Blogbeitrag

Céline Strüby

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Code zum Blogbeitrag "Die Credit Suisse im Rampenlicht: Wie die Schweizer Medien die CS-Krise beleuchteten"

```
## Benutzte Packages
library(janitor)
library(tidyverse)
library(quanteda)
library(scales)
library(quanteda.textstats)
library(quanteda.textplots)
library(patchwork)
```

```
## Einlesen der tsv-Textdaten
tsvfile <- read.table("data/all_articles_chosen_newspapers.tsv",
                      fill = T, sep = "\t")
```

```
Warning in scan(file = file, what = what, sep = sep, quote = quote, dec = dec,
: EOF within quoted string
```

```
## Daten Bereinigen
clean_all <- tsvfile %>% row_to_names(row_number = 1) %>%
  select("id","pubtime","medium_name", "char_count","rubric","head","content") %>%
  mutate(date = as.Date(pubtime)) %>%
  mutate(text = gsub("<.*?>", " ", content)) %>%
  select("id","date","medium_name","char_count","rubric","head","text")
```

```r
# Korpus erstellen
corp_all <- corpus(clean_all, text_field = "text")
print(corp_all)
```

```
Corpus consisting of 46,214 documents and 6 docvars.
text1 :
"  Hansueli Schöchli  Die menschlichen und wirtschaftlichen K..."

text2 :
"   Die Schweiz gewinnt ihr erstes Spiel in Katar gegen Kamer..."

text3 :
"  26,41 gegen 25,93 steht es zur Halbzeit. Es sind - in Proz..."

text4 :
"  Urs Gehriger  Elon Musk hat bei der Übernahme von Twitter ..."

text5 :
"   BERN. Die Junge SVP Bern hat zwei Frauen gefunden, die si..."

text6 :
"   Neuer Ärger um verschmähten SP-Bundesratskandidaten   Dan..."

[ reached max_ndoc ... 46,208 more documents ]
```

```r
# Tokenize
#toks_all <- tokens(corp_all, remove_punct = TRUE,
#remove_numbers=T, remove_symbols=T, remove_url=T, remove_separators=T)
#save(toks_all, file="tokens.RData")
```

```r
# RData Object mit Tokens wird geladen
load("~/Desktop/Blogbeitrag/Blogbeitrag R/tokens.RData")
# Keine Grossbuchstaben
toks <- tokens_tolower(toks_all)
# Deutsche Stopwörter werden entfernt
toks <- toks %>% tokens_remove(stopwords("de"))
# Dictionary wird erstellt
cs_dict <- dictionary(list(credit_suisse =c("credit suisse",
                                            "credit suisse*","cs")))
print(cs_dict)
```

```
Dictionary object with 1 key entry.
- [credit_suisse]:
  - credit suisse, credit suisse*, cs
```

```
# Dictionary anwenden
dict <- tokens_lookup(toks, cs_dict)

# Umwandeln zu Dataframe mit prop count
dfm_cs <- dict %>%
  dfm() %>%
  dfm_weight(scheme="prop") %>%
  convert("data.frame") %>%
  bind_cols(docvars(dict))
```

