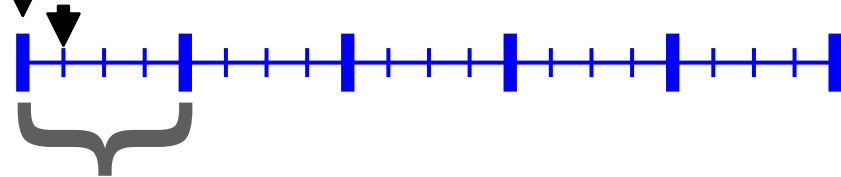# Calculation of variable costs

Given interest rate=r, m-th modeled year $m = y - y_{min}$

Variable cost of m-th modeled year = B

Variable cost of non-modeled year = B

Length of m-th planning periods=k

Total present value
$= B + B/(1 + r) + B/(1 + r)^2 + \cdots + B/(1 + r)^{m + k - 1}$
$= B(1 + r)^{(1 - m)}(1 - (1 + r)^k)/r$
That is $factor_y^{var} = B(1 + r)^{(1 - m)}(1 - (1 + r)^k)/r$