Analyzing the data

REPORTING WITH R MARKDOWN

Amy Peterson
Head of Core Curriculum at DataCamp

datacamp

Loading packages

````
---
title: "Investment Report"
date: "`r format(Sys.time(), '%d %B %Y')`"
output: html_document
---

```{r data, include = FALSE}
library(readr)

investment_annual_summary <- read_csv("https://assets.datacamp.com/production/repositories/5756/datasets/d0251f26117bbcf0ea96ac276555b9003f4f7372/investment_annual_summary.csv")
investment_services_projects <- read_csv("https://assets.datacamp.com/production/repositories/5756/datasets/bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/investment_services_projects.csv")
```
````

Loading packages

````
---
title: "Investment Report"
date: "`r format(Sys.time(), '%d %B %Y')`"
output: html_document
---

```{r data, include = FALSE}
library(readr)
library(dplyr)

investment_annual_summary <- read_csv("https://assets.datacamp.com/production/repositories/5756/datasets/d0251f26117bbcf0ea96ac276555b9003f4f7372/investment_annual_summary.csv")
investment_services_projects <- read_csv("https://assets.datacamp.com/production/repositories/5756/datasets/bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/investment_services_projects.csv")
```
````

Filtering for projects in Indonesia

````
29  ```{r}
30  indonesia_investment_projects <- investment_services_projects %>%
31    filter(country == "Indonesia")
32
33  indonesia_investment_projects
34  ```
````

```
indonesia_investment_projects <- investment_services_projects %>%
  filter(country == "Indonesia")

indonesia_investment_projects
```

```
## # A tibble: 38 x 13
##    date_disclosed      country ifc_country_code sector project_name
##    <dttm>              <chr>   <chr>            <chr>  <chr>
##  1 2018-04-27 00:00:00 Indone~ INS              other  SSIA Ind Est
##  2 2018-04-25 00:00:00 Indone~ INS              Infra~ PT Bajraday~
##  3 2018-01-10 00:00:00 Indone~ INS              Agrib~ Nabati Indo~
##  4 2017-11-14 00:00:00 Indone~ INS              Finan~ MBK Loan 20~
##  5 2017-07-05 00:00:00 Indone~ INS              Finan~ IIF USD Loan
##  6 2017-04-12 00:00:00 Indone~ INS              Finan~ Indosurya F~
##  7 2017-02-21 00:00:00 Indone~ INS              Healt~ Quantum
##  8 2016-12-22 00:00:00 Indone~ INS              Finan~ BTPN MSME L~
##  9 2016-12-13 00:00:00 Indone~ INS              Finan~ Radana Fina~
## 10 2016-09-20 00:00:00 Indone~ INS              Manuf~ PT Aneka Ga~
## # ... with 28 more rows, and 8 more variables: project_number <dbl>,
## #   company_name <chr>, status <chr>, risk_management_investment <dbl>,
## #   guarantee_investment <dbl>, loan_investment <dbl>, equity_investment <dbl>,
## #   total_investment <dbl>
```

Filtering for projects in Indonesia in 2012

````
```{r}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

indonesia_investment_projects_2012
```
````

```
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

indonesia_investment_projects_2012
```

```
## # A tibble: 6 x 13
##   date_disclosed      country ifc_country_code sector project_name
##   <dttm>              <chr>   <chr>            <chr>  <chr>
## 1 2012-04-27 00:00:00 Indone~ INS              Agrib~ FHP Indones~
## 2 2012-04-03 00:00:00 Indone~ INS              Finan~ LMS Toll Pr~
## 3 2012-02-27 00:00:00 Indone~ INS              Finan~ CIMB Niaga ~
## 4 2011-12-16 00:00:00 Indone~ INS              Oil, ~ BTPN Loan II
## 5 2011-11-17 00:00:00 Indone~ INS              Infra~ Medco Power~
## 6 2011-10-03 00:00:00 Indone~ INS              Finan~ Wintermar G~
## # ... with 8 more variables: project_number <dbl>, company_name <chr>,
## #   status <chr>, risk_management_investment <dbl>, guarantee_investment <dbl>,
## #   loan_investment <dbl>, equity_investment <dbl>, total_investment <dbl>
```

Including code results in text

````
```{r}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

indonesia_investment_projects_2012_total <- indonesia_investment_projects_2012 %>%
  summarize(sum_total_investment = sum(total_investment, na.rm = TRUE))
```
````

Including code results in text

````
```{r}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

indonesia_investment_projects_2012_total <- indonesia_investment_projects_2012 %>%
  summarize(sum_total_investment = sum(total_investment, na.rm = TRUE))
```

The total investment amount of all projects in Indonesia in the 2012 fiscal year
was `r indonesia_investment_projects_2012_total` million dollars.
````

```r
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

indonesia_investment_projects_2012_total <- indonesia_investment_projects
_2012 %>%
  summarize(sum_total_investment = sum(total_investment, na.rm = TRUE))
```

The total investment amount for all projects in Indonesia in the 2012 fiscal year was 435 million dollars.