Plot für Frequenz der Artikel über Zeit:

```
data_cs <- dfm_cs %>% group_by(date) %>%
  select(credit_suisse) %>% summarise_all(mean)
```

```
Adding missing grouping variables: `date`
```

```
plot_freqall <- ggplot(data= data_cs)+
    geom_vline(xintercept = as.Date("2022-01-07"), color = "#999931",
               size = 1, linetype = "solid", alpha = .8)+
    geom_vline(xintercept = (as.Date("2022-02-22")), color = "#999931",
               size= 1, linetype = "solid",alpha = .8)+
    geom_vline(xintercept = (as.Date("2022-06-27")), color = "#999931",
               size= 1, linetype = "solid",alpha = .8)+
    geom_vline(xintercept = as.Date("2022-10-27"), color = "#999931",
               size = 1, linetype = "solid", alpha = .8)+
    geom_vline(xintercept = (as.Date("2023-02-23")), color = "#999931",
               size= 1, linetype = "solid",alpha = .8)+
    geom_vline(xintercept = (as.Date("2023-03-19")), color = "#999931",
               size= 1, linetype = "solid",alpha = .8)+
  geom_area(aes(x= date, y= credit_suisse), fill= "#617D96", colour= "#003662")+
    scale_x_date(date_breaks = "1 month", labels = function(x) {
    ifelse(format(x, "%m") == "01", format(x, "%m/%Y"), format(x, "%m"))
  }) +
  scale_y_continuous(labels = scales::percent) +
```

```
  theme(axis.text.x = element_text(angle = 45, hjust = 1))+
  labs(
    x = "",
    y = "",
    title = "Nicht jeder CS-Skandal dominiert die Berichterstattung",
    subtitle = "Anteil Artikel mit Credit Suisse Nennung (Tägliche Werte)",
    caption = "Daten: Swissdox@LiRI"
  )+
  theme_minimal()+
    theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 14),
    legend.position = "none")+
  annotate("label", x=as.Date("2022-01-17"), label= "Rücktritt\nHorta-Osorio",
           y = 0.29, size=3, angle = 0, color = "#003662", linetype = "solid")+
  annotate("label", x=as.Date("2022-02-22"), label= "Datenleck\nSuisse Secret",
           y = 0.25, size=3, angle = 0, color = "#003662", linetype = "solid")+
  annotate("label", x=as.Date("2022-06-27"),
           label= "CS Verurteilt wegen\nGeldwäscherei",
           y = 0.25, size=3, angle = 0,color = "#003662", linetype = "solid")+
  annotate("label", x=as.Date("2022-10-27"),
           label= "SNB wird\ngrösste Aktionärin ",
           y = 0.25, size=3, angle = 0,color = "#003662", linetype = "solid")+
  annotate("label", x=as.Date("2023-02-23"),
           label= "7 Miliarden\nVerlust",
           y = 0.25, size=3, angle = 0, hjust = .75, color = "#003662",
           linetype = "solid")+
  annotate("label", x=as.Date("2023-03-19"), label= "Übernahme durch UBS",
           y = 0.3, size=3, angle = 0, color = "#003662", linetype = "solid")+
  theme(panel.grid.minor.x = element_blank())
```

```
Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
i Please use `linewidth` instead.
```

```
Warning in annotate("label", x = as.Date("2022-01-17"), label =
"Rücktritt\nHorta-Osorio", : Ignoring unknown parameters: `linetype`
```

```
Warning in annotate("label", x = as.Date("2022-02-22"), label =
"Datenleck\nSuisse Secret", : Ignoring unknown parameters: `linetype`
```

```
Warning in annotate("label", x = as.Date("2022-06-27"), label = "CS Verurteilt
wegen\nGeldwäscherei", : Ignoring unknown parameters: `linetype`
```

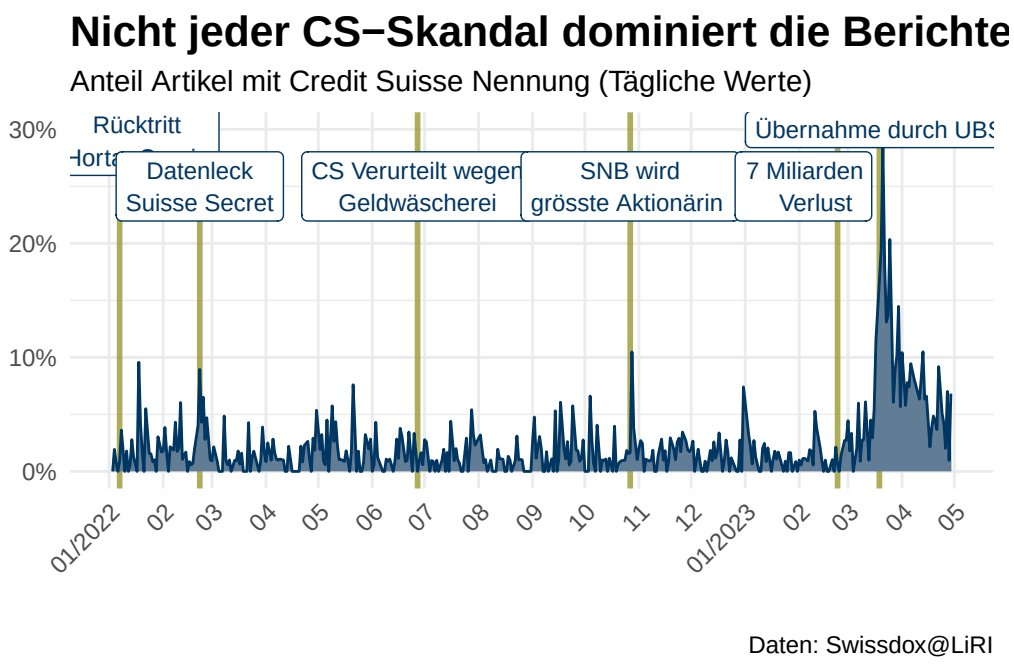
```
Warning in annotate("label", x = as.Date("2022-10-27"), label = "SNB
wird\ngrösste Aktionärin ", : Ignoring unknown parameters: `linetype`
```

```
Warning in annotate("label", x = as.Date("2023-02-23"), label = "7
Miliarden\nVerlust", : Ignoring unknown parameters: `linetype`
```

```
Warning in annotate("label", x = as.Date("2023-03-19"), label = "Übernahme
durch UBS", : Ignoring unknown parameters: `linetype`
```

```
plot_freqall
```

```
Warning: Removed 1 rows containing non-finite values (`stat_align()`).
```




```
ggsave("plot_freqall.png", width = 8, height = 5)
```

```
Warning: Removed 1 rows containing non-finite values (`stat_align()`).
```

