Election data

September 29, 2014

```
> library(EffectStars)
> data(election)
```

Effect Stars for the multinomial logit model for the election data.

```
> star.nominal(Partychoice ~ Age + Religion + Democracy + Pol.Interest +
+ Unemployment + Highschool + Union + West + Gender, election, cex.cat = 1,
+ cex.labels = 1.2, lwd.circle = 1.5, dist.cov = 0.8)
```

$odds

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	4.0414180	1.3610160	1.4966912	0.6995756
SPD	1.5990015	1.1593572	0.8217861	0.6516310
FDP	0.7082683	0.8949610	1.0941385	1.3833039
Greens	0.3340832	0.6717696	0.8806534	1.3315266
Left Party	0.6539807	1.0541321	0.8437849	1.1909573

	Democracynot satisfied	Pol.Interestless interested
CDU	0.4647250	1.2235443
SPD	0.6981521	1.4007700
FDP	1.0014337	0.7694186
Greens	1.0089709	1.2356738
Left Party	3.0503736	0.6136870

	Unemploymentunemployed	Highschoolhighschool	Unionmember	Westwest
CDU	0.5982192	1.1681635	0.6654958	0.7187891
SPD	1.1349142	0.8022314	1.4926187	1.4746518
FDP	0.5714916	1.0529723	0.6002910	1.0248900
Greens	0.9302358	1.7567339	0.6772513	1.8973255
Left Party	2.7705995	0.5768644	2.4762479	0.4851655

	Gendermale
CDU	0.7689529
SPD	0.8261321
FDP	1.2896875
Greens	0.9805111
Left Party	1.2448406

