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	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
Jacobs	0.8778951	0.8580355	0.7859879
JacobsSpecial	0.9597767	0.7178063	0.8295715
Aldi	1.0119845	1.0119784	1.5101571
AldiSpecial	0.9122767	1.4655512	2.0554289
Eduscho	1.1887164	1.3955956	0.9186669
EduschoSpecial	0.9983747	1.4671325	0.9123891
Tchibo	1.0915821	0.6538652	0.9442711
TchiboSpecial	1.0273066	0.8438983	0.8438364
Others	0.9659586	0.9689646	0.7397971

$coefficients

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 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
Others              1.2530866  0.2739981  0.099564501    -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        0.172874059               0.33332131         -0.08483165
EduschoSpecial -0.001626669              0.38330985         -0.09168876
Tchibo         0.087628082              -0.42485404         -0.05734199
TchiboSpecial  0.026940381              -0.16972327         -0.16979662
Others        -0.034634332              -0.03152722         -0.30137934

$se
              (Intercept) Amount>= 2  Age>= 50 SocialLevellow Income>= 2500
Jacobs          0.2704455  0.1364399 0.1513856      0.1374692    0.12456152
JacobsSpecial   0.3641188  0.1909493 0.2003857      0.1840357    0.16717488
Aldi            0.2865785  0.1588105 0.1539883      0.1489903    0.13043304
AldiSpecial     0.3638133  0.1883987 0.1931409      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
Tchibo          0.3636384  0.2876464 0.2015705      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
Tchibo        0.08022710               0.2184221          0.16690606
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
Aldi          1.535832e-01 1.405993e-01 0.34701249     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
Tchibo        3.697207e-01 1.161477e-03 0.49457013     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
Jacobs          0.46531792 0.01789799                0.152193233
JacobsSpecial   0.07048769 0.30943117                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
EduschoSpecial          2.618780e-01
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
[1,]             0.01724551        6.729396e-07


$xlim
[1]  9.102946 49.716089

$ylim
[1]  8.717821 48.910828
```
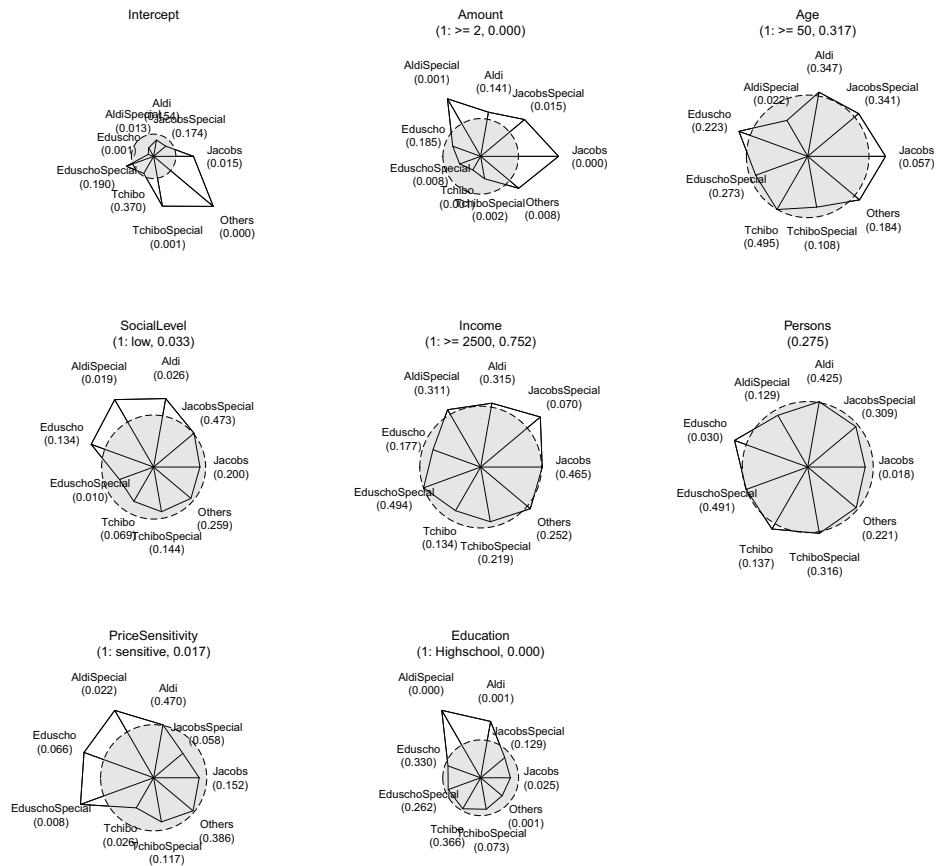
3

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
```

	(Intercept)	Amount>= 2	Age>= 50	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
Jacobs	0.8778951	0.8580355	0.7859879

```
JacobsSpecial  0.9597767                    0.7178063              0.8295715
Aldi           1.0119845                    1.0119784              1.5101571
AldiSpecial    0.9122767                    1.4655512              2.0554289
Eduscho        1.1887164                    1.3955956              0.9186669
EduschoSpecial 0.9983747                    1.4671325              0.9123891
Tchibo         1.0915821                    0.6538652              0.9442711
TchiboSpecial  1.0273066                    0.8438983              0.8438364
Others         0.9659586                    0.9689646              0.7397971
```

$coefficients

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 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
Others	1.2530866	0.2739981	0.099564501	-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	0.172874059	0.33332131	-0.08483165
EduschoSpecial	-0.001626669	0.38330985	-0.09168876
Tchibo	0.087628082	-0.42485404	-0.05734199
TchiboSpecial	0.026940381	-0.16972327	-0.16979662
Others	-0.034634332	-0.03152722	-0.30137934