Multiple code chunks

````
### Investment Projects in Indonesia

The `investment_services_projects` dataset provides information about each investme
project from 2012 to 2018. Information listed includes the project name, company na
sector, project status, and investment amounts.

```{r}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

indonesia_investment_projects_2012
```

### Investment Projects in Indonesia in 2012
```{r}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")
````
````

Naming code chunks

````
### Investment Projects in Indonesia

The `investment_services_projects` dataset provides information about each investme
project from 2012 to 2018. Information listed includes the project name, company na
sector, project status, and investment amounts.

```{r indonesia-investment-projects}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

indonesia_investment_projects_2012
```

### Investment Projects in Indonesia in 2012
```{r indonesia-investment-projects-2012}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")
````
````

Let's practice!

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Adding plots

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Head of Core Curriculum at DataCamp

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Loading ggplot2

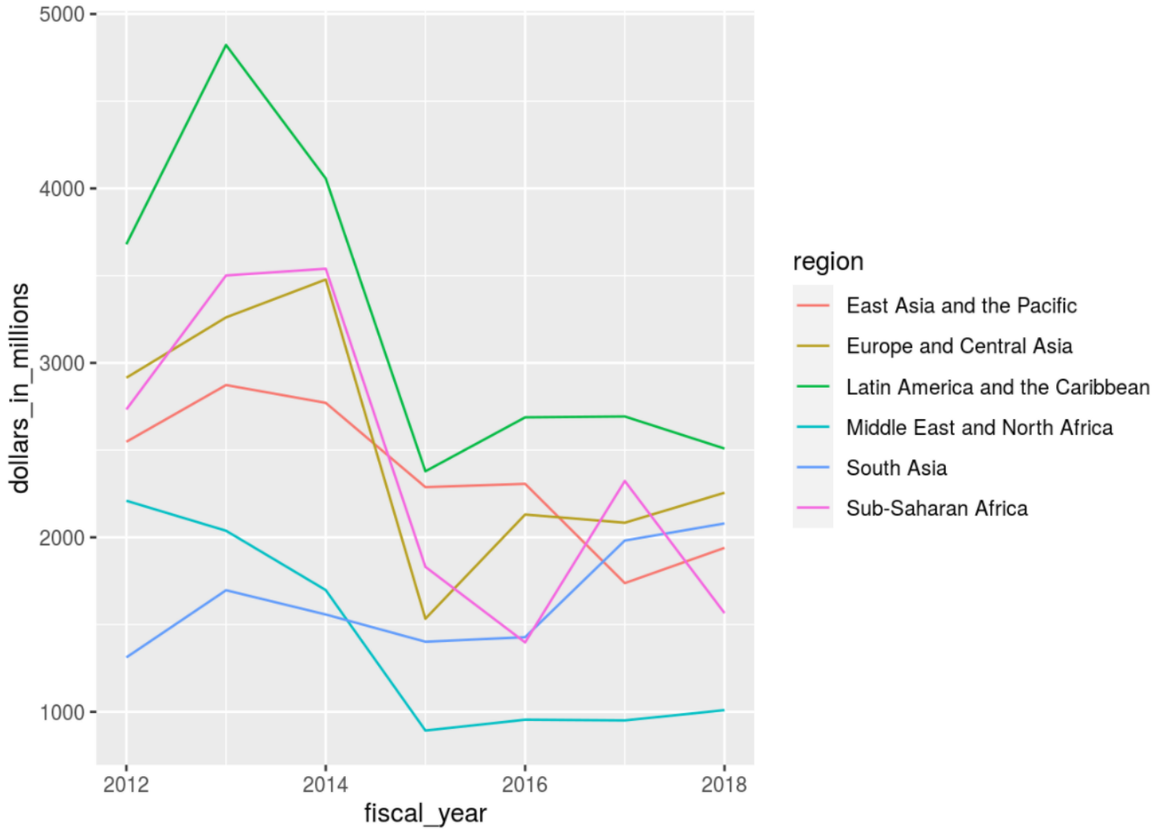
````
---
title: "Investment Report"
date: "`r format(Sys.time(), '%d %B %Y')`"
output: html_document
---

```{r data, include = FALSE}
library(readr)
library(dplyr)
library(ggplot2)

investment_annual_summary <- read_csv("https://assets.datacamp.com/production/repositories/5756/datasets/d0251f26117bbcf0ea96ac276555b9003f4f7372/investment_annual_summary.csv")
investment_services_projects <- read_csv("https://assets.datacamp.com/production/repositories/5756/datasets/bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/investment_services_projects.csv")
```
````

