In situations when the cost of an option is a vector, the interest rate and volatility set of real valued functions.

Let \( f(x) \) be the solution to the option pricing equation.

\[
M(f(x)) = \int_0^\infty f(x)e^{-r_s}dx, \quad r_s \leq k
\]  

(2)

The Mellin transform inversion for a Put option

\[
\mu_C(j) = \frac{\gamma(j) - 1}{2}\, x^2 + \left(\frac{1}{2}j - 1\right) x - \frac{j}{2}
\]

Choosing \( M = 50, K = 34, \, t = 0.25, \, r = 0.08, \, \sigma = 0.20, \, S \in [0, 100] \) and \( \alpha = 32 \), we can simulate the value of a put option from (19). The picture below illustrates our result.

**References**