

A Appendix for “Using the Predicted Responses from List Experiments as Explanatory Variables in Regression Models”

A.1 The Asymptotic Variance for the One-Step Estimator

We begin by writing down the observed-data log-likelihood,

$$\begin{aligned}
& l_{obs}(\theta, \delta, \psi \mid \{T_i, V_i, X_i, Y_i\}_{i=1}^n) \\
= & \sum_{i=1}^n \mathbf{1}\{Y_i = 0\} T_i [\log f_\theta(V_i \mid X_i, Y_i, 0) + \log h_\psi(Y_i \mid X_i, 0) + \log\{1 - g_\delta(X_i)\}] \\
& + \mathbf{1}\{Y_i = J + 1\} T_i [\log f_\theta(V_i \mid X_i, Y_i - 1, 1) + \log h_\psi(Y_i - 1 \mid X_i, 1) + \log g_\delta(X_i)] \\
& + \mathbf{1}\{1 \leq Y_i \leq J\} T_i \log [f_\theta(V_i \mid X_i, Y_i - 1, 1) h_\psi(Y_i - 1 \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}] \\
& + (1 - T_i) \log [f_\theta(V_i \mid X_i, Y_i, 1) h_\psi(Y_i \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}]
\end{aligned}$$

We then compute the score functions for each observation i ,

$$\begin{aligned}
\frac{\partial l_{obs}^{(i)}}{\partial \theta} &= \mathbf{1}\{Y_i = 0\} T_i \frac{f'_\theta(V_i \mid X_i, Y_i, 0)}{f_\theta(V_i \mid X_i, Y_i, 0)} + \mathbf{1}\{Y_i = J + 1\} T_i \frac{f'_\theta(V_i \mid X_i, Y_i - 1, 1)}{f_\theta(V_i \mid X_i, Y_i - 1, 1)} \\
&+ \mathbf{1}\{1 \leq Y_i \leq J\} T_i \frac{f'_\theta(V_i \mid X_i, Y_i - 1, 1) h_\psi(Y_i - 1 \mid X_i, 1) g_\delta(X_i) + f'_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}}{f_\theta(V_i \mid X_i, Y_i - 1, 1) h_\psi(Y_i - 1 \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}} \\
&+ (1 - T_i) \frac{f'_\theta(V_i \mid X_i, Y_i, 1) h_\psi(Y_i \mid X_i, 1) g_\delta(X_i) + f'_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}}{f_\theta(V_i \mid X_i, Y_i, 1) h_\psi(Y_i \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}} \\
\frac{\partial l_{obs}^{(i)}}{\partial \psi} &= \mathbf{1}\{Y_i = 0\} T_i \frac{h'_\psi(Y_i \mid X_i, 0)}{h_\psi(Y_i \mid X_i, 0)} + \mathbf{1}\{Y_i = J + 1\} T_i \frac{h'_\psi(Y_i - 1 \mid X_i, 1)}{h_\psi(Y_i - 1 \mid X_i, 1)} \\
&+ \mathbf{1}\{1 \leq Y_i \leq J\} T_i \frac{f_\theta(V_i \mid X_i, Y_i - 1, 1) h'_\psi(Y_i - 1 \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h'_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}}{f_\theta(V_i \mid X_i, Y_i - 1, 1) h_\psi(Y_i - 1 \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}} \\
&+ (1 - T_i) \frac{f_\theta(V_i \mid X_i, Y_i, 1) h'_\psi(Y_i \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h'_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}}{f_\theta(V_i \mid X_i, Y_i, 1) h_\psi(Y_i \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}} \\
\frac{\partial l_{obs}^{(i)}}{\partial \delta} &= -\mathbf{1}\{Y_i = 0\} T_i \frac{g'_\delta(X_i)}{1 - g_\delta(X_i)} + \mathbf{1}\{Y_i = J + 1\} T_i \frac{g'_\delta(X_i)}{g_\delta(X_i)} \\
&+ \mathbf{1}\{1 \leq Y_i \leq J\} T_i \frac{\{f_\theta(V_i \mid X_i, Y_i - 1, 1) h_\psi(Y_i - 1 \mid X_i, 1) - f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0)\} g'_\delta(X_i)}{f_\theta(V_i \mid X_i, Y_i - 1, 1) h_\psi(Y_i - 1 \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}} \\
&+ (1 - T_i) \frac{\{f_\theta(V_i \mid X_i, Y_i, 1) h_\psi(Y_i \mid X_i, 1) - f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0)\} g'_\delta(X_i)}{f_\theta(V_i \mid X_i, Y_i, 1) h_\psi(Y_i \mid X_i, 1) g_\delta(X_i) + f_\theta(V_i \mid X_i, Y_i, 0) h_\psi(Y_i \mid X_i, 0) \{1 - g_\delta(X_i)\}}
\end{aligned}$$

Then, the asymptotic variance-covariance matrix is given by,

$$\mathbb{E} \left\{ \frac{\partial l_{obs}^{(i)}}{\partial \lambda} \left(\frac{\partial l_{obs}^{(i)}}{\partial \lambda} \right)^\top \right\}^{-1}$$

where $\lambda = (\theta, \delta, \psi)$.

