Results

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```r
# Clear environment
rm(list = ls())
graphics.off()

# Load the libraries
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --

## v ggplot2 3.3.5      v purrr   0.3.4
## v tibble  3.1.8      v dplyr   1.0.9
## v tidyr   1.2.0      v stringr 1.4.0
## v readr   2.1.2      v forcats 0.5.1

## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```r
library(lfe)
```

```
## Loading required package: Matrix

##
## Attaching package: 'Matrix'

## The following objects are masked from 'package:tidyr':
##
##      expand, pack, unpack
```

```r
library(stargazer)
```

```
##
## Please cite as:

##  Hlavac, Marek (2022). stargazer: Well-Formatted Regression and Summary Statistics Tables.

##  R package version 5.2.3. https://CRAN.R-project.org/package=stargazer
```

```r
# Set working directory
# setwd("D:/Project/SummerProject/notebook/")
setwd("G:/Other computers/HP/SummerProject/notebook")
# Load the data
data <- read.csv('./../data/final_result.csv')
# Change the variable type
data$banker_name <- factor(data$banker_name, )
data$vulnerable <- factor(data$vulnerable)
data$type <- factor(data$type)
data$company_name <- factor(data$company_name)
data$time <- factor(data$time)
data$bank_prod_code <- factor(as.numeric(data$banker_name)*data$nic_prod_code)

sapply(data, function(x){length(unique(x))})
```

```
##       symbol    banker_name        co_code   company_name       exchange
##           28             28           2118           2118              2
##         beta            mes     vulnerable           type           time
##           28             28              2              2              2
##        count          nskew          duvol       ic_count       ic_nskew
##           10           4203           4203              9           2118
##      ic_duvol            roa       leverage  nic_prod_code bank_prod_code
##          2118           2105           1695             63            409
```

```
# NSKEW
model1 <- felm(nskew ~ mes + time + mes*time | banker_name | 0 | banker_name + nic_prod_code, data = da
model2 <- felm(nskew ~ mes + time + mes*time | nic_prod_code | 0 | banker_name + nic_prod_code, data =
model3 <- felm(nskew ~ mes + time + mes*time | bank_prod_code | 0 | banker_name + nic_prod_code, data =
model4 <- felm(nskew ~ mes + time + mes*time | banker_name + nic_prod_code | 0 | banker_name + nic_prod
model5 <- felm(nskew ~ mes + time + mes*time | banker_name + bank_prod_code | 0 | banker_name + nic_proc
model6 <- felm(nskew ~ mes + time + mes*time | nic_prod_code + bank_prod_code | 0 | banker_name + nic_pi
model7 <- felm(nskew ~ mes + time + mes*time | banker_name + nic_prod_code + bank_prod_code | 0 | banke

stargazer(model1, model2, model3, model4, model5, model6, model7,
          type = 'text', float = TRUE, font.size = "small",
          dep.var.labels = c('NSKEW: Crash Risk Measure'),
          title = 'Table 1: Result for NSKEW measure (Without controls)',
          covariate.labels = c('MES', 'Post', 'MES:Post'), align = TRUE,
          no.space = TRUE, keep.stat = c('n','rsq'))
```

```
##
## Table 1: Result for NSKEW measure (Without controls)
## ================================================================================
##                                   Dependent variable:
##                 ----------------------------------------------------------------
##                                  NSKEW: Crash Risk Measure
##                    (1)       (2)       (3)       (4)       (5)       (6)       (7)
## -------------------------------------------------------------------------------
## MES                          1.939*    3.722                         9.472*
##                  (0.000)   (1.095)   (3.922)   (0.000)   (0.000)   (4.887)   (0.000)
## Post             -0.047    -0.046    -0.044    -0.045    -0.044    -0.044    -0.044
##                  (0.039)   (0.059)   (0.046)   (0.033)   (0.026)   (0.027)   (0.026)
## MES:Post         -8.529*** -8.591*** -8.605*** -8.590*** -8.651*** -8.673*** -8.677***
##                  (0.734)   (1.048)   (1.096)   (0.864)   (1.067)   (1.044)   (1.047)
## -------------------------------------------------------------------------------
## Observations     4,203     4,203     4,203     4,203     4,203     4,203     4,203
## R2               0.009     0.042     0.125     0.048     0.137     0.145     0.150
## ================================================================================
## Note:                                               *p<0.1; **p<0.05; ***p<0.01
```

