Problem Set #1

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The attached file, edgel_ps1_log.log, includes all console output for this problem set. The coefficients and standard errors of all requested regressions are reported in table 1 below. The label at the top of each column corresponds to the question for which the regression was run (e.g., "Q2" corresponds to the regression from question 2). For Question 6, which requests two regressions, the columns are labeled with the name of the specification.

The weights used in the variance-weighted least squares (VWLS) are the standard error of the OLS estimation.

0.0195 0.0227

The method of using sample take-up rates to determine prediction accuracy is better for assessing phenomena that occur in very small numbers. However, it suffers from endogeneity. For example, if the dependent variable is whether a person commutes by bike and an independent variable is the miles of bike paths in the city, then

The mean finite difference for the interaction term is -0.057 . The marginal effect for each case (e.g., Muslim but not married, married and Muslim), using a model with and without an interaction term, is displayed in Table 6.

Table 1: Regression Results

VARIABLES	(1) Q2	(2) Q3	(3) Q5	(4) Logit	(5) Probit
Treated	0.0444	0.0444	0.0520	0.334	0.184
	(0.0337)	(0.0324)	(0.00356)	(0.252)	(0.138)
Client_Age	0.000440	0.000440	-0.000657	0.00328	0.00215
	(0.00188)	(0.00184)	(0.000240)	(0.0138)	(0.00763)
Client_Married	0.0299	0.0299	0.0371	0.233	0.133
	(0.0482)	(0.0456)	(0.00708)	(0.366)	(0.200)
Client_Education	-0.00347	-0.00347	-0.00134	-0.0248	-0.0133
	(0.00380)	(0.00374)	(0.000441)	(0.0274)	(0.0153)
HH_Income	3.36e-06	3.36e-06	2.66e-06	2.30e-05	1.32e-05
	(3.57e-06)	(3.72e-06)	(4.80e-07)	(2.43e-05)	(1.39e-05)
muslim	-0.0184	-0.0184	-0.0371	-0.133	-0.0713
	(0.0357)	(0.0352)	(0.00377)	(0.259)	(0.144)
Hindu_SC_Kat	-0.0289	-0.0289	-0.0577	-0.216	-0.115
	(0.0505)	(0.0492)	(0.00672)	(0.375)	(0.206)
Constant	0.106	0.106	0.133	-2.084	-1.249
	(0.0866)	(0.0758)	(0.0116)	(0.653)	(0.364)

Standard errors in parentheses

Table 2: Predicted Probabilities

	LPM	Logit	Probit
Mean	0.168	0.168	0.168
Std. Dev.	0.033	0.033	0.033
Min	0.077	0.091	0.088
p5	0.112	0.117	0.115
p25	0.145	0.143	0.144
Median	0.170	0.167	0.168
p75	0.190	0.189	0.190
p95	0.219	0.224	0.223
Max	0.287	0.313	0.312

Table 3: Mean Partial Effects

	LPM	Logit	Probit	Quartic LPM
Mean Partial Effect	0.000440	0.000454	-	-
7a)	-	-	0.000535	-
7b)	-	-	0.000534	-
7c)	-	-	0.000570	0.000560
7d)	-	-	0.000534	-

Table 4: Prediction Rates

	In-Sample		Out-of-Sample	
	≥ 0.5	$\geq \hat{p}$	≥ 0.5	$\geq \hat{p}$
LPM	0.832	0.519	0.829	0.527
Quartic LPM	0.834	0.504	0.829	0.534
Logit	0.832	0.542	0.829	0.541
Probit	0.832	0.533	0.829	0.541

Table 5: Probit Model Comparison

	(1)	(2)	(3)	(4)
VARIABLES	Baseline	Interaction Effect	HetProbit ;	lnsigma
Treated	0.184	0.190	0.570	
	(0.138)	(0.139)	(0.473)	
Client_Age	0.00215	0.00269	-0.0233	0.0137
	(0.00763)	(0.00772)	(0.0345)	(0.0132)
Client_Education	-0.0133	-0.0139	-0.164	0.0648
	(0.0153)	(0.0153)	(0.166)	(0.0532)
HH_Income	1.32e-05	1.25e-05	3.94e-05	
	(1.39e-05)	(1.39e-05)	(4.12e-05)	
Hindu_SC_Kat	-0.115	-0.118	-0.177	
	(0.206)	(0.206)	(0.470)	
1.Client_Married	0.133	0.218	0.449	
	(0.200)	(0.251)	(0.576)	
1.muslim	-0.0713	0.140	-0.185	
	(0.144)	(0.392)	(0.334)	
1.Client_Married#1.muslim		-0.243		
		(0.419)		
Constant	-1.249	-1.341	-1.554	
	(0.364)	(0.400)	(0.688)	
LRI	0.00863	0.00929		

Standard errors in parentheses

Table 6: Mean finite differences

		Mean Finite Difference	
$\mathbb{1}\{Client\_Age\}$	$\mathbb{1}\{Muslim\}$	w/o interaction	w/ interaction
1	0	0.032	0.051
0	1	-0.016	0.032
1	1	0.017	0.026