Keyness Analyse

```
# window= 10 context festgelegt
cs_kontext10 <- tokens_select(toks, cs_dict, window = 10)

# WOZ
keyness_WOZ <-
  cs_kontext10 %>% dfm() %>% dfm_group(medium_name) %>%
  dfm_trim(10) %>% textstat_keyness("Die Wochenzeitung")
```

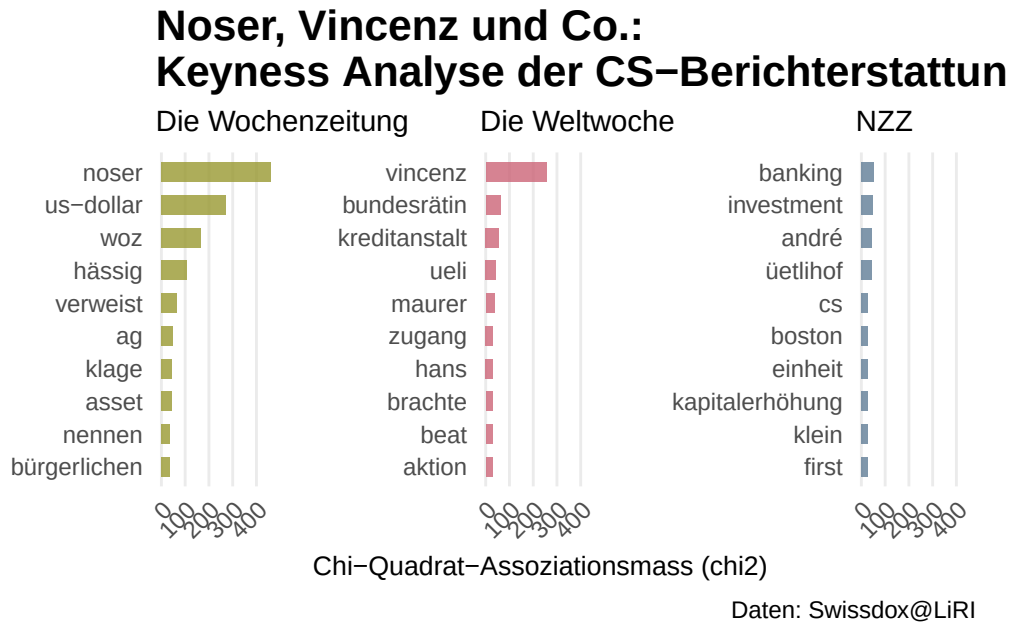
```
# In absteigender Reihenfolge sortieren
keyness10_df_WOZ <-
  keyness_WOZ[order(keyness_WOZ$chi2, decreasing = TRUE), ] %>% head(10)

## WOZ Plot
WOZplot <- ggplot(keyness10_df_WOZ, aes(x =chi2, y=reorder(feature, chi2))) +
  geom_bar(stat = "identity", fill = "#999931", alpha=.8, width = 0.6) +
  labs(title = "Noser, Vincenz und Co.:\nKeyness Analyse der CS-Berichterstattung",
       subtitle = "Die Wochenzeitung",
       x = "",
       y = "") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 10))+
  theme(panel.grid.minor.x = element_blank())+
  theme(panel.grid.major.y = element_blank())+
  xlim(0, 460)
```

```
## Weltwoche
keyness_Welt <-
  cs_kontext10 %>% dfm() %>% dfm_group(medium_name) %>%
  dfm_trim(10) %>% textstat_keyness("Die Weltwoche")

keyness10_df_Welt <-
  keyness_Welt[order(keyness_Welt$chi2, decreasing = TRUE), ] %>% head(10)

# Weltwoche Plot
Weltplot <- ggplot(keyness10_df_Welt, aes(x =chi2, y=reorder(feature, chi2))) +
```

```
  geom_bar(stat = "identity", fill = "#CC6477", alpha=.8, width = 0.6) +
  labs(subtitle = "Die Weltwoche",
       x = "Chi-Quadrat-Assoziationsmass (chi2)",
       y = "") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 10))+
  theme(panel.grid.minor.x = element_blank())+
  theme(panel.grid.major.y = element_blank())+
  xlim(0, 460)
```

```
## NZZ
keyness_NZZ <-
  cs_kontext10 %>% dfm() %>% dfm_group(medium_name) %>%
  dfm_trim(10) %>% textstat_keyness("Neue Zürcher Zeitung")


keyness10_df_NZZ <-
  keyness_NZZ[order(keyness_NZZ$chi2, decreasing = TRUE), ] %>% head(10)

## NZZ Plot
NZZplot <- ggplot(keyness10_df_NZZ, aes(x =chi2, y=reorder(feature, chi2))) +
  geom_bar(stat = "identity", fill = "#617D96", alpha=.8, width = 0.6) +
  labs(subtitle = "NZZ",
       x = "",
       y = "",
       caption = "Daten: Swissdox@LiRI") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 14))+
  theme(panel.grid.minor.x = element_blank())+
  theme(panel.grid.major.y = element_blank())+
  xlim(0, 460)

## Kombinierte Plots
combinedplot <- WOZplot+Weltplot+NZZplot
combinedplot <- combinedplot+ plot_layout(ncol=3)
```

```
combinedplot
```




```
ggsave("combinedplot.png", width = 8, height = 5)
```

