# Coffee brand

## March 5, 2012

- > library(EffectStars)
- > data(coffee)

Effect Stars for multinomial logit model for coffee data.

```
> star.nominal(Brand ~ Amount + Age + SocialLevel + Income + Persons +
```

- + PriceSensitivity + Education, coffee, cex.cat = 1, cex.labels = 1.2,
- + lwd.circle = 1.5)

#### \$odds

	(Intercept)	Amount>= 2	Age>= 50	${\tt SocialLevellow}$	Income>= 2500
Jacobs	1.7921912	2.0611862	1.2710021	0.8906470	1.0109014
JacobsSpecial	0.7105079	1.5160332	1.0853299	1.0124528	1.2790397
Aldi	0.7462833	1.1866558	1.0624513	1.3369529	1.0650309
AldiSpecial	0.4430541	1.7583451	0.6776823	1.4971118	1.0871445
Eduscho	0.2578988	0.7876474	1.1948984	1.2774100	0.8332758
EduschoSpecial	1.3049076	0.5907297	0.9033230	0.6985463	0.9977979
Tchibo	0.8860839	0.4164343	1.0027474	0.7607307	0.8276003
TchiboSpecial	2.2749597	0.6018416	0.8420753	0.8718790	0.9123693
Others	3.5011330	1.3152123	1.1046897	0.9361308	1.0639838
	Persons Pi	riceSensitiv	vitysensiti	ive EducationHig	ghschool
Jacobs	0.8778951		0.85803	355 0	.7859879
JacobsSpecial	0.9597767		0.71780	063	.8295715
Aldi	1.0119845		1.01197	784 1	.5101571
AldiSpecial	0.9122767		1.46555	512 2	.0554289
Eduscho	1.1887164		1.39559	956 0	.9186669
EduschoSpecial	0.9983747		1.46713	325 0	.9123891
Tchibo	1.0915821		0.65386	352 0	.9442711
TchiboSpecial	1.0273066		0.84389	983 0	.8438364
Others	0.9659586		0.96896	346 0	.7397971

