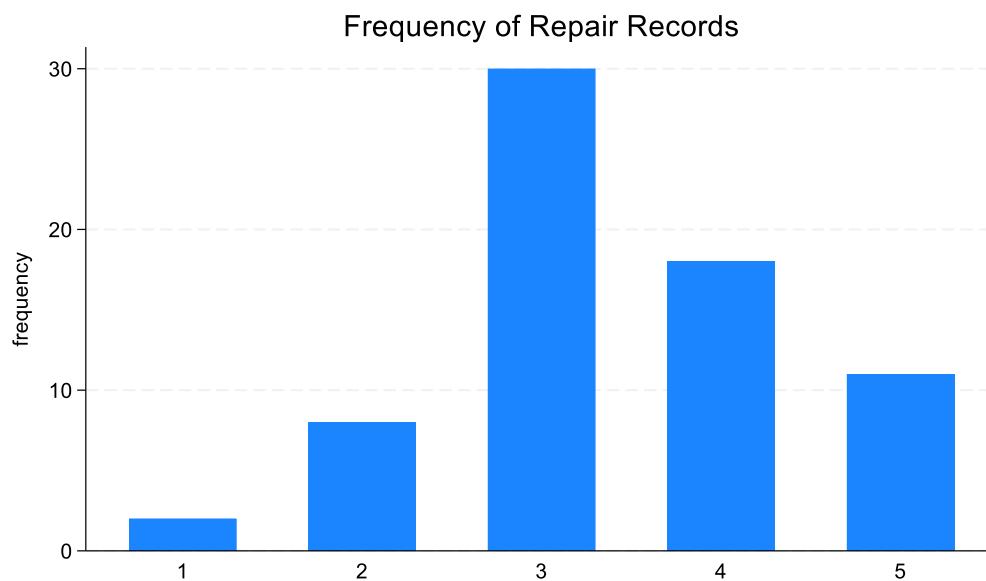


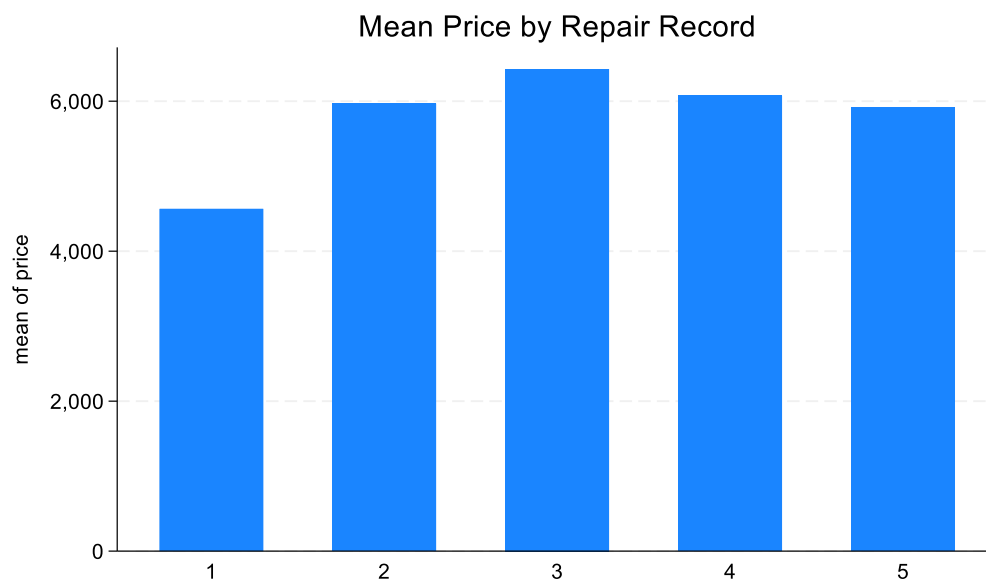
## A. Bar graph

```
* Load the built-in dataset 'auto'
sysuse auto, clear

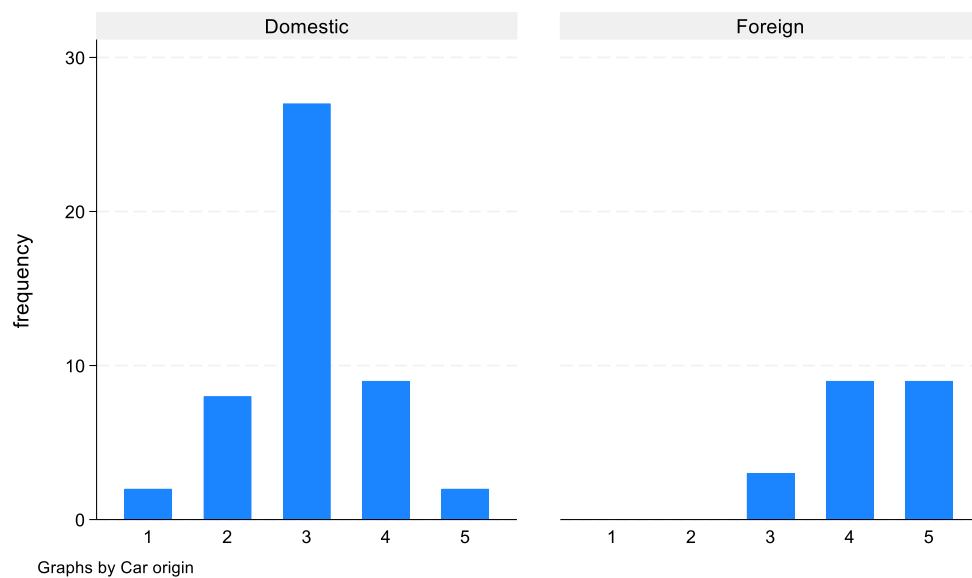
* Simple bar graph for 'rep78'
graph bar (count), over(rep78) title("Frequency of Repair Records")
```