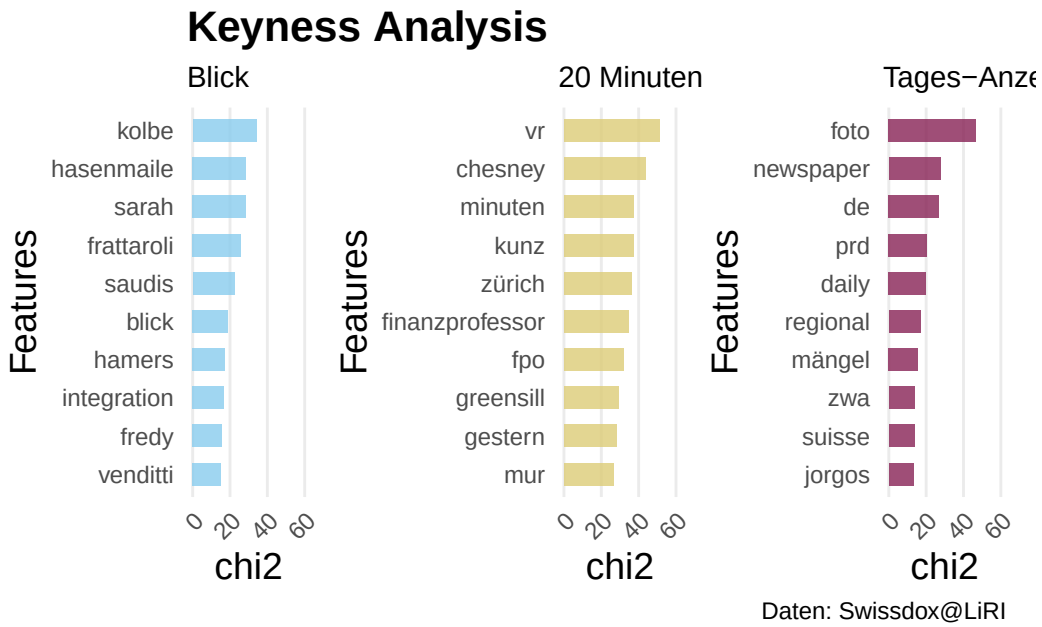
```
# Blick
keyness_Blick <-
  cs_kontext10 %>% dfm() %>% dfm_group(medium_name) %>%
  dfm_trim(10) %>% textstat_keyness("Blick")

keyness10_df_Blick <-
  keyness_Blick[order(keyness_Blick$chi2, decreasing = TRUE), ] %>% head(10)

Blickplot <- ggplot(keyness10_df_Blick, aes(x =chi2, y=reorder(feature, chi2))) +
  geom_bar(stat = "identity", fill = "#89CCEE", alpha=.8, width = 0.6) +
  labs(title = "Keyness Analysis",
       subtitle = "Blick",
       x = "chi2",
       y = "Features") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
```

```
    axis.title = element_text(size = 14))+
  theme(panel.grid.minor.x = element_blank())+
  theme(panel.grid.major.y = element_blank())+
  xlim(0, 60)
```

```
## 20 minuten
keyness_20 <-
  cs_kontext10 %>% dfm() %>% dfm_group(medium_name) %>%
  dfm_trim(10) %>% textstat_keyness("20 minuten")

keyness10_df_20 <-
  keyness_20[order(keyness_20$chi2, decreasing = TRUE), ] %>% head(10)


plot20 <- ggplot(keyness10_df_20, aes(x =chi2, y=reorder(feature, chi2))) +
  geom_bar(stat = "identity", fill = "#DDCC77", alpha=.8, width = 0.6) +
  labs(subtitle = "20 Minuten",
       x = "chi2",
       y = "Features") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 14))+
  theme(panel.grid.minor.x = element_blank())+
  theme(panel.grid.major.y = element_blank())+
  xlim(0, 60)
```

```
## Tages-Anzeiger
keyness_TA <-
  cs_kontext10 %>% dfm() %>% dfm_group(medium_name) %>%
  dfm_trim(10) %>% textstat_keyness("Tages-Anzeiger")


keyness10_df_TA <-
  keyness_TA[order(keyness_TA$chi2, decreasing = TRUE), ] %>% head(10)

TAplot <- ggplot(keyness10_df_TA, aes(x =chi2, y=reorder(feature, chi2))) +
  geom_bar(stat = "identity", fill = "#882255", alpha=.8, width = 0.6) +
  labs(subtitle = "Tages-Anzeiger",
       x = "chi2",
```

```
      y = "Features",
      caption = "Daten: Swissdox@LiRI") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 14))+
  theme(panel.grid.minor.x = element_blank())+
  theme(panel.grid.major.y = element_blank())+
  xlim(0, 60)

## Kombinierte Plots Part 2
combinedplot2 <- Blickplot+plot20+TAplot
combinedplot2 <- combinedplot2+ plot_layout(ncol=3)
combinedplot2
```




```
ggsave("combinedplot2.png", width = 8, height = 5)
```

