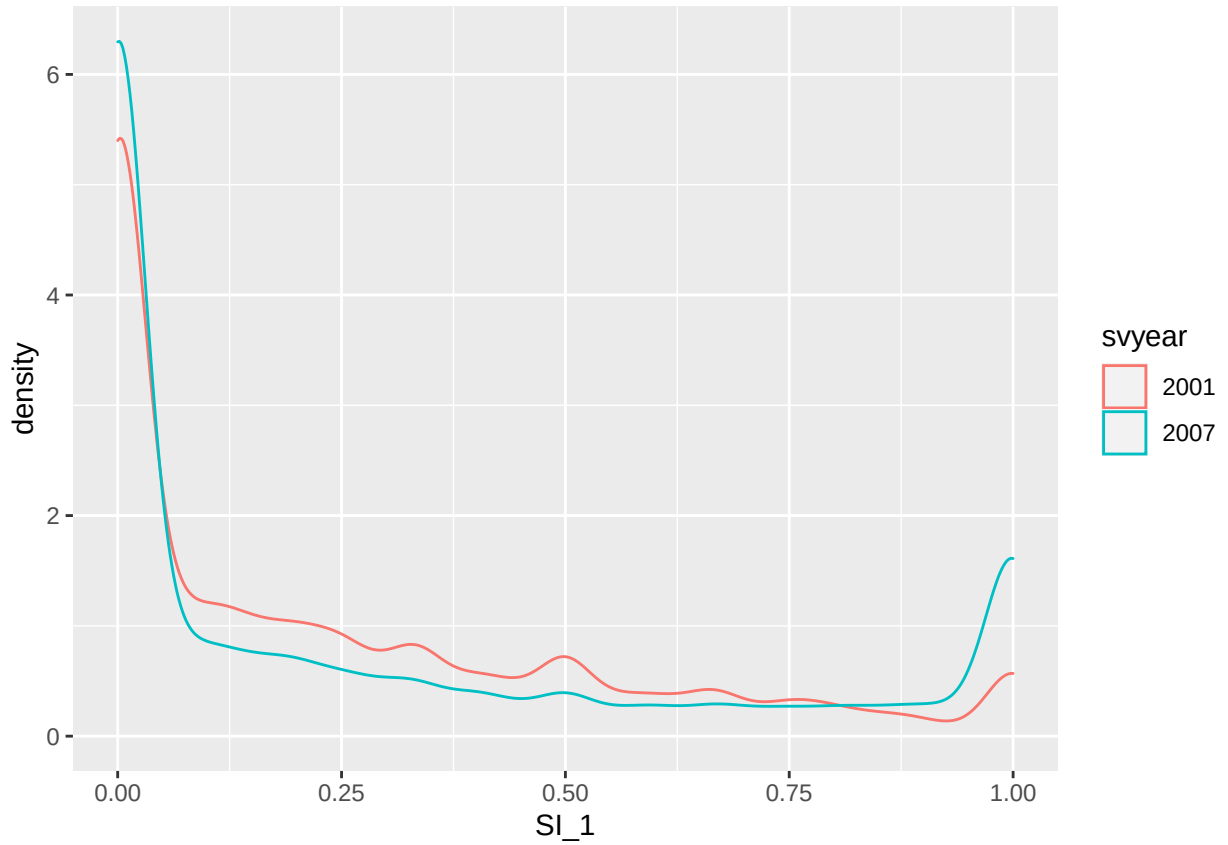
Skill intensity over years

Contents

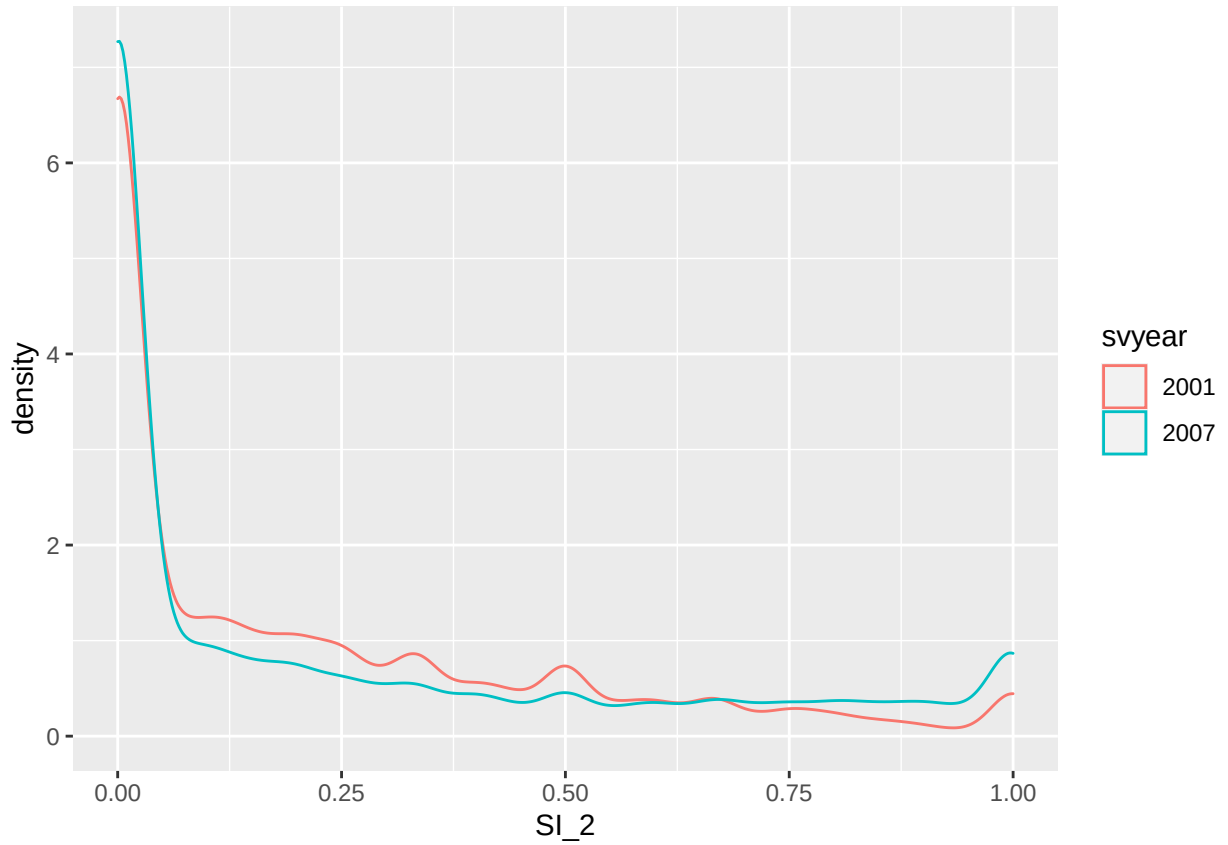

```
library(VNFirmSurvey)
library(data.table)
library(ggplot2)
library(DataExplorer)
library(here)
#> here() starts at /Users/nghiem/Documents/data-projects/VNFirmSurvey
library(haven)
```

```
data("skill_07_dta")
data("skill_01_dta")

dta_list <- list(skill_07_dta, skill_01_dta)

stacked_data <- rbindlist(dta_list)
```

