

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.005824	0.017774	0.010284	0.011473	0.006050	0.000016
cross hedge	0.005621	0.016612	0.009939	0.010840	0.006017	0.000015
% relative diff	3.614733	6.994292	3.477070	5.840867	0.550620	3.673729
spot	0.066608	0.190451	0.115618	0.136746	0.063220	0.002197
copula in stress period	0.005761	0.012901	0.009832	0.010900	0.007304	0.000015
cross hedge in stress period	0.005587	0.012947	0.009621	0.010978	0.007088	0.000015
% relative diff	3.105702	-0.362275	2.198498	-0.709928	3.036827	3.462588
spot in stress period	0.076401	0.155970	0.123428	0.124419	0.097999	0.003041

Table 1: HE comparison BBT Tiingo

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.063125	0.120135	0.092888	0.108273	0.069064	0.002636
cross hedge	0.069192	0.148253	0.104279	0.119498	0.077508	0.002825
% relative diff	-8.768273	-18.966206	-10.923261	-9.393743	-10.894465	-6.692165
spot	0.089140	0.225694	0.144080	0.168470	0.089899	0.004264
copula in stress period	0.075088	0.125497	0.111589	0.123216	0.092956	0.004913
cross hedge in stress period	0.085074	0.176310	0.133037	0.151116	0.097079	0.005657
% relative diff	-11.737526	-28.820160	-16.122014	-18.462414	-4.246979	-13.154777
spot in stress period	0.119040	0.250498	0.200934	0.228042	0.156914	0.007407

Table 2: HE comparison BBT future Tiingo ada

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.045753	0.116154	0.071933	0.076843	0.049148	0.001346
cross hedge	0.049662	0.130841	0.078328	0.085429	0.050916	0.001442
% relative diff	-7.871269	-11.225416	-8.164547	-10.050049	-3.473119	-6.703109
spot	0.083213	0.228328	0.142129	0.174268	0.090164	0.003446
copula in stress period	0.058527	0.169055	0.102075	0.139861	0.064593	0.002031
cross hedge in stress period	0.060755	0.178084	0.104073	0.154476	0.062593	0.002151
% relative diff	-3.667054	-5.069882	-1.919499	-9.460939	3.195479	-5.585663
spot in stress period	0.100201	0.225398	0.174061	0.178273	0.125977	0.004865

Table 3: HE comparison BBT future Tiingo eth

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.058828	0.149425	0.092922	0.094752	0.063848	0.001755
cross hedge	0.062266	0.167335	0.097900	0.110785	0.062293	0.001813
% relative diff	-5.521211	-10.703020	-5.085515	-14.472352	2.497494	-3.216869
spot	0.096164	0.261008	0.163300	0.187398	0.095560	0.004076
copula in stress period	0.067627	0.205845	0.116784	0.113548	0.076603	0.002621
cross hedge in stress period	0.068253	0.197203	0.117779	0.117185	0.070380	0.002617
% relative diff	-0.917372	4.382310	-0.845265	-3.103126	8.841549	0.174381
spot in stress period	0.113052	0.281010	0.194193	0.185661	0.139036	0.005688

Table 4: HE comparison BBT future Tiingo ltc

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.079228	0.259104	0.139501	0.151341	0.079092	0.004273
cross hedge	0.078219	0.260633	0.139179	0.146620	0.069081	0.004198
% relative diff	1.290945	-0.586730	0.231537	3.219567	14.492191	1.775367
spot	0.095107	0.287638	0.164290	0.179563	0.100176	0.005283
copula in stress period	0.085013	0.201083	0.147950	0.175563	0.091099	0.005135
cross hedge in stress period	0.081526	0.202907	0.143626	0.164448	0.101811	0.004769
% relative diff	4.276966	-0.898949	3.010917	6.758591	-10.521458	7.667793
spot in stress period	0.094615	0.256529	0.167473	0.201297	0.110765	0.005255