Plot für Rubriken:

```
# subset dataframe for only cs articles

cs_data <- dfm_cs[dfm_cs$credit_suisse == 1,]

# Nicht alle Rubriken machen Sinn
## Manche tauchen auch nur einmal auf "Roger Federer tritt zurück"
unique(cs_data$rubric)
```

```
 [1] "Kultur & Gesellschaft"         ""
 [3] "Panorama"                      "Wichtig zu wissen"
 [5] "Blick Sport"                   "News"
 [7] "Front"                         "Credit Suisse"
 [9] "Wirtschaft"                    "Bankenkrise"
[11] "Von oben herab"                "Diese Woche"
[13] "Zürich"                        "Debatte"
[15] "Schweiz"                       "CS-Datenleck"
[17] "Sport"                         "Krieg in der Ukraine"
[19] "Meinung und Debatte"           "Ukraine-Krieg"
[21] "Seite Drei"                    "Zürich/Region"
[23] "CS-Aus"                        "Und jetzt?"
[25] "International"                 "Zürich und Region"
[27] "Die Letzte"                    "Kultur / Wissen"
[29] "Firmen & Finanzen"             "Meinungen"
[31] "Geldanlage"                    "Zinserhöhung"
[33] "CS-Krise"                      "Leser:innenbriefe"
[35] "Wochenende"                    "Mobil"
[37] "Good News"                     "Der CS-Crash"
[39] "Leben heute"                   "Nach dem Rücktritt"
[41] "Leader"                        "Feuilleton"
[43] "Führungswechsel"               "Coopzeitung Weekend"
[45] "Krieg gegen die Ukraine"       "Bern/Region"
[47] "Credit Suisse in der Krise"    "Peking 2022"
[49] "Hintergrund"                   "Forschung und Technik"
[51] "WM 2022"                       "Wohnopoly"
[53] "Gesellschaft"                  "Roger Federer tritt zurück"
[55] "People"                        "Wissen"
[57] "Im Bild"                       "CARAN D'ACHE SA • BRANDREPORT"
```

```
rubric.data <- as.data.frame(table(cs_data$rubric))
rubric.data[rubric.data == ""] <- NA


# Nur Rubriken mit mehr als >5 Frequenz
rubric.data <- rubric.data[rubric.data$Freq > 5,]
rubric.data$Var1 <- factor(rubric.data$Var1,
                  levels = rubric.data$Var1[order(
                    rubric.data$Freq, decreasing = F
                  )])
```

Berichterstattung während der Krise: Wer schrieb am meisten Artikel?

(Eine Woche vor bis eine Woche nach der Übernahme durch die UBS)

```
# Subset dataframe for timeslot:
subset_df <- dfm_cs %>%
  filter(date >= as.Date("2023-03-13") & date <= as.Date("2023-03-26"))

# Total Share of CS Articles
table(subset_df$credit_suisse)
```

```
   0    1
1192  164
```

```
1192/164
```