$coefficients

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	1.3965956	0.30823148	0.4032568	-0.3572814
SPD	0.4693794	0.14786569	-0.1962752	-0.4282769
FDP	-0.3449323	-0.11097516	0.0899673	0.3244748

```
Greens       -1.0963653 -0.39783981          -0.1270911                    0.2863261
Left Party   -0.4246775  0.05271779          -0.1698577                    0.1747574
             Democracynot satisfied Pol.Interestless interested
CDU                   -0.766309354                     0.2017518
SPD                   -0.359318301                     0.3370221
FDP                    0.001432664                    -0.2621201
Greens                 0.008930930                     0.2116164
Left Party             1.115264061                    -0.4882702
             Unemploymentunemployed Highschoolhighschool Unionmember      Westwest
CDU                   -0.51379809          0.15543288  -0.4072230 -0.33018727
SPD                    0.12655704         -0.22035813   0.4005321  0.38842192
FDP                   -0.55950553          0.05161693  -0.5103407  0.02458526
Greens                -0.07231714          0.56345632  -0.3897129  0.64044524
Left Party             1.01906373         -0.55014800   0.9067445 -0.72326516
             Gendermale
CDU          -0.26272555
SPD          -0.19100061
FDP           0.25439996
Greens       -0.01968127
Left Party    0.21900748


$se
             (Intercept)        Age Religioncatholic Religionother religion
CDU            0.2241927 0.06883799        0.1629137              0.1675209
SPD            0.2455006 0.07244088        0.1661454              0.1722205
FDP            0.3115509 0.09372309        0.2388794              0.2184724
Greens         0.3272014 0.09663391        0.2339503              0.2129104
Left Party     0.3134423 0.09450515        0.2328685              0.2050096
             Democracynot satisfied Pol.Interestless interested
CDU                     0.1388867                     0.1467924
SPD                     0.1475394                     0.1596959
FDP                     0.1943961                     0.1906783
Greens                  0.1933167                     0.2026824
Left Party              0.2290404                     0.1853934
             Unemploymentunemployed Highschoolhighschool Unionmember  Westwest
CDU                     0.3657321          0.1691938   0.2118770 0.1559298
SPD                     0.3140084          0.1889271   0.1836195 0.1722526
FDP                     0.4982842          0.2177526   0.2891862 0.2070996
Greens                  0.4216104          0.2081806   0.2730769 0.2221560
Left Party              0.3014527          0.2426935   0.2164160 0.1942954
             Gendermale
CDU           0.1353619
SPD           0.1423126
FDP           0.1874526
Greens        0.1840917
Left Party    0.1806023


$pvalues
             (Intercept)          Age Religioncatholic Religionother religion
CDU          4.680987e-10 7.547395e-06       0.01331325             0.03294467
```

```
SPD          5.588552e-02 4.123181e-02            0.23746528              0.01289003
FDP          2.682310e-01 2.363834e-01            0.70645435              0.13749137
Greens       8.059719e-04 3.838704e-05            0.58696459              0.17868341
Left Party   1.754550e-01 5.769606e-01            0.46574801              0.39397247
             Democracynot satisfied Pol.Interestless interested
CDU                     3.438249e-08                   0.169316829
SPD                     1.487511e-02                   0.034823994
FDP                     9.941198e-01                   0.169233235
Greens                  9.631521e-01                   0.296449019
Left Party              1.119999e-06                   0.008446062
             Unemploymentunemployed Highschoolhighschool  Unionmember
CDU                      0.1600664566          0.358269369 5.460851e-02
SPD                      0.6869209386          0.243466508 2.916006e-02
FDP                      0.2614951256          0.812622691 7.760614e-02
Greens                   0.8638102011          0.006798138 1.535459e-01
Left Party               0.0007235162          0.023399826 2.791731e-05
             Westwest Gendermale
CDU          0.0342142665 0.05226895
SPD          0.0241360950 0.17955713
FDP          0.9055033181 0.17473587
Greens       0.0039407876 0.91486024
Left Party   0.0001972576 0.22526357


$p_rel
           Age Religioncatholic Religionother religion
[1,] 5.625482e-07       0.08015606             0.01694874
    Democracynot satisfied Pol.Interestless interested Unemploymentunemployed
[1,]           2.955651e-10                   0.01335832             0.01308379
    Highschoolhighschool  Unionmember     Westwest Gendermale
[1,]           0.01862473 3.281531e-05 1.548773e-05  0.1509492


$xlim
[1] 10.50769 57.38814

$ylim
[1] 10.06313 72.58387
```
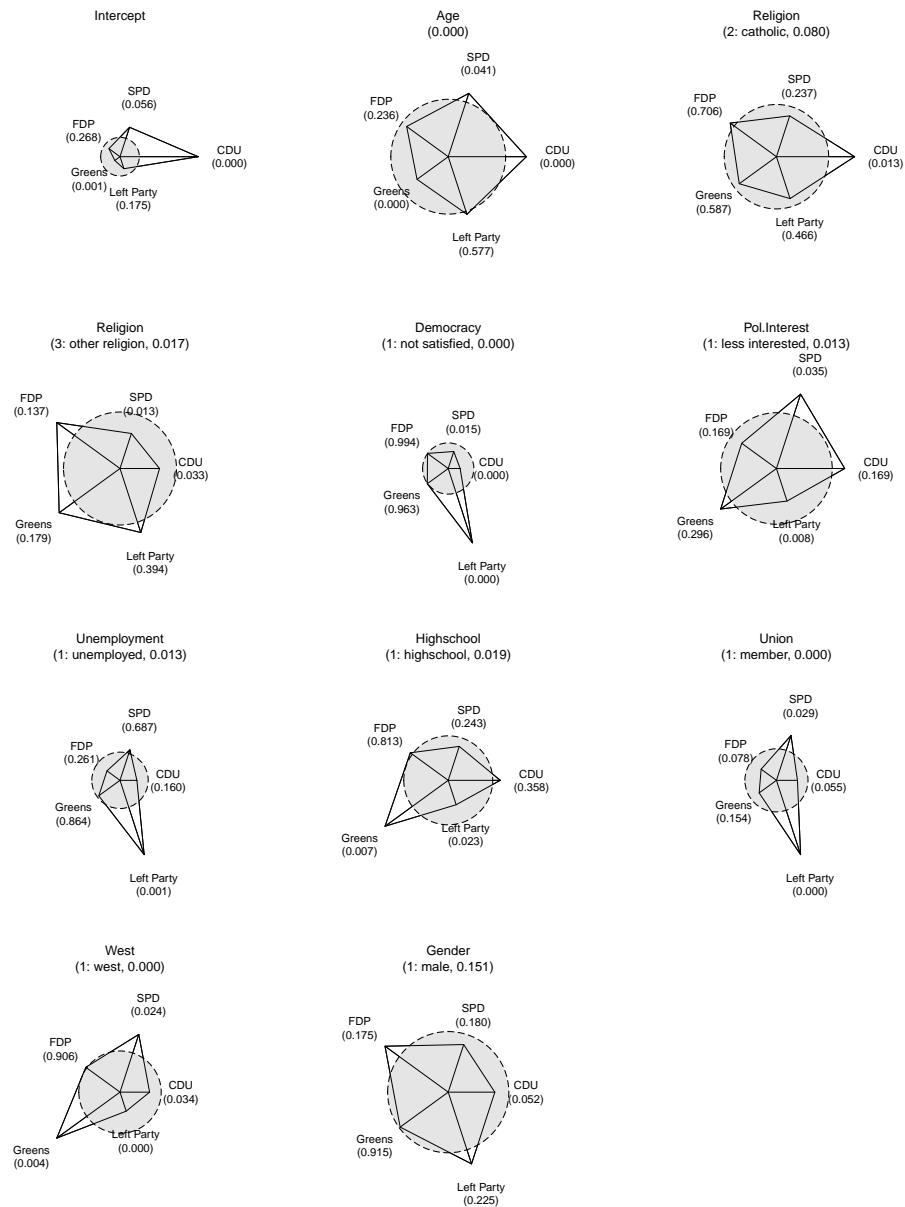
Intercept

SPD
(0.056)

FDP
(0.268)

CDU
(0.000)

Greens
(0.001)

Left Party
(0.175)

Age
(0.000)

SPD
(0.041)

FDP
(0.236)

CDU
(0.000)

Greens
(0.000)

Left Party
(0.577)

Religion
(2: catholic, 0.080)

SPD
(0.237)

FDP
(0.706)

CDU
(0.013)

Greens
(0.587)

Left Party
(0.466)

Religion
(3: other religion, 0.017)

SPD
(−0.013)

FDP
(0.137)

CDU
(0.033)

Greens
(0.179)

Left Party
(0.394)

Democracy
(1: not satisfied, 0.000)

SPD
(0.015)

FDP
(0.994)

CDU
(0.000)

Greens
(0.963)

Left Party
(0.000)

Pol.Interest
(1: less interested, 0.013)

SPD
(0.035)

FDP
(0.169)

CDU
(0.169)

Greens
(0.296)

Left Party
(0.008)

Unemployment
(1: unemployed, 0.013)

SPD
(0.687)

FDP
(0.261)

CDU
(0.160)

Greens
(0.864)

Left Party
(0.001)

Highschool
(1: highschool, 0.019)

SPD
(0.243)

FDP
(0.813)

CDU
(0.358)

Greens
(0.007)

Left Party
(0.023)

Union
(1: member, 0.000)

SPD
(0.029)

FDP
(0.078)

CDU
(0.055)

Greens
(0.154)

Left Party
(0.000)

West
(1: west, 0.000)

SPD
(0.024)