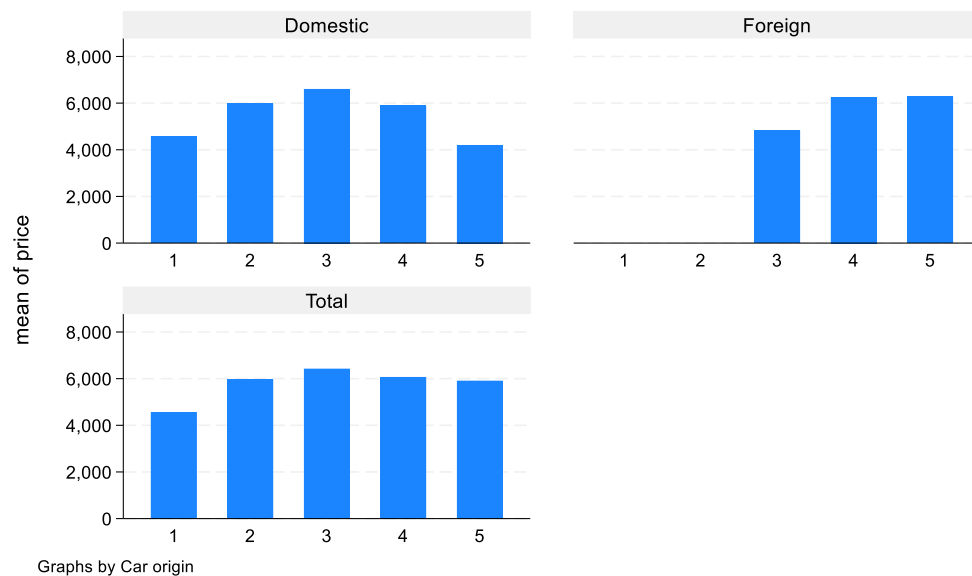
```
* Bar graph with mean 'price' by 'rep78'
graph bar (mean) price, over(rep78) title("Mean Price by Repair Record")
```



```
* Stacked bar graph for 'rep78' by 'foreign'
graph bar (count), over(rep78) by(foreign)
```