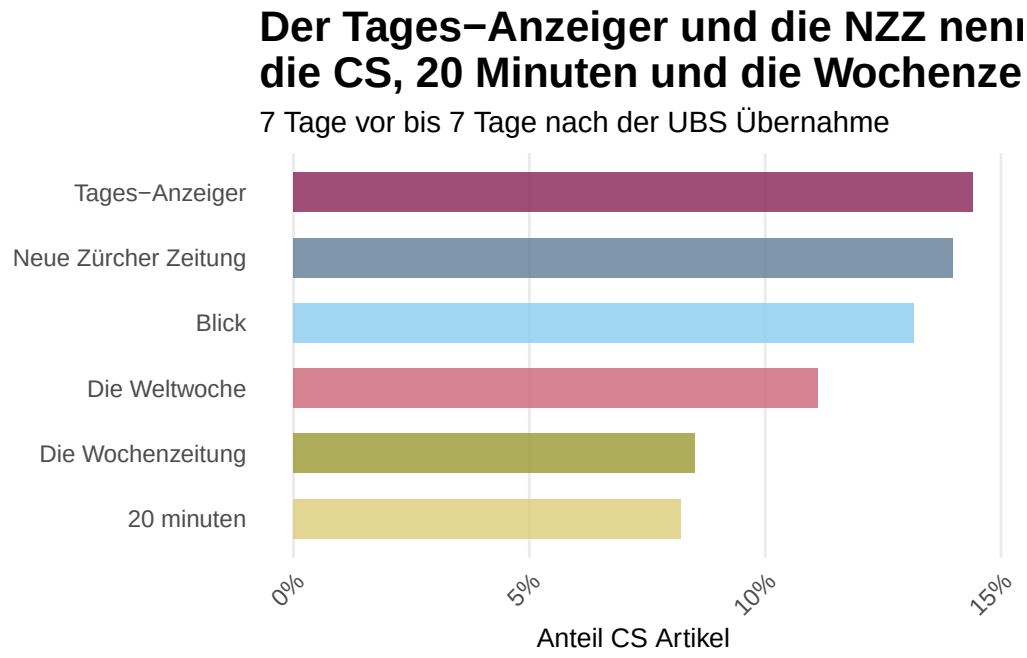
```
[1] 7.268293
```

```
average_credit_suisse <- subset_df %>%
  group_by(medium_name) %>%
  summarize(avg_credit_suisse = mean(credit_suisse))

table(subset_df$medium_name)
```

```
        20 minuten                Blick        Die Weltwoche
```

```
                341                  266                   90
Die Wochenzeitung Neue Zürcher Zeitung       Tages-Anzeiger
                 47                  279                  333
```

```r
# Viualization
## Colours
average_credit_suisse$bar_color <-
  c("#DDCC77", "#89CCEE", "#CC6477", "#999931","#617D96","#882255")
## ggplot
papersplot <- ggplot(average_credit_suisse,
                     aes(x =avg_credit_suisse,
                         y= reorder(medium_name, avg_credit_suisse),
                         fill=bar_color)) +
  geom_bar(stat = "identity", alpha=.8,width = 0.6) +
  labs(title= "Der Tages-Anzeiger und die NZZ nennen am häufigsten\ndie CS, 20 Minuten und
    subtitle = "7 Tage vor bis 7 Tage nach der UBS Übernahme",
       x = "Anteil CS Artikel",
       y = "") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 10))+
  theme(panel.grid.minor.x = element_blank())+
  theme(panel.grid.major.y = element_blank())+
  scale_x_continuous(labels = scales::percent)+
  scale_fill_identity()

papersplot
```



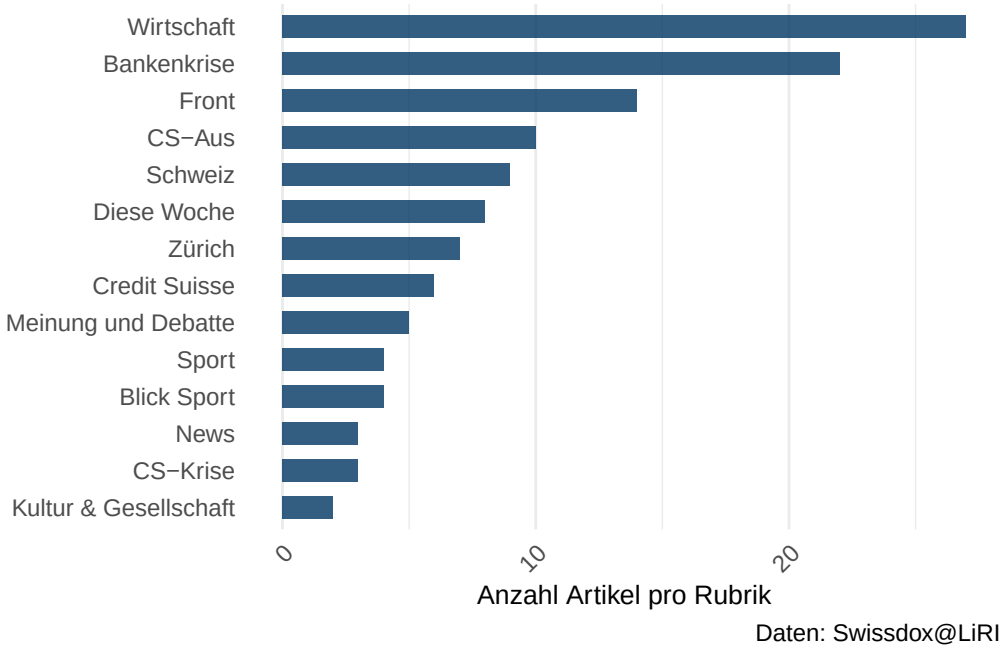

```
## Rubriken in den 2 wochen
# subset dataframe for only cs articles

subset_df <- subset_df[subset_df$credit_suisse == 1,]

# Nicht alle Rubriken machen Sinn
## Manche tauchen auch nur einmal auf "Roger Federer tritt zurück"
unique(subset_df$rubric)
```

```
 [1] "Bankenkrise"           "Wirtschaft"            "Front"
 [4] "Credit Suisse"         "Schweiz"               ""
 [7] "Meinung und Debatte"   "CS-Aus"                "Kultur & Gesellschaft"
[10] "Diese Woche"           "News"                  "Sport"
[13] "Zürich und Region"     "CS-Krise"              "Zürich"
[16] "Der CS-Crash"          "Meinungen"             "Leben heute"
[19] "Debatte"               "Leader"                "Blick Sport"
[22] "Die Letzte"            "International"
```

