

Norwegian Development Funds

Load the Libraries

```
library(readr)

## Warning: package 'readr' was built under R version 3.3.2

library(ggplot2)

## Warning: package 'ggplot2' was built under R version 3.3.2

library(tidyverse)

## Warning: package 'tidyverse' was built under R version 3.3.2

## Loading tidyverse: tibble
## Loading tidyverse: tidyr
## Loading tidyverse: purrr
## Loading tidyverse: dplyr

## Conflicts with tidy packages
-----

## filter(): dplyr, stats
## lag():    dplyr, stats

library(dplyr)
```

Getting the Data

```
ndf <- read_csv("./funds.csv")

## Warning: Missing column names filled in: 'X28' [28]

## Parsed with column specification:
## cols(
##   .default = col_character(),
##   `Policy Marker - Environment` = col_integer(),
##   `Policy Marker - Gender Equality` = col_integer(),
##   `Policy Marker - Good Governance and Human Rights` =
col_integer(),
##   `Policy Marker - Biodiversity` = col_integer(),
##   `Policy Marker - Desertification` = col_integer(),
##   `Policy Marker - Trade Development` = col_integer(),
##   `Policy Marker - Climate Change Mitigation` = col_integer(),
##   `Policy Marker - Climate Change Adaptation` = col_integer(),
##   `Policy Marker - Reproductive. maternal. newborn and child health`
= col_integer(),
##   Year = col_integer(),
##   `Disbursements (1000 NOK)` = col_double(),
```

```
## `Disbursements (1000 $)` = col_double()
## )

## See spec(...) for full column specifications.

head(ndf)

## # A tibble: 6 × 28
##   `Agreement Number`           `Agreement
Title`
##           <chr>
<chr>
## 1           FK/4032           Fredskorpset personell
exchange
## 2           GLO-05/273-12 Primary school textbook production/Resource
Centre
## 3           TAN-08/073           Africa Umoja
Concert
## 4           06-2060235           KS-Local Government Assoc in
BIH
## 5           NGA-04/001           INTSOK kurs i
brønnboring
## 6           GLO-06/282-36           Eye Hospital.
Nepal
## # ... with 26 more variables: `Agreement Partner` <chr>, `Group of
## #   Agreement Partner` <chr>, `Implementing Partner` <chr>,
`Description
## #   of Agreement` <chr>, `Main Sector` <chr>, `Sub Sector` <chr>,
`Target
## #   Area` <chr>, `Recipient Country` <chr>, `Recipient Region`
<chr>,
## #   `Type of Assistance` <chr>, `Policy Marker - Environment` <int>,
## #   `Policy Marker - Gender Equality` <int>, `Policy Marker - Good
## #   Governance and Human Rights` <int>, `Policy Marker -
## #   Biodiversity` <int>, `Policy Marker - Desertification` <int>,
`Policy
## #   Marker - Trade Development` <int>, `Policy Marker - Climate
Change
## #   Mitigation` <int>, `Policy Marker - Climate Change Adaptation`
<int>,
## #   `Policy Marker - Reproductive. maternal. newborn and child
## #   health` <int>, `Extending Agency` <chr>, `Budget Post: Chapter`
<chr>,
## #   `Budget Post: Post` <chr>, Year <int>, `Disbursements (1000
## #   NOK)` <dbl>, `Disbursements (1000 $)` <dbl>, X28 <chr>
```

```
summary(ndf)
```

```
## Agreement Number      Agreement Title      Agreement Partner
## Length:94310          Length:94310          Length:94310
## Class :character      Class :character      Class :character
```

```

## Mode :character Mode :character Mode :character
##
##
##
## Group of Agreement Partner Implementing Partner Description of
Agreement
## Length:94310 Length:94310 Length:94310

## Class :character Class :character Class :character

## Mode :character Mode :character Mode :character

##

##

##

## Main Sector Sub Sector Target Area
## Length:94310 Length:94310 Length:94310
## Class :character Class :character Class :character
## Mode :character Mode :character Mode :character
##
##
##
## Recipient Country Recipient Region Type of Assistance
## Length:94310 Length:94310 Length:94310
## Class :character Class :character Class :character
## Mode :character Mode :character Mode :character
##
##
##
## Policy Marker - Environment Policy Marker - Gender Equality
## Min. :0.0000 Min. :0.0000
## 1st Qu.:0.0000 1st Qu.:0.0000
## Median :0.0000 Median :0.0000
## Mean :0.2633 Mean :0.3491
## 3rd Qu.:0.0000 3rd Qu.:1.0000
## Max. :2.0000 Max. :2.0000
## Policy Marker - Good Governance and Human Rights
## Min. :0.0000
## 1st Qu.:0.0000
## Median :0.0000
## Mean :0.7687
## 3rd Qu.:2.0000
## Max. :2.0000
## Policy Marker - Biodiversity Policy Marker - Desertification
## Min. :0.00000 Min. :0.000
## 1st Qu.:0.00000 1st Qu.:0.000