**\* Bar graph with mean 'price' by 'rep78' and 'foreign'**  
**graph bar (mean) price, over(rep78) by(foreign, total)**

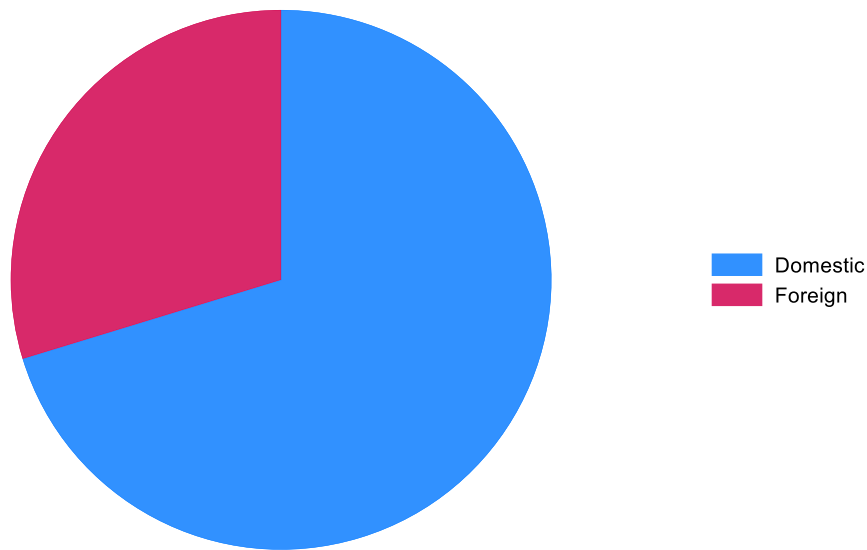


## B. Pie charts

```
* Load the built-in dataset 'auto'
sysuse auto, clear

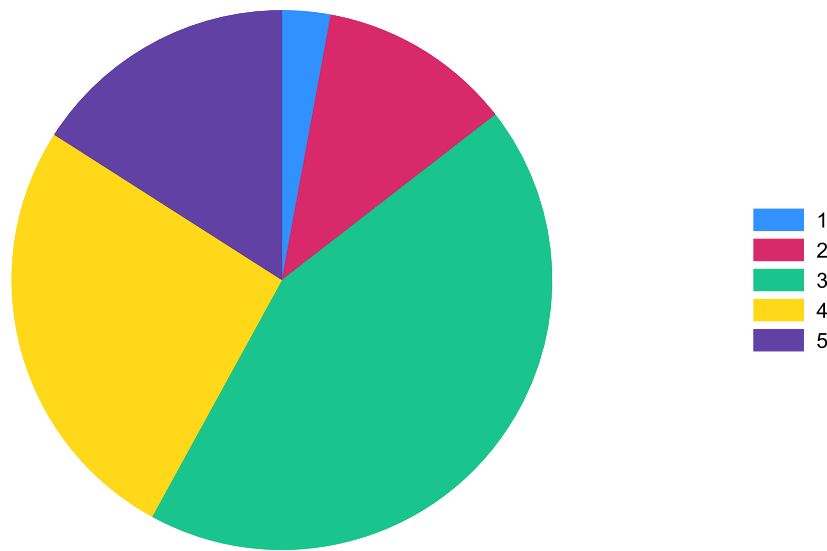
* Example 1: Pie chart for car type
graph pie, over(foreign) title("Distribution of Car Types")
```