## \$coefficients

	(Intercept)	Amount >= 2	Age>= 50	SocialLevellow	lncome > = 2500
Jacobs	0.5834390	0.7232816	0.239805611	-0.11580706	0.010842442
JacobsSpecial	-0.3417752	0.4160972	0.081884016	0.01237589	0.246109590
Aldi	-0.2926500	0.1711391	0.060578793	0.29039305	0.063003792
AldiSpecial	-0.8140633	0.5643731	-0.389076714	0.40353779	0.083554550
Eduscho	-1.3551881	-0.2387048	0.178061119	0.24483462	-0.182390616
EduschoSpecial	0.2661322	-0.5263967	-0.101675113	-0.35875376	-0.002204562
Tchibo	-0.1209437	-0.8760266	0.002743593	-0.27347586	-0.189224950

```
TchiboSpecial
                0.8219623 -0.5077610 -0.171885805
                                                    -0.13710463 -0.091710405
                1.2530866 0.2739981 0.099564501
Others
                                                    -0.06600003 0.062020158
                   Persons PriceSensitivitysensitive EducationHighschool
Jacobs
              -0.130228144
                                        -0.15310982
                                                            -0.24081383
JacobsSpecial -0.041054658
                                        -0.33155547
                                                            -0.18684602
Aldi
               0.011913228
                                         0.01190725
                                                            0.41221369
AldiSpecial
              -0.091811947
                                         0.38223142
                                                             0.72048452
Eduscho
                                                            -0.08483165
               0.172874059
                                         0.33332131
EduschoSpecial -0.001626669
                                         0.38330985
                                                            -0.09168876
                                                             -0.05734199
Tchibo
               0.087628082
                                         -0.42485404
TchiboSpecial
               0.026940381
                                         -0.16972327
                                                             -0.16979662
Others
              -0.034634332
                                         -0.03152722
                                                             -0.30137934
$se
              (Intercept) Amount>= 2 Age>= 50 SocialLevellow Income>= 2500
                0.2704455 0.1364399 0.1513856
Jacobs
                                                   0.1374692
                                                                0.12456152
                0.3641188 0.1909493 0.2003857
                                                   0.1840357
                                                                0.16717488
JacobsSpecial
                0.2865785 0.1588105 0.1539883
Aldi
                                                   0.1489903
                                                                0.13043304
                0.3638133 0.1883987 0.1931409
AldiSpecial
                                                   0.1943086
                                                                0.16988588
Eduscho
                0.4322133 0.2659765 0.2335270
                                                   0.2208703
                                                                0.19666229
EduschoSpecial 0.3034228 0.2172741 0.1681698
                                                   0.1552822
                                                                0.14448949
               0.3636384 0.2876464 0.2015705
Tchibo
                                                   0.1846750
                                                                0.17054339
TchiboSpecial
                0.2506745 0.1740178 0.1388519
                                                   0.1291454
                                                                0.11836496
Others
                0.1999703 0.1133587 0.1104981
                                                  0.1019407
                                                                0.09262787
                 Persons PriceSensitivitysensitive EducationHighschool
Jacobs
              0.06203593
                                         0.1490741
                                                           0.12307697
JacobsSpecial 0.08252800
                                         0.2112361
                                                           0.16488954
Aldi
              0.06288105
                                        0.1566784
                                                           0.12668282
AldiSpecial
              0.08129319
                                        0.1904160
                                                           0.16861630
Eduscho
              0.09162189
                                         0.2216638
                                                           0.19308771
EduschoSpecial 0.06840142
                                         0.1581201
                                                           0.14381055
              0.08022710
                                         0.2184221
                                                           0.16690606
Tchibo
TchiboSpecial 0.05613704
                                         0.1428395
                                                           0.11684127
Others
              0.04500855
                                         0.1092795
                                                            0.09222343
$pvalues
               (Intercept)
                             Amount>= 2
                                        Age>= 50 SocialLevellow
Jacobs
              1.549014e-02 5.755279e-08 0.05658872
                                                     0.19977599
JacobsSpecial 1.739587e-01 1.466222e-02 0.34140484
                                                      0.47319244
              1.535832e-01 1.405993e-01 0.34701249
Aldi
                                                      0.02564332
AldiSpecial
              1.262405e-02 1.369383e-03 0.02198008
                                                      0.01891056
Eduscho
              8.579194e-04 1.847353e-01 0.22288489
                                                      0.13382307
EduschoSpecial 1.902161e-01 7.702168e-03 0.27272314
                                                      0.01043484
              3.697207e-01 1.161477e-03 0.49457013
Tchibo
                                                      0.06932335
TchiboSpecial 5.208744e-04 1.762171e-03 0.10787516
                                                      0.14420181
Others
              1.847900e-10 7.822573e-03 0.18378041
                                                      0.25867515
              Income>= 2500
                               Persons PriceSensitivitysensitive
                 0.46531792 0.01789799
Jacobs
                                                    0.152193233
                 0.07048769 0.30943117
JacobsSpecial
                                                    0.058254483
Aldi
                 0.31453525 0.42486749
                                                    0.469710317
```

```
AldiSpecial 0.31142064 0.12936607
                                                0.022356267
Eduscho
               0.17685152 0.02959223
                                               0.066326167
EduschoSpecial
               0.49391334 0.49051356
                                                0.007671738
Tchibo
               0.13359835 0.13736153
                                                0.025881146
TchiboSpecial 0.21922584 0.31564790
                                               0.117375385
Others
               0.25156833 0.22079663
                                               0.386481723
            EducationHighschool
```

Jacobs 2.519657e-02 JacobsSpecial 1.285738e-01 Aldi 5.691545e-04 AldiSpecial 9.646342e-06 Eduscho 3.302067e-01 2.618780e-01 EduschoSpecial Tchibo 3.655892e-01 TchiboSpecial 7.308068e-02 Others 5.416935e-04

#### \$p\_rel

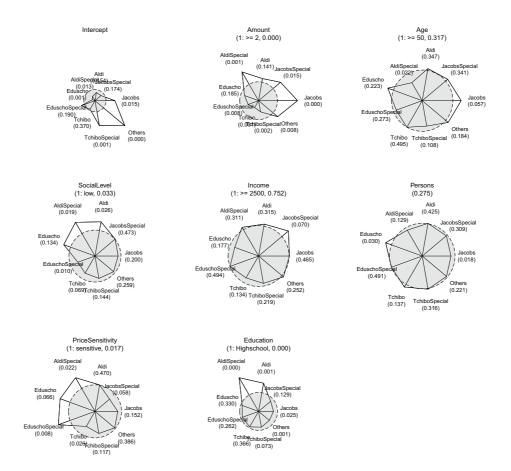
Amount>= 2 Age>= 50 SocialLevellow Income>= 2500 Persons [1,] 3.160405e-11 0.3167893 0.032723 0.7518783 0.2745836 PriceSensitivitysensitive EducationHighschool 0.01724551 6.729396e-07 [1,]

#### \$xlim

[1] 9.102946 49.716089

#### \$ylim

[1] 8.717821 48.910828



Effect Stars for multinomial logit model for coffee data without p-values.

