Explore

William Fisher

11/11/2019

Reading in data

```
Clean_data = read_rds(path = "data/clean_data.Rds")

Clean_data = as.data.frame(Clean_data)
```

Drop observations that don't have missing variables

```
Clean_data = Clean_data %>%
  drop_na()
```

Creating a new data set for the summary table, dropping variables that aren't numeric/we're not interested in looking at

```
Clean_data_sum = Clean_data %>%
  select(GDP_growth, Aid, GDP)

kable(summary(Clean_data_sum))
```

GDP_growth	Aid	GDP
Min. :-50.6111	Min. : 0.3106	Min. : 220.0
1st Qu.: 0.2221	1st Qu.: 4.5197	1st Qu.: 512.6
Median : 1.9902	Median : 7.4258	Median : 732.3
Mean : 0.6482	Mean : 9.9062	Mean :1006.5
3rd Qu.: 3.5718	3rd Qu.:13.0648	3rd Qu.:1286.6
Max. : 18.0531	Max. :92.1415	Max. :3587.9

Summary Graph - CPIA (policy ratings), by decade

```
Clean_data = Clean_data %>%
  arrange(Year) %>%
  mutate(
    decade = if_else(
      Year >= 2010, "2010's", "2000's"
    )
  )

ggplot(
  data = Clean_data,
  mapping = aes(
    x = CPIA_Mean, fill = decade
  )
) +
```

```
geom_histogram(binwidth = 0.2) +
theme_minimal() +
labs(title = "Histogram of mean CPIA ratings, by decade") +
xlab("CPIA mean") +
ylab("Obervations")
```

Histogram of mean CPIA ratings, by decade
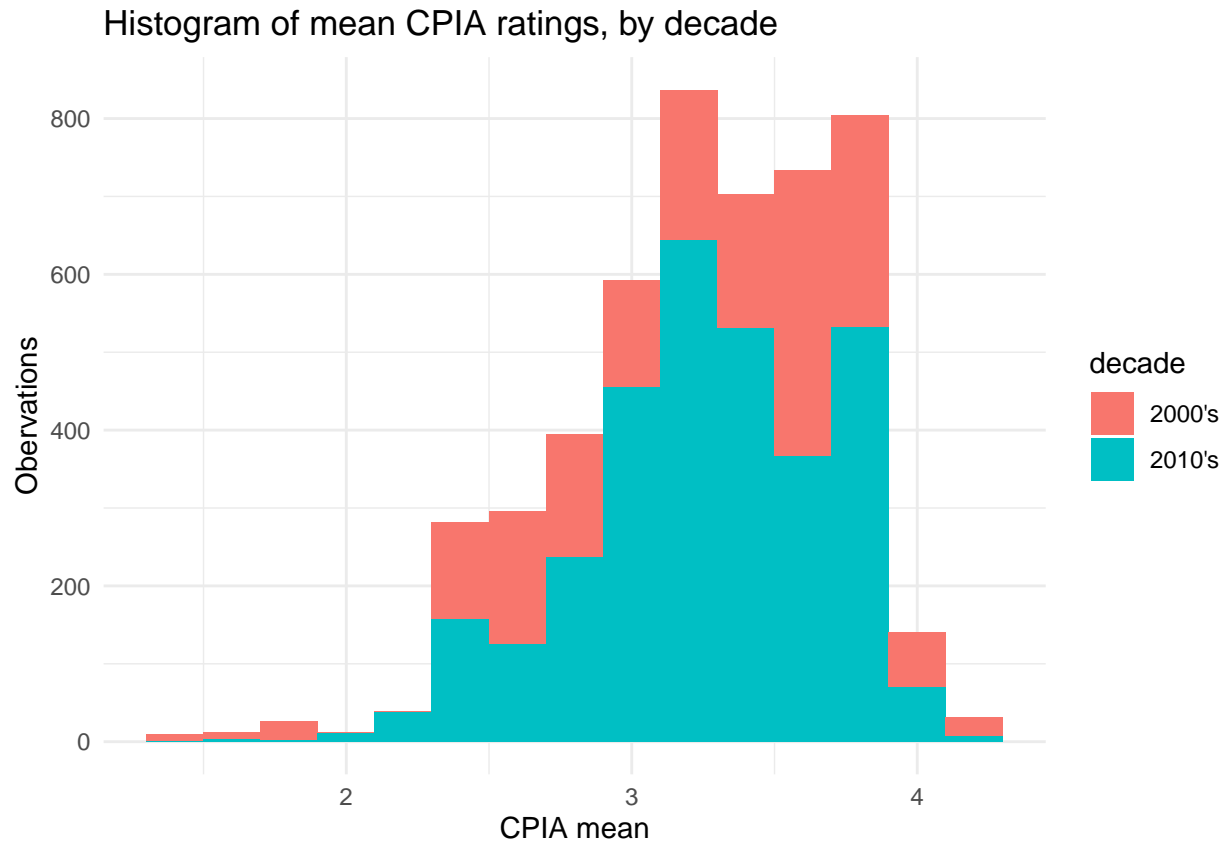

```
ggsave(filename = "graphs/mean_CPIA.png",
       device = "png",
       height = 4,
       width = 8)
```

