14	0.26	0.09	0.25
0.9	0.36	0.87	0.33	0.65	0.30	0.46	0.27	0.39	0.25	0.32	0.22	0.27	0.19	0.22	0.16	0.21	0.11	0.24
									$\gamma_1 = -1, \gamma_2 = 1$									
0.1	0.25	0.72	0.16	0.57	0.12	0.46	0.12	0.46	0.08	0.41	0.07	0.33	0.06	0.31	0.04	0.29	0.03	0.27
0.2	0.26	0.80	0.18	0.62	0.14	0.51	0.14	0.51	0.10	0.40	0.08	0.36	0.07	0.32	0.05	0.29	0.04	0.26
0.3	0.27	0.84	0.19	0.63	0.15	0.62	0.15	0.62	0.11	0.42	0.10	0.37	0.08	0.33	0.06	0.30	0.04	0.26
0.4	0.27	0.79	0.21	0.65	0.17	0.55	0.17	0.55	0.13	0.44	0.11	0.37	0.10	0.33	0.08	0.29	0.05	0.26
0.5	0.31	0.79	0.24	0.67	0.20	0.55	0.20	0.55	0.15	0.43	0.14	0.36	0.12	0.32	0.09	0.29	0.06	0.26
0.6	0.32	0.81	0.26	0.70	0.23	0.52	0.23	0.52	0.18	0.42	0.16	0.37	0.13	0.33	0.11	0.28	0.07	0.26
0.7	0.34	0.86	0.29	0.68	0.25	0.52	0.25	0.52	0.20	0.36	0.18	0.33	0.15	0.28	0.12	0.25	0.08	0.25
0.8	0.36	0.88	0.31	0.67	0.28	0.51	0.28	0.51	0.23	0.32	0.20	0.29	0.17	0.24	0.14	0.23	0.09	0.23
0.9	0.38	0.88	0.34	0.65	0.31	0.40	0.31	0.40	0.26	0.28	0.23	0.22	0.19	0.18	0.15	0.19	0.11	0.23