- > star.nominal(Brand ~ Amount + Age + SocialLevel + Income + Persons +
- + PriceSensitivity + Education, coffee, cex.cat = 1, cex.labels = 1.2,
- + lwd.circle = 1.5, printpvalues = FALSE)

#### \$odds

7					
	(Intercept)	Amount>= $2$	Age>= 50	${\tt SocialLevellow}$	Income>= 2500
Jacobs	1.7921912	2.0611862	1.2710021	0.8906470	1.0109014
JacobsSpecial	0.7105079	1.5160332	1.0853299	1.0124528	1.2790397
Aldi	0.7462833	1.1866558	1.0624513	1.3369529	1.0650309
AldiSpecial	0.4430541	1.7583451	0.6776823	1.4971118	1.0871445
Eduscho	0.2578988	0.7876474	1.1948984	1.2774100	0.8332758
EduschoSpecial	1.3049076	0.5907297	0.9033230	0.6985463	0.9977979
Tchibo	0.8860839	0.4164343	1.0027474	0.7607307	0.8276003
TchiboSpecial	2.2749597	0.6018416	0.8420753	0.8718790	0.9123693
Others	3.5011330	1.3152123	1.1046897	0.9361308	1.0639838
Persons PriceSensitivitysensitive EducationHighschool					ghschool
Jacobs	0.8778951		0.85803	355 0	.7859879

JacobsSpecial	0.9597767		0.71780	63	0.829	95715
Aldi	1.0119845		1.01197		1.510	
AldiSpecial	0.9122767		1.46555		2.055	
Eduscho	1.1887164		1.39559		0.918	36669
EduschoSpecial			1.46713		0.912	
Tchibo	1.0915821		0.65386		0.944	
TchiboSpecial	1.0273066		0.84389			38364
Others	0.9659586		0.96896		0.739	
\$coefficients						
	(Intercept)	Amount>= 2	Age>=	50 SocialLev	ellow	Income>= 2500
Jacobs	0.5834390	0.7232816	0.2398056			0.010842442
JacobsSpecial	-0.3417752		0.0818840		37589	
Aldi	-0.2926500		0.0605787		39305	
AldiSpecial	-0.8140633				53779	
Eduscho	-1.3551881		0.1780611			-0.182390616
EduschoSpecial		-0.5263967				-0.002204562
Tchibo	-0.1209437		0.0027435			-0.189224950
TchiboSpecial		-0.5077610	-0.1718858			-0.091710405
Others	1.2530866	0.2739981	0.0995645		00003	0.062020158
	Persons		itivitysens	itive Educat		
Jacobs	-0.130228144		-0.153		_	24081383
JacobsSpecial	-0.041054658		-0.331	55547		18684602
Aldi	0.011913228		0.011		0.4	11221369
AldiSpecial	-0.091811947	,	0.382			72048452
Eduscho	0.172874059		0.333		-0.0	08483165
EduschoSpecial	-0.001626669	)	0.383	30985	-0.0	09168876
Tchibo	0.087628082		-0.424	85404	-0.(	05734199
TchiboSpecial	0.026940381	_	-0.169	72327	-0.1	16979662
Others	-0.034634332	2	-0.031	52722	-0.3	30137934
\$se						
	(Intercept)	Amount>= 2	Age>= 50	SocialLevell	ow Ind	come>= 2500
Jacobs	0.2704455	0.1364399	0.1513856	0.13746	92	0.12456152
JacobsSpecial	0.3641188	0.1909493	0.2003857	0.18403	57	0.16717488
Aldi	0.2865785	0.1588105	0.1539883	0.14899	03	0.13043304
AldiSpecial	0.3638133		0.1931409	0.19430	36	0.16988588
Eduscho	0.4322133	0.2659765		0.22087		0.19666229
${\tt EduschoSpecial}$	0.3034228		0.1681698	0.15528	22	0.14448949
Tchibo	0.3636384		0.2015705	0.18467	50	0.17054339
TchiboSpecial	0.2506745		0.1388519	0.12914		0.11836496
Others	0.1999703		0.1104981	0.10194		0.09262787
		PriceSensit:		ive Educatio	_	
Jacobs	0.06203593		0.1490			307697
JacobsSpecial	0.08252800		0.2112			188954
Aldi	0.06288105		0.1566			668282
AldiSpecial	0.08129319		0.1904			361630
Eduscho	0.09162189		0.2216			308771
EduschoSpecial			0.1581			381055
Tchibo	0.08022710		0.2184	221	0.166	690606

