

**Table 1: Value of the American put  $u(100, 0)$  for a strike price of  $x = 100$  (before scaling) at maturity**  
 $r = 0.1, \rho = 0, \sigma = 0.3, T = 1$

$\Delta t$	1st order MOL	CPU <sup>1)</sup> sec	$u(100, 0)$ <sup>2)</sup> from (2.17)	2nd order MOL	CPU <sup>1)</sup> sec	$u(100, 0)$ <sup>2)</sup> from (2.17) <sup>1)</sup>	Semi-anal. <sup>3)</sup> MOL	CPU <sup>1)</sup> sec	“exact” value from [1], Table 1
1/1	7.04037 <sup>4)</sup>	0	9.15092				7.0438	0	8.337804
1/50	8.30133	0	8.35032	8.33474	0	8.34498	8.3017	0	
1/100	8.31881	0	8.34355	8.33612	0	8.34045	8.3192	0	
1/200	8.32781	0	8.34042	8.33677	0	8.33870	8.3283	0	
1/500	8.33340	1	8.33864	8.33732	1	8.33781	8.3338	0	
1/1000	8.33550	3	8.33795	8.33753	3	8.33743	8.3357 <sup>5)</sup>	1	

<sup>1)</sup>Execution on a Unix Sparcstation 10 with the time a.out command which lists the CPU seconds required for the run.

<sup>2)</sup>The solution in this column was obtained by integrating (2.17) over  $[0, T]$  at  $x = 1$  with the trapezoidal rule when using the method of lines free boundary points  $\{s_n\}$ .

<sup>3)</sup>Results obtained with the analytic solution (3.16) of the Riccati equation and with double precision arithmetic.

<sup>4)</sup>The analytic solution is  $u_T(100, 1) = 7.0405$  [1]. The difference is due to the spacial discretization.

<sup>5)</sup>  $\max_i |\delta_i^{1000}| = O(10^{58})$ .