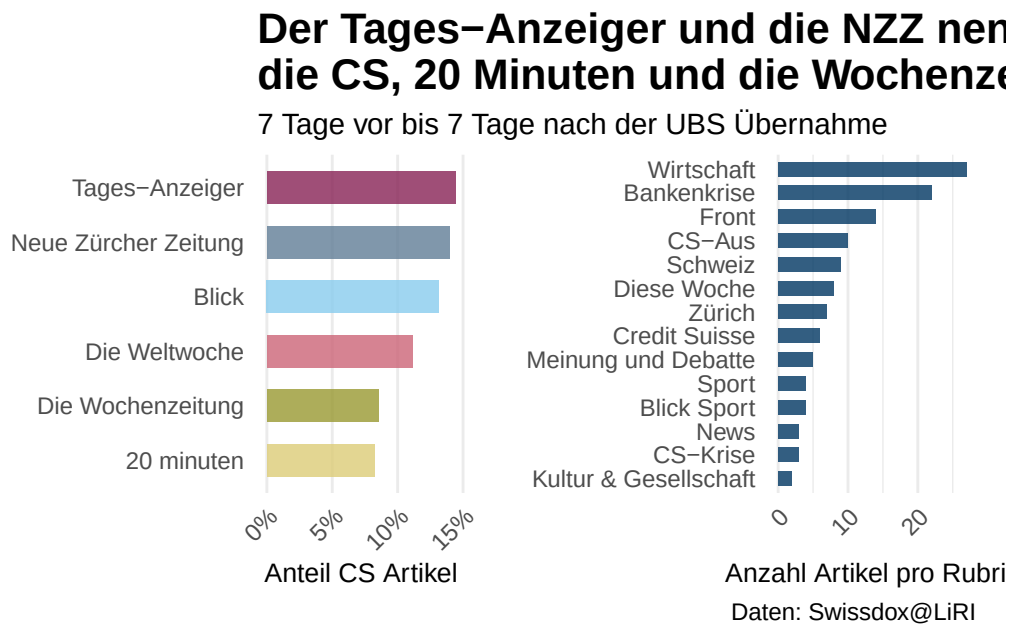
```
rubric.data <- as.data.frame(table(subset_df$rubric))
rubric.data[rubric.data == ""] <- NA
```

```r
# Nur Rubriken mit mehr als >5 Frequenz
rubric.data <- rubric.data[rubric.data$Freq > 1,]
rubric.data$Var1 <- factor(rubric.data$Var1,
                  levels = rubric.data$Var1[order(
                    rubric.data$Freq, decreasing = F
                  )])
```

```r
rubricplot <- ggplot(data = subset(rubric.data, !is.na(Var1)),
                     aes(x= Freq, y= Var1))+
  geom_bar(stat = "identity", alpha=.8,width = 0.6,
           fill = "#003662")+
  labs(x = "Anzahl Artikel pro Rubrik",
       y = "",
       caption = "Daten: Swissdox@LiRI") +
  theme_minimal()+
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1),
    plot.title = element_text(size = 16, face = "bold"),
    axis.title = element_text(size = 10))+
  theme(panel.grid.major.y = element_blank())

rubricplot
```



```r
## Kombinierte Plots
combinedplot3 <- papersplot+rubricplot
combinedplot3 <- combinedplot3+ plot_layout(ncol=2)
combinedplot3
```




```r
ggsave("combinedplot3.png", width = 8, height = 5)
```