CPIA over time, by Country

```
ggplot(
  data = Clean_data,
  mapping = aes(
    x = Year, y = CPIA_Mean
  )
) +
  geom_smooth() +
  geom_line(mapping = aes(colour = Country)) +
  theme_minimal() +
  labs(title = "Mean CPIA ratings over time, by Country") +
  xlab("Year") +
  ylab("Mean of CPIA")
```
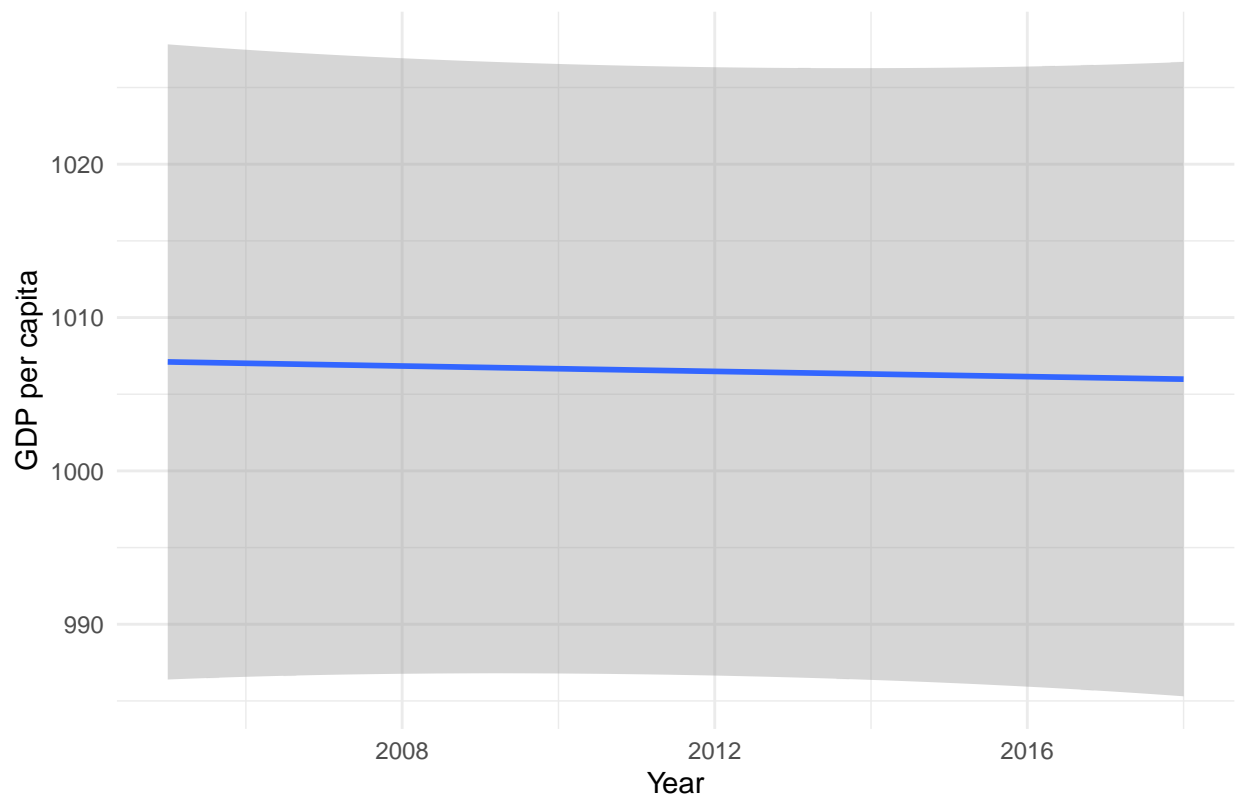
Mean CPIA ratings over time, by Country
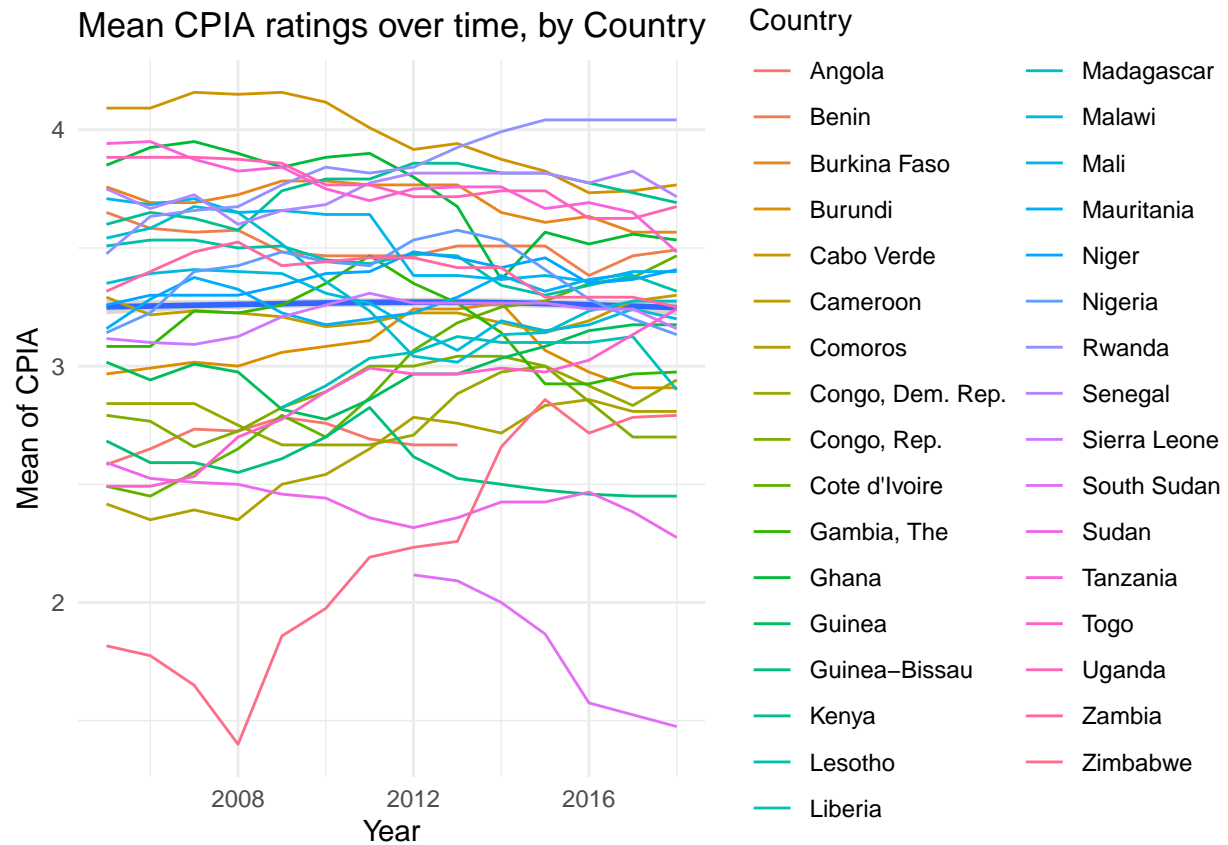

```r
ggsave(filename = "graphs/mean_CPIA_over_time.png",
       device = "png",
       height = 4,
       width = 8)
```