A.2 Estimated Coefficients of the Turnout Models

	Estimate	Standard error
Control Items model		
Intercept	-1.18	0.49
Male	0.13	0.10
Age	0.04	0.19
Age squared	-0.00	0.02
Education	0.06	0.03
Political interest	0.28	0.06
Married	0.06	0.11
Urban	0.02	0.11
Believes the elections were clean	0.01	0.05
Indicator for clean elections varb. missing	-0.16	0.26
Has propaganda in house	0.26	0.17
Wealth index	-0.11	0.11
Concurrent elections	0.01	0.04
Party Supporter	0.12	0.11
Sensitive Item (vote-selling) model		
Intercept	1.88	2.18
Male	-0.74	0.48
Age	-1.51	0.91
Age squared	0.13	0.09
Education	-0.23	0.13
Political interest	-0.18	0.28
Married	0.03	0.55
Urban	1.57	0.73
Believes the elections were clean	0.42	0.21
Indicator for clean elections varb. missing	-0.27	1.38
Has propaganda in house	2.51	0.86
Wealth index	-0.59	0.64
Concurrent elections	0.15	0.18
Party Supporter	-0.14	0.55
Outcome (turnout) model		
Intercept	0.57	0.89
Male	-0.26	0.18
Age	-0.05	0.34
Age squared	0.00	0.04
Education	-0.01	0.05
Political interest	0.09	0.10
Married	0.33	0.19
Urban	0.32	0.22
Believes the elections were clean	-0.09	0.08
Indicator for clean elections varb. missing	-1.24	0.40
Has propaganda in house	0.79	0.42
Wealth index	0.40	0.22
Concurrent elections	0.01	0.07
Party Supporter	0.36	0.19
Vote selling	-1.51	0.56

Table 2: Estimated Coefficients of the Turnout Model based on the One-step Estimator.

	Estimate	Standard error
Control Items model		
Intercept	-0.96	0.63
Male	0.08	0.13
Age	0.00	0.26
Age squared	0.00	0.03
Education	0.06	0.04
Political interest	0.21	0.08
Married	-0.01	0.14
Wealth index	-0.00	0.05
Urban	0.09	0.15
Has propaganda in house	0.29	0.26
Concurrent elections	-0.29	0.15
Sensitive Item (vote-selling) model		
Intercept	5.02	3.60
Male	-0.44	0.68
Age	-2.47	1.58
Age squared	0.20	0.18
Education	-0.19	0.19
Political interest	-0.04	0.40
Married	0.70	0.80
Wealth index	0.33	0.28
Urban	1.01	0.89
Has propaganda in house	2.13	1.05
Concurrent elections	-0.65	0.89
Outcome (turnout) model		
Intercept	0.35	1.37
Male	-0.26	0.22
Age	-0.25	0.52
Age squared	0.02	0.05
Education	0.02	0.06
Political interest	0.24	0.12
Married	0.43	0.23
Wealth index	0.02	0.09
Urban	-0.00	0.24
Has propaganda in house	0.48	0.49
Concurrent elections	0.27	0.27
Vote selling	-1.15	0.72

Table 3: Estimated Coefficients of the Turnout Model based on the One-step Estimator Fitted among Respondents Who Are Not Party Supporters.

	Estimate	Standard error
Control Items model		
Intercept	-1.56	0.71
Male	0.23	0.16
Age	0.11	0.28
Age squared	-0.01	0.03
Education	0.06	0.05
Political interest	0.36	0.09
Married	0.19	0.16
Wealth index	0.03	0.06
Urban	-0.12	0.17
Has propaganda in house	0.08	0.20
Concurrent elections	0.20	0.17
Sensitive Item (vote-selling) model		
Intercept	-1.31	6.05
Male	-1.42	0.77
Age	-0.43	1.31
Age squared	0.04	0.13
Education	-0.24	0.22
Political interest	-0.20	0.47
Married	-1.27	0.81
Wealth index	-0.07	0.28
Urban	4.68	5.02
Has propaganda in house	6.31	5.13
Concurrent elections	-1.54	1.01
Outcome (turnout) model		
Intercept	-0.17	1.58
Male	-0.33	0.37
Age	0.52	0.66
Age squared	-0.05	0.07
Education	-0.06	0.10
Political interest	-0.05	0.19
Married	0.00	0.40
Wealth index	-0.01	0.12
Urban	1.24	0.51
Has propaganda in house	1.82	0.73
Concurrent elections	0.60	0.37
Vote selling	-2.29	0.77

Table 4: Estimated Coefficients of the Turnout Model based on the One-step Estimator Fitted among Party Supporters.