```

```

## Median :0.00000          Median :0.000
## Mean   :0.05501          Mean   :0.016
## 3rd Qu.:0.00000          3rd Qu.:0.000
## Max.   :2.00000          Max.   :2.000
## Policy Marker - Trade Development
## Min.   :0.00000
## 1st Qu.:0.00000
## Median :0.00000
## Mean   :0.04106
## 3rd Qu.:0.00000
## Max.   :2.00000
## Policy Marker - Climate Change Mitigation
## Min.   :0.00000
## 1st Qu.:0.00000
## Median :0.00000
## Mean   :0.07431
## 3rd Qu.:0.00000
## Max.   :2.00000
## Policy Marker - Climate Change Adaptation
## Min.   :0.00000
## 1st Qu.:0.00000
## Median :0.00000
## Mean   :0.03001
## 3rd Qu.:0.00000
## Max.   :2.00000
## Policy Marker - Reproductive. maternal. newborn and child health
## Min.   :0.00000
## 1st Qu.:0.00000
## Median :0.00000
## Mean   :0.01325
## 3rd Qu.:0.00000
## Max.   :2.00000
## Extending Agency      Budget Post: Chapter Budget Post: Post
Year
## Length:94310          Length:94310          Length:94310          Min.   :
2000
## Class :character      Class :character      Class :character      1st
Qu.:2004
## Mode  :character      Mode  :character      Mode  :character      Median :
2008
##                                                                    Mean   :
2008
##                                                                    3rd
Qu.:2011
##                                                                    Max.   :
2015
## Disbursements (1000 NOK) Disbursements (1000 $)          X28
## Min.   :-269375.2      Min.   :-42905.1      Length:94310
## 1st Qu.: 124.8         1st Qu.: 18.5         Class :character
## Median : 500.0         Median : 76.7         Mode  :character

```

```
## Mean : 3745.4      Mean : 582.2
## 3rd Qu.: 1754.0    3rd Qu.: 264.1
## Max. :2758211.0    Max. :342027.3
```