Distribution of Car Types



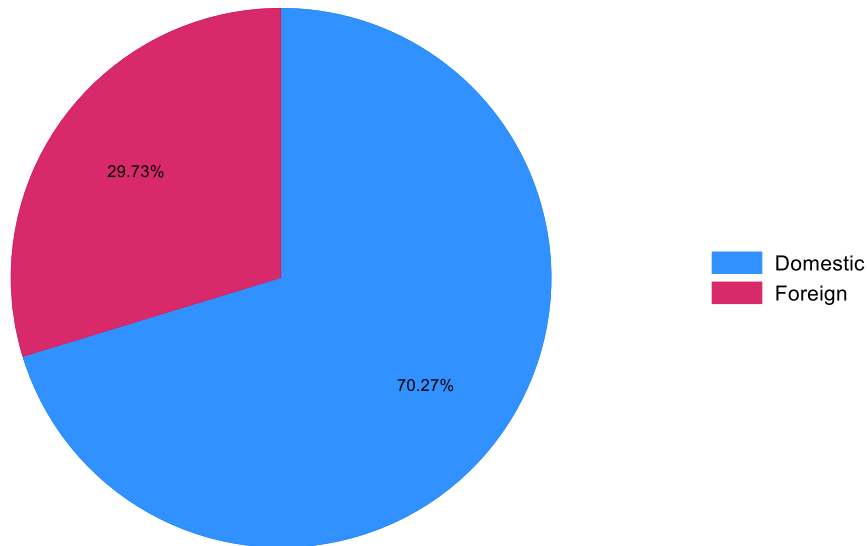
\* Example 2: Pie chart for repair records  
`graph pie, over(rep78) title("Distribution of Repair Records")`

Distribution of Repair Records

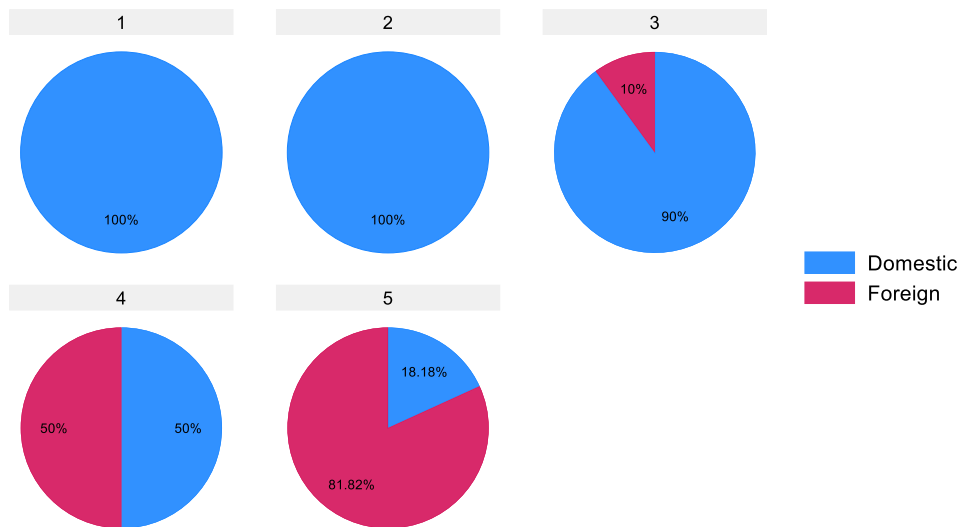


\* Example 3: Pie chart with percentages for car type  
`graph pie, over(foreign) plabel(_all percent) title("Distribution of Car Types with Percentages")`

Distribution of Car Types with Percentages



\* Example 4: Pie chart for combined variable (foreign by rep78)  
`graph pie, by(rep78) over(foreign) plabel(_all percent)`