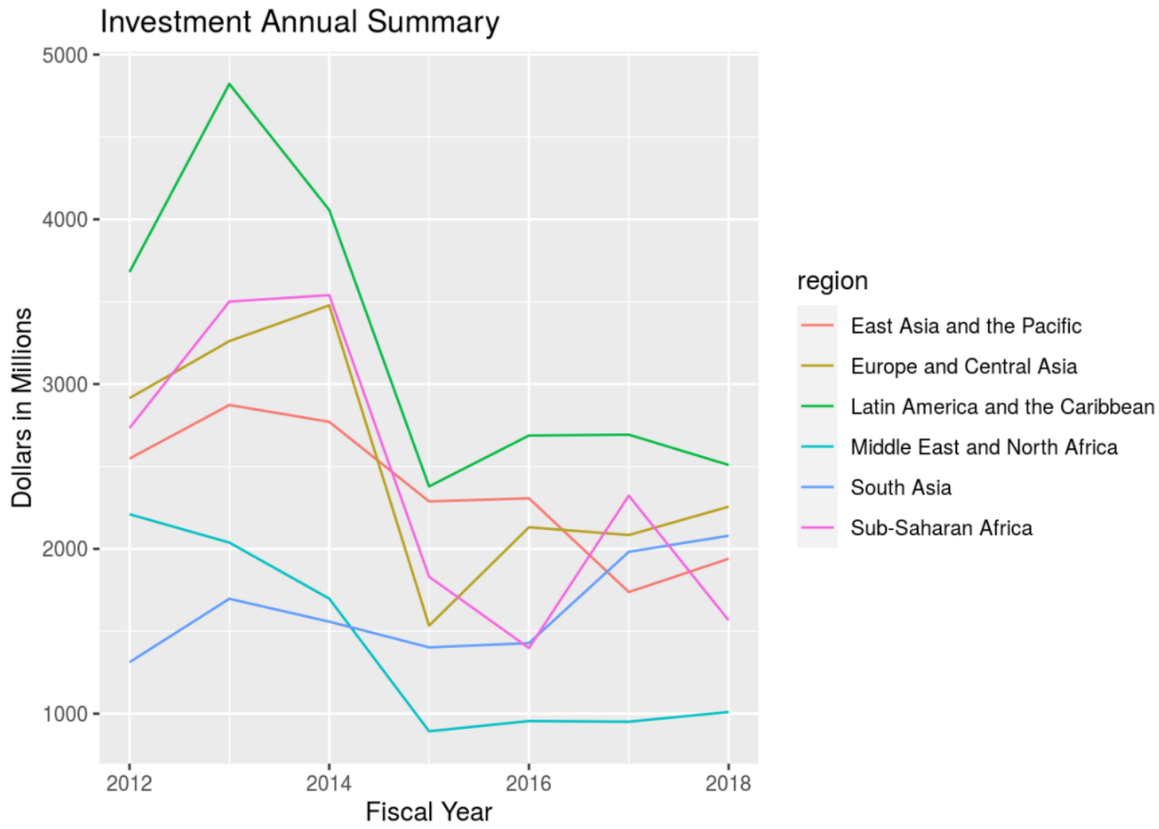
Visualizing the annual summary

````
21  ```{r investment-annual-summary}
22  ggplot(investment_annual_summary, aes(x = fiscal_year, y = dollars_in_millions,
     color = region)) +
23    geom_line()
24  ```
````



Adding plot labels

```
21  ```{r investment-annual-summary}
22  ggplot(investment_annual_summary, aes(x = fiscal_year, y = dollars_in_millions,
     color = region)) +
23    geom_line() +
24    labs(
25      title = "Investment Annual Summary",
26      x = "Fiscal Year",
27      y = "Dollars in Millions"
28    )
29  ```
```