Table 7: Root mean squared errors of estimated slope coefficient($rmse(\beta_1)$) of Monte Carlo estimations (n=500)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
									$\gamma_1 = -1, \gamma_2 = 0$									
0.1	0.20	0.62	0.14	0.50	0.11	0.42	0.09	0.37	0.08	0.33	0.07	0.31	0.06	0.25	0.04	0.22	0.03	0.20
0.2	0.23	0.70	0.17	0.55	0.15	0.48	0.13	0.41	0.11	0.38	0.10	0.33	0.08	0.29	0.06	0.24	0.04	0.20
0.3	0.28	0.77	0.22	0.62	0.20	0.54	0.17	0.47	0.16	0.41	0.13	0.38	0.11	0.34	0.09	0.28	0.06	0.23
0.4	0.34	0.82	0.28	0.67	0.25	0.58	0.22	0.51	0.20	0.45	0.17	0.41	0.14	0.37	0.11	0.30	0.07	0.25
0.5	0.40	0.85	0.34	0.68	0.30	0.61	0.27	0.53	0.24	0.48	0.21	0.43	0.17	0.39	0.14	0.32	0.09	0.26
0.6	0.45	0.85	0.40	0.70	0.36	0.60	0.32	0.54	0.29	0.49	0.25	0.44	0.21	0.41	0.16	0.34	0.10	0.28
0.7	0.52	0.85	0.46	0.68	0.41	0.57	0.37	0.51	0.33	0.45	0.29	0.43	0.24	0.41	0.19	0.35	0.12	0.27
0.8	0.59	0.89	0.52	0.63	0.47	0.52	0.43	0.47	0.38	0.39	0.33	0.34	0.28	0.34	0.21	0.31	0.14	0.27
0.9	0.65	0.85	0.59	0.57	0.53	0.46	0.48	0.38	0.43	0.34	0.37	0.26	0.31	0.22	0.24	0.23	0.15	0.24
									$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$									
0.1	0.17	0.51	0.11	0.42	0.09	0.36	0.07	0.33	0.06	0.29	0.05	0.27	0.04	0.24	0.03	0.22	0.02	0.18
0.2	0.18	0.54	0.12	0.44	0.10	0.40	0.09	0.37	0.07	0.31	0.06	0.27	0.05	0.24	0.04	0.22	0.03	0.20
0.3	0.19	0.64	0.15	0.48	0.12	0.42	0.11	0.37	0.10	0.32	0.08	0.30	0.07	0.27	0.06	0.24	0.04	0.21
0.4	0.20	0.64	0.17	0.52	0.15	0.44	0.13	0.36	0.12	0.33	0.10	0.29	0.09	0.27	0.07	0.24	0.05	0.21
0.5	0.23	0.70	0.20	0.53	0.18	0.44	0.16	0.36	0.14	0.32	0.13	0.27	0.11	0.25	0.09	0.22	0.06	0.20
0.6	0.26	0.71	0.22	0.53	0.21	0.42	0.18	0.37	0.17	0.31	0.15	0.26	0.13	0.23	0.10	0.20	0.07	0.19
0.7	0.29	0.70	0.26	0.52	0.24	0.39	0.21	0.33	0.19	0.27	0.17	0.24	0.15	0.20	0.12	0.16	0.08	0.18
0.8	0.32	0.70	0.29	0.48	0.26	0.36	0.24	0.28	0.22	0.23	0.19	0.19	0.17	0.17	0.13	0.14	0.09	0.14
0.9	0.36	0.67	0.32	0.42	0.29	0.30	0.27	0.21	0.24	0.17	0.22	0.13	0.19	0.11	0.15	0.10	0.10	0.09
									$\gamma_1 = -1, \gamma_2 = 1$									
0.1	0.18	0.58	0.12	0.45	0.09	0.40	0.07	0.35	0.06	0.31	0.05	0.27	0.04	0.25	0.03	0.22	0.02	0.19
0.2	0.18	0.60	0.13	0.48	0.11	0.41	0.09	0.38	0.08	0.30	0.07	0.29	0.06	0.26	0.04	0.23	0.03	0.19
0.3	0.20	0.66	0.15	0.51	0.13	0.43	0.11	0.37	0.10	0.33	0.09	0.30	0.07	0.27	0.06	0.24	0.04	0.20
0.4	0.22	0.71	0.17	0.54	0.15	0.44	0.14	0.36	0.12	0.32	0.11	0.28	0.09	0.25	0.07	0.23	0.05	0.21
0.5	0.24	0.73	0.20	0.52	0.18	0.42	0.16	0.34	0.14	0.29	0.13	0.25	0.11	0.23	0.09	0.21	0.06	0.20
0.6	0.27	0.72	0.23	0.50	0.21	0.39	0.19	0.30	0.17	0.26	0.15	0.21	0.13	0.17	0.10	0.17	0.07	0.19
0.7	0.30	0.77	0.26	0.50	0.24	0.35	0.22	0.28	0.20	0.21	0.17	0.17	0.15	0.14	0.12	0.12	0.08	0.16
0.8	0.33	0.71	0.29	0.44	0.27	0.28	0.24	0.22	0.22	0.17	0.20	0.14	0.17	0.12	0.13	0.09	0.09	0.12
0.9	0.36	0.63	0.32	0.34	0.30	0.23	0.27	0.17	0.25	0.12	0.22	0.10	0.19	0.09	0.15	0.08	0.10	0.08

Table 8: Root mean squared errors of estimated slope coefficient ($rmse(\beta_1)$) of Monte Carlo estimations (n=1000, $\gamma_1 = -1, \gamma_2 = 0$)