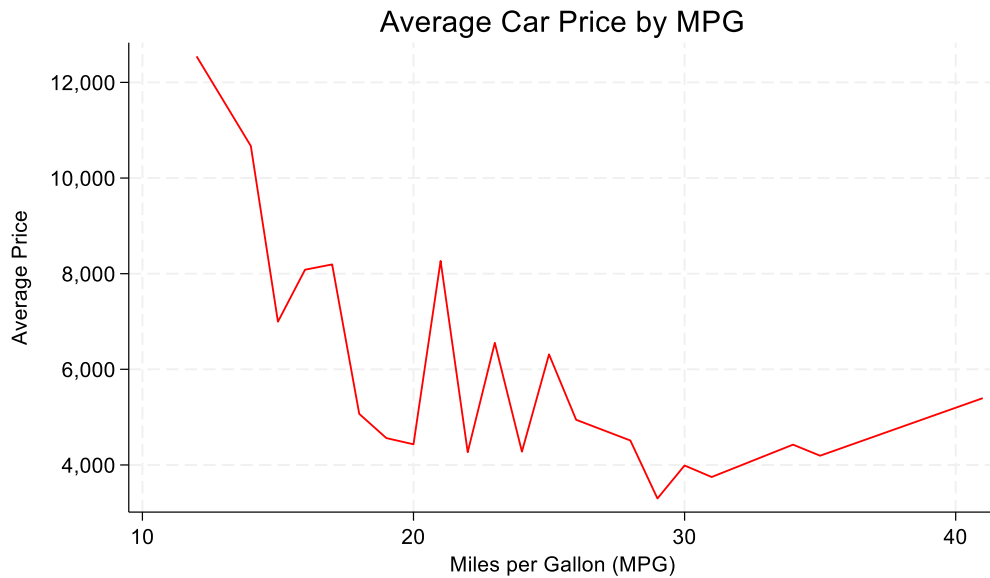
Graphs by Repair record 1978

### C. Line chart

```
* Load the built-in dataset 'auto'
sysuse auto, clear

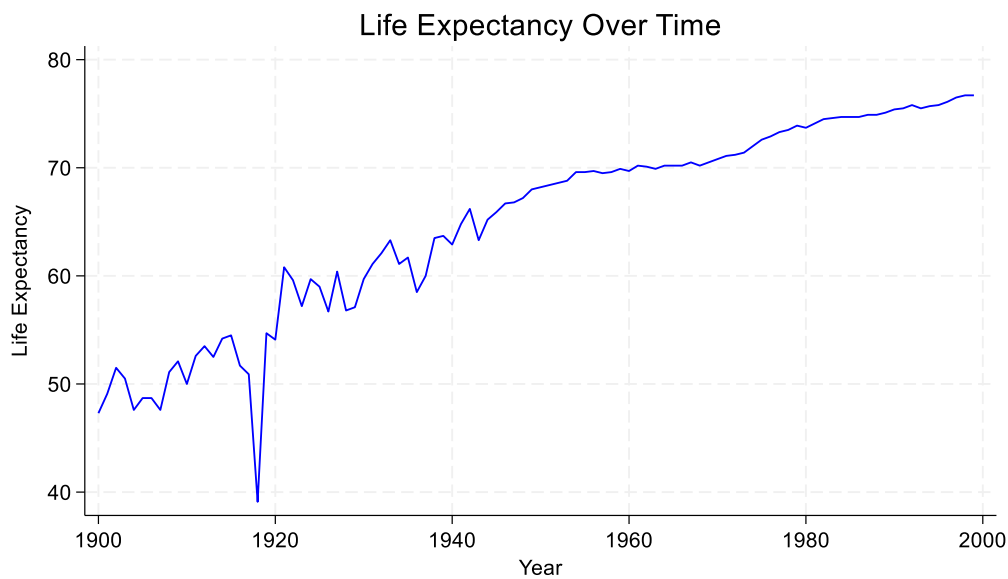
* Calculate mean price by MPG
collapse (mean) price, by(mpg)

* Line graph for average price by MPG
twoway (line price mpg, lcolor(red) lwidth(medium)), title("Average Car Price
by MPG") ///
       xtitle("Miles per Gallon (MPG)") ytitle("Average Price")
```

