

Organizing the report

REPORTING WITH R MARKDOWN



Amy Peterson

Curriculum Manager at DataCamp

Lists and tables

- Region
 - East Asia and the Pacific
 - Europe and Central Asia
 - Latin America and the Caribbean
 - Middle East and North Africa
 - South Asia
 - Sub-Saharan Africa

Lists and tables

- Region
 - East Asia and the Pacific
 - Europe and Central Asia
 - Latin America and the Caribbean
 - Middle East and North Africa
 - South Asia
 - Sub-Saharan Africa
- Region
 - 1. East Asia and the Pacific
 - 2. Europe and Central Asia
 - 3. Latin America and the Caribbean
 - 4. Middle East and North Africa
 - 5. South Asia
 - 6. Sub-Saharan Africa

| Region | Dollars in Millions |
|---------------------------------|---------------------|
| East Asia and the Pacific | 16465 |
| Europe and Central Asia | 17659 |
| Latin America and the Caribbean | 22828 |
| Middle East and North Africa | 9755 |
| South Asia | 11459 |
| Sub-Saharan Africa | 16892 |

Bulleted lists

```
23 ### Investment Annual Summary
24 The `investment_annual_summary` dataset provides a summary of the
25 dollars in millions provided to each of the following regions for
26 each fiscal year, from 2012 to 2018:
27
28 - Region
29   - East Asia and the Pacific
30   - Europe and Central Asia
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32   - Middle East and North Africa
33   - South Asia
34   - Sub-Saharan Africa
```

Investment Annual Summary

The `investment_annual_summary` dataset provides a summary of the dollars in millions provided to each region for each fiscal year, from 2012 to 2018.

- Region
 - East Asia and the Pacific
 - Europe and Central Asia
 - Latin America and the Caribbean
 - Middle East and North Africa
 - South Asia
 - Sub-Saharan Africa

Numbered lists

```
23 ### Investment Annual Summary
24 The `investment_annual_summary` dataset provides a summary of the
25 dollars in millions provided to each of the following regions for
26 each fiscal year, from 2012 to 2018:
27
28 Region
29   1. East Asia and the Pacific
30   2. Europe and Central Asia
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34   6. Sub-Saharan Africa
```

Investment Annual Summary

The `investment_annual_summary` dataset provides a summary of the dollars in millions provided to each region for each fiscal year, from 2012 to 2018.

Region

1. East Asia and the Pacific
2. Europe and Central Asia
3. Latin America and the Caribbean
4. Middle East and North Africa
5. South Asia
6. Sub-Saharan Africa

Adding tables with kable()

```
44  ````{r tables}
45  kable(indonesia_investment_projects_2012_summary)
46  ````
```

```
kable(indonesia_investment_projects_2012_summary)
```

| project_name | status | total_investment |
|------------------|-----------|------------------|
| FHP Indonesia I | Active | 25 |
| LMS Toll Project | Hold | NA |
| CIMB Niaga Sr. | Completed | 75 |
| BTPN Loan II | Active | 250 |
| Medco Power 2011 | Completed | 25 |
| Wintermar Group | Active | 60 |

Modifying table column names

```
44  ```{r tables}
45  kable(indonesia_investment_projects_2012_summary,
46  | | | col.names = c("Project Name", "Status", "Total Investment"))
47  ```
```

```
kable(indonesia_investment_projects_2012_summary, col.names = c("Project Name",
"Status", "Total Investment"))
```

| Project Name | Status | Total Investment |
|------------------|-----------|------------------|
| FHP Indonesia I | Active | 25 |
| LMS Toll Project | Hold | NA |
| CIMB Niaga Sr. | Completed | 75 |
| BTPN Loan II | Active | 250 |
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| Wintermar Group | Active | 60 |

Table alignment

```
kable(indonesia_investment_projects_2012_summary, col.names = c("Project Name",  
"Status", "Total Investment"))
```

| Project Name | Status | Total Investment |
|------------------|-----------|------------------|
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Modifying table alignment

```
44  ````{r tables}
45  kable(indonesia_investment_projects_2012_summary,
46  |   | col.names = c("Project Name", "Status", "Total Investment"),
47  |   | align = "ccc")
48  ````
```

```
kable(indonesia_investment_projects_2012_summary, col.names = c("Project Name",
"Status", "Total Investment"), align = "ccc")
```

| Project Name | Status | Total Investment |
|------------------|-----------|------------------|
| FHP Indonesia I | Active | 25 |
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| Wintermar Group | Active | 60 |

