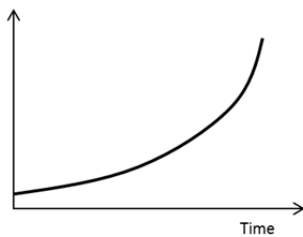


## Spotting complexity in the news

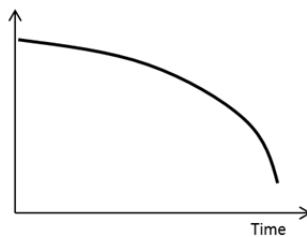
Anything that consists of interconnected parts can be complex. In our class, we will focus on complex problems and situations. A complex situation is one where there are a number of interconnected, interdependent parts.

There are a number of tell-tale signs of complex problems or situations in the news:

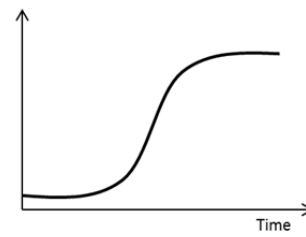
- The problem is chronic and recurring;
- The problem has been around long enough to have a history;
- Attempts may have been made to solve the problem, but they either did not work at all or stopped working after a while;
- The patterns of the problem’s behavior over time show one of the classic shapes below.



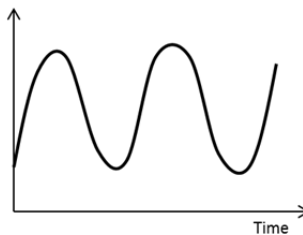
Something is growing



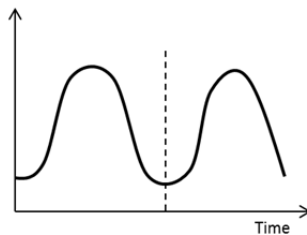
Something is falling or decaying



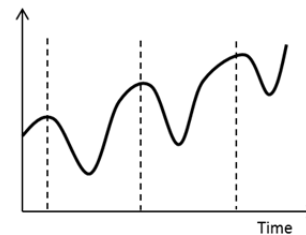
Something is slowing (or crashing) after a period of growth



Something is fluctuating

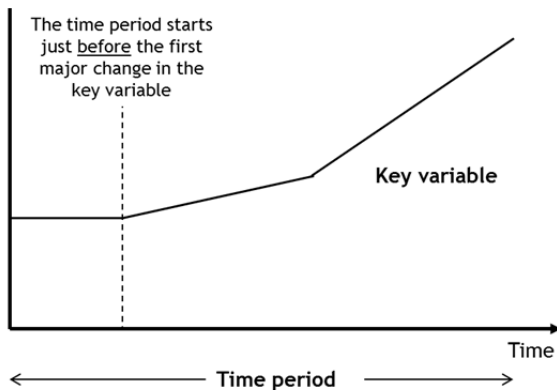


Actions taken have no effect



Actions taken have had unintended consequences

We need to practice looking for these situations in the news. To picture how a key variable has changed over time we draw a **behavior over time chart**. This involves two steps: choose the time horizon and then graph the behavior of the variable over the time horizon.



The **time horizon** is important because it determines the information that is plotted in the chart. The time horizon should be long enough to capture all of the interactions between the different variables in the story. We should set the time horizon to begin before the central variable began changing.

The vertical axis remains unit less so that more than variable can be charted on the same graph.

Our chart only needs to give an **approximate trend** of the behavior of the variable over time and show a **minimum of detail**. When we chart a variable we look to **quickly** capture the overall trend in behavior.