Predicting Market Trends

The stock market is a volatile system with a high degree of unpredictability. Markov chains and their associated diagrams may be used to estimate the probability of various financial market climates and so forecast the likelihood of future market circumstances. We can see that this system switches between a certain number of states at random. State-space refers to all conceivable combinations of these states. In our situation, we can see that a stock market movement can only take three forms.

- **Bull** markets are times in which prices normally rise as a result of the players' positive outlook for the future.
- **Bear** markets are times in which prices typically fall as a result of the players' negative outlook on the future.
- **Stagnant** markets are those in which there is neither a drop nor an increase in overall prices.

Fair markets believe that market information is dispersed evenly among its participants and that prices vary randomly. This indicates that all actors have equal access to information, hence no actor has an advantage owing to inside information. Certain patterns, as well as their estimated probability, can be discovered through the technical examination of historical data.