Adding table caption

```
44  ````{r tables}
45  kable(indonesia_investment_projects_2012_summary,
46  |   col.names = c("Project Name", "Status", "Total Investment"),
47  |   align = "ccc",
48  |   caption = "Table 1.1 The total investment summary for each
49  |   project in Indonesia for the 2012 fiscal year.")
50  ````
```

```
kable(indonesia_investment_projects_2012_summary, col.names = c("Project Name",
"Status", "Total Investment"), align = "ccc", caption = "Table 1.1 The total inv
estment summary for each project in Indonesia in the 2012 fiscal year.")
```

Table 1.1 The total investment summary for each project in Indonesia in the 2012 fiscal year.

| Project Name | Status | Total Investment |
|------------------|-----------|------------------|
| FHP Indonesia I | Active | 25 |
| LMS Toll Project | Hold | NA |
| CIMB Niaga Sr. | Completed | 75 |
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Code chunk options

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The data code chunk

```
11  ```{r data, include = FALSE}
12  library(readr)
13  library(dplyr)
14  library(ggplot2)
15  library(knitr)
16
17 investment_annual_summary <- read_csv("https://assets.datacamp.com/
18   production/repositories/5756/datasets/
19   d0251f26117bbcf0ea96ac276555b9003f4f7372/
20   investment_annual_summary.csv")
21 investment_region_summary <- read_csv("https://assets.datacamp.com/
22   production/repositories/5756/datasets/
23   52f5414f6504e0503e86eb1043afa9b3d157fab2/
24   investment_region_summary.csv")
25 investment_services_projects <- read_csv("https://
26   assets.datacamp.com/production/repositories/5756/datasets/
27   bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/
28   investment_services_projects.csv")
29 ...
30 ````
```

The data code chunk

```
11  ```{r data, include = FALSE}
12  library(readr)
13  library(dplyr)
14  library(ggplot2)
15  library(knitr)
16
17 investment_annual_summary <- read_csv("https://assets.datacamp.com/
18   production/repositories/5756/datasets/
19   d0251f26117bbcf0ea96ac276555b9003f4f7372/
20   investment_annual_summary.csv")
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22   production/repositories/5756/datasets/
23   52f5414f6504e0503e86eb1043afa9b3d157fab2/
24   investment_region_summary.csv")
25 investment_services_projects <- read_csv("https://
26   assets.datacamp.com/production/repositories/5756/datasets/
27   bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/
28   investment_services_projects.csv")
29 ...
30 ````
```

The include option

```
1 ---  
2 title: "Investment Report"  
3 date: ``r format(Sys.time(), '%d %B %Y')``  
4 output: html_document  
5 ---  
6  
7 ```{r setup, include = FALSE}  
8 knitr::opts_chunk$set(fig.align = 'center')  
9 ```  
10  
11 ```{r data, include = FALSE}  
12 library(readr)  
13 library(dplyr)  
14 library(ggplot2)  
15 library(knitr)  
16  
17 investment_annual_summary <- read_csv("https://  
assets.datacamp.com/production/repositories/5756/datasets/  
d0251f26117bbcf0ea96ac276555b9003f4f7372/  
investment_annual_summary.csv")  
18 investment_region_summary <- read_csv("https://  
assets.datacamp.com/production/repositories/5756/datasets/  
52f5414f6504e0503e86eb1043afa9b3d157fab2/  
investment_region_summary.csv")  
19 investment_services_projects <- read_csv("https://  
assets.datacamp.com/production/repositories/5756/datasets/  
bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/  
investment_services_projects.csv")  
20  
21  
22 ## Datasets  
23 ### Investment Annual Summary  
24
```