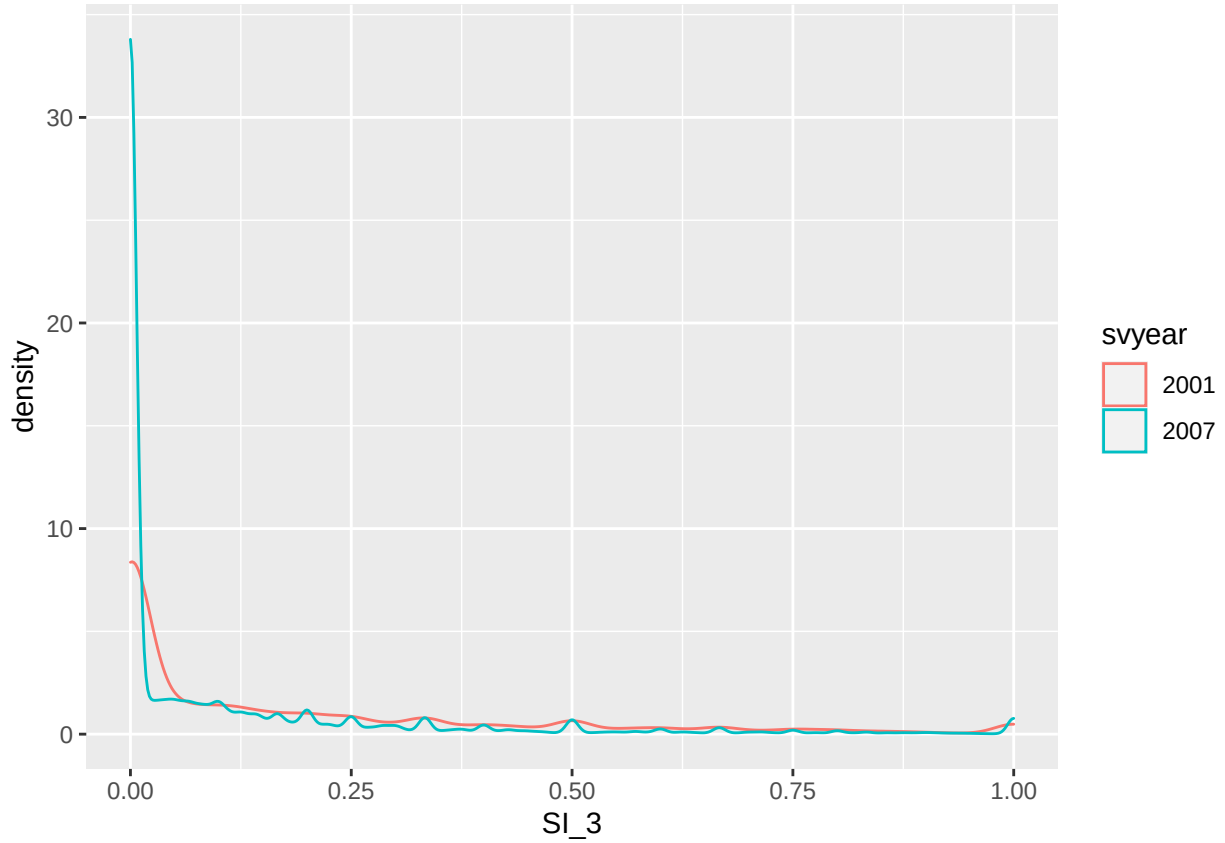
```
stacked_data$svyear <- as.factor(stacked_data$svyear)

ggplot(stacked_data, aes(x = SI_1, col = svyear)) +
  geom_density()
```




```
ggplot(stacked_data, aes(x = SI_2, col = svyear)) +
  geom_density()
```




```
ggplot(stacked_data, aes(x = SI_3, col = svyear)) +
  geom_density()
```