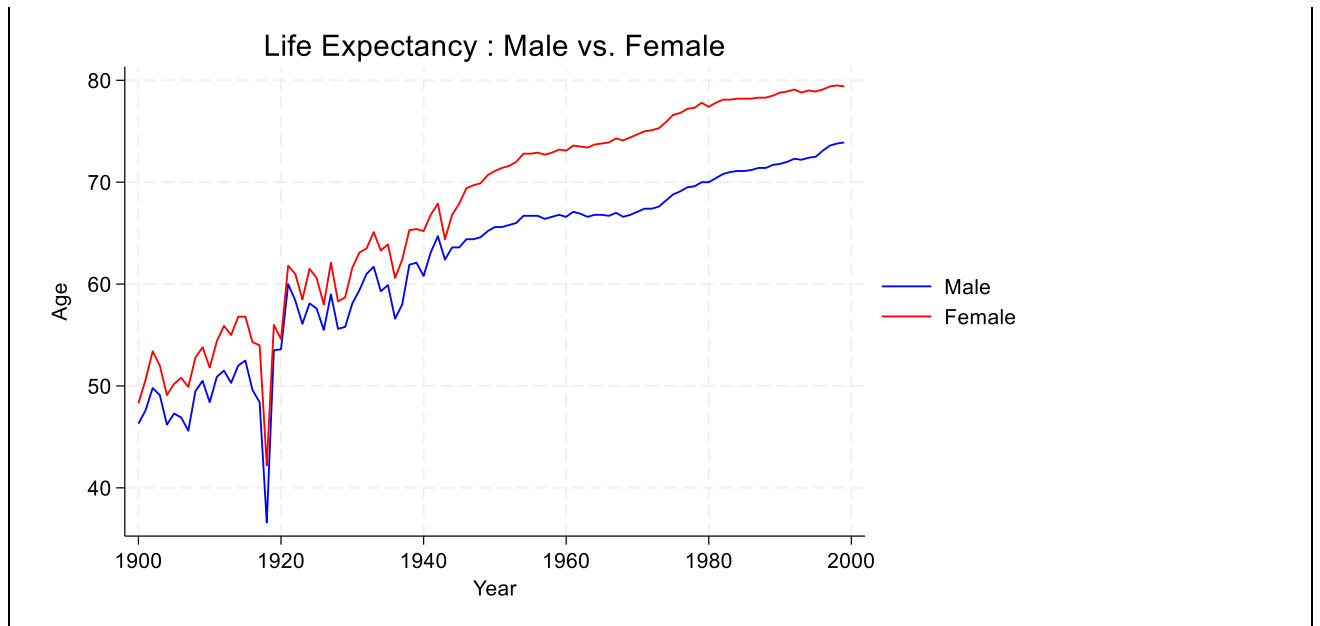


```
* Load the built-in dataset 'uslifeexp'
sysuse uslifeexp, clear
```

```
* Example 1: Line graph for life expectancy by year
twoway (line le year, lcolor(blue) lwidth(medium)), title("Life Expectancy Over Time") ///
xtitle("Year") ytitle("Life Expectancy")
```