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Datasets

Investment Annual Summary

The echo option

```
34 ````{r investment-annual-summary, out.width = '85%', fig.cap = 'Figure  
1.1 The Investment Annual Summary for each region for 2012 to 2018.',  
echo = FALSE}  
35 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"  
  )  
````
```

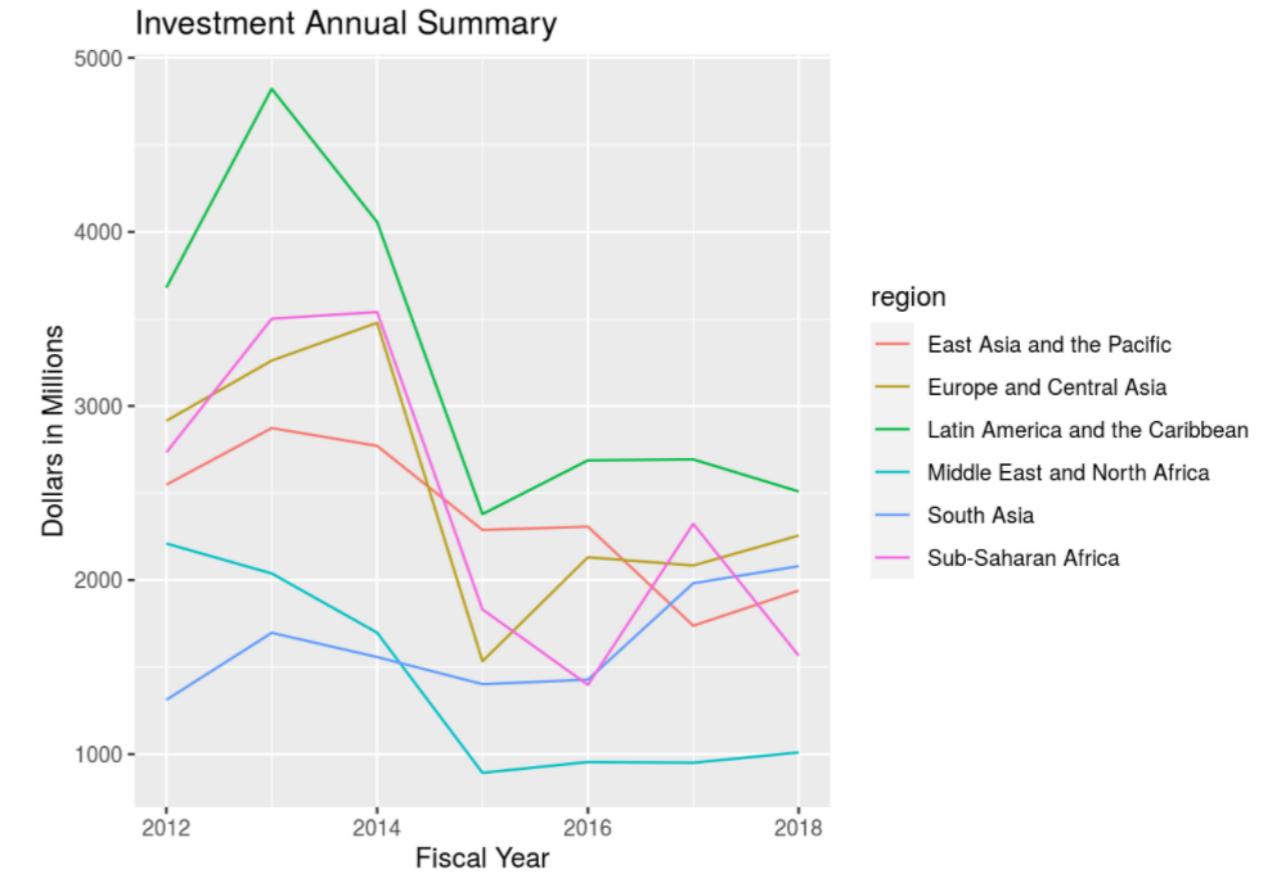


Figure 1.1 The Investment Annual Summary for each region for the 2012 to 2018 fiscal years.

# The eval option

```
44 ````{r tables, eval = FALSE}
45 kable(investment_region_summary, col.names = c("Region", "Dollars in
Millions"), align = "cc", caption = "Table 1.1 The total investment
summary for each region for the 2012 to 2018 fiscal years.")
46 ````
```