TchiboSpecial	0.05613704	0.1428395	0.11684127
Others	0.04500855	0.1092795	0.09222343

\$p\_rel

Amount>= 2 Age>= 50 SocialLevellow Income>= 2500 Persons
[1,] 3.160405e-11 0.3167893 0.032723 0.7518783 0.2745836
PriceSensitivitysensitive EducationHighschool

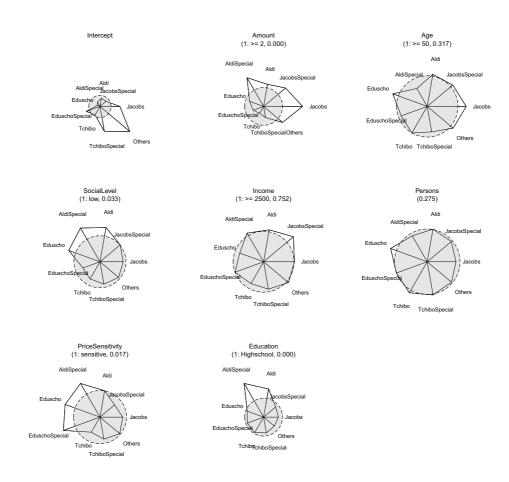
[1,] 0.01724551 6.729396e-07

\$xlim

[1] 9.102946 49.716089

\$ylim

[1] 8.717821 48.910828



Effect Star for amount only from the multinomial logit model for coffee data.

> star.nominal(Brand ~ Amount + Age + SocialLevel + Income + Persons + + PriceSensitivity + Education, coffee, cex.cat = 1.4, cex.labels = 1.8,