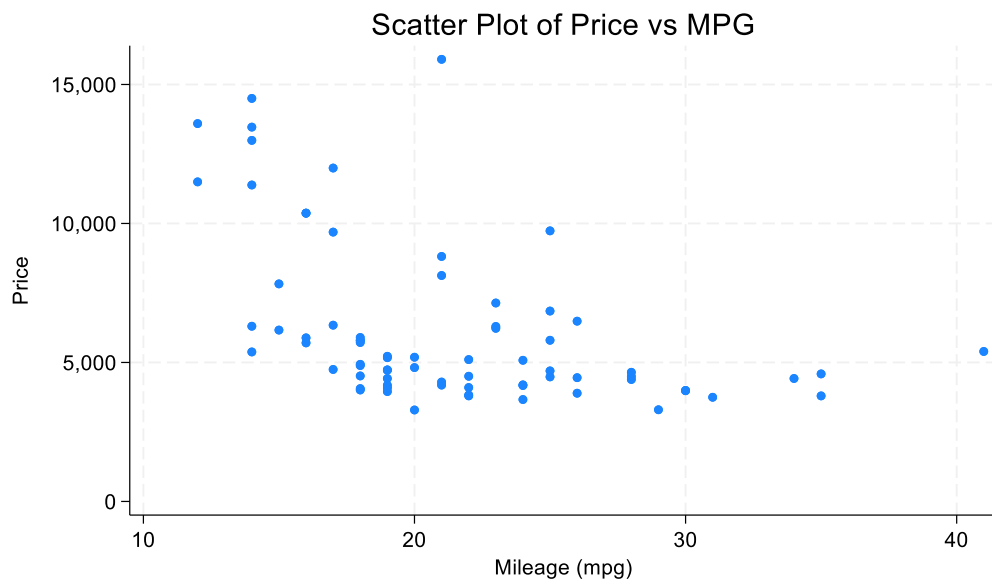
```
* Example 2: Line graph for life expectancy and fertility by year
twoway (line le_male year, lcolor(blue) lwidth(medium)) ///
(line le_female year, lcolor(red) lwidth(medium)), ///
title("Life Expectancy : Male vs. Female") ///
xtitle("Year") ytitle("Age") ///
legend(order(1 "Male" 2 "Female"))
```



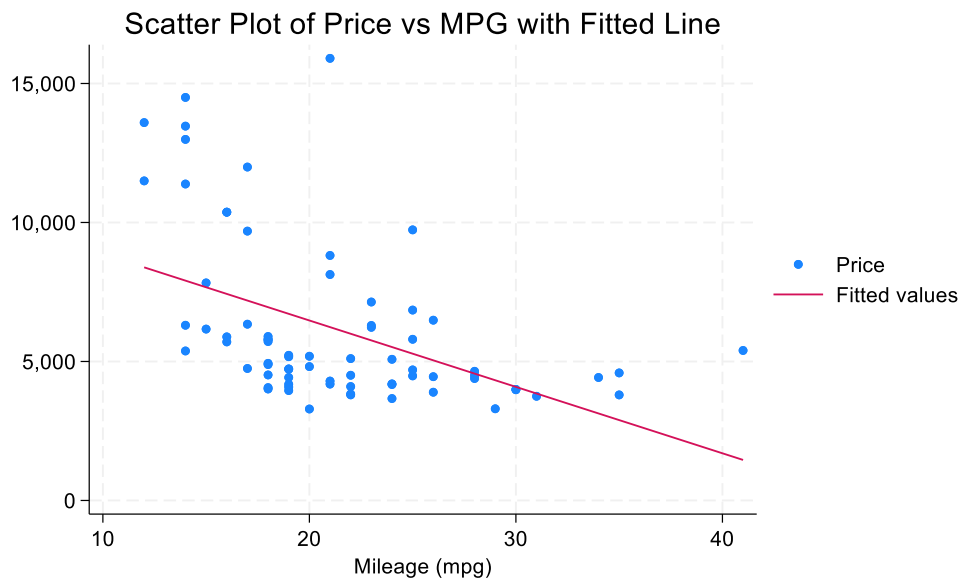
#### D. Scatter plot

```
* Load the built-in dataset 'auto'
sysuse auto, clear

* Basic scatter plot with title for 'price' vs. 'mpg'
scatter price mpg, title("Scatter Plot of Price vs MPG")
```



```
* Scatter plot with fitted line and title for 'price' vs. 'mpg'
twoway (scatter price mpg) (lfit price mpg), title("Scatter Plot of Price vs MPG
with Fitted Line")
```



```
* Scatter plot with different markers and title for 'foreign' and 'domestic' cars
twoway (scatter price mpg if foreign == 0, mcolor(blue) msymbol(O)) ///
       (scatter price mpg if foreign == 1, mcolor(red) msymbol(T)), ///
       title("Scatter Plot of Price vs MPG by Car Type") ///
       legend(label(1 "Domestic") label(2 "Foreign"))
```