	Point estimate	Standard Error
Male	-0.09	0.14
Age	0.13	0.14
Age squared	-0.01	0.02
Education	0.02	0.03
Political interest	0.10	0.08
Married	0.31	0.14
Urban	-0.02	0.16
Believes the elections were clean	-0.19	0.06
Indicator for clean elections varb. missing	-1.25	0.34
Has propaganda in house	0.07	0.23
Concurrent elections	0.49	0.17
Wealth index	-0.01	0.05
Party supporter	0.34	0.15
Vote-selling (direct)	-0.27	0.28

Table 5: Estimated Coefficients of the Turnout Model, Using the Direct Question instead of the List Experiment to Measure Vote-selling.

A.3 Estimated Coefficients of the Winning (PRI) Candidate Approval Models

	Estimate	Standard error
Control Items model		
Intercept	-1.35	0.55
Male	0.07	0.11
Age	0.03	0.20
Age squared	-0.00	0.02
Education	0.07	0.03
Political interest	0.25	0.07
Married	0.07	0.11
Urban	-0.03	0.12
Believes the elections were clean	-0.02	0.06
Indicator for clean elections varb. missing	-0.16	0.29
Has propaganda in house	0.29	0.17
Wealth index	-0.01	0.04
Lives in North region	0.29	0.16
Lives in Central region	0.37	0.15
Lives in Mex. City metro area	0.24	0.16
PRI party supporter	0.07	0.17
PAN party supporter	0.19	0.17
PRD party supporter	0.25	0.16
Sensitive Item (vote-selling) model		
Intercept	0.43	3.01
Male	-0.23	0.60
Age	-1.37	1.15
Age squared	0.11	0.12
Education	-0.29	0.17
Political interest	0.06	0.36
Married	0.11	0.66
Urban	1.84	0.82
Believes the elections were clean	0.75	0.39
Indicator for clean elections varb. missing	0.12	1.83
Has propaganda in house	2.47	1.07
Wealth index	0.21	0.25
Lives in North region	-0.64	0.85
Lives in Central region	-2.95	1.68
Lives in Mex. City metro area	0.23	0.86
PRI party supporter	0.75	1.08
PAN party supporter	0.07	0.95
PRD party supporter	-0.70	0.93
Outcome (opinions) model		
Intercept	9.24	0.83
Male	-0.04	0.17
Age	-0.06	0.30
Age squared	0.01	0.03
Education	0.07	0.05
Political interest	-0.03	0.09
Married	0.32	0.17
Urban	-0.69	0.22
Believes the elections were clean	-1.05	0.10
Indicator for clean elections varb. missing	-2.03	0.47
Has propaganda in house	-0.49	0.35
Wealth index	-0.08	0.06
Lives in North region	0.73	0.26
Lives in Central region	0.24	0.28
Lives in Mex. City metro area	-0.24	0.22
PRI party supporter	2.09	0.26
PAN party supporter	-0.22	0.25
PRD party supporter	-1.32	0.23
Vote selling	0.71	0.47

Table 6: Estimated Coefficients of the Winning (PRI) Candidate Approval Model based on the One-step Estimator.

	Estimate	Standard error
Male	0.08	0.16
Age	2.40	0.19
Age squared	-0.23	0.02
Education	0.25	0.04
Political interest	0.26	0.09
Married	0.19	0.17
Urban	-0.14	0.19
Believes the elections were clean	-0.55	0.08
Indicator for clean elections varb. missing	-0.54	0.41
Has propaganda in house	-0.22	0.27
Wealth index	-0.25	0.06
Lives in North region	0.84	0.23
Lives in Central region	0.51	0.23
Lives in Mex. City metro area	0.10	0.22
PRI party supporter	3.13	0.23
PAN party supporter	0.33	0.25
PRD party supporter	-1.04	0.25
Vote-selling (direct)	-0.82	0.34

Table 7: Estimated Coefficients of the Linear Winning (PRI) Candidate Approval Model, Using the Direct Question instead of the List Experiment to Measure Vote-selling.

	Estimate	Standard error
Male	-0.26	0.28
Age	-1.00	0.32
Age squared	0.09	0.04
Education	-0.11	0.07
Political interest	0.11	0.15
Married	0.26	0.30
Urban	-0.41	0.31
Believes the elections were clean	0.20	0.13
Indicator for clean elections varb. missing	-0.68	1.09
Has propaganda in house	-0.26	0.50
PRI party supporter	-0.73	0.39
PAN party supporter	-0.11	0.37
PRD party supporter	-0.55	0.40
Concurrent elections	0.02	0.32
Wealth index	0.11	0.10

Table 8: Estimated Coefficients of the Logistic Regression Model, Predicting Answers to the Direct Vote-buying Question.