



(R)

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 StataCorp
 4905 Lakeway Drive
 College Station, Texas 77845 USA
 800-STATA-PC <http://www.stata.com>
 979-696-4600 stata@stata.com
 979-696-4601 (fax)

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. use "C:\local_files\research\consumption\datamapper\h2012.dta", clear

. mprobit band_general i.litlang occupation_rank hsize education_rank i.expensiveregion age fat

Iteration 0: log likelihood = **-1813.0887**
 Iteration 1: log likelihood = **-1807.7828**
 Iteration 2: log likelihood = **-1807.6818**
 Iteration 3: log likelihood = **-1807.6818**

Multinomial probit regression	Number of obs	=	1,609
	Wald chi2(42)	=	452.30
Log likelihood = -1807.6818	Prob > chi2	=	0.0000

band_general	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1	(base outcome)					
2						
litlang						
2	-.2861159	.5837442	-0.49	0.624	-1.430233	.8580016
3	.3254097	.2455698	1.33	0.185	-.1558983	.8067177
5	-.6282175	.2834787	-2.22	0.027	-1.183826	-.0726094
occupation_rank	.1640221	.073671	2.23	0.026	.0196297	.3084145
hsize	-.0184237	.0180871	-1.02	0.308	-.0538738	.0170264
education_rank	-.0206744	.1832099	-0.11	0.910	-.3797591	.3384103
1.expensiveregion	.0177069	.1572447	0.11	0.910	-.2904871	.3259008
age	-.0091371	.0049087	-1.86	0.063	-.018758	.0004838
fat	.0721071	.1300297	0.55	0.579	-.1827463	.3269606
starch	-.0331445	.1605884	-0.21	0.836	-.3478919	.2816029
protein	.0112339	.0083928	1.34	0.181	-.0052156	.0276834
beverages	-.0190495	.0200986	-0.95	0.343	-.0584419	.020343
fruitsveg	.2911595	.320433	0.91	0.364	-.3368776	.9191966
energy	.1818766	.1846745	0.98	0.325	-.1800787	.5438319
_cons	.462254	.8596378	0.54	0.591	-1.222605	2.147113
3						
litlang						
2	.202232	.5153016	0.39	0.695	-.8077406	1.212205
3	.2807675	.2403018	1.17	0.243	-.1902153	.7517503
5	-.4265486	.2783097	-1.53	0.125	-.9720256	.1189284
occupation_rank	-.033108	.0728993	-0.45	0.650	-.1759881	.109772
hsize	.0338635	.0165942	2.04	0.041	.0013395	.0663874
education_rank	.1140853	.1758872	0.65	0.517	-.2306473	.4588178
1.expensiveregion	.2584014	.1535578	1.68	0.092	-.0425664	.5593691
age	-.0187353	.0049119	-3.81	0.000	-.0283626	-.0091081
fat	.221998	.1286826	1.73	0.084	-.0302152	.4742112
starch	.2706202	.1580311	1.71	0.087	-.039115	.5803554
protein	.0066401	.0083017	0.80	0.424	-.0096309	.0229112
beverages	-.0270412	.0204206	-1.32	0.185	-.0670648	.0129824
fruitsveg	-.8102134	.3171722	-2.55	0.011	-1.431859	-.1885673

	energy	.9666865	.1835922	5.27	0.000	.6068524	1.326521
	_cons	1.446962	.8517115	1.70	0.089	-.2223617	3.116286
4							
	litlang						
	2	.3670304	.5095965	0.72	0.471	-.6317604	1.365821
	3	.3160411	.2397611	1.32	0.187	-.153882	.7859642
	5	-.5468658	.3265093	-1.67	0.094	-1.186812	.0930808
	occupation_rank	.0450996	.0740906	0.61	0.543	-.1001152	.1903145
	hsize	.0684388	.0166064	4.12	0.000	.0358909	.1009866
	education_rank	.5433786	.1740184	3.12	0.002	.2023088	.8844484
	1.expensivere	.1861699	.1561158	1.19	0.233	-.1198115	.4921513
	age	.0048982	.0049854	0.98	0.326	-.004873	.0146695
	fat	.2040228	.1334373	1.53	0.126	-.0575095	.4655551
	starch	.3496646	.1666345	2.10	0.036	.023067	.6762622
	protein	.010614	.0087336	1.22	0.224	-.0065036	.0277317
	beverages	-.034311	.0220641	-1.56	0.120	-.0775559	.008934
	fruitsveg	-.8593196	.3322862	-2.59	0.010	-1.510589	-.2080507
	energy	1.918081	.1917858	10.00	0.000	1.542188	2.293975
	_cons	-.9969212	.8915634	-1.12	0.263	-2.744353	.7505109