GDP per capita over time

```r
ggplot(
  data = Clean_data,
  mapping = aes(
    x = Year, y = GDP
  )
) +
  geom_smooth() +
  theme_minimal() +
  labs(title = "GDP pc over time, overall") +
  xlab("Year") +
  ylab("GDP per capita")
```

GDP pc over time, overall
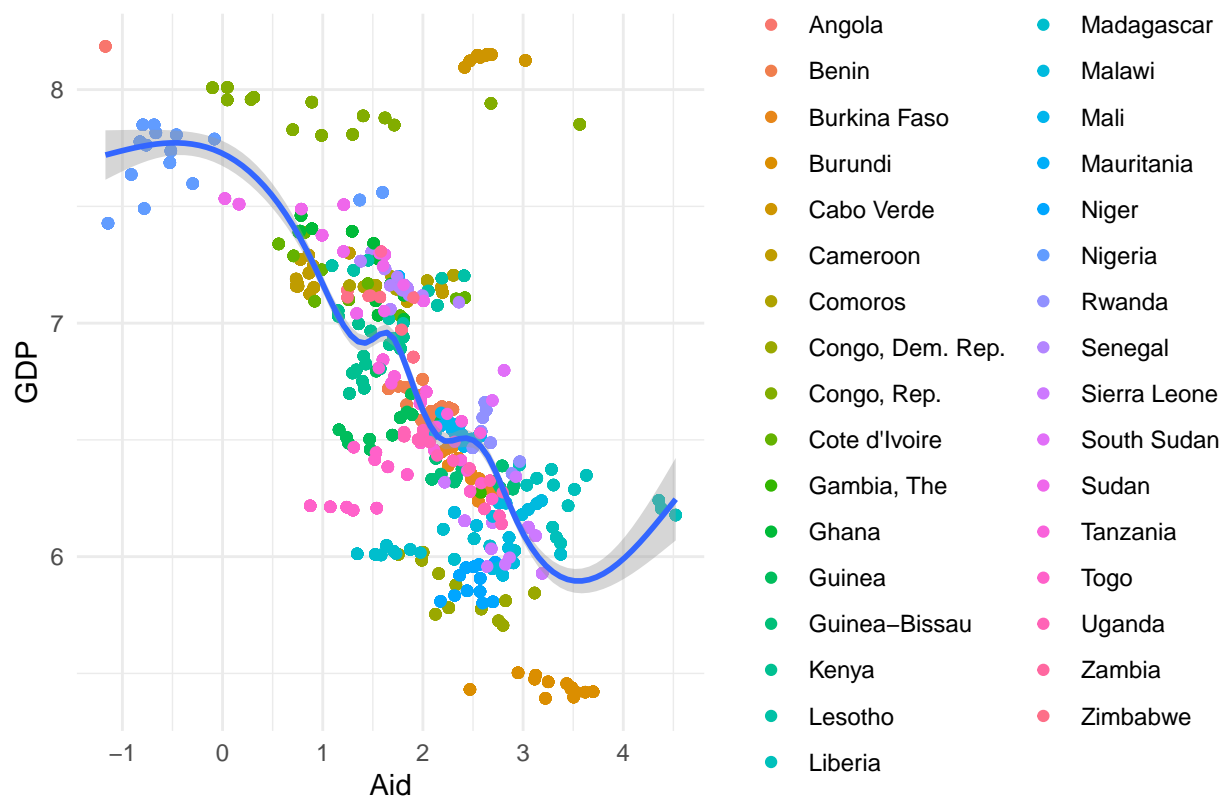


```
ggsave(filename = "graphs/GDP_over_time.png",
       device = "png",
       height = 4,
       width = 8)
```