```
kable(investment_region_summary, col.names = c("Region", "Dollars in Millions"),
align = "cc", caption = "Table 1.1 The total investment summary for each region
for the 2012 to 2018 fiscal years.")
```

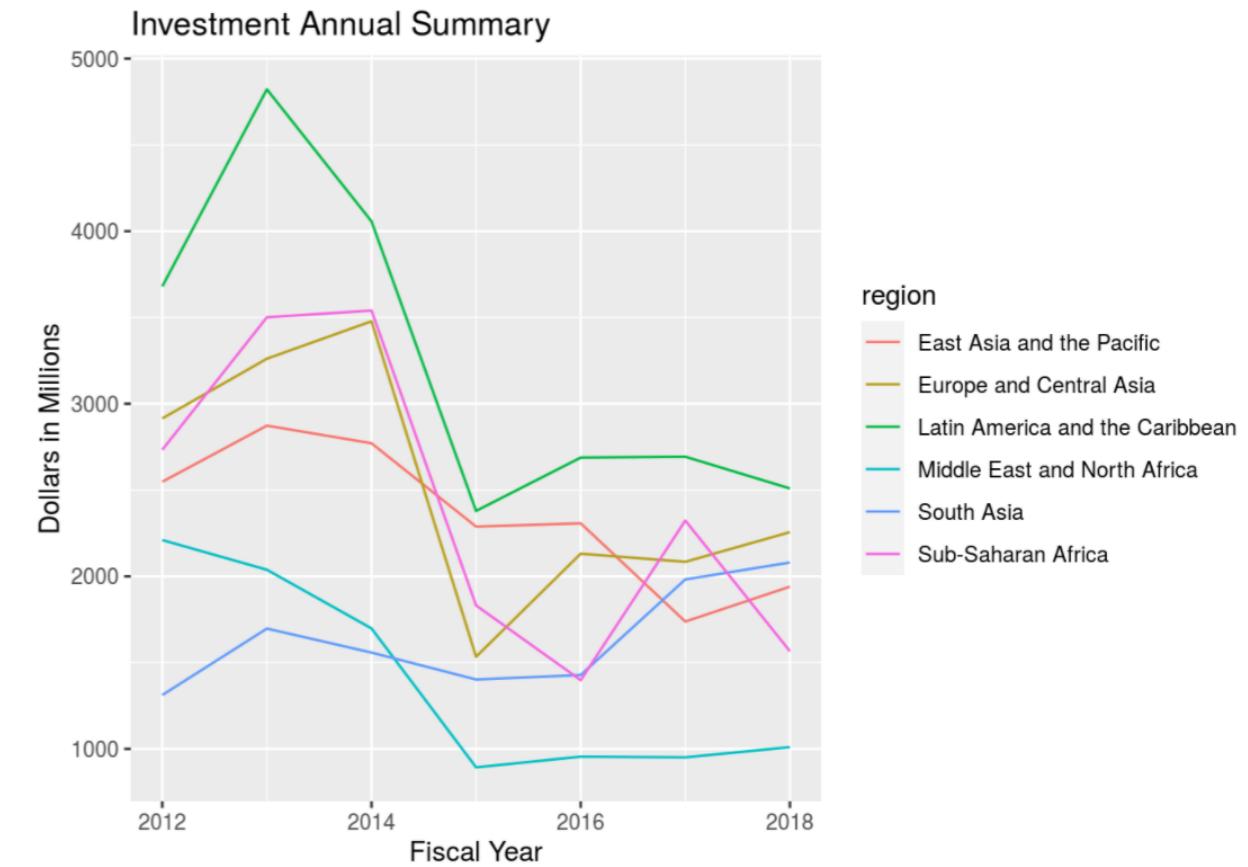


Figure 1.1 The Investment Annual Summary for each region for the 2012 to 2018 fiscal years.

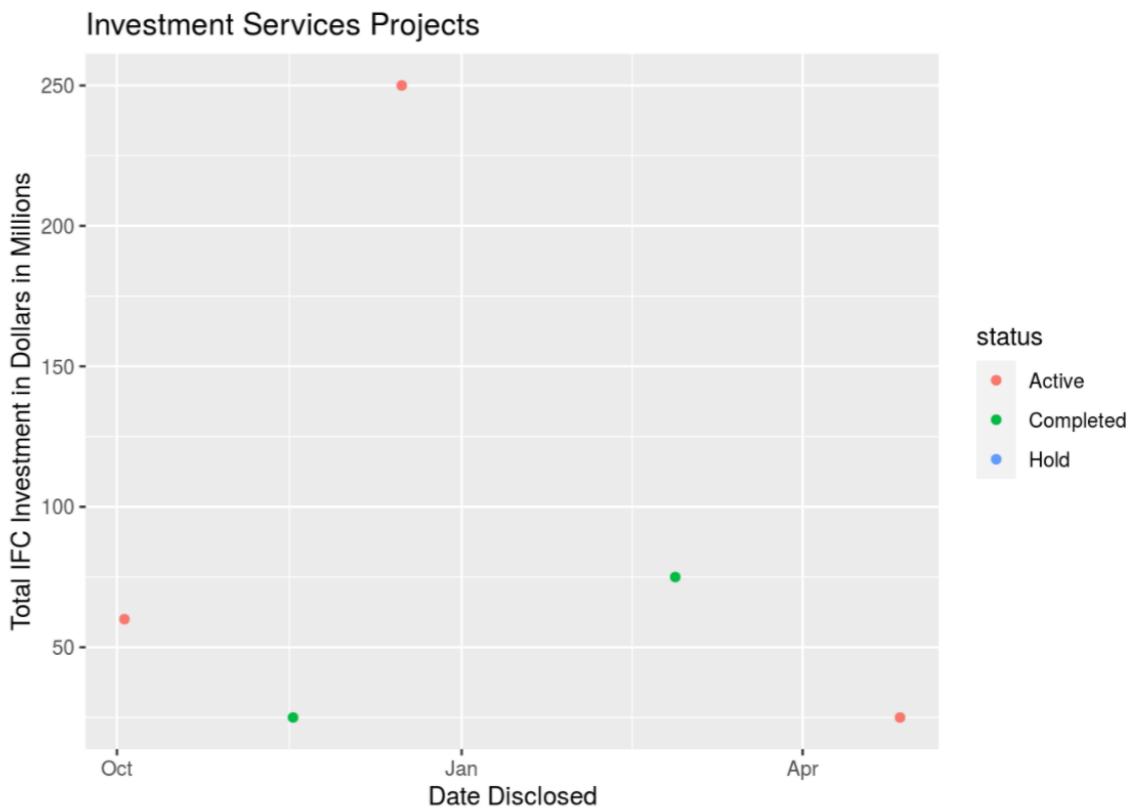
# Code option summary

|                              | <b>Code is run</b> | <b>Code appears in report</b> | <b>Results appear in report</b> |
|------------------------------|--------------------|-------------------------------|---------------------------------|
| <code>include = FALSE</code> | Yes                | No                            | No                              |
| <code>echo = FALSE</code>    | Yes                | No                            | Yes                             |
| <code>eval = FALSE</code>    | No                 | Yes                           | No                              |

# The collapse option