FDP
(0.906)

CDU
(0.034)

Greens
(0.004)

Left Party
(0.000)

Gender
(1: male, 0.151)

SPD
(0.180)

FDP
(0.175)

CDU
(0.052)

Greens
(0.915)

Left Party
(0.225)

4

Effect Stars for the multinomial logit model for the election data using effect coding for the categorical predictor religion.

```
> star.nominal(Partychoice ~ Age + Religion + Democracy + Pol.Interest +
+ Unemployment + Highschool + Union + West + Gender, election, cex.cat = 1,
+ cex.labels = 1.2, lwd.circle = 1.5, dist.cov = 0.8, pred.coding = "effect")
```

$odds

	Intercept	Age	Religionevangelical	Religioncatholic
CDU	4.1038303	1.3610160	0.9847917	1.4739290
SPD	1.2984813	1.1593572	1.2314398	1.0119800
FDP	0.8131946	0.8949610	0.8709703	0.9529622
Greens	0.3522948	0.6717696	0.9483057	0.8351287
Left Party	0.6550497	1.0541321	0.9983681	0.8424079

	Religionother religion	Democracynot satisfied
CDU	0.6889363	0.4647250
SPD	0.8024443	0.6981521
FDP	1.2048167	1.0014337
Greens	1.2626943	1.0089709
Left Party	1.1890138	3.0503736

	Pol.Interestless interested	Unemploymentunemployed
CDU	1.2235443	0.5982192
SPD	1.4007700	1.1349142
FDP	0.7694186	0.5714916
Greens	1.2356738	0.9302358
Left Party	0.6136870	2.7705995

	Highschoolhighschool	Unionmember	Westwest	Gendermale
CDU	1.1681635	0.6654958	0.7187891	0.7689529
SPD	0.8022314	1.4926187	1.4746518	0.8261321
FDP	1.0529723	0.6002910	1.0248900	1.2896875
Greens	1.7567339	0.6772513	1.8973255	0.9805111
Left Party	0.5768644	2.4762479	0.4851655	1.2448406

$coefficients

	Intercept	Age	Religionevangelical	Religioncatholic
CDU	1.4119208	0.30823148	-0.015325137	0.38793164
SPD	0.2611953	0.14786569	0.208184031	0.01190884
FDP	-0.2067849	-0.11097516	-0.138147356	-0.04818006
Greens	-1.0432870	-0.39783981	-0.053078312	-0.18016946
Left Party	-0.4230442	0.05271779	-0.001633224	-0.17149096

	Religionother religion	Democracynot satisfied
CDU	-0.3726065	-0.766309354
SPD	-0.2200929	-0.359318301
FDP	0.1863274	0.001432664
Greens	0.2332478	0.008930930
Left Party	0.1731242	1.115264061

	Pol.Interestless interested	Unemploymentunemployed
CDU	0.2017518	-0.51379809
SPD	0.3370221	0.12655704
FDP	-0.2621201	-0.55950553

```
Greens                          0.2116164           -0.07231714
Left Party                     -0.4882702            1.01906373
          Highschoolhighschool Unionmember   Westwest  Gendermale
CDU                 0.15543288  -0.4072230 -0.33018727 -0.26272555
SPD                -0.22035813   0.4005321  0.38842192 -0.19100061
FDP                 0.05161693  -0.5103407  0.02458526  0.25439996
Greens              0.56345632  -0.3897129  0.64044524 -0.01968127
Left Party         -0.55014800   0.9067445 -0.72326516  0.21900748


$se
          Intercept        Age Religionevangelical Religioncatholic
CDU       0.2048591 0.06883799          0.09223425       0.1001700
SPD       0.2302391 0.07244088          0.09354785       0.1038609
FDP       0.2783674 0.09372309          0.13051669       0.1410074
Greens    0.2983715 0.09663391          0.12673305       0.1395573
Left Party 0.2905319 0.09450515          0.12298175       0.1411115
          Religionother religion Democracynot satisfied
CDU                    0.1026717              0.1388867
SPD                    0.1071088              0.1475394
FDP                    0.1295069              0.1943961
Greens                 0.1278369              0.1933167
Left Party             0.1258816              0.2290404
          Pol.Interestless interested Unemploymentunemployed
CDU                        0.1467924              0.3657321
SPD                        0.1596959              0.3140084
FDP                        0.1906783              0.4982842
Greens                     0.2026824              0.4216104
Left Party                 0.1853934              0.3014527
          Highschoolhighschool Unionmember  Westwest Gendermale
CDU                  0.1691938   0.2118770 0.1559298  0.1353619
SPD                  0.1889271   0.1836195 0.1722526  0.1423126
FDP                  0.2177526   0.2891862 0.2070996  0.1874526
Greens               0.2081806   0.2730769 0.2221560  0.1840917
Left Party           0.2426935   0.2164160 0.1942954  0.1806023


$pvalues
            Intercept          Age Religionevangelical Religioncatholic
CDU       5.495382e-12 7.547395e-06          0.8680354     0.0001076213
SPD       2.566048e-01 4.123181e-02          0.0260525     0.9087135202
FDP       4.575732e-01 2.363834e-01          0.2898435     0.7325883134
Greens    4.712200e-04 3.838704e-05          0.6753478     0.1967011577
Left Party 1.453642e-01 5.769606e-01          0.9894042     0.2242566252
          Religionother religion Democracynot satisfied
CDU                   0.0002844045            3.438249e-08
SPD                   0.0398932677            1.487511e-02
FDP                   0.1502227182            9.941198e-01
Greens                0.0680653775            9.631521e-01
Left Party            0.1690403259            1.119999e-06
          Pol.Interestless interested Unemploymentunemployed
CDU                        0.169316829            0.1600664566
```

```
SPD                             0.034823994              0.6869209386
FDP                             0.169233235              0.2614951256
Greens                          0.296449019              0.8638102011
Left Party                      0.008446062              0.0007235162
             Highschoolhighschool  Unionmember     Westwest Gendermale
CDU                  0.358269369 5.460851e-02 0.0342142665 0.05226895
SPD                  0.243466508 2.916006e-02 0.0241360950 0.17955713
FDP                  0.812622691 7.760614e-02 0.9055033181 0.17473587
Greens               0.006798138 1.535459e-01 0.0039407876 0.91486024
Left Party           0.023399826 2.791731e-05 0.0001972576 0.22526357

$p_rel
           Age Religionevangelical Religioncatholic Religionother religion
[1,] 5.625482e-07            0.2626094        0.003582126           0.0005500146
    Democracynot satisfied Pol.Interestless interested Unemploymentunemployed
[1,]          2.955651e-10                   0.01335832             0.01308379
     Highschoolhighschool  Unionmember     Westwest Gendermale
[1,]           0.01862473 3.281531e-05 1.548773e-05  0.1509492


$xlim
[1] 10.66996 58.27439


$ylim
[1] 10.21854 73.70479
```