## + lwd.circle = 1.5, select = 2)

## \$odds

ψοααδ					
				${\tt SocialLevellow}$	Income >= 2500
Jacobs	1.7921912	2.0611862	1.2710021	0.8906470	1.0109014
JacobsSpecial	0.7105079	1.5160332	1.0853299	1.0124528	1.2790397
Aldi	0.7462833	1.1866558	1.0624513	1.3369529	1.0650309
AldiSpecial	0.4430541	1.7583451	0.6776823	1.4971118	1.0871445
Eduscho	0.2578988	0.7876474	1.1948984	1.2774100	0.8332758
EduschoSpecial	1.3049076	0.5907297	0.9033230	0.6985463	0.9977979
Tchibo	0.8860839		1.0027474	0.7607307	0.8276003
TchiboSpecial	2.2749597		0.8420753	0.8718790	0.9123693
Others	3.5011330		1.1046897	0.9361308	1.0639838
Others				ive EducationHig	
Jacobs	0.8778951	icebensiti	0.85803	_	7859879
JacobsSpecial	0.9597767		0.71780		8295715
Aldi	1.0119845		1.01197		5101571
AldiSpecial	0.9122767		1.4655		0554289
Eduscho	1.1887164		1.39559		9186669
EduschoSpecial	0.9983747		1.46713		9123891
Tchibo	1.0915821		0.65386	352 0.	9442711
TchiboSpecial	1.0273066		0.84389	983 0.	8438364
Others	0.9659586		0.96896	346 0.	7397971
\$coefficients					
	(Intercept)	Amount>= 2	Age>=	50 SocialLevell	ow Income>= 2500
Jacobs	-	0.7232816	•		
JacobsSpecial	-0.3417752				
Aldi	-0.2926500		0.0605787		
AldiSpecial	-0.8140633		-0.3890767		
Eduscho	-1.3551881		0.1780611		
		-0.5263967			
EduschoSpecial					
Tchibo	-0.1209437		0.0027435		
TchiboSpecial		-0.5077610			
Others	1.2530866	0.2739981	0.0995645		
			•	sitive Education	•
Jacobs	-0.130228144	Ŀ	-0.153	310982 -	0.24081383
JacobsSpecial	-0.041054658	3	-0.331	155547 -	0.18684602
Aldi	0.011913228	3	0.011	190725	0.41221369
AldiSpecial	-0.091811947	•	0.382	223142	0.72048452
Eduscho	0.172874059	)	0.333	332131 -	0.08483165
EduschoSpecial	-0.001626669	)	0.383	330985 -	0.09168876
Tchibo	0.087628082		-0.424	185404 -	0.05734199
TchiboSpecial					0.16979662
Others	-0.034634332				0.30137934
Concid	0.001001002	•	0.001	102122	0.00107001
\$se					
ψδΕ	(Intersect)	Amount>- 0	A max =	Conjult	Tn.como>= 0500
To only a	-		•	SocialLevellow	
Jacobs					
JacobsSpecial		0.1364399 0.1909493		0.1374692 0.1840357	0.12456152 0.16717488

```
Aldi
                0.2865785 0.1588105 0.1539883
                                                    0.1489903
                                                                 0.13043304
AldiSpecial
                0.1943086
                                                                 0.16988588
Eduscho
                0.4322133  0.2659765  0.2335270
                                                    0.2208703
                                                                 0.19666229
EduschoSpecial
                0.1552822
                                                                 0.14448949
                0.3636384 0.2876464 0.2015705
                                                                 0.17054339
Tchibo
                                                    0.1846750
TchiboSpecial
                0.2506745 0.1740178 0.1388519
                                                    0.1291454
                                                                 0.11836496
Others
                0.1999703 0.1133587 0.1104981
                                                    0.1019407
                                                                 0.09262787
                 Persons PriceSensitivitysensitive EducationHighschool
Jacobs
              0.06203593
                                         0.1490741
                                                            0.12307697
JacobsSpecial 0.08252800
                                         0.2112361
                                                            0.16488954
Aldi
              0.06288105
                                         0.1566784
                                                            0.12668282
AldiSpecial
              0.08129319
                                         0.1904160
                                                            0.16861630
              0.09162189
Eduscho
                                         0.2216638
                                                            0.19308771
EduschoSpecial 0.06840142
                                         0.1581201
                                                            0.14381055
                                         0.2184221
                                                            0.16690606
Tchibo
              0.08022710
TchiboSpecial 0.05613704
                                         0.1428395
                                                            0.11684127
                                         0.1092795
                                                            0.09222343
Others
              0.04500855
$pvalues
                (Intercept)
                             Amount>= 2
                                          Age>= 50 SocialLevellow
Jacobs
              1.549014e-02 5.755279e-08 0.05658872
                                                       0.19977599
JacobsSpecial 1.739587e-01 1.466222e-02 0.34140484
                                                       0.47319244
              1.535832e-01 1.405993e-01 0.34701249
                                                       0.02564332
Aldi
AldiSpecial
              1.262405e-02 1.369383e-03 0.02198008
                                                       0.01891056
Eduscho
              8.579194e-04 1.847353e-01 0.22288489
                                                       0.13382307
EduschoSpecial 1.902161e-01 7.702168e-03 0.27272314
                                                       0.01043484
              3.697207e-01 1.161477e-03 0.49457013
Tchibo
                                                       0.06932335
TchiboSpecial 5.208744e-04 1.762171e-03 0.10787516
                                                       0.14420181
Others
              1.847900e-10 7.822573e-03 0.18378041
                                                       0.25867515
              Income>= 2500
                               Persons PriceSensitivitysensitive
                 0.46531792 0.01789799
Jacobs
                                                     0.152193233
                 0.07048769 0.30943117
JacobsSpecial
                                                     0.058254483
                 0.31453525 0.42486749
Aldi
                                                     0.469710317
AldiSpecial
                 0.31142064 0.12936607
                                                     0.022356267
Eduscho
                 0.17685152 0.02959223
                                                     0.066326167
EduschoSpecial
                 0.49391334 0.49051356
                                                     0.007671738
Tchibo
                 0.13359835 0.13736153
                                                     0.025881146
TchiboSpecial
                 0.21922584 0.31564790
                                                     0.117375385
                 0.25156833 0.22079663
Others
                                                     0.386481723
              EducationHighschool
Jacobs
                     2.519657e-02
JacobsSpecial
                     1.285738e-01
Aldi
                     5.691545e-04
AldiSpecial
                     9.646342e-06
Eduscho
                     3.302067e-01
EduschoSpecial
                     2.618780e-01
                     3.655892e-01
Tchibo
                     7.308068e-02
TchiboSpecial
Others
                     5.416935e-04
```

## \$p\_rel

 $\label{localization} $$\operatorname{Amount>= 2 \ Age>= 50 \ SocialLevellow \ Income>= 2500 \ Persons}$$ [1,] $$3.160405e-11 \ 0.3167893 \ 0.032723 \ 0.7518783 \ 0.2745836$$ PriceSensitivitysensitive EducationHighschool}$ 

[1,] 0.01724551 6.729396e-07

#### \$xlim

[1] 9.102946 20.306572

## \$ylim

[1] 8.717821 20.971787