```
67 ````{r indonesia-investment-projects-2012}
68 indonesia_investment_projects_2018 <- investment_services_projects %>%
69 filter(country == "Indonesia",
70 date_disclosed >= "2011-07-01",
71 date_disclosed <= "2012-06-30")
72
73 ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y =
74 total_investment, color = status)) +
75 geom_point() +
76 labs(
77 title = "Investment Services Projects in Indonesia in 2012",
78 x = "Date Disclosed",
79 y = "Total IFC Investment in Dollars in Millions"
80)````
```

```
ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y = total_
investment, color = status)) +
 geom_point() +
 labs(
 title = "Investment Services Projects",
 x = "Date Disclosed",
 y = "Total IFC Investment in Dollars in Millions"
)
Warning: Removed 1 rows containing missing values (geom_point).
```



# The collapse option

```
67 ```{r indonesia-investment-projects-2012, collapse = TRUE}
68 indonesia_investment_projects_2018 <- investment_services_projects %>%
69 filter(country == "Indonesia",
70 | | | date_disclosed >= "2011-07-01",
71 | | | date_disclosed <= "2012-06-30")
72
73 ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y =
74 total_investment, color = status)) +
75 geom_point() +
76 labs(
77 title = "Investment Services Projects in Indonesia in 2012",
78 x = "Date Disclosed",
79 y = "Total IFC Investment in Dollars in Millions"
80)```

```

```
ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y = total_
investment, color = status)) +
 geom_point() +
 labs(
 title = "Investment Services Projects",
 x = "Date Disclosed",
 y = "Total IFC Investment in Dollars in Millions"
)
Warning: Removed 1 rows containing missing values (geom_point).
```



# Warnings, messages, and errors

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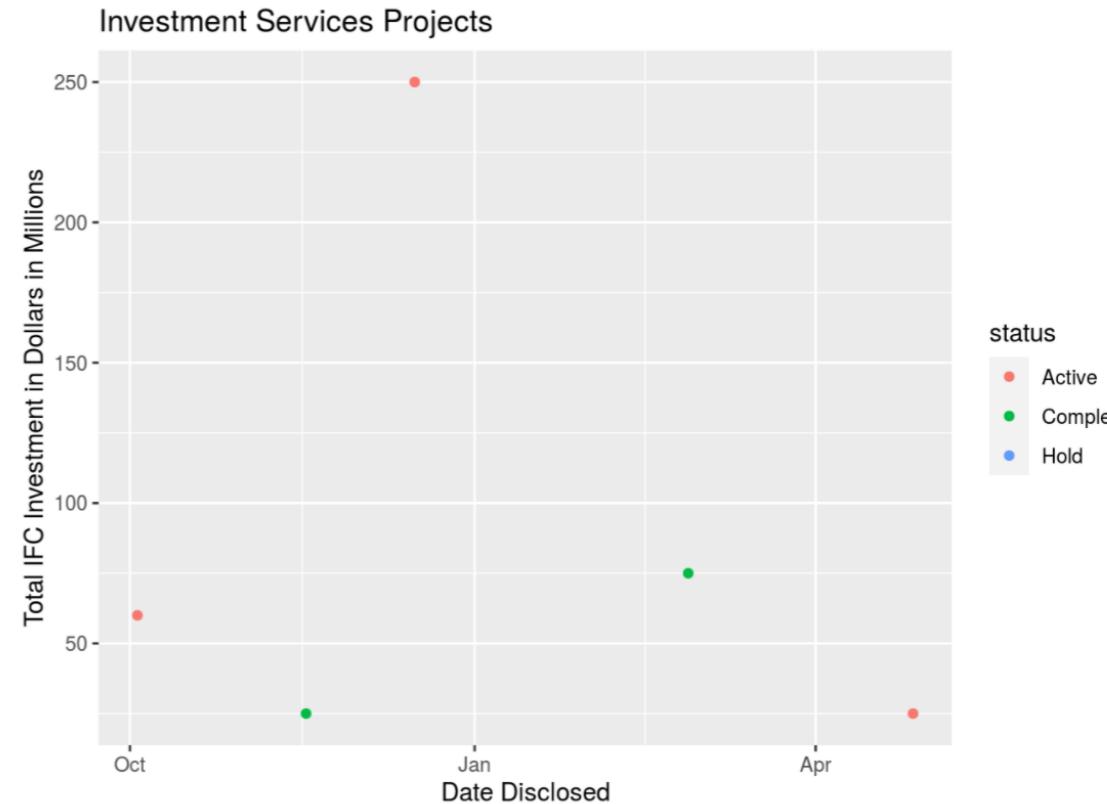
Amy Peterson

Curriculum Manager at DataCamp

# Warnings