Session Information

Informationen zum Environment der Datenanalyse:

```r
library("sessioninfo")
session_info()
```

```
- Session info ---------------------------------------------------------------
 setting  value
 version  R version 4.2.2 (2022-10-31)
 os       macOS Big Sur 11.6
 system   aarch64, darwin20
 ui       X11
 language (EN)
 collate  en_US.UTF-8
```

```
 ctype    en_US.UTF-8
 tz       Europe/Zurich
 date     2023-06-18
 pandoc   2.19.2 @ /Applications/RStudio.app/Contents/Resources/app/quarto/bin/tools/ (via

- Packages -----------------------------------------------------------------
 package            * version date (UTC) lib source
 cli                  3.6.1   2023-03-23 [1] CRAN (R 4.2.0)
 colorspace           2.1-0   2023-01-23 [1] CRAN (R 4.2.0)
 digest               0.6.31  2022-12-11 [1] CRAN (R 4.2.0)
 dplyr              * 1.1.2   2023-04-20 [1] CRAN (R 4.2.0)
 evaluate             0.20    2023-01-17 [1] CRAN (R 4.2.0)
 fansi                1.0.4   2023-01-22 [1] CRAN (R 4.2.0)
 farver               2.1.1   2022-07-06 [1] CRAN (R 4.2.0)
 fastmap              1.1.1   2023-02-24 [1] CRAN (R 4.2.0)
 fastmatch            1.1-3   2021-07-23 [1] CRAN (R 4.2.0)
 forcats            * 1.0.0   2023-01-29 [1] CRAN (R 4.2.0)
 generics             0.1.3   2022-07-05 [1] CRAN (R 4.2.0)
 ggplot2            * 3.4.2   2023-04-03 [1] CRAN (R 4.2.0)
 glue                 1.6.2   2022-02-24 [1] CRAN (R 4.2.0)
 gtable               0.3.3   2023-03-21 [1] CRAN (R 4.2.0)
 hms                  1.1.3   2023-03-21 [1] CRAN (R 4.2.0)
 htmltools            0.5.5   2023-03-23 [1] CRAN (R 4.2.0)
 janitor            * 2.2.0   2023-02-02 [1] CRAN (R 4.2.0)
 jsonlite             1.8.4   2022-12-06 [1] CRAN (R 4.2.0)
 knitr                1.42    2023-01-25 [1] CRAN (R 4.2.0)
 labeling             0.4.2   2020-10-20 [1] CRAN (R 4.2.0)
 lattice              0.21-8  2023-04-05 [1] CRAN (R 4.2.0)
 lifecycle            1.0.3   2022-10-07 [1] CRAN (R 4.2.0)
 lubridate          * 1.9.2   2023-02-10 [1] CRAN (R 4.2.0)
 magrittr             2.0.3   2022-03-30 [1] CRAN (R 4.2.0)
 Matrix               1.5-4   2023-04-04 [1] CRAN (R 4.2.0)
 munsell              0.5.0   2018-06-12 [1] CRAN (R 4.2.0)
 nsyllable            1.0.1   2022-02-28 [1] CRAN (R 4.2.0)
 patchwork          * 1.1.2   2022-08-19 [1] CRAN (R 4.2.0)
 pillar               1.9.0   2023-03-22 [1] CRAN (R 4.2.0)
 pkgconfig            2.0.3   2019-09-22 [1] CRAN (R 4.2.0)
 purrr              * 1.0.1   2023-01-10 [1] CRAN (R 4.2.0)
 quanteda           * 3.3.0   2023-04-07 [1] CRAN (R 4.2.0)
 quanteda.textplots * 0.94.3  2023-04-05 [1] CRAN (R 4.2.0)
 quanteda.textstats * 0.96.2  2023-04-27 [1] CRAN (R 4.2.0)
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 R6                  2.5.1   2021-08-19 [1] CRAN (R 4.2.0)
 ragg                1.2.5   2023-01-12 [1] CRAN (R 4.2.0)
 Rcpp                1.0.10  2023-01-22 [1] CRAN (R 4.2.0)
 RcppParallel        5.1.7   2023-02-27 [1] CRAN (R 4.2.0)
 readr             * 2.1.4   2023-02-10 [1] CRAN (R 4.2.0)
 rlang               1.1.1   2023-04-28 [1] CRAN (R 4.2.0)
 rmarkdown           2.21    2023-03-26 [1] CRAN (R 4.2.0)
 rstudioapi          0.14    2022-08-22 [1] CRAN (R 4.2.0)
 scales            * 1.2.1   2022-08-20 [1] CRAN (R 4.2.0)
 sessioninfo       * 1.2.2   2021-12-06 [1] CRAN (R 4.2.0)
 snakecase           0.11.0  2019-05-25 [1] CRAN (R 4.2.0)
 stopwords           2.3     2021-10-28 [1] CRAN (R 4.2.0)
 stringi             1.7.12  2023-01-11 [1] CRAN (R 4.2.0)
 stringr           * 1.5.0   2022-12-02 [1] CRAN (R 4.2.0)
 systemfonts         1.0.4   2022-02-11 [1] CRAN (R 4.2.0)
 textshaping         0.3.6   2021-10-13 [1] CRAN (R 4.2.0)
 tibble            * 3.2.1   2023-03-20 [1] CRAN (R 4.2.0)
 tidyr             * 1.3.0   2023-01-24 [1] CRAN (R 4.2.0)
 tidyselect          1.2.0   2022-10-10 [1] CRAN (R 4.2.0)
 tidyverse         * 2.0.0   2023-02-22 [1] CRAN (R 4.2.0)
 timechange          0.2.0   2023-01-11 [1] CRAN (R 4.2.0)
 tzdb                0.3.0   2022-03-28 [1] CRAN (R 4.2.0)
 utf8                1.2.3   2023-01-31 [1] CRAN (R 4.2.0)
 vctrs               0.6.2   2023-04-19 [1] CRAN (R 4.2.0)
 withr               2.5.0   2022-03-03 [1] CRAN (R 4.2.0)
 xfun                0.39    2023-04-20 [1] CRAN (R 4.2.0)
 yaml                2.3.7   2023-01-23 [1] CRAN (R 4.2.0)

 [1] /Library/Frameworks/R.framework/Versions/4.2-arm64/Resources/library

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