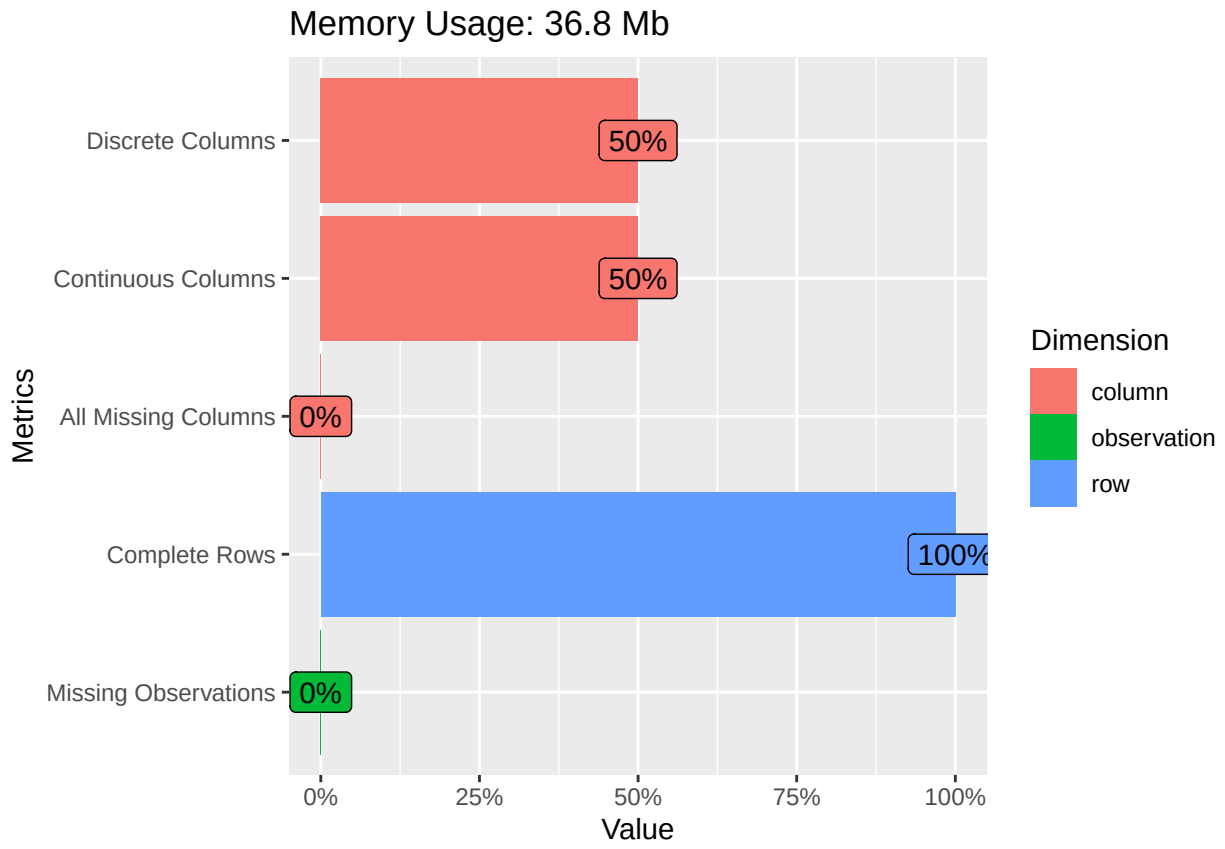


1 Wage Data

```
dta_list <- list(here("inst", "extdata",
                      "Stata_2001",
                      "dn2001.dta"),
                 here("inst", "extdata",
                      "Stata_2007",
                      "dn2007.dta") )


wage_dta <- getWage(dta_list)
#> Warning in all(lapply(dta_list, (file.exists))): coercing argument of type
#> 'list' to logical
```