```
model1 <- felm(nskew ~ mes + time + mes*time + roa + leverage + ic_nskew | banker_name | 0 | banker_name
model2 <- felm(nskew ~ mes + time + mes*time + roa + leverage + ic_nskew | nic_prod_code | 0 | banker_na
model3 <- felm(nskew ~ mes + time + mes*time + roa + leverage + ic_nskew | bank_prod_code | 0 | banker_
model4 <- felm(nskew ~ mes + time + mes*time + roa + leverage + ic_nskew | banker_name + nic_prod_code
model5 <- felm(nskew ~ mes + time + mes*time + roa + leverage + ic_nskew | banker_name + bank_prod_code
model6 <- felm(nskew ~ mes + time + mes*time + roa + leverage + ic_nskew | nic_prod_code + bank_prod_co
model7 <- felm(nskew ~ mes + time + mes*time + roa + leverage + ic_nskew | banker_name + nic_prod_code

stargazer(model1, model2, model3, model4, model5, model6, model7,
          type = 'text', float = TRUE, font.size = "small",
          dep.var.labels = c('NSKEW: Crash Risk Measure'),
          title = 'Table 2: Result for NSKEW measure (With controls)',
          covariate.labels = c('MES', 'Post', 'ROA', 'Leverage', 'NSKEW (t-1)', 'MES:Post'), align = TRU
          no.space = TRUE, keep.stat = c('n','rsq'))
```

```
##
## Table 2: Result for NSKEW measure (With controls)
## =================================================================================
##                                       Dependent variable:
##                  ----------------------------------------------------------------
##                                     NSKEW: Crash Risk Measure
##                    (1)       (2)       (3)       (4)       (5)       (6)       (7)
## -------------------------------------------------------------------------------
## MES                          2.260**   4.735                       11.141**
##                   (0.000)   (0.977)   (3.757)   (0.000)   (0.000)   (4.777)   (0.000)
## Post              -0.047    -0.046    -0.044    -0.045    -0.044    -0.043    -0.043
##                   (0.037)   (0.066)   (0.044)   (0.032)   (0.026)   (0.027)   (0.027)
## ROA               0.002     0.004     0.003     0.004     0.003     0.003     0.003
##                   (0.002)   (0.002)   (0.003)   (0.003)   (0.003)   (0.003)   (0.003)
## Leverage          0.0001    -0.00002  0.0001    -0.00004  0.0002    0.0002    0.0002
##                   (0.0002)  (0.0002)  (0.001)   (0.0002)  (0.001)   (0.001)   (0.001)
## NSKEW (t-1)       0.092***  0.081***  0.071***  0.083***  0.067***  0.072***  0.070***
##                   (0.013)   (0.024)   (0.015)   (0.012)   (0.012)   (0.014)   (0.013)
## MES:Post          -8.535*** -8.601*** -8.628*** -8.599*** -8.673*** -8.698*** -8.704***
##                   (0.759)   (1.034)   (1.113)   (0.880)   (1.086)   (1.061)   (1.067)
## -------------------------------------------------------------------------------
## Observations      4,203     4,203     4,203     4,203     4,203     4,203     4,203
## R2                0.019     0.051     0.130     0.057     0.142     0.150     0.155
## =================================================================================
## Note:                                                 *p<0.1; **p<0.05; ***p<0.01
```

4

```r
# DUVOL
model1 <- felm(duvol ~ mes + time + mes*time | banker_name | 0 | banker_name + nic_prod_code, data = da
model2 <- felm(duvol ~ mes + time + mes*time | nic_prod_code | 0 | banker_name + nic_prod_code, data =
model3 <- felm(duvol ~ mes + time + mes*time | bank_prod_code | 0 | banker_name + nic_prod_code, data =
model4 <- felm(duvol ~ mes + time + mes*time | banker_name + nic_prod_code | 0 | banker_name + nic_prod
model5 <- felm(duvol ~ mes + time + mes*time | banker_name + bank_prod_code | 0 | banker_name + nic_pro
model6 <- felm(duvol ~ mes + time + mes*time | nic_prod_code + bank_prod_code | 0 | banker_name + nic_p
model7 <- felm(duvol ~ mes + time + mes*time | banker_name + nic_prod_code + bank_prod_code | 0 | banke

stargazer(model1, model2, model3, model4, model5, model6, model7,
          type = 'text', float = TRUE, font.size = "small",
          dep.var.labels = c('DUVOL: Crash Risk Measure'),
          title = 'Table 3: Result for DUVOL measure (Without controls)',
          covariate.labels = c('MES', 'Post', 'MES:Post'), align = TRUE,
          no.space = TRUE, keep.stat = c('n','rsq'))
```