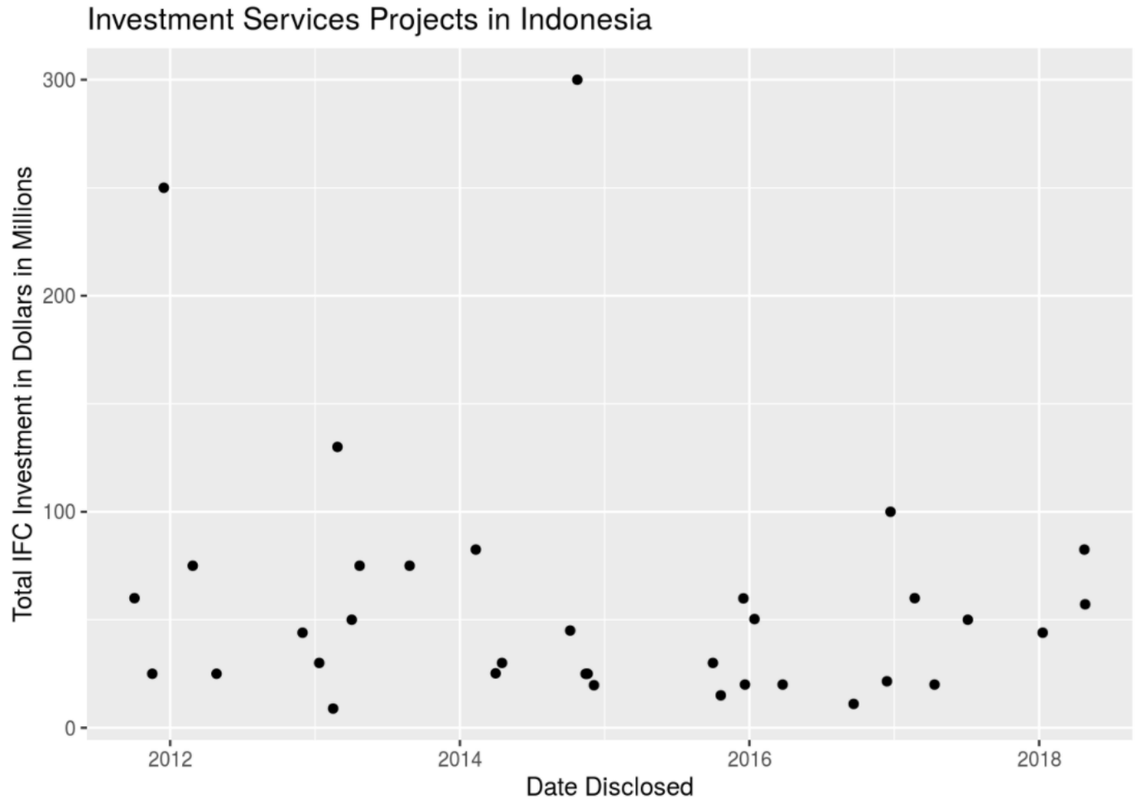


Visualizing projects in Indonesia

````
```{r indonesia-investment-projects}
indonesia_investment_projects <- investment_services_projects %>%
  filter(country == "Indonesia")

ggplot(indonesia_investment_projects, aes(x = date_disclosed, y =
total_investment)) +
  geom_point() +
  labs(
    title = "Investment Services Projects in Indonesia",
    x = "Date Disclosed",
    y = "Total IFC Investment in Dollars in Millions"
  )
```
````

```
## Warning: Removed 3 rows containing missing values (geom_point).
```

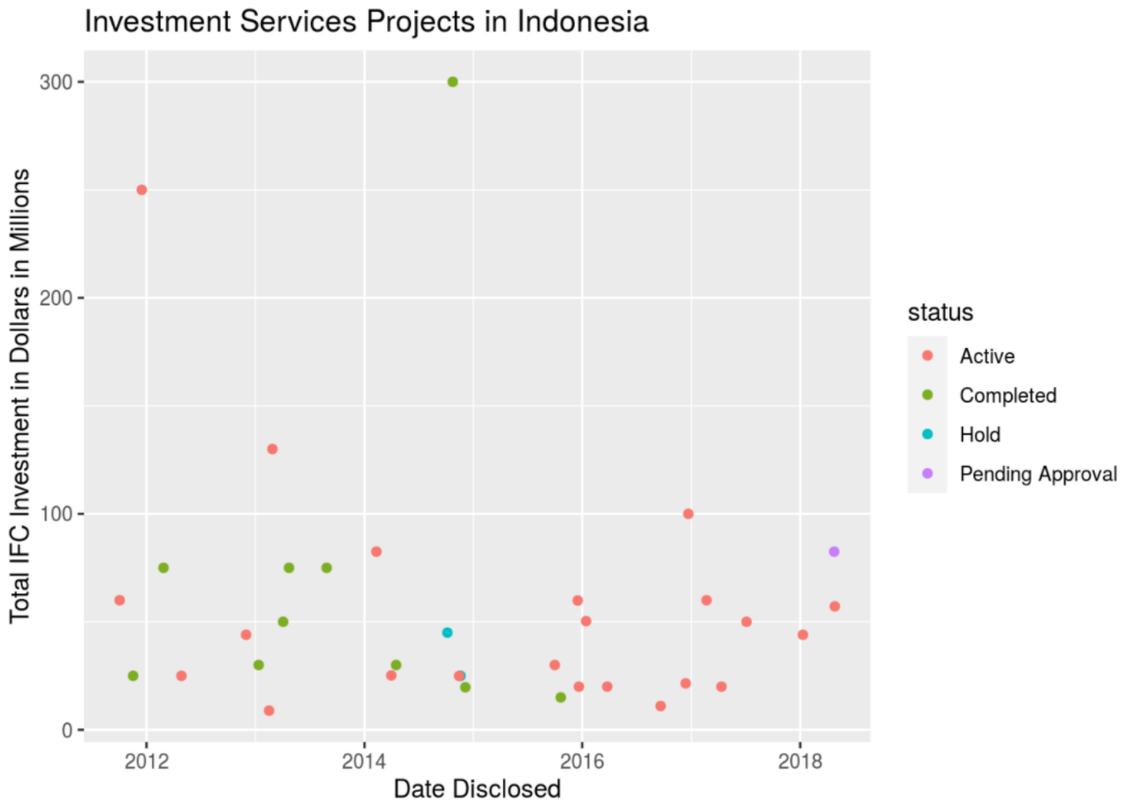


Visualizing project status

````
```{r indonesia-investment-projects}
indonesia_investment_projects <- investment_services_projects %>%
  filter(country == "Indonesia")

ggplot(indonesia_investment_projects, aes(x = date_disclosed, y =
total_investment, color = status)) +
  geom_point() +
  labs(
    title = "Investment Services Projects in Indonesia",
    x = "Date Disclosed",
    y = "Total IFC Investment in Dollars in Millions"
  )
```
````

```
## Warning: Removed 3 rows containing missing values (geom_point).
```

