Visualization of the Freeny Dataset

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```
data("freeny")
```

```
str(freeny)
```

```
'data.frame':    39 obs. of  5 variables:
 $ y                    : Time-Series  from 1962 to 1972: 8.79 8.79 8.81 8.81 8.91 ...
 $ lag.quarterly.revenue: num  8.8 8.79 8.79 8.81 8.81 ...
 $ price.index          : num  4.71 4.7 4.69 4.69 4.64 ...
 $ income.level         : num  5.82 5.83 5.83 5.84 5.85 ...
 $ market.potential     : num  13 13 13 13 13 ...
```
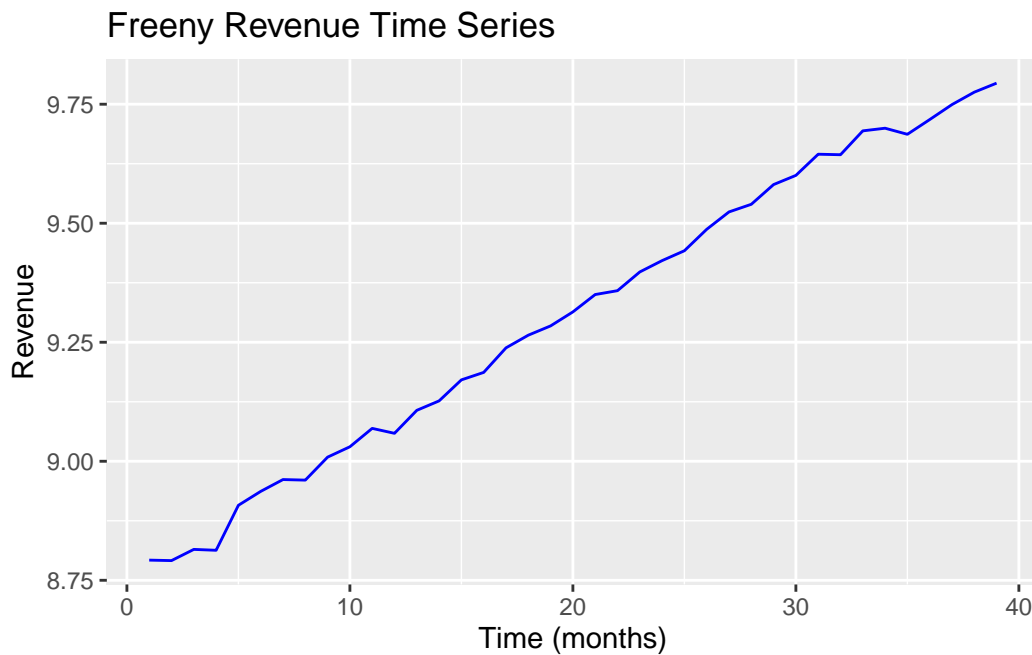
```
head(freeny)
```

	y	lag.quarterly.revenue	price.index	income.level	market.potential
1962.25	8.79236	8.79636	4.70997	5.82110	12.9699
1962.5	8.79137	8.79236	4.70217	5.82558	12.9733
1962.75	8.81486	8.79137	4.68944	5.83112	12.9774
1963	8.81301	8.81486	4.68558	5.84046	12.9806
1963.25	8.90751	8.81301	4.64019	5.85036	12.9831
1963.5	8.93673	8.90751	4.62553	5.86464	12.9854

Introduction

The Freeny dataset is a built-in dataset in R that contains 39 monthly observations of economic variables related to revenue. The main variable of interest is revenue (y), and it is accompanied by three predictors: price index, income level, and market potential.

```
library(ggplot2)
ggplot(freeny, aes(x = 1:nrow(freeny), y = y)) +
  geom_line(color = "blue") +
  labs(title = "Freeny Revenue Time Series",
       x = "Time (months)", y = "Revenue")
```

Don't know how to automatically pick scale for object of type <ts>. Defaulting to continuous.

Freeny Revenue Time Series


```
ggplot(freeny, aes(x = price.index, y = y)) +
  geom_point(color = "red", size = 2) +
  geom_smooth(method = "lm", se = FALSE, color = "black") +
  labs(title = "Revenue vs Price Index",
       x = "Price Index", y = "Revenue") +
  theme_classic()
```

Don't know how to automatically pick scale for object of type <ts>. Defaulting to continuous.
`geom_smooth()` using formula = 'y ~ x'

Revenue vs Price Index

Conclusion

From the time series plot, we can see that revenue shows a steady upward trend over the 39 months, with only minor waves. This indicates continuous growth in the underlying economic environment. The scatter plot between revenue and price index further reveals a strong positive correlation: as the price index increases, revenue also rises. This suggests that price levels are an important explanatory factor for revenue. Overall, the Freeny dataset highlights both a clear time trend and meaningful economic relationships, making it useful for regression and time series modeling.