. fitstat

	mprobit
Log-likelihood	
Model	-1807.682
Chi-square	
Deviance (df=1564)	3615.364
Wald (df=42)	452.305
p-value	0.000
R2	
Count	0.489
Count (adjusted)	0.188
IC	
AIC	3705.364
AIC divided by N	2.303
BIC (df=45)	3947.615

. margins, dydx(*) atmeans

Conditional marginal effects Number of obs = 1,609
Model VCE : OIM

```

dy/dx w.r.t. : 2.litlang 3.litlang 5.litlang occupation_rank hsize education_rank 1.expensivere
1._predict   : Pr(band_general==1), predict(pr outcome(1))
2._predict   : Pr(band_general==2), predict(pr outcome(2))
3._predict   : Pr(band_general==3), predict(pr outcome(3))
4._predict   : Pr(band_general==4), predict(pr outcome(4))
at           : 1.litlang      = .6793039 (mean)
               2.litlang      = .0261032 (mean)
               3.litlang      = .2579242 (mean)
               5.litlang      = .0366687 (mean)
               occupation~k    = 1.385333 (mean)
               hsize           = 7.087011 (mean)
               education~k     = 1.415786 (mean)
               0.expensiv~n    = .4885022 (mean)
               1.expensiv~n    = .5114978 (mean)
               age             = 42.97017 (mean)
               fat             = 1.75005 (mean)
               starch          = 1.999914 (mean)
               protein         = 10.89383 (mean)
               beverages       = 20.05642 (mean)
               fruitsveg       = 1.605839 (mean)
               energy          = .6202454 (mean)

```

		Delta-method					
		dy/dx	Std. Err.	z	P> z	[95% Conf. Interval]	
2.litlang							
	_predict						
	1	-.0209995	.0542083	-0.39	0.698	-.1272458	.0852468
	2	-.1017987	.0624288	-1.63	0.103	-.224157	.0205595
	3	.0198307	.0849898	0.23	0.816	-.1467463	.1864077
	4	.1029676	.0879747	1.17	0.242	-.0694597	.2753948
3.litlang							
	_predict						
	1	-.0351963	.0234544	-1.50	0.133	-.0811661	.0107735
	2	.0152381	.0375959	0.41	0.685	-.0584486	.0889247
	3	.0019184	.0413291	0.05	0.963	-.0790852	.082922
	4	.0180398	.0420436	0.43	0.668	-.0643641	.1004436
5.litlang							
	_predict						
	1	.0913137	.05137	1.78	0.075	-.0093696	.191997
	2	-.0509552	.0482054	-1.06	0.290	-.145436	.0435256
	3	.005504	.0698337	0.08	0.937	-.1313676	.1423756
	4	-.0458625	.079438	-0.58	0.564	-.2015582	.1098332
occupation_rank							
	_predict						
	1	-.0059584	.0081994	-0.73	0.467	-.0220289	.0101122
	2	.0364391	.0124545	2.93	0.003	.0120288	.0608495
	3	-.0323505	.0147373	-2.20	0.028	-.0612351	-.0034659
	4	.0018697	.0153265	0.12	0.903	-.0281697	.031909
hsize							
	_predict						
	1	-.0042725	.0019142	-2.23	0.026	-.0080243	-.0005208
	2	-.0144271	.0029362	-4.91	0.000	-.0201819	-.0086723
	3	.0014816	.0028245	0.52	0.600	-.0040543	.0070175
	4	.017218	.0028848	5.97	0.000	.0115638	.0228722
education_rank							
	_predict						
	1	-.0308068	.0204176	-1.51	0.131	-.0708246	.009211
	2	-.0706024	.0259576	-2.72	0.007	-.1214784	-.0197264
	3	-.0457591	.0276392	-1.66	0.098	-.0999309	.0084127
	4	.1471683	.0273313	5.38	0.000	.0936	.2007366
1.expensiveregion							
	_predict						
	1	-.0215712	.017644	-1.22	0.221	-.0561527	.0130104
	2	-.0397443	.0252175	-1.58	0.115	-.0891697	.0096811
	3	.0461119	.0294764	1.56	0.118	-.0116608	.1038846
	4	.0152036	.0307143	0.50	0.621	-.0449952	.0754024
age							
	_predict						
	1	.0009313	.0005457	1.71	0.088	-.0001382	.0020009
	2	-.00078	.0008485	-0.92	0.358	-.0024431	.0008831
	3	-.0053329	.0010421	-5.12	0.000	-.0073754	-.0032903
	4	.0051816	.0010761	4.82	0.000	.0030724	.0072907
fat							
	_predict						
	1	-.0224858	.0145296	-1.55	0.122	-.0509633	.0059916
	2	-.0255001	.0218912	-1.16	0.244	-.068406	.0174058
	3	.0275463	.0259923	1.06	0.289	-.0233978	.0784903
	4	.0204397	.0277396	0.74	0.461	-.033929	.0748084
starch							
	_predict						
	1	-.0283448	.0178451	-1.59	0.112	-.0633205	.0066309
	2	-.0691368	.0277083	-2.50	0.013	-.123444	-.0148295
	3	.0302415	.0328984	0.92	0.358	-.0342382	.0947211