Let's take a first look at the data

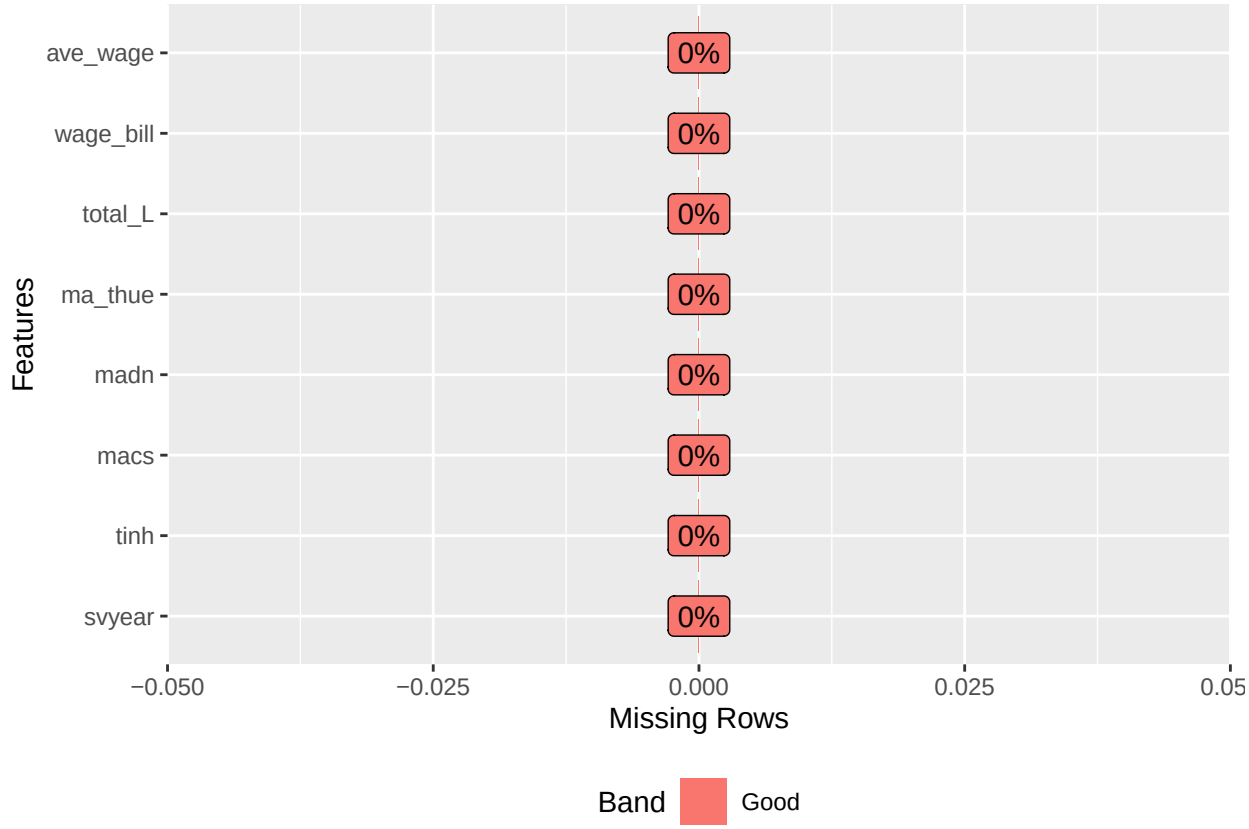
```
plot_intro(wage_dta)
```



1.1 Missing variables

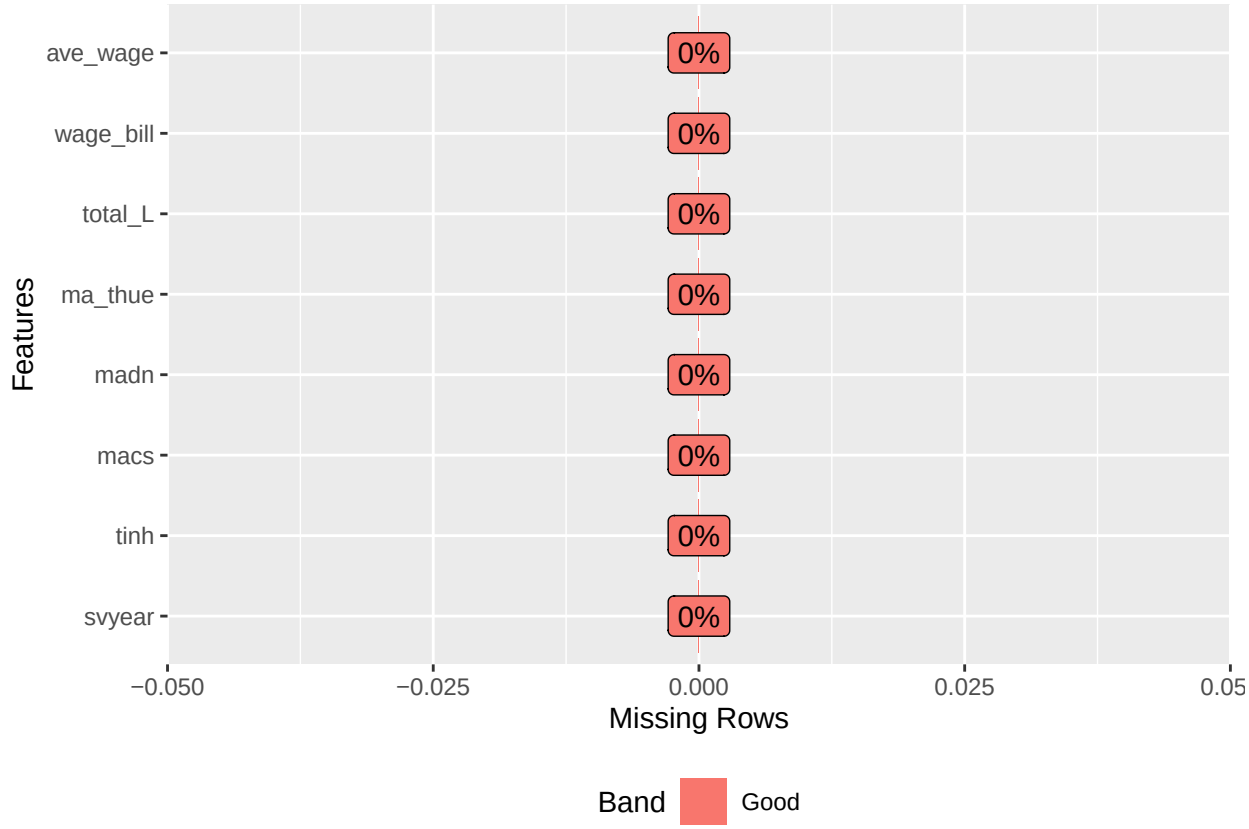
If I use ld13 for 2001, I have more than 3000 missing observations for total labor while only 8 for ldc11. Furthermore, 9.6% of the firms in 2001 miss total compensation data, while only 0.12% miss data

```
plot_missing(wage_dta)
```




```
profile_missing(wage_dta)
#>      feature num_missing pct_missing
#> 1:    svyear           0           0
#> 2:      tinh           0           0
#> 3:      macs           0           0
#> 4:      madn           0           0
#> 5:   ma_thue           0           0
#> 6:   total_L           0           0
#> 7: wage_bill           0           0
#> 8:  ave_wage           0           0
```

```
wage_dta_na_free <- na.omit(wage_dta)

wage_dta_na_free <- wage_dta_na_free[total_L > 0]
plot_missing(wage_dta_na_free)
```