Intercept

Age
(0.000)

Religion
(1: evangelical, 0.263)

Religion
(2: catholic, 0.004)

Religion
(3: other religion, 0.001)

Democracy
(1: not satisfied, 0.000)

Pol.Interest
(1: less interested, 0.013)

Unemployment
(1: unemployed, 0.013)

Highschool
(1: highschool, 0.019)

Union
(1: member, 0.000)

West
(1: west, 0.000)

Gender
(1: male, 0.151)

8
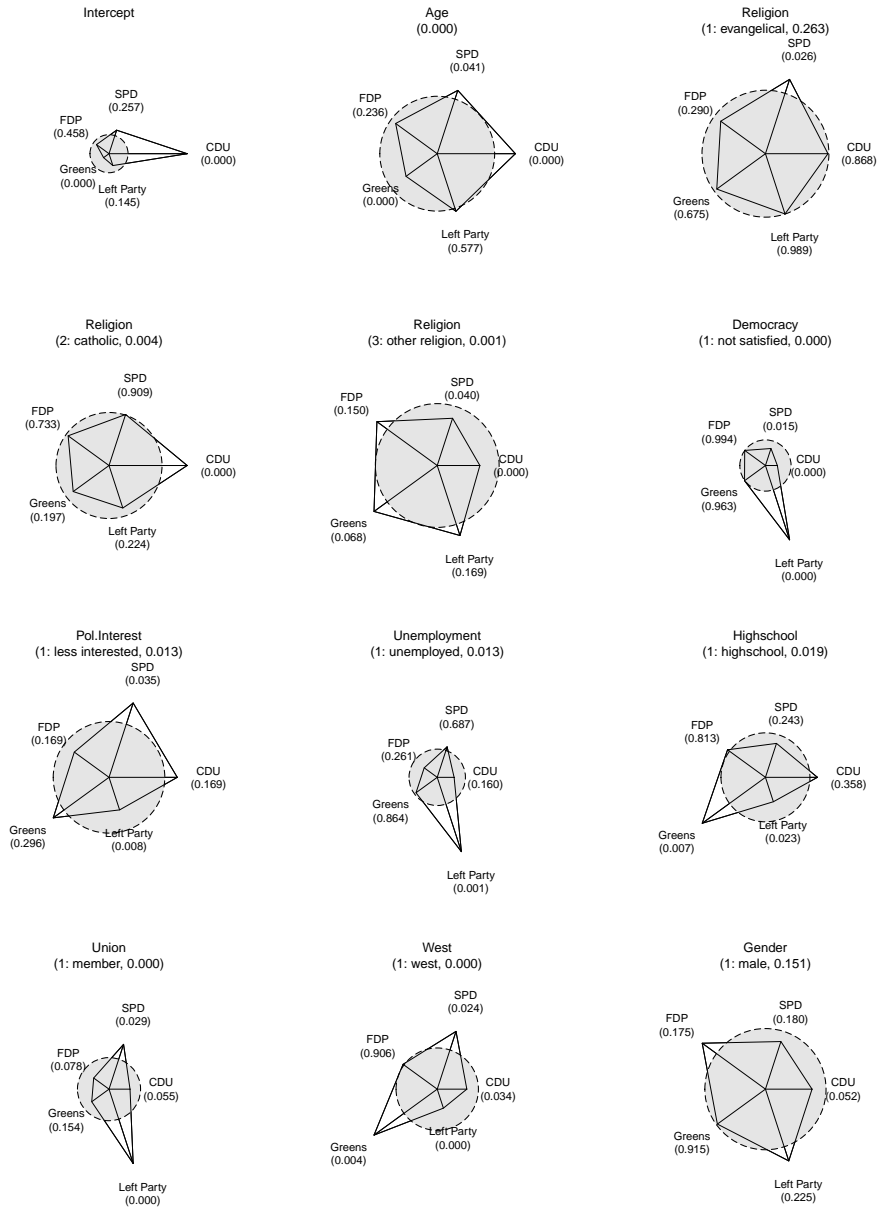
Effect Stars for the multinomial logit model for the election data including confidence intervals.

```
> star.nominal(Partychoice ~ Age + Religion + Democracy + Pol.Interest +
+ Unemployment + Highschool + Union + West + Gender, election, cex.cat = 1,
+ cex.labels = 1.2, conf.int = TRUE, dist.cov = 0.7, lwd.circle = 0.01,
+ lty.circle = "solid", col.circle = "gray90")
```