GDP PC vs Aid they recieve, aid is going to the countries that deserve it

```
ggplot(
  data = Clean_data,
  mapping = aes(
    x = log(Aid), y = log(GDP)
  )
) +
  geom_jitter(mapping = aes(colour = Country)) +
  geom_smooth() +
  theme_minimal() +
  labs(title = "Aid goes to the Countries that need it, Aid vs GDP pc") +
  xlab("Aid") +
  ylab("GDP")
```
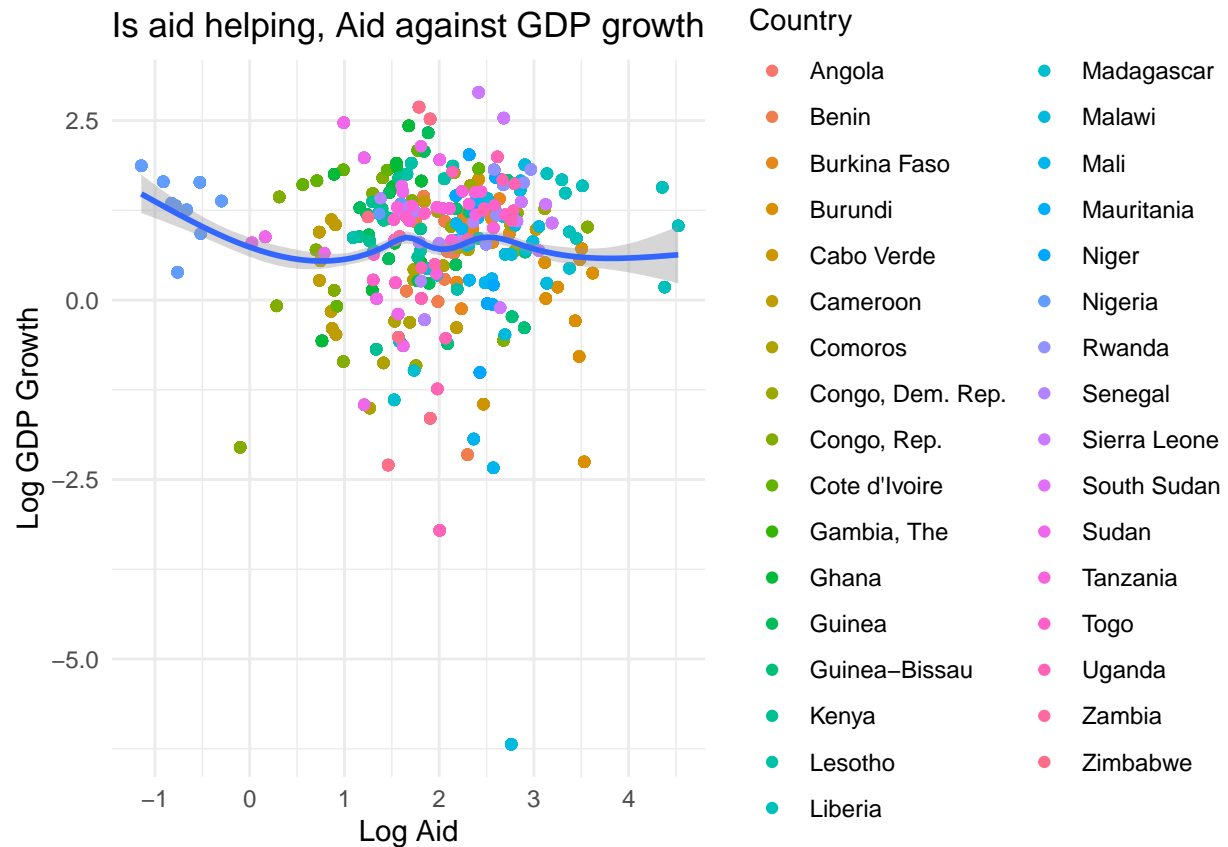
Aid goes to the Countries that need it, Aid vs GDP pc

Country

GDP

Aid

8

7

6

−1 0 1 2 3 4

Legend:
- Angola
- Benin
- Burkina Faso
- Burundi
- Cabo Verde
- Cameroon
- Comoros
- Congo, Dem. Rep.
- Congo, Rep.
- Cote d'Ivoire
- Gambia, The
- Ghana
- Guinea
- Guinea−Bissau
- Kenya
- Lesotho
- Liberia
- Madagascar
- Malawi
- Mali
- Mauritania
- Niger
- Nigeria
- Rwanda
- Senegal
- Sierra Leone
- South Sudan
- Sudan
- Tanzania
- Togo
- Uganda
- Zambia
- Zimbabwe

```
ggsave(filename = "graphs/aid_vs_gdp.png",
       device = "png",
       height = 4,
       width = 8)
```

GDP growth against Aid, is Aid leading to growth?

```
ggplot(
  data = Clean_data,
  mapping = aes(
    x = log(Aid), y = log(GDP_growth)
  )
) +
  geom_jitter(mapping = aes(colour = Country)) +
  geom_smooth() +
  theme_minimal() +
  labs(title = "Is aid helping, Aid against GDP growth") +
  xlab("Log Aid") +
  ylab("Log GDP Growth")
```

Is aid helping, Aid against GDP growth

Country

- Angola
- Benin
- Burkina Faso
- Burundi
- Cabo Verde
- Cameroon
- Comoros
- Congo, Dem. Rep.
- Congo, Rep.
- Cote d'Ivoire
- Gambia, The
- Ghana
- Guinea
- Guinea–Bissau
- Kenya
- Lesotho
- Liberia
- Madagascar
- Malawi
- Mali
- Mauritania
- Niger
- Nigeria
- Rwanda
- Senegal
- Sierra Leone
- South Sudan
- Sudan
- Tanzania
- Togo
- Uganda
- Zambia
- Zimbabwe

```r
ggsave(filename = "graphs/aid_vs_gdp_growth.png",
       plot = last_plot(),
       device = "png",
       height = 4,
       width = 8)
```

Saving data

```r
Clean_data %>%
  write_rds("data/clean_data_1.Rds")
```