

Practice: Exploring Data Using Trellis Plots

In this practice, you create a trellis plot using an overlay variable for the **Mobile Cellular** data.

These are data about mobile cell phone subscriptions per 100 people, from 1990 to 2017. The data set includes information about 217 countries grouped into seven regions and four income groups. It also includes information on the number of fixed telephones per 100 people. Fixed telephones are the focus of this practice. Note that, in 2017, many countries have missing data.

1. Open the file **Mobile Cellular.jmp** from the course data folder.
2. Create a run chart for **Fixed Telephone (per 100) by Year**.

Drag **Fixed Telephone (per 100)** to the **Y** zone, drag **Year** to the **X** zone, turn off the smoother, and then click the **line** icon.

3. What do you observe?

The overall trend increases until around the year 2000, is flat until around 2009, and then starts to decrease.

4. Add **Region** as an overlay variable. **Hint:** Drag **Region** to the **Overlay** zone.
5. What do you observe?

There are differences in the number of fixed telephones for the different regions. Some regions, like South Asia and Sub-Saharan Africa, have very few fixed telephones. North America has the most fixed telephones. North America increases until 2000 and then starts to decrease. North America has a strange pattern starting in 2009.

6. Create a trellis plot, using **IncomeGroup** as the **Wrap** variable. **Hint:** Drag **IncomeGroup** to the **Wrap** zone.
7. What do you observe?

There should be four graphs, one for each value of **IncomeGroup**, where the lines in each graph are for the different regions. In the bottom three income groups, most of the regions have very few fixed telephones. In the *High* income group, there is a lot of variability in the number of fixed telephones across the regions, but in general there are more fixed phones for high-income countries than there are in the other countries.

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