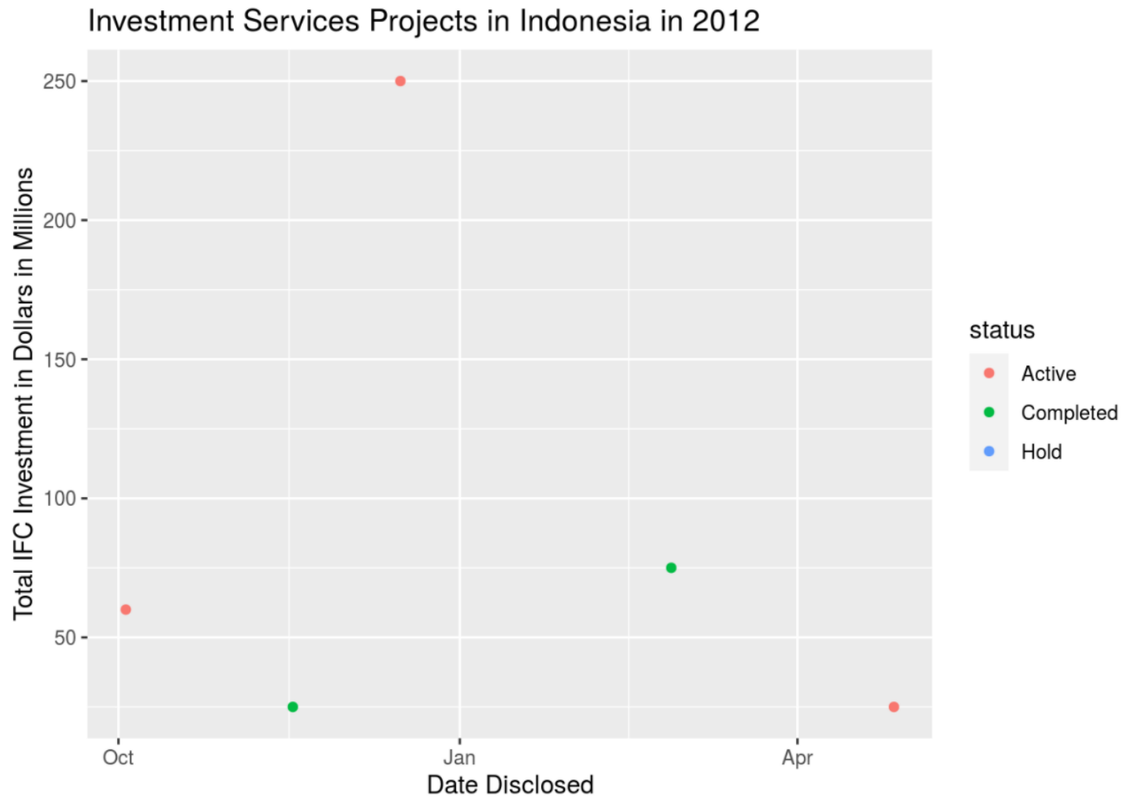


Visualizing projects in Indonesia in 2012

````
```{r indonesia-investment-projects-2012}
indonesia_investment_projects_2012 <- investment_services_projects %>%
  filter(country == "Indonesia",
         date_disclosed >= "2011-07-01",
         date_disclosed <= "2012-06-30")

ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y =
total_investment, color = status)) +
  geom_point() +
  labs(
    title = "Investment Services Projects in Indonesia in 2012",
    x = "Date Disclosed",
    y = "Total IFC Investment in Dollars in Millions"
  )
```
````

```
## Warning: Removed 1 rows containing missing values (geom_point).
```



Missing values

```
indonesia_investment_projects_2012
```

```
# A tibble: 6 x 7
  project_name     status    risk_manage... guarantee_inv... loan_investment equity_investment total_investment
  <chr>            <chr>             <dbl>           <dbl>           <dbl>             <dbl>            <dbl>
1 FHP Indonesia I  Active               NA              NA              NA                25               25
2 LMS Toll Project Hold                 NA              NA              NA                NA               NA
3 CIMB Niaga Sr.   Completed            NA              NA              75                NA               75
4 BTPN Loan II     Active               NA              NA             250                NA              250
5 Medco Power 2011 Completed            NA              NA              NA                25               25
6 Wintermar Group  Active               NA              NA              60                NA               60
```

Let's practice!