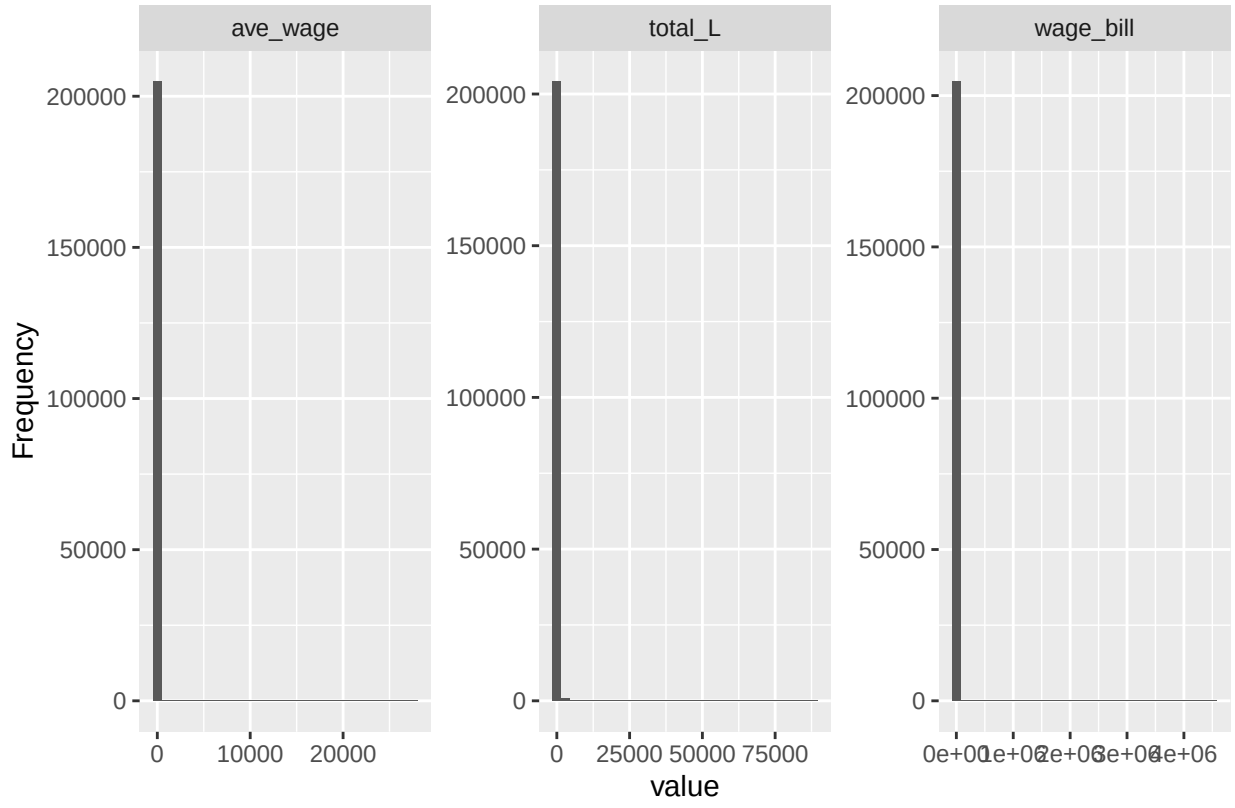


1.2 Update features

```
update_columns(wage_dta, c("tinh", "madn", "macs", "ma_thue"), as.factor)
```

1.3 Distributions

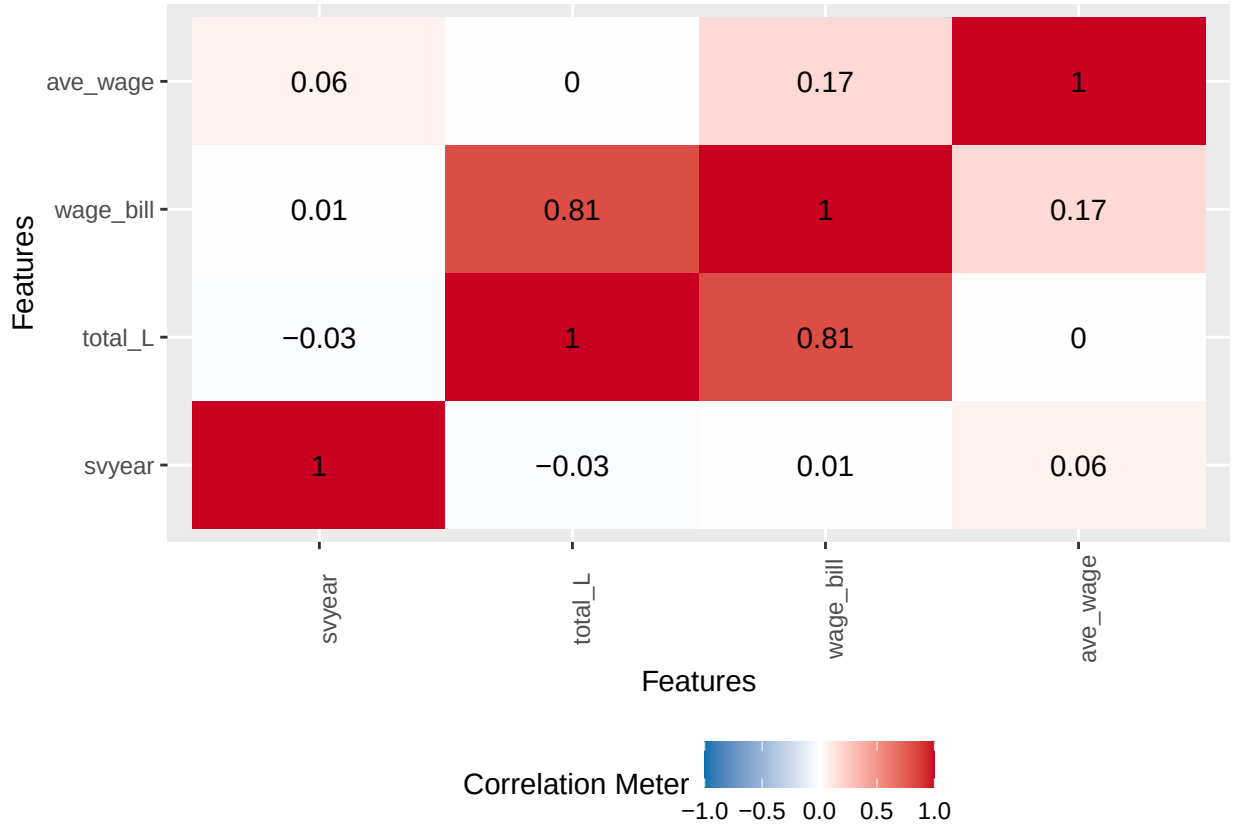
```
plot_histogram(wage_dta_na_free)
```




```
summary(wage_dta_na_free)
#>      svyear          tinh             macs             madn
#>  Min.   :2001   79     : 45069   1      :   153   285    :     7
#>  1st Qu.:2007   01     : 24668   3      :   133   15827  :     5
#>  Median :2007   701    : 10781   2      :   131   326    :     4
#>  Mean   :2006   101    :  5872   4      :   129   421    :     4
#>  3rd Qu.:2007   31     :  4495   6      :   126   854    :     4
#>  Max.   :2007   74     :  4382   5      :   122   5891   :     4
#>                 (Other):109710   (Other):204183   (Other):204949
#>       ma_thue          total_L           wage_bill          ave_wage
#>  Cha cã  :  5761   Min.   :     1.00   Min.   :       0   Min.   :    0.000
#>          :   185   1st Qu.:     5.00   1st Qu.:      58   1st Qu.:    8.462
#>  260035750:    11   Median :     9.00   Median :     128   Median :   14.800