4		.0672401	.0359048	1.87	0.061	-.003132	.1376121
protein							
	_predict						
	1	-.0011846	.000955	-1.24	0.215	-.0030563	.0006871
	2	.0008729	.0013324	0.66	0.512	-.0017386	.0034844
	3	-.0007309	.0016367	-0.45	0.655	-.0039387	.002477
	4	.0010425	.0017946	0.58	0.561	-.0024748	.0045599
beverages							
	_predict						
	1	.0035279	.0023058	1.53	0.126	-.0009915	.0080473
	2	.0016954	.0034281	0.49	0.621	-.0050235	.0084143
	3	-.000946	.0043725	-0.22	0.829	-.0095159	.0076239
	4	-.0042773	.0049385	-0.87	0.386	-.0139565	.0054019
fruitsveg							
	_predict						
	1	.069597	.0358514	1.94	0.052	-.0006705	.1398645
	2	.2322842	.0541873	4.29	0.000	.126079	.3384893
	3	-.1371826	.0654235	-2.10	0.036	-.2654103	-.0089549
	4	-.1646985	.0706148	-2.33	0.020	-.3031009	-.0262962
energy							
	_predict						
	1	-.1432276	.020912	-6.85	0.000	-.1842143	-.102241
	2	-.2452526	.0314698	-7.79	0.000	-.3069323	-.1835729
	3	-.0210644	.0387458	-0.54	0.587	-.0970048	.0548761
	4	.4095446	.041585	9.85	0.000	.3280396	.4910496

Note: dy/dx for factor levels is the discrete change from the base level.

. margins, dydx(*)

Average marginal effects

Number of obs = 1,609

Model VCE : OIM

dy/dx w.r.t. : 2.litlang 3.litlang 5.litlang occupation_rank hsize education_rank 1.expensivere

1._predict : Pr(band_general==1), predict(pr outcome(1))

2._predict : Pr(band_general==2), predict(pr outcome(2))

3._predict : Pr(band_general==3), predict(pr outcome(3))

4._predict : Pr(band_general==4), predict(pr outcome(4))

		Delta-method				
		dy/dx	Std. Err.	z	P> z	[95% Conf. Interval]
2.litlang						
	_predict					
	1	-.0129945	.0571972	-0.23	0.820	-.1250989 .09911
	2	-.0912421	.062485	-1.46	0.144	-.2137105 .0312262
	3	.0233042	.078277	0.30	0.766	-.1301158 .1767242
	4	.0809324	.0721545	1.12	0.262	-.0604878 .2223527
3.litlang						
	_predict					
	1	-.0355881	.0233742	-1.52	0.128	-.0814006 .0102244
	2	.0186853	.034222	0.55	0.585	-.0483886 .0857591
	3	.002777	.0375432	0.07	0.941	-.0708063 .0763603
	4	.0141258	.0341793	0.41	0.679	-.0528643 .081116
5.litlang						
	_predict					
	1	.0865684	.0454549	1.90	0.057	-.0025216 .1756585
	2	-.0552118	.0441039	-1.25	0.211	-.1416538 .0312302
	3	.0046204	.0629565	0.07	0.941	-.1187721 .128013
	4	-.0359771	.0650954	-0.55	0.580	-.1635618 .0916076
occupation_rank						
	_predict					
	1	-.0076062	.0081618	-0.93	0.351	-.0236031 .0083907
	2	.0339166	.0111843	3.03	0.002	.0119958 .0558375