$odds

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	4.0414180	1.3610160	1.4966912	0.6995756
SPD	1.5990015	1.1593572	0.8217861	0.6516310
FDP	0.7082683	0.8949610	1.0941385	1.3833039
Greens	0.3340832	0.6717696	0.8806534	1.3315266
Left Party	0.6539807	1.0541321	0.8437849	1.1909573

	Democracynot satisfied	Pol.Interestless interested
CDU	0.4647250	1.2235443
SPD	0.6981521	1.4007700
FDP	1.0014337	0.7694186
Greens	1.0089709	1.2356738
Left Party	3.0503736	0.6136870

	Unemploymentunemployed	Highschoolhighschool	Unionmember	Westwest
CDU	0.5982192	1.1681635	0.6654958	0.7187891
SPD	1.1349142	0.8022314	1.4926187	1.4746518
FDP	0.5714916	1.0529723	0.6002910	1.0248900
Greens	0.9302358	1.7567339	0.6772513	1.8973255
Left Party	2.7705995	0.5768644	2.4762479	0.4851655

	Gendermale
CDU	0.7689529
SPD	0.8261321
FDP	1.2896875
Greens	0.9805111
Left Party	1.2448406

$coefficients

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	1.3965956	0.30823148	0.4032568	-0.3572814
SPD	0.4693794	0.14786569	-0.1962752	-0.4282769
FDP	-0.3449323	-0.11097516	0.0899673	0.3244748
Greens	-1.0963653	-0.39783981	-0.1270911	0.2863261
Left Party	-0.4246775	0.05271779	-0.1698577	0.1747574

	Democracynot satisfied	Pol.Interestless interested
CDU	-0.766309354	0.2017518
SPD	-0.359318301	0.3370221
FDP	0.001432664	-0.2621201
Greens	0.008930930	0.2116164
Left Party	1.115264061	-0.4882702

	Unemploymentunemployed	Highschoolhighschool	Unionmember	Westwest
CDU	-0.51379809	0.15543288	-0.4072230	-0.33018727
SPD	0.12655704	-0.22035813	0.4005321	0.38842192

```
FDP                       -0.55950553              0.05161693 -0.5103407  0.02458526
Greens                    -0.07231714              0.56345632 -0.3897129  0.64044524
Left Party                 1.01906373             -0.55014800  0.9067445 -0.72326516
           Gendermale
CDU        -0.26272555
SPD        -0.19100061
FDP         0.25439996
Greens     -0.01968127
Left Party  0.21900748


$se
           (Intercept)        Age Religioncatholic Religionother religion
CDU          0.2241927 0.06883799        0.1629137              0.1675209
SPD          0.2455006 0.07244088        0.1661454              0.1722205
FDP          0.3115509 0.09372309        0.2388794              0.2184724
Greens       0.3272014 0.09663391        0.2339503              0.2129104
Left Party   0.3134423 0.09450515        0.2328685              0.2050096
           Democracynot satisfied Pol.Interestless interested
CDU                     0.1388867                    0.1467924
SPD                     0.1475394                    0.1596959
FDP                     0.1943961                    0.1906783
Greens                  0.1933167                    0.2026824
Left Party              0.2290404                    0.1853934
           Unemploymentunemployed Highschoolhighschool Unionmember  Westwest
CDU                     0.3657321            0.1691938   0.2118770 0.1559298
SPD                     0.3140084            0.1889271   0.1836195 0.1722526
FDP                     0.4982842            0.2177526   0.2891862 0.2070996
Greens                  0.4216104            0.2081806   0.2730769 0.2221560
Left Party              0.3014527            0.2426935   0.2164160 0.1942954
           Gendermale
CDU         0.1353619
SPD         0.1423126
FDP         0.1874526
Greens      0.1840917
Left Party  0.1806023


$pvalues
           (Intercept)          Age Religioncatholic Religionother religion
CDU        4.680987e-10 7.547395e-06       0.01331325             0.03294467
SPD        5.588552e-02 4.123181e-02       0.23746528             0.01289003
FDP        2.682310e-01 2.363834e-01       0.70645435             0.13749137
Greens     8.059719e-04 3.838704e-05       0.58696459             0.17868341
Left Party 1.754550e-01 5.769606e-01       0.46574801             0.39397247
           Democracynot satisfied Pol.Interestless interested
CDU                  3.438249e-08                   0.169316829
SPD                  1.487511e-02                   0.034823994
FDP                  9.941198e-01                   0.169233235
Greens               9.631521e-01                   0.296449019
Left Party           1.119999e-06                   0.008446062
           Unemploymentunemployed Highschoolhighschool  Unionmember
```

```
CDU                         0.1600664566          0.358269369 5.460851e-02
SPD                         0.6869209386          0.243466508 2.916006e-02
FDP                         0.2614951256          0.812622691 7.760614e-02
Greens                      0.8638102011          0.006798138 1.535459e-01
Left Party                  0.0007235162          0.023399826 2.791731e-05
                    Westwest Gendermale
CDU         0.0342142665 0.05226895
SPD         0.0241360950 0.17955713
FDP         0.9055033181 0.17473587
Greens      0.0039407876 0.91486024
Left Party  0.0001972576 0.22526357


$p_rel
           Age Religioncatholic Religionother religion
[1,] 5.625482e-07       0.08015606             0.01694874
    Democracynot satisfied Pol.Interestless interested Unemploymentunemployed
[1,]            2.955651e-10                 0.01335832                0.01308379
    Highschoolhighschool  Unionmember     Westwest Gendermale
[1,]          0.01862473 3.281531e-05 1.548773e-05  0.1509492


$xlim
[1] 21.11553 89.21167


$ylim
[1]  15.25755 119.40438
```