#>  010010068:     7   Mean   :    55.21   Mean   :    1210   Mean   :   18.873
#>  010036457:     6   3rd Qu.:    22.00   3rd Qu.:     349   3rd Qu.:   22.702
#>  010010442:     5   Max.   ::88071.00   Max.   ::4506542   Max.   ::27600.000
#>  (Other)  :199002
```

1.4 Correlation

```
plot_correlation(wage_dta_na_free, maxcat = 5L)
#> Warning in dummify(data, maxcat = maxcat): Ignored all discrete features since
#> `maxcat` set to 5 categories!
```



1.5 Can I link plants to firms?

```
library(haven)
cn2007 <- (read_dta("/Volumes/GoogleDrive/My Drive/econ_datasets/Vietnam_VES/Data/Stata_2007_2009/Stata_

festive_exp <- (read_dta("/Volumes/GoogleDrive/My Drive/econ_datasets/Vietnam_VES/Data/Stata_2007_2009/S
                         encoding="latin1"))
names(festive_exp)


setDT(festive_exp)

festive_exp[!duplicated(macs), .(tinh, macs) ,by = .(madn)][order(madn)]

View(head(festive_exp))
```

It looks like this is a firm survey, and not a plant survey because the plants are listed under tencn, while madn and macs are firm identifiers.

find out across years what information I have at the plants level.