GDP from IFS

## Quarto

Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see <https://quarto.org>.

## Running Code

When you click the **Render** button a document will be generated that includes both content and the output of embedded code. You can embed code like this:

library(ggplot2)

library(dplyr)

library(gganimate)

# GDP data for Pakistan  
gdp\_pak <- c(25386.02, 23841.34, 24952.92, 25386.02, 25509.63, 26075.49, 26391.39, 28056.93, 31927.32, 36512.83, 34218.25, 26235.73, 23205.89, 20698.88, 23135.38, 25994.00, 26776.87, 30610.64, 34565.27, 34750.23, 38496.10, 38425.60, 37643.64, 38615.13, 40755.89, 44020.13, 43924.91, 48532.39, 47836.51, 38292.83, 41547.00, 46253.37, 44000.91, 42117.44, 41737.45, 42025.88, 45818.44, 48214.66, 50986.30, 48449.07, 48454.56, 48915.13, 53254.33)  
  
years\_pak <- 1980:(1980 + length(gdp\_pak) - 1)  
  
# GDP data for Finland  
gdp\_fin <- c(4421500.00, 4536400.00, 4733300.00, 4529000.00, 4233100.00, 3949500.00, 4049900.00, 4162300.00, 4277100.00, 4899400.00, 5214980.96, 5601581.72, 6153970.50, 5557257.12, 5220581.11, 5465990.66, 5625515.90)  
  
years\_fin <- 2006:(2006 + length(gdp\_fin) - 1)  
  
# Filter the common years  
common\_years\_gdp <- intersect(years\_pak, years\_fin)  
  
data\_gdp <- data.frame(years = common\_years\_gdp,  
 gdp\_pak = gdp\_pak[match(common\_years\_gdp, years\_pak)],  
 gdp\_fin = gdp\_fin[match(common\_years\_gdp, years\_fin)])  
  
ggplot(data\_gdp, aes(x = years)) +  
 geom\_line(aes(y = gdp\_pak, color = "Pakistan"), size = 1) +  
 geom\_point(aes(y = gdp\_pak, color = "Pakistan"), size = 3) +  
 geom\_line(aes(y = gdp\_fin, color = "Finland"), size = 1) +  
 geom\_point(aes(y = gdp\_fin, color = "Finland"), size = 3) +  
 labs(title = "GDP Comparison: Pakistan vs. Finland", x = "Years", y = "GDP") +  
 scale\_color\_manual(values = c("Pakistan" = "green", "Finland" = "blue")) +  
 theme\_minimal() +  
 theme(legend.position = "top", panel.background = element\_rect(fill = "#E1F7EC")) +  
 transition\_reveal(years)