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Plot options

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Figure dimensions

- `fig.width`
- `fig.height`

Figure dimensions

```
26  ```{r investment-annual-summary, fig.width = 5, fig.height = 3}
27  ggplot(investment_annual_summary, aes(x = fiscal_year, y =
    dollars_in_millions, color = region)) +
28    geom_line() +
29    labs(
30      title = "Investment Annual Summary",
31      x = "Fiscal Year",
32      y = "Dollars in Millions"
33    )
34  ```
```

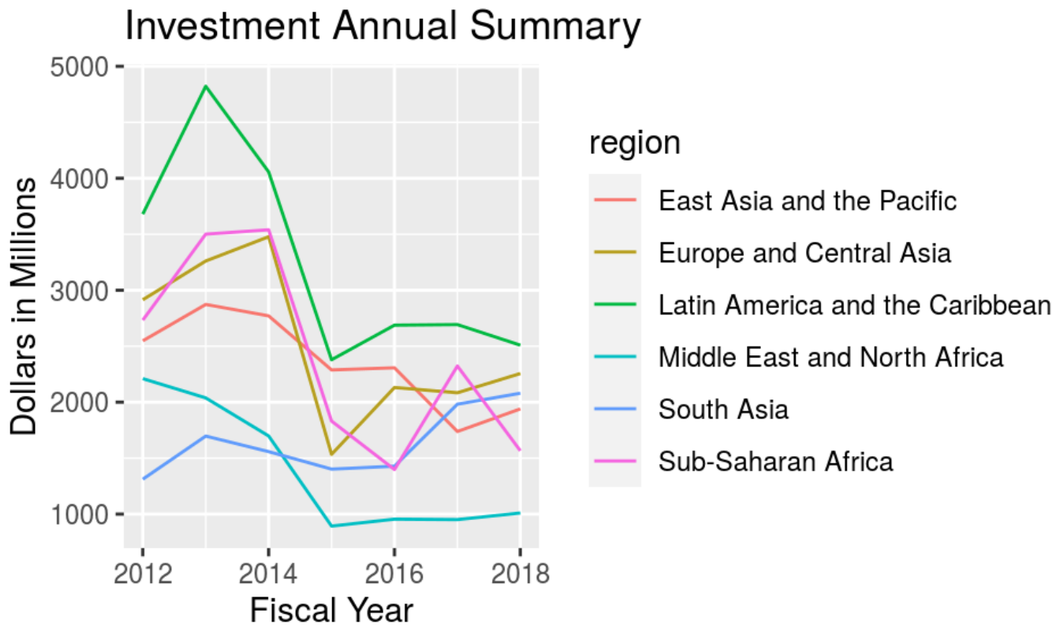
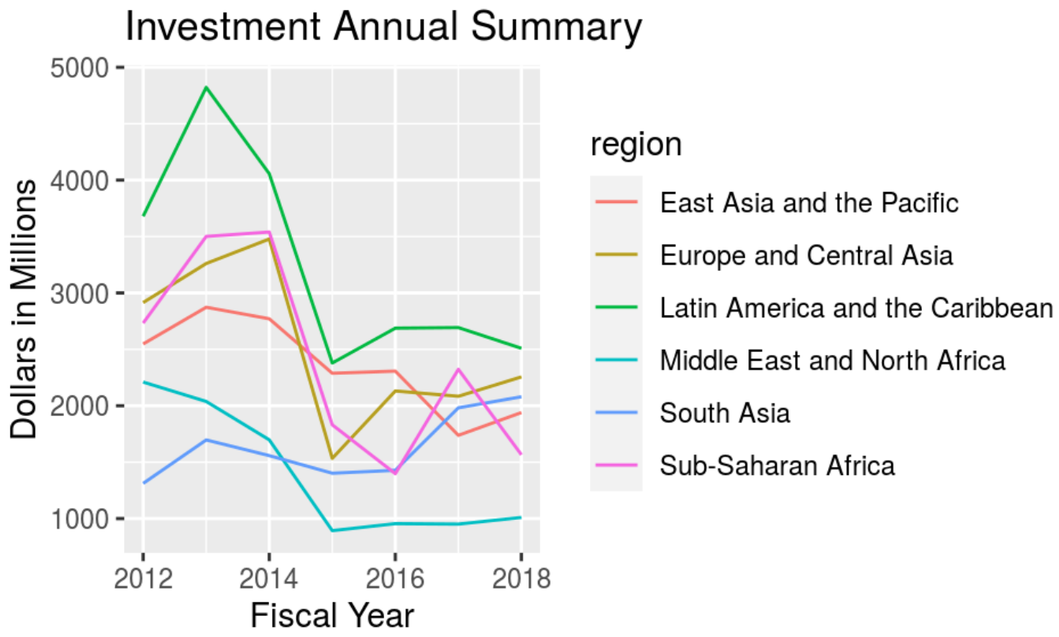


Figure dimensions

````
```{r investment-annual-summary, fig.dim = c(5, 3)}
ggplot(investment_annual_summary, aes(x = fiscal_year, y =
dollars_in_millions, color = region)) +
  geom_line() +
  labs(
    title = "Investment Annual Summary",
    x = "Fiscal Year",
    y = "Dollars in Millions"
  )
```
````