```
67 ````{r indonesia-investment-projects-2012}
68 indonesia_investment_projects_2018 <- investment_services_projects %>%
69 filter(country == "Indonesia",
70 date_disclosed >= "2011-07-01",
71 date_disclosed <= "2012-06-30")
72
73 ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y =
74 total_investment, color = status)) +
75 geom_point() +
76 labs(
77 title = "Investment Services Projects in Indonesia in 2012",
78 x = "Date Disclosed",
79 y = "Total IFC Investment in Dollars in Millions"
80)````
```

```
ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y = total_
investment, color = status)) +
 geom_point() +
 labs(
 title = "Investment Services Projects",
 x = "Date Disclosed",
 y = "Total IFC Investment in Dollars in Millions"
)
Warning: Removed 1 rows containing missing values (geom_point).
```

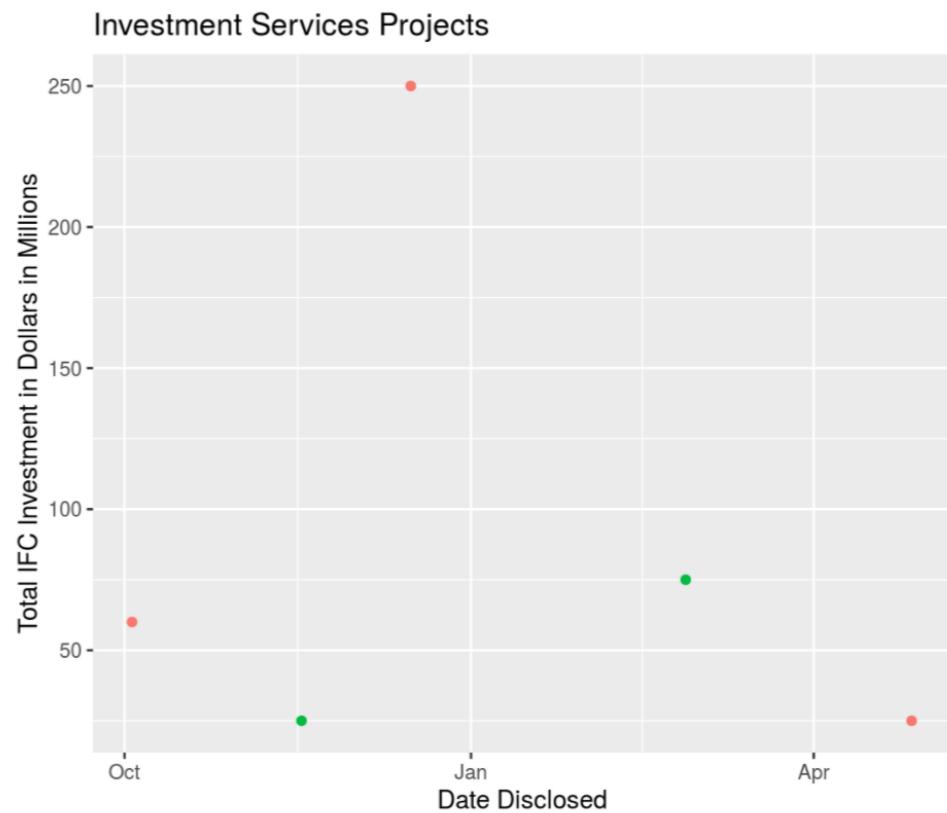


# Warnings