	3	-.0290502	.0131608	-2.21	0.027	-.0548449	-.0032555
	4	.0027398	.0122641	0.22	0.823	-.0212975	.026777
hsize							
	_predict						
	1	-.0031466	.0019425	-1.62	0.105	-.0069538	.0006607
	2	-.0119805	.0026822	-4.47	0.000	-.0172375	-.0067236
	3	.0017678	.0025267	0.70	0.484	-.0031845	.0067202
	4	.0133593	.0022221	6.01	0.000	.009004	.0177146
education_rank							
	_predict						
	1	-.0235598	.0208642	-1.13	0.259	-.0644528	.0173332
	2	-.0550992	.0238179	-2.31	0.021	-.1017814	-.008417
	3	-.0378903	.0248303	-1.53	0.127	-.0865569	.0107763
	4	.1165493	.0211226	5.52	0.000	.0751497	.1579489
1.expensiveregion							
	_predict						
	1	-.0197124	.0175927	-1.12	0.263	-.0541935	.0147688
	2	-.0337129	.0230701	-1.46	0.144	-.0789295	.0115036
	3	.0431255	.0268048	1.61	0.108	-.0094109	.095662
	4	.0102998	.0248655	0.41	0.679	-.0384357	.0590353
age							
	_predict						
	1	.0011202	.0005355	2.09	0.036	.0000707	.0021697
	2	-.0006208	.0007559	-0.82	0.411	-.0021023	.0008607
	3	-.0047584	.0009138	-5.21	0.000	-.0065494	-.0029673
	4	.004259	.0008418	5.06	0.000	.0026091	.0059089
fat							
	_predict						
	1	-.0208678	.0145758	-1.43	0.152	-.0494359	.0077003
	2	-.0198287	.0196916	-1.01	0.314	-.0584236	.0187662
	3	.0259251	.0232832	1.11	0.266	-.0197092	.0715594
	4	.0147714	.0222052	0.67	0.506	-.0287501	.0582929
starch							
	_predict						
	1	-.0234304	.0178012	-1.32	0.188	-.0583201	.0114592
	2	-.0570822	.0248006	-2.30	0.021	-.1056905	-.008474
	3	.0293587	.0294022	1.00	0.318	-.0282686	.086986
	4	.051154	.0286725	1.78	0.074	-.0050431	.107351
protein							
	_predict						
	1	-.0012016	.0009559	-1.26	0.209	-.0030751	.0006718
	2	.0009707	.0012008	0.81	0.419	-.0013829	.0033243
	3	-.0006082	.0014663	-0.41	0.678	-.0034821	.0022657
	4	.0008391	.0014376	0.58	0.559	-.0019787	.0036568
beverages							
	_predict						
	1	.0033489	.0022906	1.46	0.144	-.0011405	.0078384
	2	.0009726	.0030612	0.32	0.751	-.0050272	.0069725
	3	-.0010334	.0039087	-0.26	0.791	-.0086943	.0066274
	4	-.0032881	.0039586	-0.83	0.406	-.0110468	.0044705
fruitsveg							
	_predict						
	1	.0546824	.0355614	1.54	0.124	-.0150166	.1243815
	2	.197069	.0481717	4.09	0.000	.1026542	.2914838
	3	-.128989	.058095	-2.22	0.026	-.242853	-.0151249
	4	-.1227625	.0562122	-2.18	0.029	-.2329364	-.0125885
energy							
	_predict						
	1	-.1211653	.0195314	-6.20	0.000	-.1594461	-.0828846
	2	-.19107	.026374	-7.24	0.000	-.242762	-.139378
	3	-.0076626	.0331992	-0.23	0.817	-.0727318	.0574065
	4	.3198979	.0306884	10.42	0.000	.2597497	.3800461

Note: dy/dx for factor levels is the discrete change from the base level.

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