

# Loglinear Model Analysis

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09 November 2016

## Contents

References 3

Data: *data/reuters.sav*

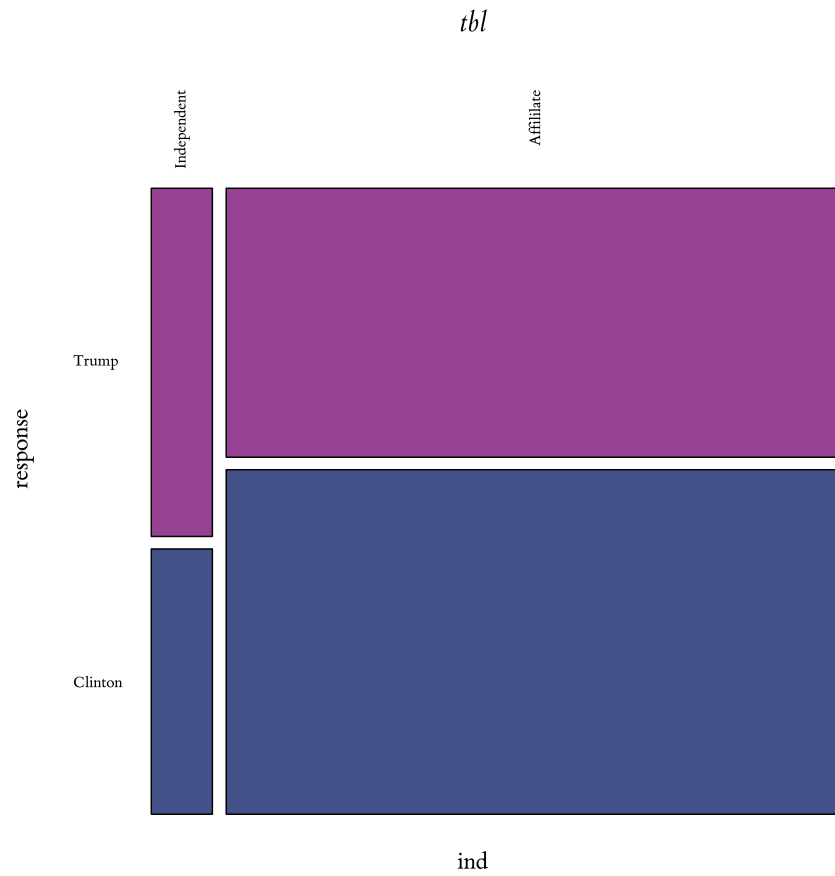
$$\log(\mu_{ij}) = \lambda + \lambda_i^X + \lambda_j^Y + \lambda_{ij}^{XY}$$

```
dat <- R.rspss("data/reuters.sav", vlabs = F)
R.msmm(dat)
```

	M	SD	Min	Max	NAs
<b>id</b>	769.5	444.1	1	1538	0
<b>response</b>	0.84	0.73	0	2	0
<b>party</b>	0.42	0.49	0	1	377
<b>partmiss</b>	0.25	0.43	0	1	0
<b>ind</b>	0.14	0.35	0	1	0

```
dat <- dat[, -3]
dat <- subset(dat, response < 2)
dat <- within(dat, {
  ind.f <- factor(ind,
    levels = unique(ind),
    labels = c("Independent",
               "Affililate"))
  response.f <- factor(response,
    levels = c(0, 1),
    labels = c("Trump",
               "Clinton"))
})

tbl <- table(dat$ind.f, dat$response.f)
dimnames(tbl) <- list(ind = levels(dat$ind.f),
  response = levels(dat$response.f))
mosaicplot(tbl, type = "deviance", las = 2, color = mypal.a75[c(5, 16)])
```



```
library(MASS)
logmodel <- loglm( ~ ind + response, digits = 4, data = tbl)
```

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<sup>1</sup> **Note:** This document was created using R-v3.3.2 R Core Team, R, and the following R-packages: *base*-v3.3. R Core Team, R, *bibtex*-v0.4. Francois, *Bibtex*, *car*-v2.1. Fox and Weisberg, *An R Companion to Applied Regression*, *dplyr*-v0.5. Wickham and Francois, *Dplyr*, *DT*-v0.2. Xie, *DT*, *extrafont*-v0.17. Chang, *Extrafont*, *ggplot2*-v2.1. Wickham, *Ggplot2*, *knitcitations*-v1.0. Boettiger, *knitcitations*, *knitr*-v1.14. Xie, *Dynamic Documents with R and Knitr*, *pander*-v0.6. Daroczi and Tsegelskyi, *Pander*, *papaja*-v0.1. Aust and Barth, *Papaja*, *plyr*-v1.8. Wickham, “The Split-Apply-Combine Strategy for Data Analysis.”, *rmarkdown*-v1.1. Allaire et al., *rmarkdown*, *scales*-v0.4. Wickham, *Scales*, *tidyr*-v0.6. Wickham, *Tidyr*, *ggthemes*-v3.2. Arnold, *Ggthemes*, *gtable*-v0.2. Wickham, *Gtable*, *kableExtra*-v0.0. Zhu, *KableExtra*, *tufte*-v0.2. Xie and Allaire, *Tufte*, *MASS*-v7.3. Venables and Ripley, *Modern Applied Statistics with S*, *devtools*-v1.12. Wickham and Chang, *Devtools*, *highlight*-v0.4. Francois, *Highlight*, *sysfonts*-v0.5. Qiu and others, *Sysfonts*, and *showtext*-v0.4. Qiu, *Showtext*

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