$\rho_{\epsilon_o \epsilon_s}$	degree of selection (in per cent)																	
	10		20		30		40		50		60		70		80		90	
	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	trunc.	ols	sel
									$\gamma_1 = -1, \gamma_2 = 0$									
0.1	0.15	0.49	0.10	0.37	0.09	0.33	0.07	0.30	0.06	0.27	0.06	0.25	0.05	0.21	0.04	0.18	0.02	0.17
0.2	0.19	0.56	0.15	0.45	0.13	0.38	0.12	0.35	0.10	0.33	0.09	0.29	0.07	0.26	0.06	0.21	0.04	0.20
0.3	0.24	0.62	0.21	0.51	0.19	0.44	0.17	0.38	0.15	0.37	0.13	0.34	0.11	0.28	0.08	0.24	0.05	0.21
0.4	0.31	0.67	0.27	0.54	0.24	0.49	0.22	0.45	0.19	0.41	0.17	0.37	0.14	0.33	0.11	0.26	0.07	0.23
0.5	0.37	0.72	0.33	0.57	0.30	0.49	0.27	0.47	0.24	0.44	0.21	0.40	0.17	0.35	0.13	0.30	0.09	0.24
0.6	0.44	0.71	0.39	0.56	0.36	0.50	0.32	0.46	0.28	0.43	0.25	0.40	0.21	0.36	0.16	0.32	0.10	0.26
0.7	0.51	0.73	0.45	0.54	0.41	0.46	0.37	0.41	0.33	0.37	0.29	0.34	0.24	0.34	0.19	0.30	0.12	0.26
0.8	0.58	0.71	0.52	0.50	0.47	0.42	0.42	0.35	0.37	0.30	0.33	0.23	0.27	0.22	0.21	0.25	0.14	0.25
0.9	0.65	0.66	0.58	0.48	0.53	0.35	0.48	0.31	0.42	0.31	0.37	0.21	0.31	0.13	0.24	0.15	0.15	0.22
									$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$									
0.1	0.11	0.45	0.08	0.34	0.06	0.29	0.05	0.26	0.05	0.23	0.04	0.21	0.03	0.19	0.03	0.17	0.02	0.16
0.2	0.13	0.44	0.10	0.35	0.08	0.31	0.07	0.29	0.07	0.26	0.06	0.24	0.05	0.20	0.04	0.18	0.03	0.16
0.3	0.15	0.49	0.12	0.38	0.11	0.33	0.10	0.31	0.09	0.27	0.08	0.23	0.07	0.21	0.05	0.19	0.04	0.17
0.4	0.18	0.49	0.15	0.40	0.14	0.35	0.12	0.32	0.11	0.27	0.10	0.23	0.09	0.19	0.07	0.18	0.05	0.16
0.5	0.21	0.53	0.18	0.40	0.17	0.35	0.15	0.29	0.14	0.24	0.12	0.22	0.11	0.18	0.09	0.15	0.06	0.15
0.6	0.24	0.56	0.22	0.41	0.20	0.35	0.18	0.27	0.16	0.22	0.15	0.18	0.13	0.15	0.10	0.13	0.07	0.14
0.7	0.28	0.57	0.25	0.41	0.23	0.30	0.21	0.24	0.19	0.20	0.17	0.15	0.15	0.12	0.12	0.09	0.08	0.10
0.8	0.31	0.58	0.28	0.37	0.26	0.25	0.24	0.20	0.22	0.15	0.19	0.12	0.17	0.09	0.13	0.07	0.09	0.06
0.9	0.35	0.49	0.32	0.30	0.29	0.20	0.27	0.15	0.24	0.11	0.22	0.08	0.19	0.07	0.15	0.05	0.10	0.04
									$\gamma_1 = -1, \gamma_2 = 1$									
0.1	0.12	0.47	0.08	0.33	0.07	0.28	0.06	0.27	0.05	0.26	0.04	0.23	0.03	0.19	0.03	0.17	0.02	0.16
0.2	0.13	0.50	0.10	0.38	0.09	0.32	0.07	0.30	0.07	0.28	0.06	0.25	0.05	0.22	0.04	0.18	0.03	0.16
0.3	0.16	0.52	0.12	0.42	0.11	0.31	0.10	0.29	0.09	0.27	0.08	0.23	0.07	0.21	0.05	0.19	0.04	0.16
0.4	0.19	0.52	0.16	0.41	0.14	0.30	0.12	0.29	0.11	0.24	0.10	0.22	0.09	0.19	0.07	0.17	0.05	0.16
0.5	0.22	0.54	0.19	0.37	0.17	0.31	0.15	0.25	0.14	0.21	0.12	0.18	0.11	0.15	0.08	0.14	0.06	0.15
0.6	0.25	0.56	0.22	0.36	0.20	0.26	0.18	0.20	0.16	0.17	0.15	0.14	0.13	0.11	0.10	0.10	0.07	0.12
0.7	0.29	0.54	0.25	0.34	0.23	0.23	0.21	0.17	0.19	0.13	0.17	0.11	0.14	0.08	0.12	0.07	0.08	0.10
0.8	0.32	0.51	0.29	0.28	0.27	0.19	0.24	0.14	0.22	0.11	0.19	0.08	0.16	0.06	0.13	0.06	0.09	0.06
0.9	0.36	0.44	0.32	0.23	0.30	0.15	0.27	0.11	0.24	0.09	0.22	0.07	0.19	0.05	0.15	0.04	0.10	0.04