Output dimensions

- `out.width`
- `out.height`

Output dimensions

````
```{r investment-annual-summary, out.width = '50%'}
ggplot(investment_annual_summary, aes(x = fiscal_year, y =
dollars_in_millions, color = region)) +
  geom_line() +
  labs(
    title = "Investment Annual Summary",
    x = "Fiscal Year",
    y = "Dollars in Millions"
  )
```
````

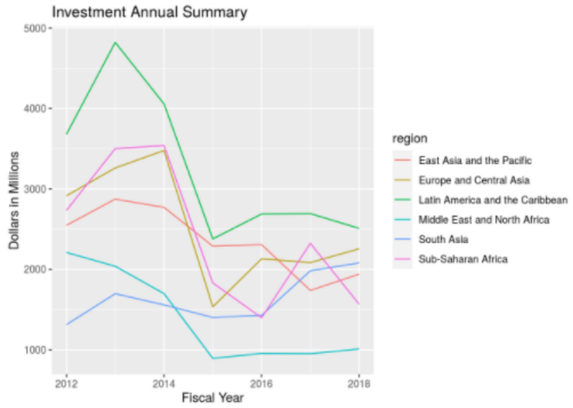


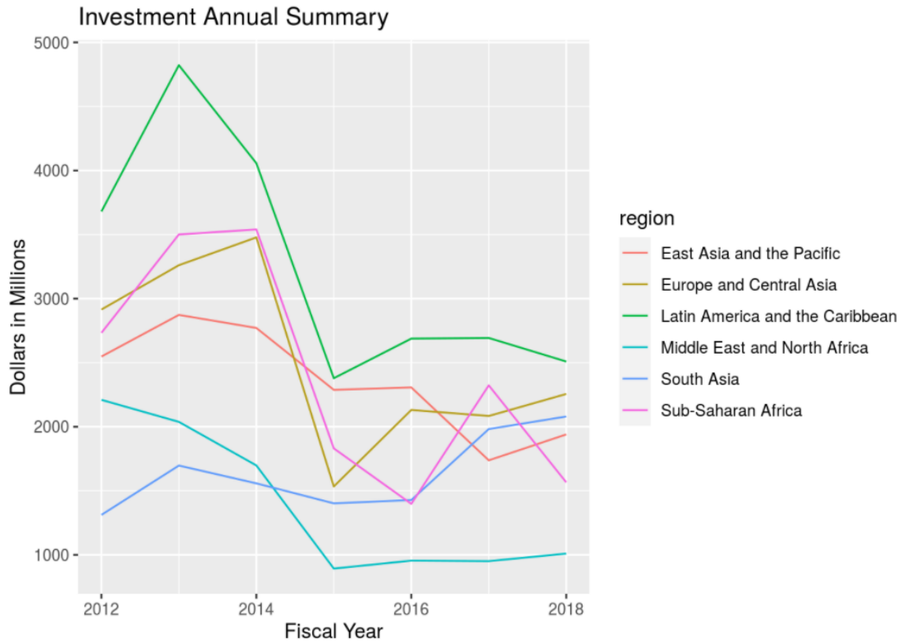
Figure alignment

- `fig.align`
  - `'left'`
  - `'right'`
  - `'center'`

Figure alignment

````
```{r investment-annual-summary, out.width = '80%', fig.align = 'left'}
ggplot(investment_annual_summary, aes(x = fiscal_year, y =
dollars_in_millions, color = region)) +
  geom_line() +
  labs(
    title = "Investment Annual Summary",
    x = "Fiscal Year",
    y = "Dollars in Millions"
  )
```
````

```
ggplot(investment_annual_summary, aes(x = fiscal_year, y = dollars_in_millions, color =
region)) +
  geom_line() +
  labs(
    title = "Investment Annual Summary",
    x = "Fiscal Year",
    y = "Dollars in Millions"
  )
```



Local vs. global options

````
```{r investment-annual-summary, fig.align = 'center'}
ggplot(investment_annual_summary, aes(x = fiscal_year, y =
dollars_in_millions, color = region)) +
  geom_line() +
  labs(
    title = "Investment Annual Summary",
    x = "Fiscal Year",
    y = "Dollars in Millions"
  )
```

### Investment Projects in Indonesia

The `investment_services_projects` dataset provides information about each
investment project from 2012 to 2018. Information listed includes the project
name, company name, sector, project status, and investment amounts.
```{r indonesia-investment-projects, fig.align = 'center'}
indonesia_investment_projects <- investment_services_projects %>%
  filter(country == "Indonesia")