Checking for NA Values

```
any(is.na(ndf))
```

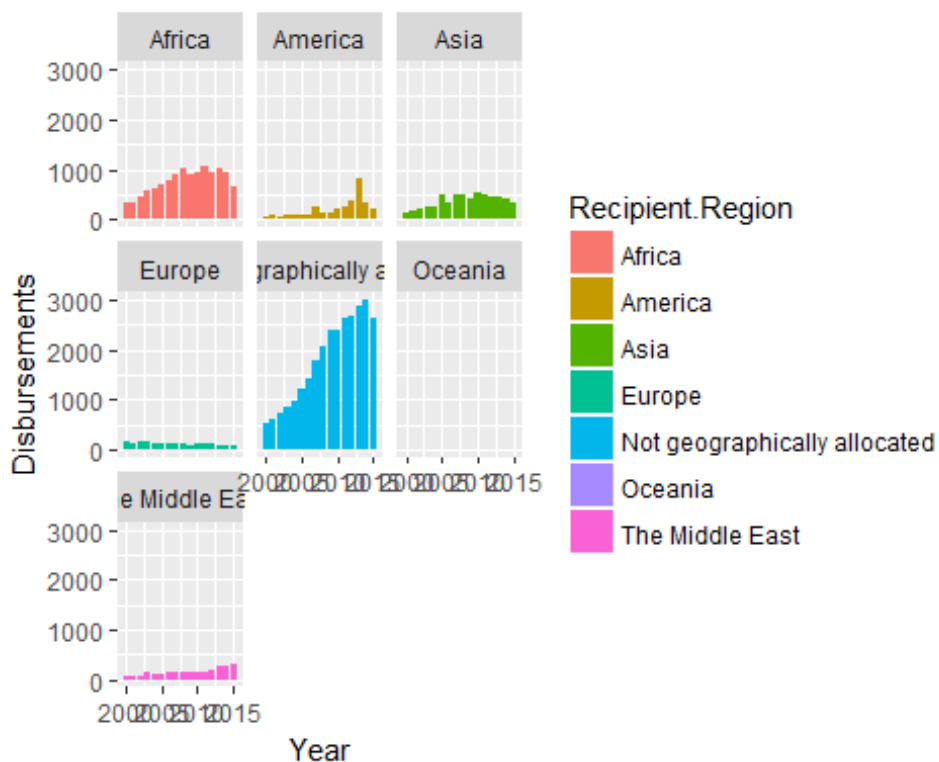
```
## [1] TRUE
```

Cleaning the Data

```
names(ndf) <- make.names(names(ndf))
ndf[, grep("NA.", colnames(ndf))] <- NULL
```

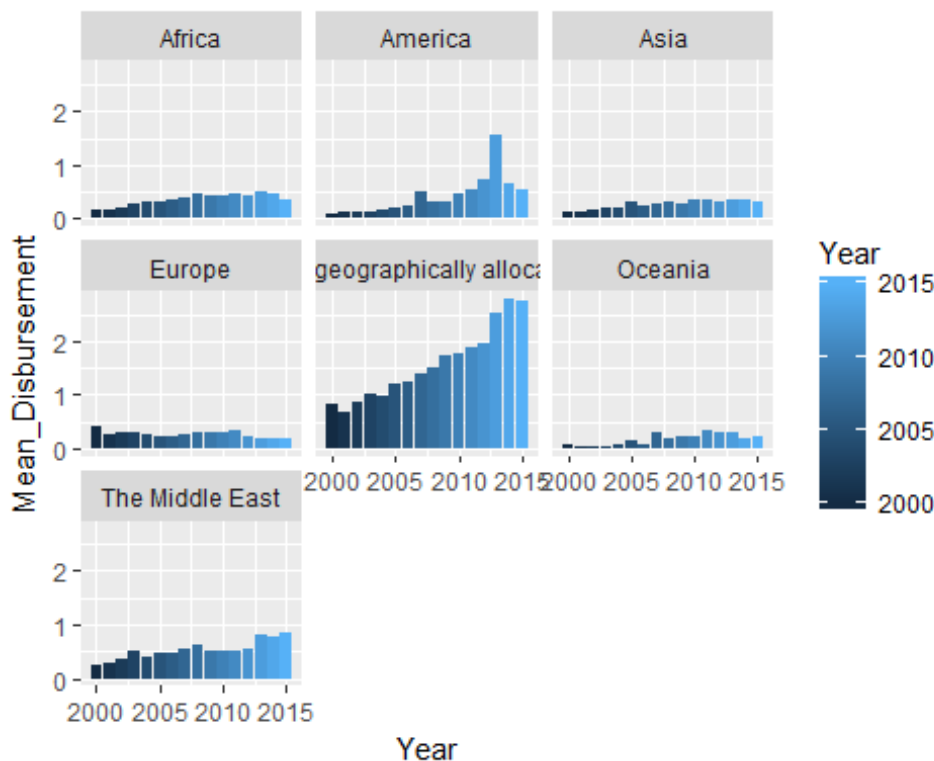
Exploratory Data Analysis

```
ndf %>% group_by(Recipient.Region, Year) %>%
  summarise(Disbursements=sum(Disbursements..1000...)/1000) %>%
  ungroup() %>%
  ggplot(aes(x=Year, y=Disbursements)) +
  geom_bar(stat = "identity", aes(fill=Recipient.Region)) +
  facet_wrap(~Recipient.Region)
```



