**Animation 6.6**

In an ideal world it ought to be possible for companies within a supply chain to predict demand for their goods with a high degree of accuracy since they will hold a lot of historical information and modern forecasting techniques are becoming more and more sophisticated.

However, although aggregate forecasted demand over a period of one year may be very accurate, demand may vary on a daily or weekly basis by a disproportionate amount. This will have a significant knock-on effect on the supply partners as you travel back along the supply chain.

This is illustrated here. The red line shows a relatively small demand variation at the customer end of the supply chain. However this gives an increasingly large demand variation going back along the chain, since it is common practice in business supply relationships for all parties to agree to hold one normal order unit's worth of materials in inventory.

Any change from the agreed level will have an increasingly adverse effect on demand at the second, third and fourth tier suppliers.

The lower graph shows the effect in terms of stock holding at each stage. We can see that the first-tier supplier does not have to hold much safety stock to cater for the variation in customer demand but by the time we get to the fourth-tier supplier the level of safety stock is very significant.

This is known as the Bullwhip Effect and it can seriously affect a company's cash flow since holding excessive safety stocks is very expensive. A worked example is shown in the text which should help you to understand the issues associated with the Bullwhip Effect in practice.



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