Intercept

SPD
(0.056)
FDP
(0.268)
CDU
(0.000)
Greens
(0.001)
Left Party
(0.175)

Age
(0.000)

SPD
(0.041)
FDP
(0.236)
CDU
(0.000)
Greens
(0.000)
Left Party
(0.577)

Religion
(2: catholic, 0.080)

SPD
(0.237)
FDP
(0.706)
CDU
(0.013)
Greens
(0.587)
Left Party
(0.466)

Religion
(3: other religion, 0.017)

FDP
(0.137)
SPD
(0.013)
CDU
(0.033)
Greens
(0.179)
Left Party
(0.394)

Democracy
(1: not satisfied, 0.000)

FDP
(0.994)
SPD
(0.015)
CDU
(0.000)
Greens
(0.963)
Left Party
(0.000)

Pol.Interest
(1: less interested, 0.013)

SPD
(0.035)
FDP
(0.169)
CDU
(0.169)
Greens
(0.296)
Left Party
(0.008)

Unemployment
(1: unemployed, 0.013)

SPD
(0.687)
FDP
(0.261)
CDU
(0.160)
Greens
(0.864)
Left Party
(0.001)

Highschool
(1: highschool, 0.019)

SPD
(0.243)
FDP
(0.813)
CDU
(0.358)
Greens
(0.007)
Left Party
(0.023)

Union
(1: member, 0.000)

SPD
(0.029)
FDP
(0.078)
CDU
(0.055)
Greens
(0.154)
Left Party
(0.000)

West
(1: west, 0.000)

SPD
(0.024)
FDP
(0.906)
CDU
(0.034)
Greens
(0.004)
Left Party
(0.000)

Gender
(1: male, 0.151)

FDP
(0.175)
SPD
(0.180)
CDU
(0.052)
Greens
(0.915)
Left Party
(0.225)

Effect Stars for the multinomial logit model for the election data with reference category "FDP". Leaving away the p-values can sometimes increase clarity.

```
> star.nominal(Partychoice ~ Age + Religion + Democracy + Pol.Interest +
+ Unemployment + Highschool + Union + West + Gender, election, cex.cat = 1,
+ cex.labels = 1.2, lwd.circle = 1.5, refLevel = 3, symmetric = FALSE,
+ dist.cov = 0.8, printpvalues = FALSE)
```

$odds

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	5.7060549	1.5207546	1.3679174	0.5057281
SPD	2.2576210	1.2954276	0.7510805	0.4710685
FDP	1.0000000	1.0000000	1.0000000	1.0000000
Greens	0.4716901	0.7506133	0.8048829	0.9625698
Left Party	0.9233516	1.1778526	0.7711865	0.8609513

	Democracynot satisfied	Pol.Interestless interested
CDU	0.4640597	1.5902192
SPD	0.6971526	1.8205564
FDP	1.0000000	1.0000000
Greens	1.0075264	1.6059837
Left Party	3.0460065	0.7975983

	Unemploymentunemployed	Highschoolhighschool	Unionmember	Westwest
CDU	1.046768	1.1093963	1.108622	0.701333
SPD	1.985881	0.7618733	2.486492	1.438839
FDP	1.000000	1.0000000	1.000000	1.000000
Greens	1.627733	1.6683571	1.128205	1.851248
Left Party	4.848015	0.5478439	4.125079	0.473383

	Gendermale
CDU	0.5962319
SPD	0.6405676
FDP	1.0000000
Greens	0.7602703
Left Party	0.9652265

$coefficients

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	1.74152788	0.4192066	0.3132895	-0.68175613
SPD	0.81431162	0.2588408	-0.2862425	-0.75275167
FDP	0.00000000	0.0000000	0.0000000	0.00000000
Greens	-0.75143303	-0.2868646	-0.2170584	-0.03814868
Left Party	-0.07974521	0.1636929	-0.2598250	-0.14971736

	Democracynot satisfied	Pol.Interestless interested
CDU	-0.767742018	0.4638719
SPD	-0.360750965	0.5991421
FDP	0.000000000	0.0000000
Greens	0.007498266	0.4737365
Left Party	1.113831397	-0.2261501

	Unemploymentunemployed	Highschoolhighschool	Unionmember	Westwest
CDU	0.04570744	0.1038159	0.1031177	-0.3547725
SPD	0.68606257	-0.2719751	0.9108727	0.3638367

```
FDP                    0.00000000         0.0000000   0.0000000  0.0000000
Greens                 0.48718839         0.5118394   0.1206278  0.6158600
Left Party             1.57856926        -0.6017649   1.4170851 -0.7478504
           Gendermale
CDU        -0.51712552
SPD        -0.44540058
FDP         0.00000000
Greens     -0.27408124
Left Party -0.03539249


$se
           (Intercept)       Age Religioncatholic Religionother religion
CDU          0.4220943 0.1284890       0.3203470              0.3074542
SPD          0.4442439 0.1327380       0.3263015              0.3141396
FDP          0.0000000 0.0000000       0.0000000              0.0000000
Greens       0.5159175 0.1543686       0.3848512              0.3480746
Left Party   0.5064943 0.1516619       0.3850721              0.3421935
           Democracynot satisfied Pol.Interestless interested
CDU                     0.2600591                    0.2660984
SPD                     0.2699315                    0.2800846
FDP                     0.0000000                    0.0000000
Greens                  0.3083076                    0.3181562
Left Party              0.3493993                    0.3002862
           Unemploymentunemployed Highschoolhighschool Unionmember  Westwest
CDU                     0.7168156            0.3030877   0.4094070 0.2862837
SPD                     0.6775748            0.3242459   0.3874875 0.3039475
FDP                     0.0000000            0.0000000   0.0000000 0.0000000
Greens                  0.7594057            0.3391514   0.4639056 0.3477532
Left Party              0.6641415            0.3728742   0.4108741 0.3211784
           Gendermale
CDU         0.2570392
SPD         0.2654878
FDP         0.0000000
Greens      0.3006768
Left Party  0.2982518


$p_rel
             Age Religioncatholic Religionother religion
[1,] 5.625482e-07      0.08015606             0.01694874
     Democracynot satisfied Pol.Interestless interested Unemploymentunemployed
[1,]           2.955651e-10                   0.01335832             0.01308379
       Highschoolhighschool  Unionmember     Westwest Gendermale
[1,]             0.01862473 3.281531e-05 1.548773e-05  0.1509492


$xlim
[1] 14.83574 81.02598


$ylim
[1]  14.20808 102.48075
```

