Process for stock price evolution

## Introduction

### Scaling and Shifting

We now know that if we have a process with mean zero and variance one we can scale and shift it to a process with mean and variance by adding and multiplying by . Our new random variable is now distributed with mean and variance

Even more useful is the fact that if we know that a random process is distributed with mean and variance then we also know that the random variable is distributed with mean zero and variance one

### Increasing the number of steps

From our previous sections we can see that if we sum n identical independent random variables with mean zero and unit variance we obtain a new random variable



With mean zero and variance. But what happens as we increase the number of steps? In the limit as is normally distributed with mean and variance.