

Project: The Forecasting Tourism 2010 Competition

EM1415

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```
knitr::opts_chunk$set(  
  echo = T,  
  dev = "cairo_pdf"  
)  
  
libraries_list <- c(  
  "tidyverse",  
  "fpp3"  
)  
  
lapply(  
  libraries_list,  
  require,  
  character.only = TRUE  
)
```

Loading required package: tidyverse

```
-- Attaching core tidyverse packages ----- tidyverse 2.0.0 --  
v dplyr      1.1.2      v readr      2.1.4  
v forcats    1.0.0      v stringr    1.5.0  
v ggplot2    3.4.2      v tibble     3.2.1  
v lubridate  1.9.2      v tidyr      1.3.0  
v purrr      1.0.1  
-- Conflicts ----- tidyverse_conflicts() --  
x dplyr::filter() masks stats::filter()  
x dplyr::lag()    masks stats::lag()  
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors  
Loading required package: fpp3
```

```
-- Attaching packages ----- fpp3 0.5 --  
  
v tsibble     1.1.3      v fable       0.3.3  
v tsibbledata 0.4.1      v fabletools  0.3.3  
v feasts      0.3.1  
  
-- Conflicts ----- fpp3_conflicts --  
x lubridate::date() masks base::date()  
x dplyr::filter()   masks stats::filter()  
x tsibble::intersect() masks base::intersect()  
x tsibble::interval() masks lubridate::interval()  
x dplyr::lag()      masks stats::lag()  
x tsibble::setdiff() masks base::setdiff()  
x tsibble::union()  masks base::union()
```

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

```
[[2]]  
[1] TRUE
```

```
theme_set(  
  ggthemes::theme_tufte(  
    base_size = 16,  
    base_family = "Atkinson Hyperlegible"  
  )  
)
```

1 Loading Data

```
data_main <- readr::read_csv(  
  "Data/tourism_data.csv",  
  show_col_types = F  
)
```

```
data_main %>% dim
```

```
[1] 43 518
```

```
data_main %>% is.na() %>% sum
```

```
[1] 11668
```

```
tourism_full <- data_main %>%  
  mutate(  
    Year = 1965:2007  
  ) %>%  
  as_tsibble(  
    index = Year  
  )
```

```
tourism_full %>% interval
```

```
<interval[1]>  
[1] 1Y
```

```
tmelt <- reshape2::melt(tourism_full, id="Year")
```

```
tmelt %>%  
  ggplot(  
    aes(  
      x = Year,  
      y = log(  
        value
```

```

    ),
    colour = variable,
    group = variable
  )
) +
geom_line(
  alpha = .8
) +
scale_color_viridis_d(
  option = "rocket"
) +
theme(
  legend.position = "none"
)

```

Warning: Removed 11668 rows containing missing values (`geom_line()`).

