

Rob J Hyndman
George Athanasopoulos

FORECASTING

PRINCIPLES AND PRACTICE

A comprehensive introduction to the latest forecasting methods using R. Learn to improve your forecast accuracy using dozens of real data examples.



3RD EDITION

 **OTexts**
Open Texts Publishing

2. Time series graphics

2.7 Lag plots

OTexts.org/fpp3/

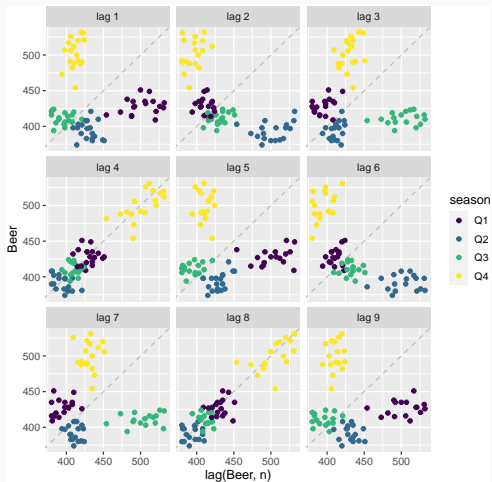
Example: Beer production

```
new_production <- aus_production |>
  filter(year(Quarter) >= 1992)
new_production
```

```
## # A tsibble: 74 x 7 [1Q]
##   Quarter Beer Tobacco Bricks Cement Electricity Gas
##   <qtr> <dbl>   <dbl>   <dbl>   <dbl>       <dbl> <dbl>
## 1 1992 Q1   443     5777     383    1289       38332  117
## 2 1992 Q2   410     5853     404    1501       39774  151
## 3 1992 Q3   420     6416     446    1539       42246  175
## 4 1992 Q4   532     5825     420    1568       38498  129
## 5 1993 Q1   433     5724     394    1450       39460  116
## 6 1993 Q2   421     6036     462    1668       41356  149
## 7 1993 Q3   410     6570     475    1648       42949  163
## 8 1993 Q4   512     5675     443    1863       40974  138
## 9 1994 Q1   449     5311     421    1468       40162  127
## 10 1994 Q2  381     5717     475    1755       41199  159
## # ... with 64 more rows
```

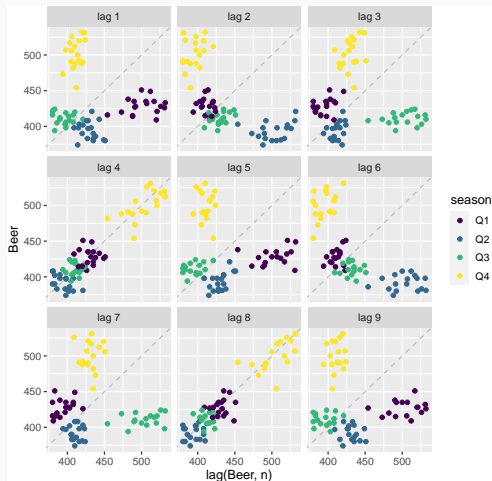
Example: Beer production

```
new_production |> gg_lag(Beer, geom = "point")
```



Example: Beer production

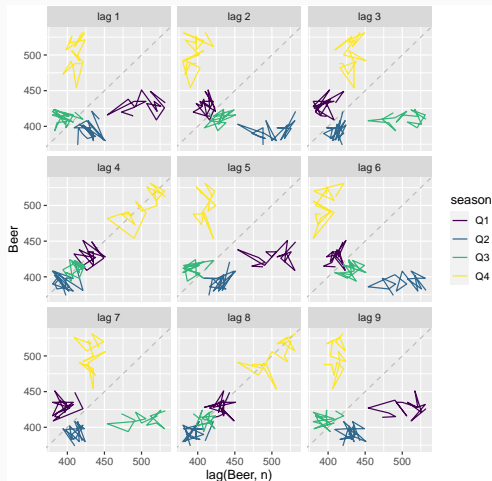
```
new_production |> gg_lag(Beer, geom = "point")
```



Each graph shows y_t plotted against y_{t-k} for different values of k .

Example: Beer production

```
new_production |> gg_lag(Beer)
```



Each graph shows y_t plotted against y_{t-k} for different values of k .