Table 5: HE comparison BBT future Tiingo xrp

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.012046	0.036987	0.020541	0.020008	0.011741	0.000096
cross hedge	0.012370	0.037775	0.021054	0.021001	0.012867	0.000098
% relative diff	-2.612613	-2.084869	-2.434416	-4.728842	-8.752752	-1.855970
spot	0.066617	0.177928	0.116244	0.142476	0.065817	0.002086
copula in stress period	0.017788	0.074821	0.036995	0.043342	0.019570	0.000202
cross hedge in stress period	0.018160	0.076033	0.037775	0.045376	0.020252	0.000205
% relative diff	-2.052817	-1.594053	-2.064052	-4.482996	-3.369819	-1.885142
spot in stress period	0.080025	0.161541	0.136882	0.145495	0.113336	0.003409

Table 6: HE comparison BBT future BITX

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.048878	0.114332	0.077133	0.083347	0.055215	0.001255
cross hedge	0.050137	0.119798	0.079617	0.090130	0.053374	0.001292
% relative diff	-2.512498	-4.562734	-3.120502	-7.525093	3.448315	-2.822839
spot	0.079960	0.236711	0.131559	0.163363	0.078888	0.003027
copula in stress period	0.052494	0.202875	0.099133	0.107227	0.063197	0.002229
cross hedge in stress period	0.053169	0.210915	0.103446	0.118473	0.061673	0.002261
% relative diff	-1.268948	-3.812107	-4.169720	-9.492758	2.470789	-1.408455
spot in stress period	0.088451	0.289595	0.173538	0.207033	0.101460	0.005027

Table 7: HE comparison BBT future BITW20

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.054173	0.138594	0.086839	0.084179	0.058942	0.001696
cross hedge	0.055962	0.147383	0.090365	0.091846	0.061897	0.001530
% relative diff	-3.195267	-5.963533	-3.902349	-8.347861	-4.774662	10.832507
spot	0.085505	0.244400	0.142102	0.177450	0.087256	0.003382
copula in stress period	0.052274	0.245347	0.110437	0.113076	0.062958	0.003133
cross hedge in stress period	0.052097	0.239297	0.110635	0.112673	0.064207	0.002476
% relative diff	0.340950	2.528040	-0.178703	0.358032	-1.945057	26.551359
spot in stress period	0.093416	0.323453	0.180239	0.199110	0.109723	0.006061

Table 8: HE comparison BBT future BITW70

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.014238	0.047505	0.025037	0.022217	0.014902	0.000137
cross hedge	0.014574	0.047847	0.025399	0.022665	0.015514	0.000140
% relative diff	-2.304006	-0.715975	-1.424354	-1.979126	-3.945876	-1.798926
spot	0.067329	0.186054	0.117143	0.142941	0.065716	0.002132
copula in stress period	0.020997	0.110891	0.046718	0.053623	0.019379	0.000324
cross hedge in stress period	0.021258	0.112205	0.047341	0.053405	0.019692	0.000329
% relative diff	-1.229785	-1.171451	-1.314515	0.409517	-1.589530	-1.326984
spot in stress period	0.080456	0.197610	0.142460	0.154426	0.110179	0.003551

Table 9: HE comparison BBT future BITW100

	ERM	ES1	ES5	VaR1	VaR5	Var
copula	0.010219	0.030425	0.017260	0.017060	0.009533	0.000078
cross hedge	0.010083	0.031857	0.017184	0.017522	0.009238	0.000078
% relative diff	1.347764	-4.493722	0.444115	-2.635645	3.198000	-0.406715
spot	0.064772	0.178374	0.114805	0.139618	0.062770	0.001990
copula in stress period	0.015169	0.068021	0.031656	0.032183	0.016373	0.000171
cross hedge in stress period	0.015036	0.071100	0.031598	0.032708	0.016045	0.000174
% relative diff	0.884965	-4.331002	0.182983	-1.606256	2.048019	-1.648355
spot in stress period	0.100992	0.271385	0.173078	0.176042	0.129120	0.004786

Table 10: HE comparison BBT future CRIX