

We envisage the following setting.

(i) You always have a choice between a safe investment (pays interest, no risk) and a variety of risky investments (suppose we know the probabilities of the outcomes of these investments).

[of course in reality we don't know probabilities – unlike casino games – so have to use our best guess instead]

(ii) Fixed time period – imagine a year, could be month or a day – at end you take your gains/losses and start again with whatever you've got at that time (“rebalancing”).

The Kelly criterion gives you an explicit rule for how to divide your investments to maximize long-term growth rate.

To illustrate, imagine day-trading scheme with stocks based on some statistical non-randomness; within one day