Intercept

SPD
FDP
CDU
Greens
Left Party

Age
(0.000)

SPD
FDP
CDU
Greens
Left Party

Religion
(2: catholic, 0.080)

SPD
FDP
CDU
Greens
Left Party

Religion
(3: other religion, 0.017)

FDP
SPD
CDU
Greens
Left Party

Democracy
(1: not satisfied, 0.000)

SPD
FDP
CDU
Greens
Left Party

Pol.Interest
(1: less interested, 0.013)

SPD
FDP
CDU
Greens
Left Party

Unemployment
(1: unemployed, 0.013)

SPD
FDP
CDU
Greens
Left Party

Highschool
(1: highschool, 0.019)

SPD
FDP
CDU
Greens
Left Party

Union
(1: member, 0.000)

SPD
FDP
CDU
Greens
Left Party

West
(1: west, 0.000)

SPD
FDP
CDU
Greens
Left Party

Gender
(1: male, 0.151)

SPD
FDP
CDU
Greens
Left Party

Effect Stars for the multinomial logit model for the election data with four category-specific covariates.

```
> election[,13:16] <- election[,13:16] - election[,12]
> election[,18:21] <- election[,18:21] - election[,17]
> election[,23:26] <- election[,23:26] - election[,22]
> election[,28:31] <- election[,28:31] - election[,27]
> election$Social <- election$Social_SPD
> election$Immigration <- election$Immigration_SPD
> election$Nuclear <- election$Nuclear_SPD
> election$Left_Right <- election$Left_Right_SPD
> star.nominal(Partychoice ~ Social + Immigration + Nuclear + Left_Right + Age +
+ Religion + Democracy + Pol.Interest + Unemployment + Highschool + Union + West +
+ Gender, data = election,
+ xij = list(Social ~ Social_SPD + Social_FDP + Social_Greens + Social_Left,
+ Immigration ~ Immigration_SPD + Immigration_FDP + Immigration_Greens + Immigration_Left,
+ Nuclear ~ Nuclear_SPD + Nuclear_FDP + Nuclear_Greens + Nuclear_Left,
+ Left_Right ~ Left_Right_SPD + Left_Right_FDP + Left_Right_Greens + Left_Right_Left),
+ cex.cat = 1, cex.labels = 1.4, lwd.circle = 1.5, dist.cov = 0.8)
```

$odds

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	3.8011447	1.3612851	1.7116679	0.9270493
SPD	1.2689668	1.1631240	0.8119858	0.7070553
FDP	0.6002334	0.9448420	1.3554629	1.7608286
Greens	0.4484616	0.7078829	0.9066765	1.0931248
Left Party	0.7701760	0.9442876	0.5854530	0.7926053

	Democracynot satisfied	Pol.Interestless interested
CDU	0.4898356	1.1705339
SPD	0.7386462	1.3192603
FDP	1.1961609	0.7482434
Greens	0.8630963	1.1128787
Left Party	2.6770981	0.7776690

	Unemploymentunemployed	Highschoolhighschool	Unionmember	Westwest
CDU	0.9584716	1.3080832	0.6214195	0.5773750
SPD	1.0117595	0.8614084	1.4443515	1.6367666
FDP	0.8997789	1.3046584	0.7169625	0.7455735
Greens	0.7956908	1.4416545	0.6326797	1.7707552
Left Party	1.4403343	0.4718430	2.4561892	0.8015050

	Gendermale
CDU	0.8015079
SPD	0.7659470
FDP	1.0759390
Greens	1.0678932
Left Party	1.4176792

