

Figure 3-26

Monte Carlo Simulation
is not suitable
... nothing to simulate

Do we have a view on the
optimistic and pessimistic
bounds?

**For Primary Input Variables that
are System Level Variables**

1. Choose parameters such that $(\text{Mode}-\text{Start})/(\text{End}-\text{start}) = (\alpha-1)/((\alpha-1)+(\beta-1))$
2. Take the Mean as the average of the Optimistic and Pessimistic values
3. Take the Standard Deviation as the Optimistic-Pessimistic Range divided by 4
4. Take the Standard Deviation as the Optimistic-Pessimistic Range divided by 6

Are the optimistic and
pessimistic bounds the
absolute best and worst
case values?

Consider a **Triangular Distribution**

No

Yes

AND

AND

Consider a **Beta Distribution**
(See Note 1)

No

Yes

Are the optimistic and
pessimistic bounds
symmetrical around the
Most Likely value?

No

Yes

Do we have a view of a
single Most Likely value?

OR

AND

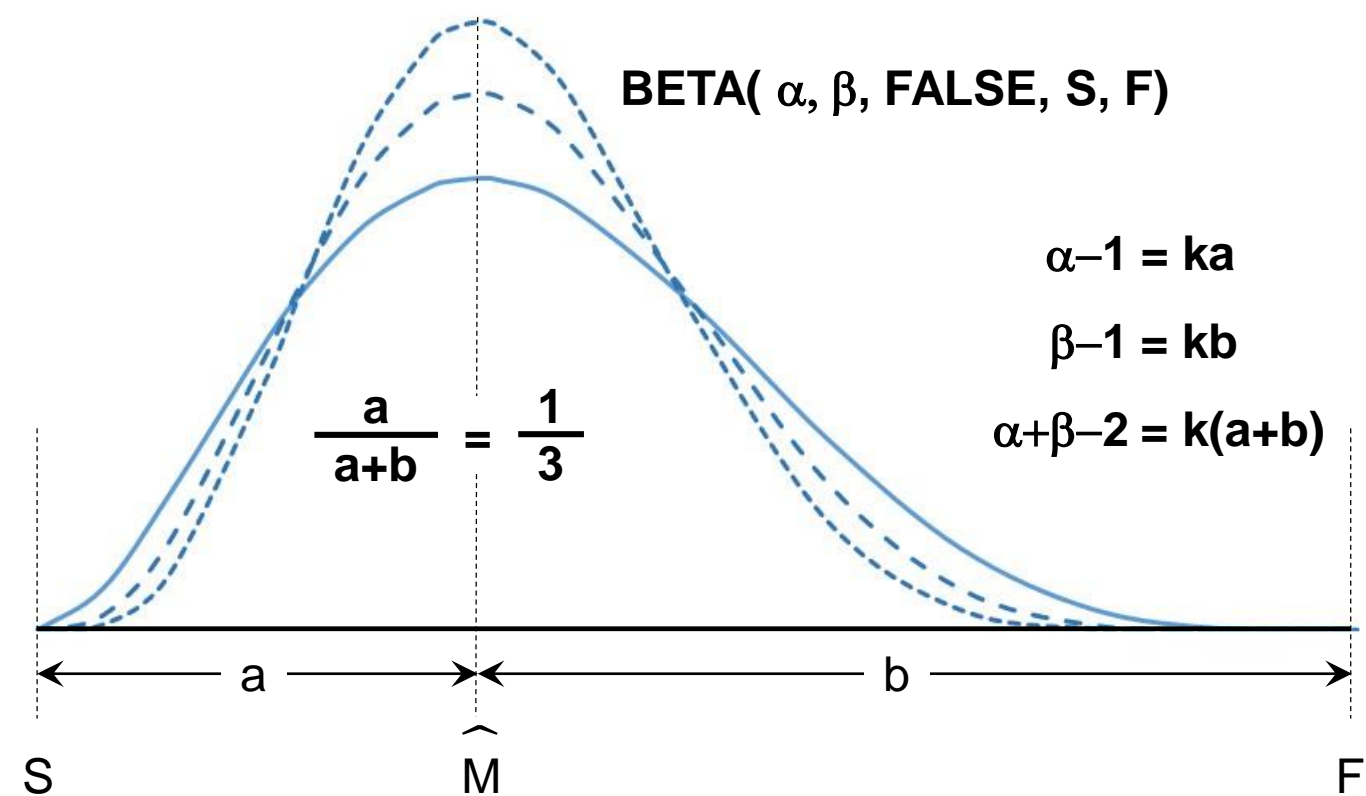
Consider a **Normal Distribution**
(See Notes 2, 4)