Table 9: Number (out of 1000) of successful Monte Carlo estimations of truncation model (n=100)

correlation	degree of selection (in per cent)								
$\rho_{\epsilon_o\epsilon_s}$	10	20	30	40	50	60	70	80	90
					$\gamma_1 = -1, \gamma_2 = 0$				
0.1	760	808	826	836	855	880	923	931	945
0.2	722	767	797	799	834	856	898	915	933
0.3	696	755	799	782	817	836	872	893	909
0.4	670	746	773	783	774	810	835	866	903
0.5	651	749	755	755	796	793	841	848	868
0.6	637	741	722	757	803	781	805	834	840
0.7	627	732	737	730	745	792	786	807	851
0.8	612	723	732	725	728	776	783	790	810
0.9	529	686	723	721	681	704	742	772	780
					$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$				
0.1	508	585	640	690	719	715	726	752	776
0.2	475	581	621	652	708	713	732	712	751
0.3	478	577	671	668	689	724	726	714	748
0.4	472	557	633	680	721	739	731	728	742
0.5	446	588	659	683	710	747	752	730	727
0.6	472	603	706	731	757	751	745	743	741
0.7	479	650	729	775	803	813	783	750	699
0.8	486	683	772	811	818	820	810	752	703
0.9	400	670	798	797	834	837	781	707	601
					$\gamma_1 = -1, \gamma_2 = 1$				
0.1	505	627	652	652	710	755	750	760	718
0.2	469	599	644	644	707	714	741	738	752
0.3	457	589	656	656	686	689	724	740	746
0.4	461	578	659	659	654	710	741	760	741
0.5	474	569	679	679	711	737	736	726	738
0.6	469	575	719	719	751	751	763	729	730
0.7	466	622	736	736	794	796	770	739	696
0.8	444	623	742	742	812	816	788	727	698
0.9	385	574	717	717	786	798	743	679	573

Table 10: Number (out of 1000) of successful Monte Carlo estimations of truncation model (n=250)

correlation	degree of selection (in per cent)								
$\rho_{\epsilon_o \epsilon_s}$	10	20	30	40	50	60	70	80	90
				$\gamma_1 = -1, \gamma_2 = 0$					
0.1	917	742	775	820	849	866	890	917	922
0.2	917	701	730	781	807	835	886	917	907
0.3	897	692	714	740	784	826	851	897	904
0.4	853	658	699	719	727	798	819	853	874
0.5	845	626	682	679	743	763	800	845	875
0.6	819	596	669	692	706	729	774	819	862
0.7	792	575	631	657	686	696	755	792	856
0.8	764	579	597	598	629	659	688	764	835
0.9	676	489	554	531	508	546	580	676	802
				$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$					
0.1	689	470	522	594	630	657	675	689	677
0.2	684	457	545	600	616	648	675	684	670
0.3	699	469	505	574	611	649	658	699	669
0.4	655	442	503	595	592	632	658	655	673
0.5	643	431	508	575	615	651	623	643	667
0.6	633	449	489	568	621	626	619	633	653
0.7	598	444	493	545	582	600	622	598	651
0.8	602	396	474	533	560	583	597	602	599
0.9	533	342	412	483	508	506	538	533	537
				$\gamma_1 = -1, \gamma_2 = 1$					
0.1	691	456	529	614	633	653	618	691	709
0.2	667	453	531	584	613	639	659	667	680
0.3	654	427	487	554	597	645	644	654	674
0.4	636	419	520	579	600	640	659	636	665
0.5	631	407	501	543	607	595	626	631	635
0.6	604	415	471	530	594	591	623	604	649
0.7	600	409	501	517	574	610	596	600	625
0.8	565	379	469	486	544	593	555	565	629
0.9	507	314	406	415	468	466	486	507	571

Table 11: Number (out of 1000) of successful Monte Carlo estimations of truncation model (n=500)

correlation	degree of selection (in per cent)								
$\rho_{\epsilon_o \epsilon_s}$	10	20	30	40	50	60	70	80	90
				$\gamma_1 = -1, \gamma_2 = 0$					
0.1	790	869	879	877	898	902	911	938	952
0.2	787	852	859	861	866	870	899	915	930
0.3	751	817	843	867	855	861	880	893	905
0.4	748	803	837	851	826	855	836	888	885
0.5	754	819	842	842	830	840	835	846	875
0.6	771	802	821	830	853	827	803	833	829
0.7	758	797	843	843	847	837	805	802	801
0.8	759	827	865	823	834	877	874	822	783
0.9	739	850	916	820	706	755	862	829	772
				$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$					
0.1	641	696	731	746	738	778	772	791	819
0.2	613	673	727	759	764	757	793	802	797
0.3	626	697	756	762	765	780	800	787	816
0.4	615	713	774	802	824	819	813	790	798
0.5	644	773	808	858	858	872	833	807	779
0.6	677	820	866	900	913	904	878	857	793
0.7	701	874	912	922	950	928	929	898	823
0.8	741	904	942	969	976	966	960	927	836
0.9	699	911	969	975	971	976	972	918	792
				$\gamma_1 = -1, \gamma_2 = 1$					
0.1	598	654	736	752	760	775	783	792	798
0.2	593	703	749	766	756	749	769	789	779
0.3	609	718	730	784	778	783	793	788	792
0.4	595	730	774	816	788	823	825	804	772
0.5	624	758	810	852	846	858	852	804	777
0.6	657	800	882	908	895	896	882	861	794
0.7	676	849	919	940	949	947	930	889	794
0.8	685	886	949	961	967	959	966	925	794
0.9	633	883	941	973	969	952	960	900	760

