

The Binex distribution

The Binex distribution is a mixture between a deterministic distribution (concentrated in a single point) and a translated exponential distribution.

This distribution is useful for modeling delays in an activity duration. If no delay occurs, the variable is equal to the base estimate.

In the Binex distribution the key numbers, "a", "b" and "c" are interpreted as follows:

"a"
=
The probability of exceeding "b".

"b"
=
The minimum value.

"c"
=
The 50%-fractile in the distribution given that the value exceeds "b".

To get a sensible distribution the specified values must satisfy:

$$0 \leq "a" \leq 1$$

$$"b" < "c"$$

Values failing to meet these conditions are adjusted by DynRisk as follows:

If "a" < 0, then "a" is replaced by 0.

If "a" > 1, then "a" is replaced by 1.

If "b" > "c", then "b" and "c" are interchanged.

If "b" = "c", then the Binex distribution is replaced by a deterministic distribution concentrated in "b".