```
##
## Table 3: Result for DUVOL measure (Without controls)
## ================================================================================
##                                     Dependent variable:
##                  --------------------------------------------------------------
##                                  DUVOL: Crash Risk Measure
##                    (1)       (2)       (3)       (4)       (5)       (6)       (7)
## --------------------------------------------------------------------------------
## MES                         -1.165    -3.366                        -2.396
##                   (0.000)   (0.910)   (2.095)   (0.000)   (0.000)   (2.373)   (0.000)
## Post               0.002     0.002     0.004     0.003     0.005     0.005     0.005
##                   (0.007)   (0.009)   (0.010)   (0.007)   (0.009)   (0.007)   (0.009)
## MES:Post          -3.175*** -3.227*** -3.230*** -3.222*** -3.229*** -3.256*** -3.240***
##                   (0.00004) (0.364)   (0.889)   (0.00004) (0.0001)  (0.819)   (0.0001)
## --------------------------------------------------------------------------------
## Observations       4,203     4,203     4,203     4,203     4,203     4,203     4,203
## R2                 0.013     0.036     0.134     0.046     0.143     0.148     0.152
## ================================================================================
## Note:                                             *p<0.1; **p<0.05; ***p<0.01
```

```
model1 <- felm(duvol ~ mes + time + mes*time + roa + leverage + ic_duvol | banker_name | 0 | banker_name
model2 <- felm(duvol ~ mes + time + mes*time + roa + leverage + ic_duvol | nic_prod_code | 0 | banker_na
model3 <- felm(duvol ~ mes + time + mes*time + roa + leverage + ic_duvol | bank_prod_code | 0 | banker_
model4 <- felm(duvol ~ mes + time + mes*time + roa + leverage + ic_duvol | banker_name + nic_prod_code
model5 <- felm(duvol ~ mes + time + mes*time + roa + leverage + ic_duvol | banker_name + bank_prod_code
model6 <- felm(duvol ~ mes + time + mes*time + roa + leverage + ic_duvol | nic_prod_code + bank_prod_co
model7 <- felm(duvol ~ mes + time + mes*time + roa + leverage + ic_duvol | banker_name + nic_prod_code

stargazer(model1, model2, model3, model4, model5, model6, model7,
          type = 'text', float = TRUE, font.size = "small",
          dep.var.labels = c('DUVOL: Crash Risk Measure'),
          title = 'Table 4: Result for DUVOL measure (With controls)',
          covariate.labels = c('MES', 'Post', 'ROA', 'Leverage', 'DUVOL (t-1)', 'MES:Post'), align = TRU
          no.space = TRUE, keep.stat = c('n','rsq'))
```

```
## 
## Table 4: Result for DUVOL measure (With controls)
## =================================================================================
##                                    Dependent variable:
##                  ----------------------------------------------------------------
##                                   DUVOL: Crash Risk Measure
##                    (1)        (2)        (3)        (4)        (5)        (6)        (7)
## -------------------------------------------------------------------------------------
## MES                          -0.875     -2.455                          -1.076
##                  (0.000)    (0.967)    (1.841)    (0.000)    (0.000)    (2.375)    (0.000)
## Post              0.002      0.003      0.004      0.003      0.005      0.005      0.005
##                  (0.007)    (0.009)    (0.011)    (0.007)    (0.009)    (0.008)    (0.009)
## ROA               0.001      0.002      0.001      0.002      0.001      0.001      0.001
##                  (0.001)    (0.002)    (0.001)    (0.001)    (0.001)    (0.001)    (0.001)
## Leverage          0.001*     0.001*     0.001      0.001      0.001      0.001      0.001
##                  (0.0004)   (0.0004)   (0.0004)   (0.001)    (0.0004)   (0.0004)   (0.0004)
## DUVOL (t-1)       0.110***   0.098***   0.092***   0.096***   0.087***   0.090***   0.089***
##                  (0.023)    (0.020)    (0.025)    (0.022)    (0.023)    (0.025)    (0.025)
## MES:Post         -3.180***  -3.231***  -3.248***  -3.228***  -3.245***  -3.275***  -3.260***
##                  (0.0001)   (0.290)    (0.851)    (0.0001)   (0.0001)   (0.794)    (0.0001)
## -------------------------------------------------------------------------------------
## Observations      4,203      4,203      4,203      4,203      4,203      4,203      4,203
## R2                0.025      0.046      0.140      0.055      0.149      0.154      0.158
## =================================================================================
## Note:                                                    *p<0.1; **p<0.05; ***p<0.01
```