```
67 ```{r indonesia-investment-projects-2012, collapse = TRUE}
68 indonesia_investment_projects_2018 <- investment_services_projects %>%
69 filter(country == "Indonesia",
70 | | | date_disclosed >= "2011-07-01",
71 | | | date_disclosed <= "2012-06-30")
72
73 ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y =
74 total_investment, color = status)) +
75 geom_point() +
76 labs(
77 title = "Investment Services Projects in Indonesia in 2012",
78 x = "Date Disclosed",
79 y = "Total IFC Investment in Dollars in Millions"
80)```

```

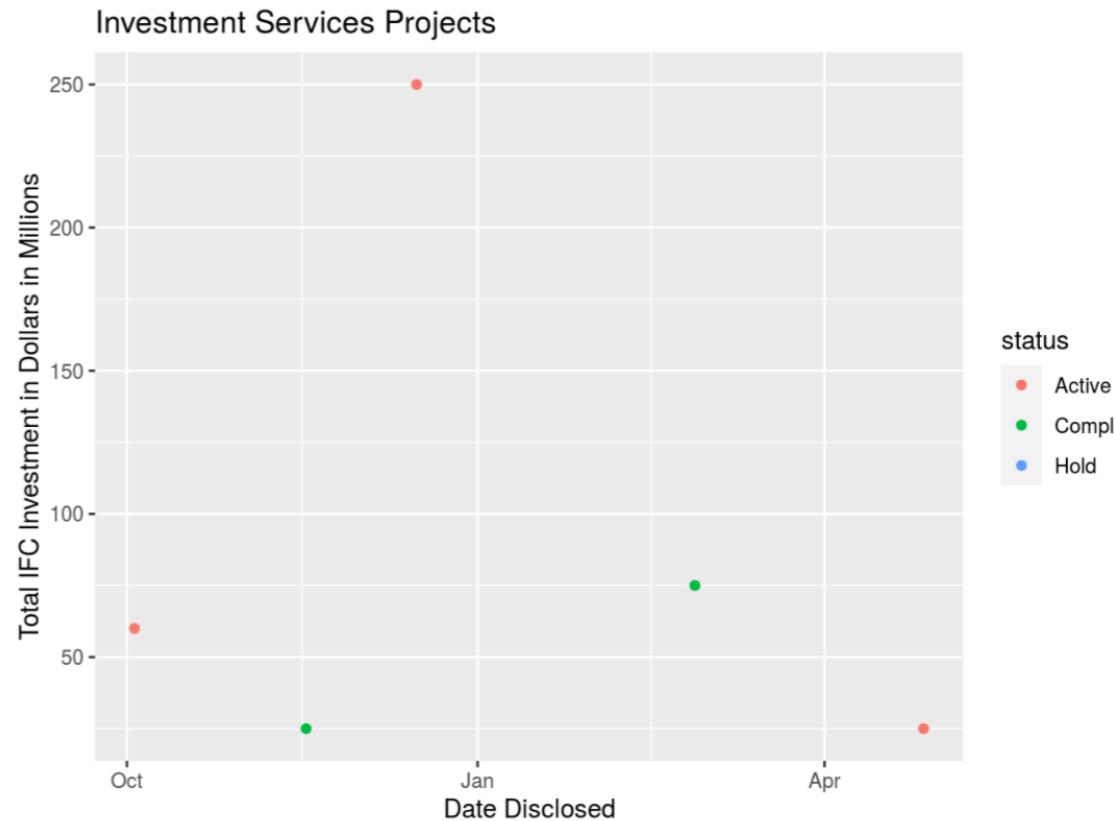
```
ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y = total_
investment, color = status)) +
 geom_point() +
 labs(
 title = "Investment Services Projects",
 x = "Date Disclosed",
 y = "Total IFC Investment in Dollars in Millions"
)
Warning: Removed 1 rows containing missing values (geom_point).
```



# Warnings

```
53 ````{r indonesia-investment-projects-2012, warning = FALSE}
54 indonesia_investment_projects_2012 <- investment_services_projects %>%
55 filter(country == "Brazil",
56 date_disclosed >= "2011-07-01",
57 date_disclosed <= "2012-06-30")
58
59 ggplot(indonesia_investment_projects_2012, aes(x = date_disclosed, y =
60 total_investment, color = status)) +
61 geom_point() +
62 labs(
63 title = "Investment Services Projects in Indonesia in 2012",
64 x = "Date Disclosed",
65 y = "Total IFC Investment in Dollars in Millions"
66)
````
```