$se

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 2500
Jacobs	0.2704455	0.1364399	0.1513856	0.1374692	0.12456152
JacobsSpecial	0.3641188	0.1909493	0.2003857	0.1840357	0.16717488
Aldi	0.2865785	0.1588105	0.1539883	0.1489903	0.13043304
AldiSpecial	0.3638133	0.1883987	0.1931409	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
Tchibo	0.3636384	0.2876464	0.2015705	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
Tchibo	0.08022710	0.2184221	0.16690606

```
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
```
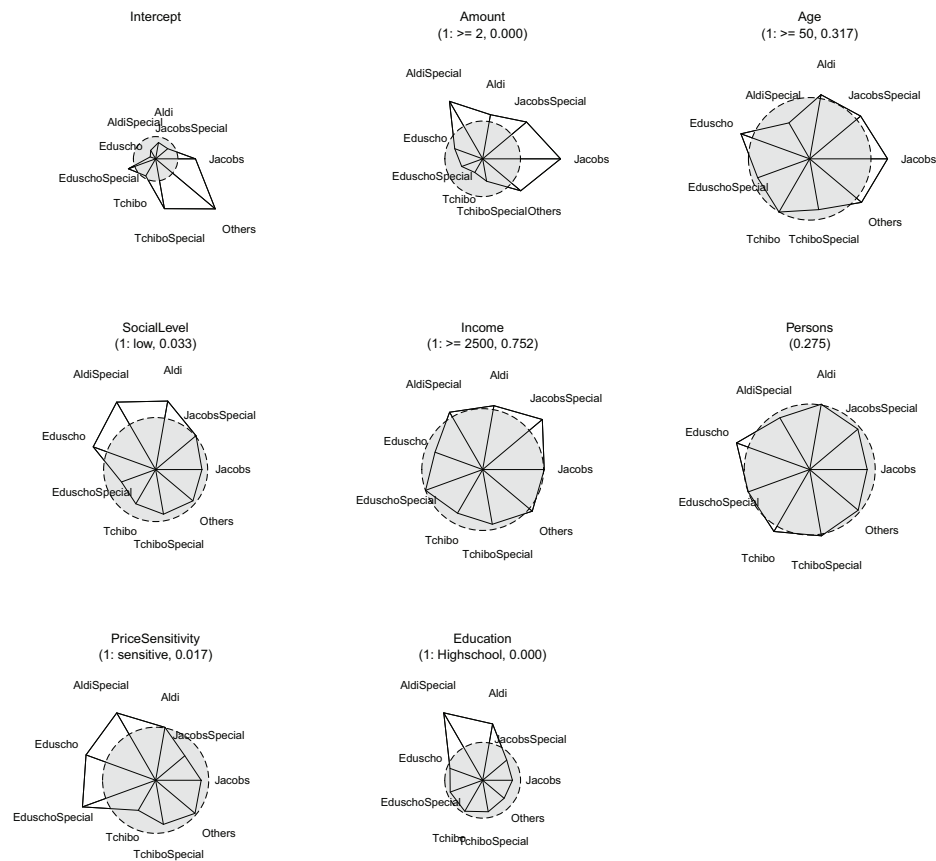

Effect Star for amount only from the multinomial logit model for coffee data.

```
> 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

	(Intercept)	Amount>= 2	Age>= 50	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
Jacobs	0.8778951	0.8580355	0.7859879
JacobsSpecial	0.9597767	0.7178063	0.8295715
Aldi	1.0119845	1.0119784	1.5101571
AldiSpecial	0.9122767	1.4655512	2.0554289
Eduscho	1.1887164	1.3955956	0.9186669
EduschoSpecial	0.9983747	1.4671325	0.9123891
Tchibo	1.0915821	0.6538652	0.9442711
TchiboSpecial	1.0273066	0.8438983	0.8438364
Others	0.9659586	0.9689646	0.7397971

$coefficients

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 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
Others	1.2530866	0.2739981	0.099564501	-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	0.172874059	0.33332131	-0.08483165
EduschoSpecial	-0.001626669	0.38330985	-0.09168876
Tchibo	0.087628082	-0.42485404	-0.05734199
TchiboSpecial	0.026940381	-0.16972327	-0.16979662
Others	-0.034634332	-0.03152722	-0.30137934

$se

	(Intercept)	Amount>= 2	Age>= 50	SocialLevellow	Income>= 2500
Jacobs	0.2704455	0.1364399	0.1513856	0.1374692	0.12456152
JacobsSpecial	0.3641188	0.1909493	0.2003857	0.1840357	0.16717488

Aldi	0.2865785	0.1588105	0.1539883	0.1489903	0.13043304
AldiSpecial	0.3638133	0.1883987	0.1931409	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
Tchibo	0.3636384	0.2876464	0.2015705	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
Tchibo	0.08022710	0.2184221	0.16690606
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
Aldi	1.535832e-01	1.405993e-01	0.34701249	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
Tchibo	3.697207e-01	1.161477e-03	0.49457013	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
Jacobs	0.46531792	0.01789799	0.152193233
JacobsSpecial	0.07048769	0.30943117	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
EduschoSpecial	2.618780e-01
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
[1,]              0.01724551        6.729396e-07


$xlim
[1]  9.102946 20.306572


$ylim
[1]  8.717821 20.971787
```


Amount
(1: >= 2, 0.000)

AldiSpecial
(0.001)

Aldi
(0.141)

JacobsSpecial
(0.015)

Eduscho
(0.185)

Jacobs
(0.000)

EduschoSpecial
(0.008)

Tchibo
(0.001)

TchiboSpecial
(0.002)

Others
(0.008)