Consider a **Normal Distribution**
(See Notes 2, 3)

AND

Figure 3-27

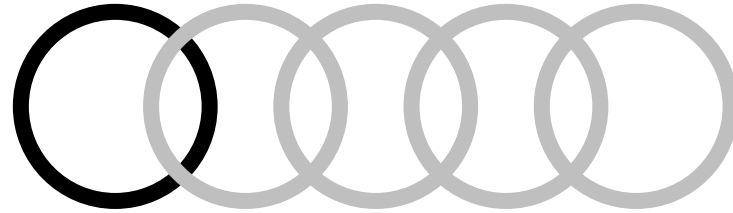
Three Example Beta Distributions with Common Start, Mode and Finish Points



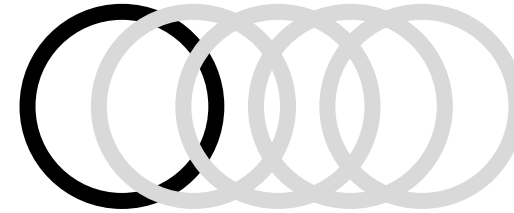
α	3	4	5
β	5	7	9
Key			

$$\frac{a}{a+b} = \frac{\alpha-1}{\alpha+\beta-2}$$

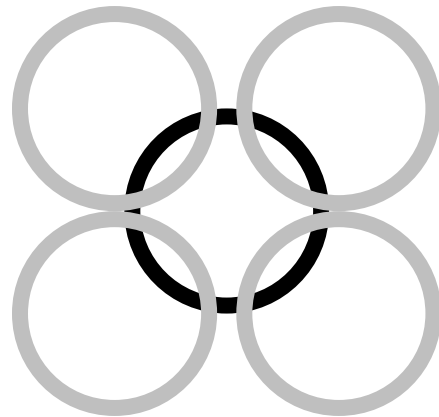
Figure 3-28



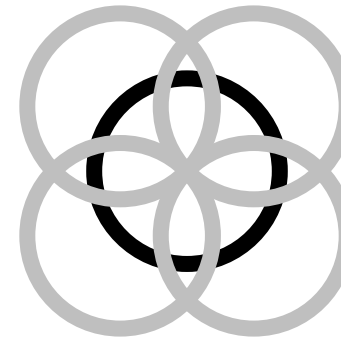
Chain-Linked Low Correlation



Chain-Linked High Correlation



Hub-Linked Low Correlation



Hub-Linked High Correlation

Figure 3-31

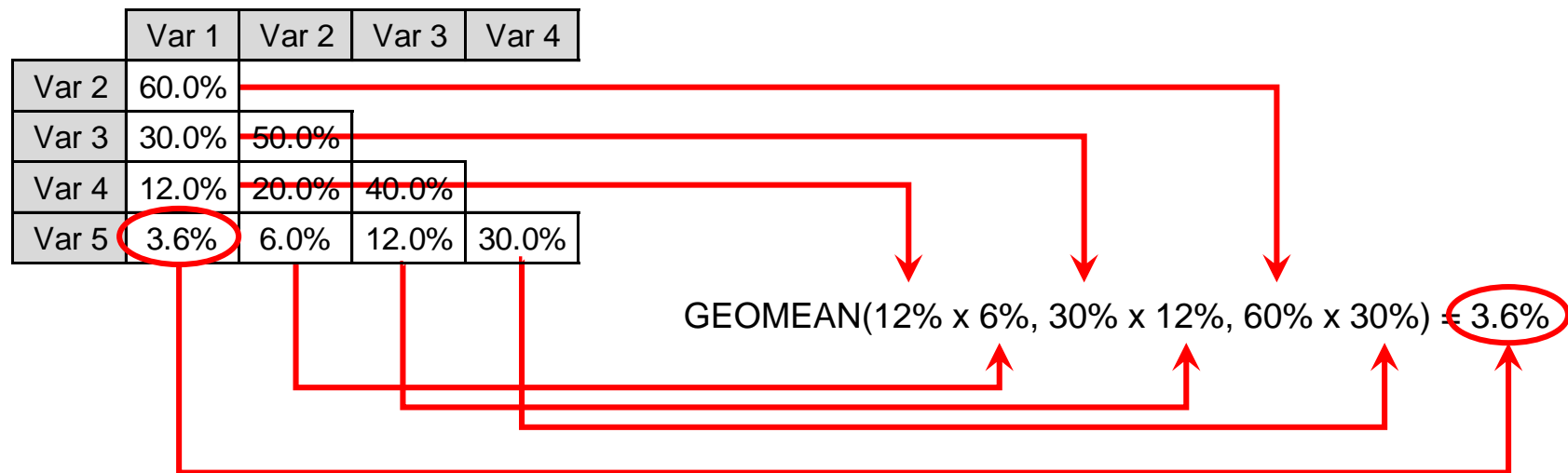


Figure 3-36

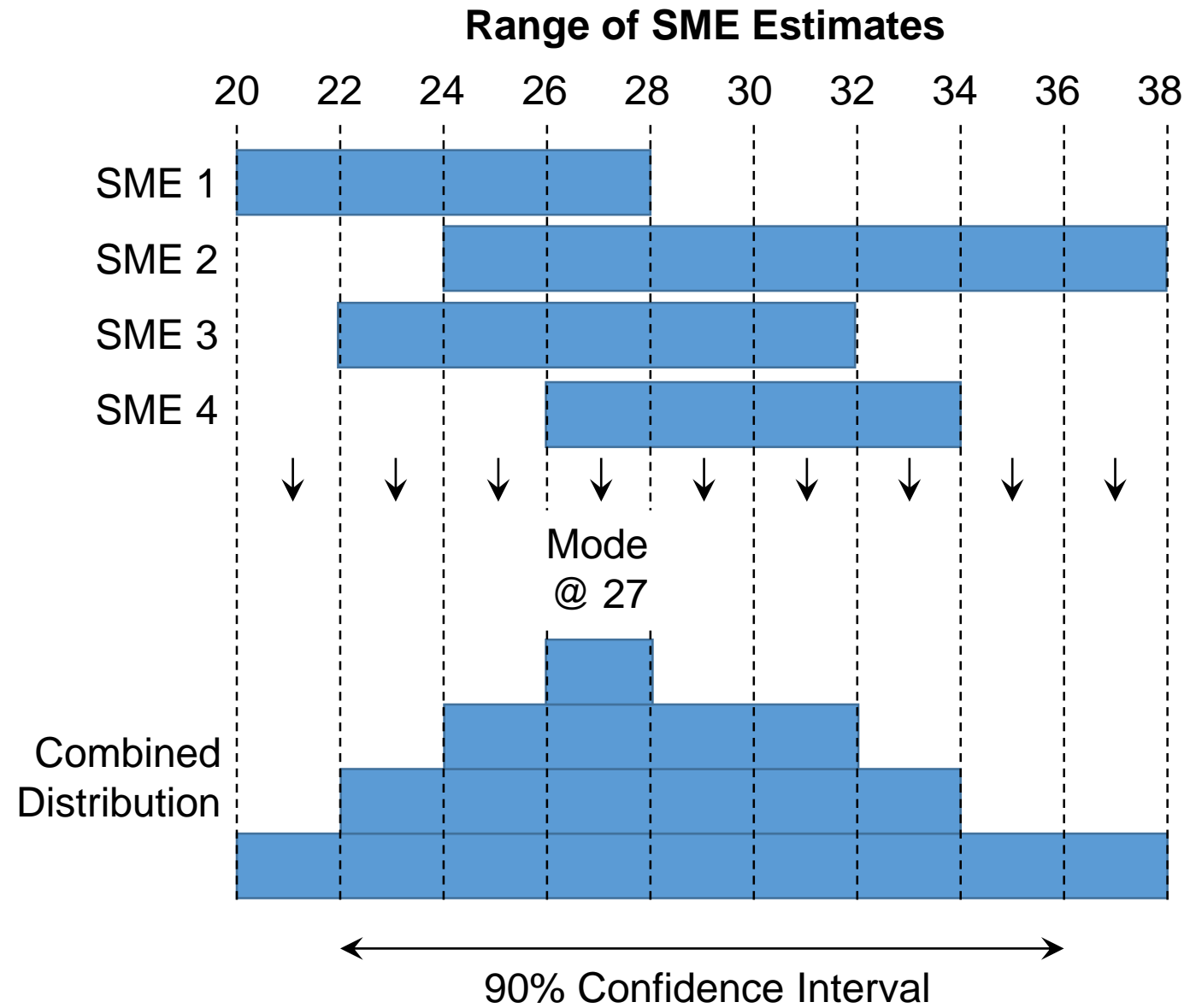


Figure 3-58