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



Messages

```
11  ```{r data, include = FALSE}
12  library(readr)
13  library(dplyr)
14  library(ggplot2)
15  library(knitr)
16
17 investment_annual_summary <- read_csv("https://assets.datacamp.com/
18   production/repositories/5756/datasets/
19   d0251f26117bbcf0ea96ac276555b9003f4f7372/
20   investment_annual_summary.csv")
21 investment_region_summary <- read_csv("https://assets.datacamp.com/
22   production/repositories/5756/datasets/
23   52f5414f6504e0503e86eb1043afa9b3d157fab2/
24   investment_region_summary.csv")
25 investment_services_projects <- read_csv("https://
26   assets.datacamp.com/production/repositories/5756/datasets/
27   bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/
28   investment_services_projects.csv")
29 ...
30
```

Messages

```
11  ```{r data}
12  library(readr)
13  library(dplyr)
14  library(ggplot2)
15
16 investment_annual_summary <- read_csv("https://assets.datacamp.com/
17 production/repositories/5756/datasets/
18 d0251f26117bbcf0ea96ac276555b9003f4f7372/investment_annual_summary.csv")
19
20 investment_services_projects <- read_csv("https://assets.datacamp.com/
21 production/repositories/5756/datasets/
22 bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/
23 investment_services_projects.csv")
24
25 ````
```

HTML Viewer ↗

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```
library(readr)
library(dplyr)
library(ggplot2)
library(knitr)
```

```
investment_annual_summary <- read_csv("https://assets.datacamp.com/product
ion/repositories/5756/datasets/d0251f26117bbcf0ea96ac276555b9003f4f7372/in
vestment_annual_summary.csv")
```

```
## Parsed with column specification:
## cols(
##   fiscal_year = col_double(),
##   region = col_character(),
##   dollars_in_millions = col_double()
## )
```

```
investment_region_summary <- read_csv("https://assets.datacamp.com/product
ion/repositories/5756/datasets/52f5414f6504e0503e86eb1043afa9b3d157fab2/in
vestment_region_summary.csv")
```

```
## Parsed with column specification:
## cols(
```

Messages

```
11  ```{r data, message = FALSE}
12  library(readr)
13  library(dplyr)
14  library(ggplot2)
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16 investment_annual_summary <- read_csv("https://assets.datacamp.com/
17 production/repositories/5756/datasets/
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24
25 ````
```

HTML Viewer ↗

Investment Report

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```
library(readr)
library(dplyr)
library(ggplot2)
library(knitr)

investment_annual_summary <- read_csv("https://assets.datacamp.com/product
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investment_services_projects <- read_csv("https://assets.datacamp.com/prod
uction/repositories/5756/datasets/bcb2e39ecbe521f4b414a21e35f7b8b5c50aec6
4/investment_services_projects.csv")
```

Messages

```
11 ````{r data, message = FALSE}
12 library(readr)
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16 investment_annual_summary <- read_csv("https://assets.datacamp.com/
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18 d0251f26117bbcf0ea96ac276555b9003f4f7372/investment_annual_summary.csv")
19 investment_services_projects <- read_csv("https://assets.datacamp.com/
20 production/repositories/5756/datasets/
21 bcb2e39ecbe521f4b414a21e35f7b8b5c50aec64/
investment_services_projects.csv")
```

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library(readr)
library(dplyr)
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investment_annual_summary <- read_csv("https://assets.datacamp.com/product
ion/repositories/5756/datasets/d0251f26117bbcf0ea96ac276555b9003f4f7372/in
vestment_annual_summary.csv")
investment_region_summary <- read_csv("https://assets.datacamp.com/product
ion/repositories/5756/datasets/52f5414f6504e0503e86eb1043afa9b3d157fab2/in
vestment_region_summary.csv")
investment_services_projects <- read_csv("https://assets.datacamp.com/prod
uction/repositories/5756/datasets/bcb2e39ecbe521f4b414a21e35f7b8b5c50aec6
4/investment_services_projects.csv")

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

Errors

```
40  ```{r indonesia-investment-projects, error = TRUE}
41  ggplot(indonesia_investment_projects, aes(x = date_disclosed, y =
42    total_investment, color = status)) +
43    geom_point() +
44    labs(
45      title = "Investment Services Projects in Indonesia",
46      x = "Date Disclosed",
47      y = "Total IFC Investment in Dollars in Millions"
48    )
49  ```

50  ## Error in ggplot(indonesia_investment_projects, aes(x = date_disclosed, : object
51  'indonesia_investment_projects' not found
```