

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



2. Time series graphics

2.7 Lag plots

OTexts.org/fpp3/

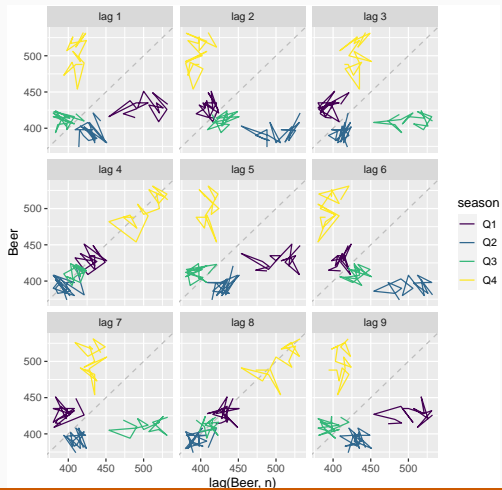
Example: Beer production

```
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
```

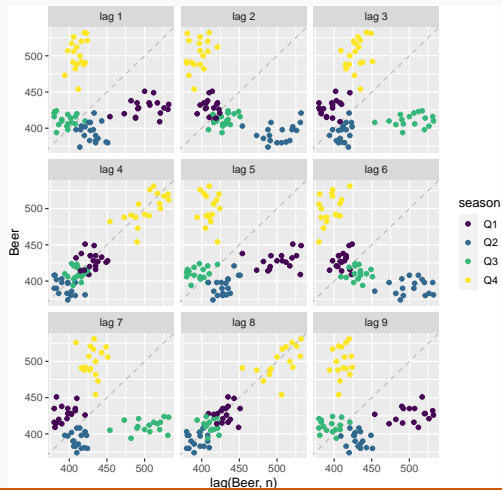
Example: Beer production

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



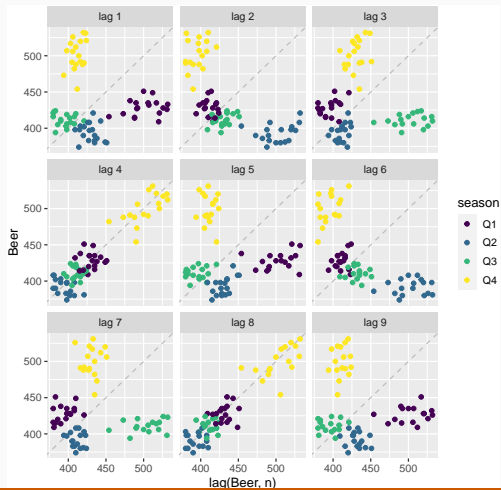
Example: Beer production

```
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 .