Table 12: Number (out of 1000) of successful Monte Carlo estimations of truncation model (n=1000)

correlation	degree of selection (in per cent)								
$\rho_{\epsilon_o \epsilon_s}$	10	20	30	40	50	60	70	80	90
				$\gamma_1 = -1, \gamma_2 = 0$					
0.1	838	857	871	894	879	901	922	950	951
0.2	814	860	862	889	870	877	902	929	936
0.3	812	847	864	879	835	883	872	910	899
0.4	825	849	854	864	867	849	844	866	866
0.5	825	875	873	871	878	836	797	841	837
0.6	837	875	910	903	883	871	812	806	791
0.7	868	903	925	921	932	894	839	801	756
0.8	858	932	961	919	915	956	929	841	734
0.9	881	961	982	903	669	747	942	931	780
				$\gamma_1 = -\sqrt{0.5}, \gamma_2 = \sqrt{0.5}$					
0.1	673	719	774	777	797	828	830	843	819
0.2	683	730	792	814	823	836	849	837	858
0.3	729	796	831	847	890	872	853	851	842
0.4	769	840	876	899	916	907	909	882	865
0.5	814	902	928	944	950	956	955	919	859
0.6	869	923	958	973	971	976	972	949	907
0.7	892	970	991	989	994	993	995	983	920
0.8	944	993	996	999	1000	998	996	997	943
0.9	939	990	998	1000	998	997	999	994	955
				$\gamma_1 = -1, \gamma_2 = 1$					
0.1	703	742	770	817	809	824	829	842	835
0.2	703	765	785	803	801	829	851	853	817
0.3	728	792	819	863	884	882	858	871	839
0.4	776	857	875	900	904	911	901	890	854
0.5	831	902	925	933	942	947	954	929	850
0.6	866	935	967	961	982	985	984	955	898
0.7	903	971	988	994	995	994	998	986	919
0.8	912	991	998	1000	999	998	998	990	936
0.9	920	989	999	999	994	993	994	993	939
0.9	881	961	982	903	669	747	942	931	780

Table 13: Descriptive Statistics

Variable	min.	mean	max.	s.d.	N
Example: New political parties					
Electoral success in % (log)	-5.20	-2.36	-0.63	0.60	225
Threshold of represenation	0.00	0.04	0.33	0.06	225
Petition requirement					
(in per mille of electoral body)	0.00	0.41	4.67	0.85	225
Registration costs	0.00	0.02	0.77	0.07	225
Public party financing	0.00	0.53	1.00	0.50	225
Example: Protest events (police sample)					
Level of violence	0.00	0.29	5.00	0.86	1714
Participants (in 1000)	0.07	0.97	40.00	2.36	1714
Berne	0.00	0.23	1.00	0.42	1714
Basle	0.00	0.04	1.00	0.21	1714
Zurich	0.00	0.31	1.00	0.46	1714
Example: Protest events (NZZ sample)					
Level of violence	0.00	0.44	5.00	1.04	864
Participants (in 1000)	0.07	1.44	40.00	3.14	864
Berne	0.00	0.30	1.00	0.46	864
Basle	0.00	0.05	1.00	0.21	864
Zurich	0.00	0.43	1.00	0.49	864
Example: Ethnic conflict					
Level of rebellion (reb80s)	0.00	2.47	14.00	4.19	202
Grievances (allgrixx)	0.00	7.48	21.00	4.78	202
Mobilization (mobplus)	0.00	2.02	6.00	2.06	202
Democratic power (dempow)	0.00	19.23	70.00	20.45	202
International rebellion (iconreb8)	0.00	1.81	6.10	1.90	202