$coefficients

	(Intercept)	Age	Religioncatholic	Religionother religion
CDU	1.3353023	0.30842916	0.53746829	-0.07574850
SPD	0.2382030	0.15110952	-0.20827246	-0.34664642

```
FDP         -0.5104367 -0.05673755     0.30414302              0.56578447
Greens      -0.8019323 -0.34547661    -0.09796952              0.08904038
Left Party  -0.2611363 -0.05732452    -0.53536933             -0.23242993
           Democracynot satisfied Pol.Interestless interested
CDU                  -0.7136854                    0.1574600
SPD                  -0.3029363                    0.2770712
FDP                   0.1791172                   -0.2900269
Greens               -0.1472290                    0.1069501
Left Party            0.9847334                   -0.2514543
           Unemploymentunemployed Highschoolhighschool Unionmember   Westwest
CDU                  -0.04241539             0.2685628  -0.4757488 -0.5492632
SPD                   0.01169086            -0.1491866   0.3676605  0.4927227
FDP                  -0.10560618             0.2659413  -0.3327317 -0.2936015
Greens               -0.22854455             0.3657914  -0.4577910  0.5714061
Left Party            0.36487527            -0.7511089   0.8986110 -0.2212641
           Gendermale
CDU        -0.22126042
SPD        -0.26664233
FDP         0.07319380
Greens      0.06568778
Left Party  0.34902117


$se
           (Intercept)        Age Religioncatholic Religionother religion
CDU          0.2981722 0.08679121        0.2127910              0.2131650
SPD          0.2780505 0.08018670        0.1883308              0.1920546
FDP          0.3552321 0.10436419        0.2664386              0.2458249
Greens       0.3588036 0.10644737        0.2543597              0.2385184
Left Party   0.3877065 0.11781620        0.2877358              0.2560869
           Democracynot satisfied Pol.Interestless interested
CDU                   0.1805016                    0.1917790
SPD                   0.1660231                    0.1801202
FDP                   0.2187023                    0.2170315
Greens                0.2143911                    0.2290519
Left Party            0.2820579                    0.2327036
           Unemploymentunemployed Highschoolhighschool Unionmember   Westwest
CDU                   0.4350242             0.2204325   0.2741820  0.2029215
SPD                   0.3651699             0.2110732   0.2120310  0.1931098
FDP                   0.5596199             0.2476985   0.3197829  0.2347514
Greens                0.4718760             0.2372396   0.2999115  0.2481622
Left Party            0.4071883             0.2986892   0.2749185  0.2431232
           Gendermale
CDU         0.1737192
SPD         0.1584829
FDP         0.2080704
Greens      0.2018792
Left Party  0.2212970


$pvalues
           (Intercept)         Age Religioncatholic Religionother religion
```

CDU	7.524280e-06	0.0003798648	0.01154341	0.72232632
SPD	3.916164e-01	0.0595012660	0.26877575	0.07108457
FDP	1.507434e-01	0.5866826337	0.25365660	0.02135912
Greens	2.541623e-02	0.0011723817	0.70011784	0.70892058
Left Party	5.006031e-01	0.6265709476	0.06279671	0.36407825

	Democracynot satisfied	Pol.Interestless interested
CDU	0.0000768875	0.4116184
SPD	0.0680518890	0.1239858
FDP	0.4127862736	0.1814395
Greens	0.4922522847	0.6405535
Left Party	0.0004807739	0.2798851

	Unemploymentunemployed	Highschoolhighschool	Unionmember	Westwest
CDU	0.9223284	0.22309295	0.082712972	0.006793975
SPD	0.9744602	0.47969066	0.082919129	0.010725547
FDP	0.8503197	0.28298006	0.298111111	0.211047250
Greens	0.6281504	0.12310646	0.126905294	0.021304109
Left Party	0.3702074	0.01191391	0.001080636	0.362774885

	Gendermale
CDU	0.20278137
SPD	0.09247829
FDP	0.72500759
Greens	0.74489229
Left Party	0.11475823

$catspec

	Social	Immigration	Nuclear	Left_Right
[1,]	-0.1630662	-0.1194577	-0.1848822	-0.6269847

$catspecse

	Social	Immigration	Nuclear	Left_Right
[1,]	0.03313544	0.03170079	0.02960555	0.04180896

$p_rel

	Social	Immigration	Nuclear	Left_Right	Age
[1,]	5.117136e-07	0.0001397863	1.107482e-10	0	0.000175962

	Religioncatholic	Religionother religion	Democracynot satisfied
[1,]	0.0606889	0.1014177	3.01792e-05

	Pol.Interestless interested	Unemploymentunemployed	Highschoolhighschool
[1,]	0.2696232	0.9151604	0.04863854

	Unionmember	Westwest	Gendermale
[1,]	0.002959962	0.001123774	0.2346133

$xlim
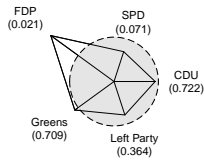[1] 9.882976 53.976255

$ylim
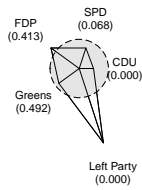[1] 9.46485 68.26856
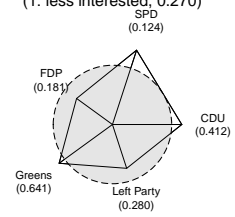
Intercept
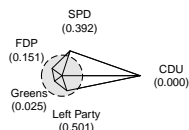
Age
(0.000)
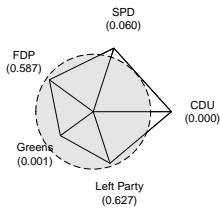
Religion
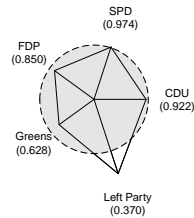(2: catholic, 0.061)
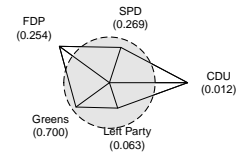
Religion
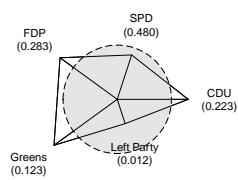(3: other religion, 0.101)

Democracy
(1: not satisfied, 0.000)

Pol.Interest
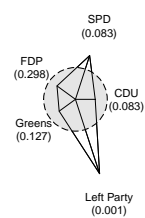(1: less interested, 0.270)
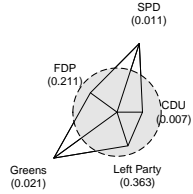
Unemployment
(1: unemployed, 0.915)
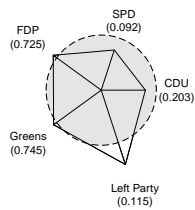
Highschool
(1: highschool, 0.049)

Union
(1: member, 0.003)

West
(1: west, 0.001)

Gender
(1: male, 0.235)

Global coefficients