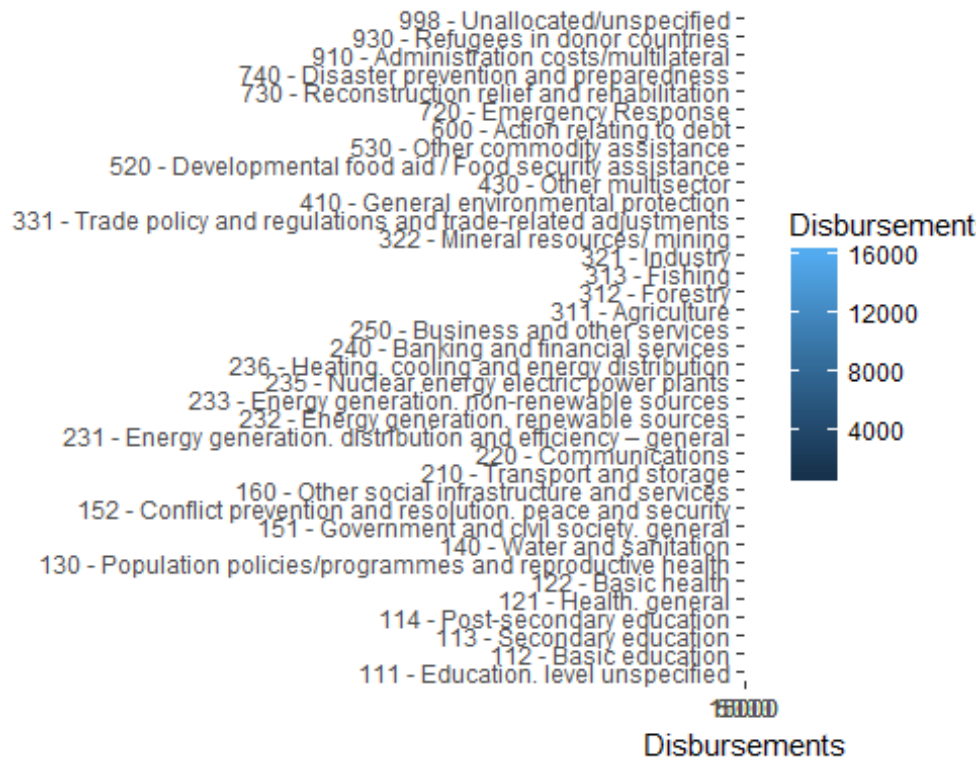
Middle East is slowly picking up, Asia is on decline. Interesting to see the same chart in terms of size of the contract. Are certain regions getting bigger "support packages" then others? Are there material differences in geographical vs non-geographical contracts? Lets look at the quantity of those contracts by country.

```
ndf%>% group_by(Recipient.Region, Year) %>%
  summarise(Mean_Disbursement=mean(Disbursements..1000...)/1000) %>%
  ungroup() %>%
  ggplot(aes(x=Year, y=Mean_Disbursement)) +
  geom_bar(stat = "identity",aes(fill=Year)) +
  facet_wrap(~Recipient.Region)
```



Non Geographical-Projects

```
ndf%>% dplyr::filter(Recipient.Region=="Not geographically allocated")
%>%
  group_by(Main.Sector) %>%
  summarise(Disbursements=sum(Disbursements..1000...)/1000) %>%
  ungroup() %>%
  ggplot(aes(x=Main.Sector, y=Disbursements)) +
  geom_bar(stat = "identity",aes(fill=Disbursements)) + coord_flip()
```



It has been determined that administration costs are very high up for the disbursements.

```
ndf %>%
  dplyr::filter(grepl("910 - Administration", Main.Sector)) %>%
  group_by(Budget.Post..Chapter) %>%
  summarise(Disbursements=sum(Disbursements..1000...)/1000) %>%
  ungroup() %>%
  ggplot(aes(x=Budget.Post..Chapter, y=Disbursements)) +
  geom_bar(stat = "identity", aes(fill=Disbursements)) + coord_flip()
```