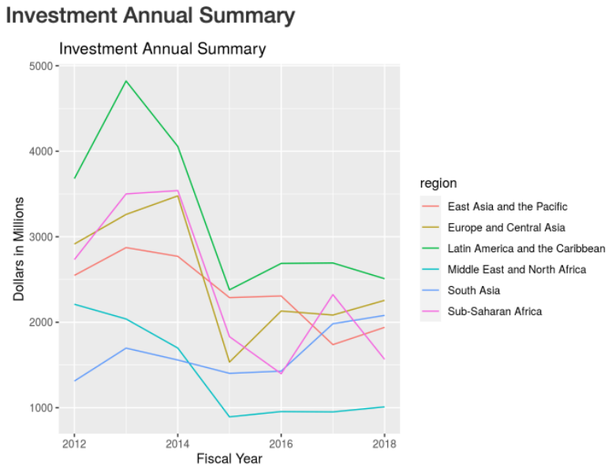
ggplot(indonesia_investment_projects, aes(x = date_disclosed, y =
total_investment, color = status)) +
  geom_point() +
  labs(
    title = "Investment Services Projects in Indonesia",
    x = "Date Disclosed",
    y = "Total IFC Investment in Dollars in Millions"
  )
```
````

````
```{r setup, include = FALSE}
knitr::opts_chunk$set(fig.align = 'center', echo = TRUE)
```
````

Setting options globally

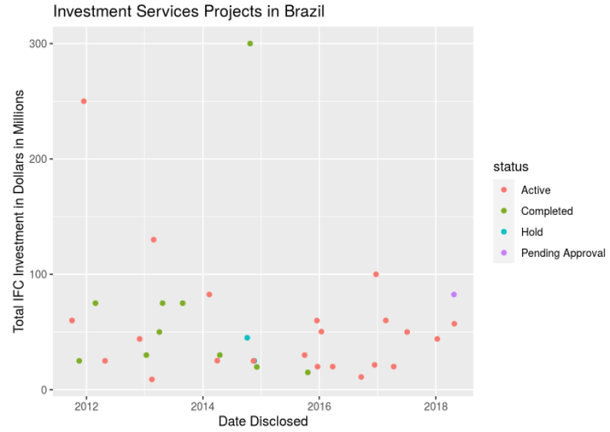
```
---
title: "Investment Report"
date: "`r format(Sys.time(), '%d %B %Y')`"
output: html_document
---

```{r setup, include = FALSE}
knitr::opts_chunk$set(fig.align = 'left', echo = TRUE)
```
```



Investment Projects in Indonesia

```
## Warning: Removed 3 rows containing missing values (geom_point).
```



Adding captions

````
```{r investment-annual-summary, out.width = '85%', fig.cap = 'Figure 1.1 The Investment Annual Summary for each region for the 2012 to 2018 fiscal years.'}
ggplot(investment_annual_summary, aes(x = fiscal_year, y = dollars_in_millions, color = region)) +
  geom_line() +
  labs(
    title = "Investment Annual Summary",
    x = "Fiscal Year",
    y = "Dollars in Millions"
  )
```
````

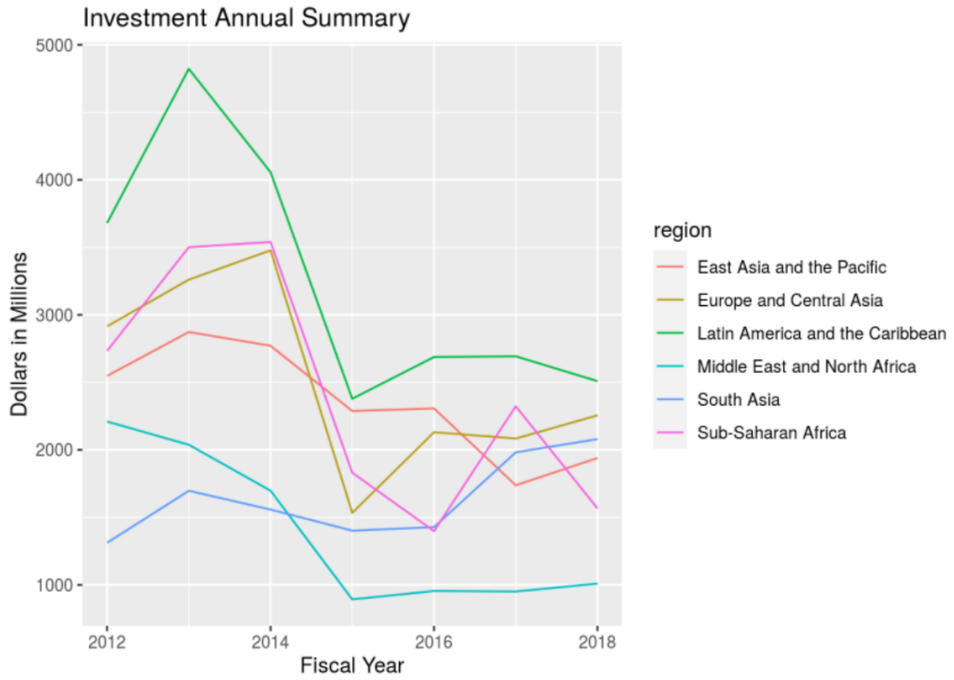


Figure 1.1 The Investment Annual Summary for each region for the 2012 to 2018 fiscal years.

Let's practice!

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