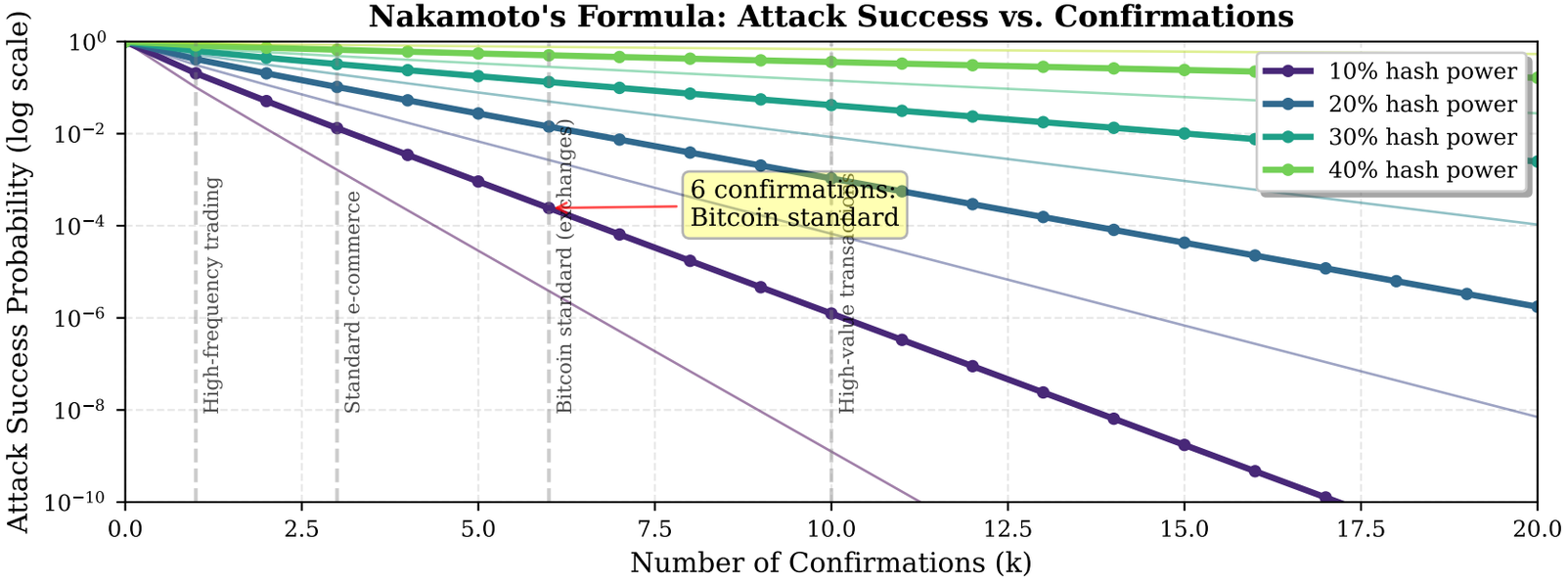
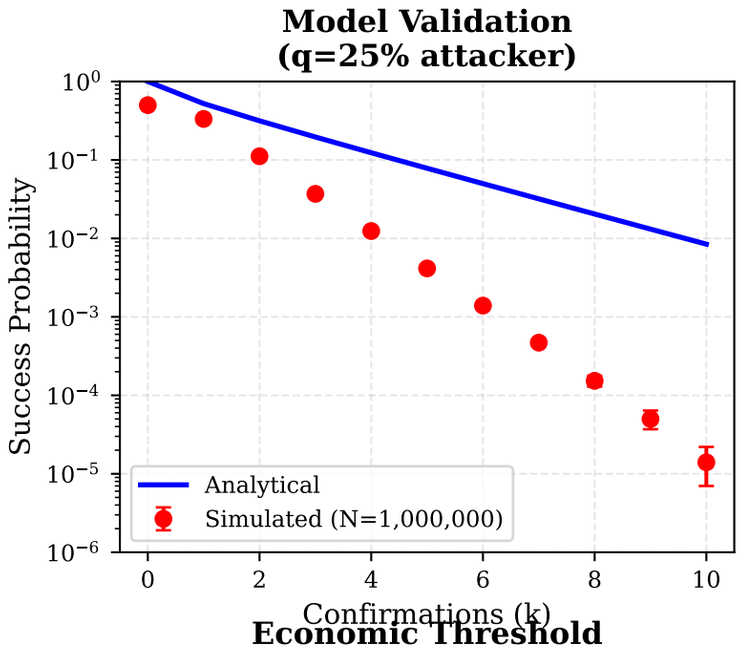
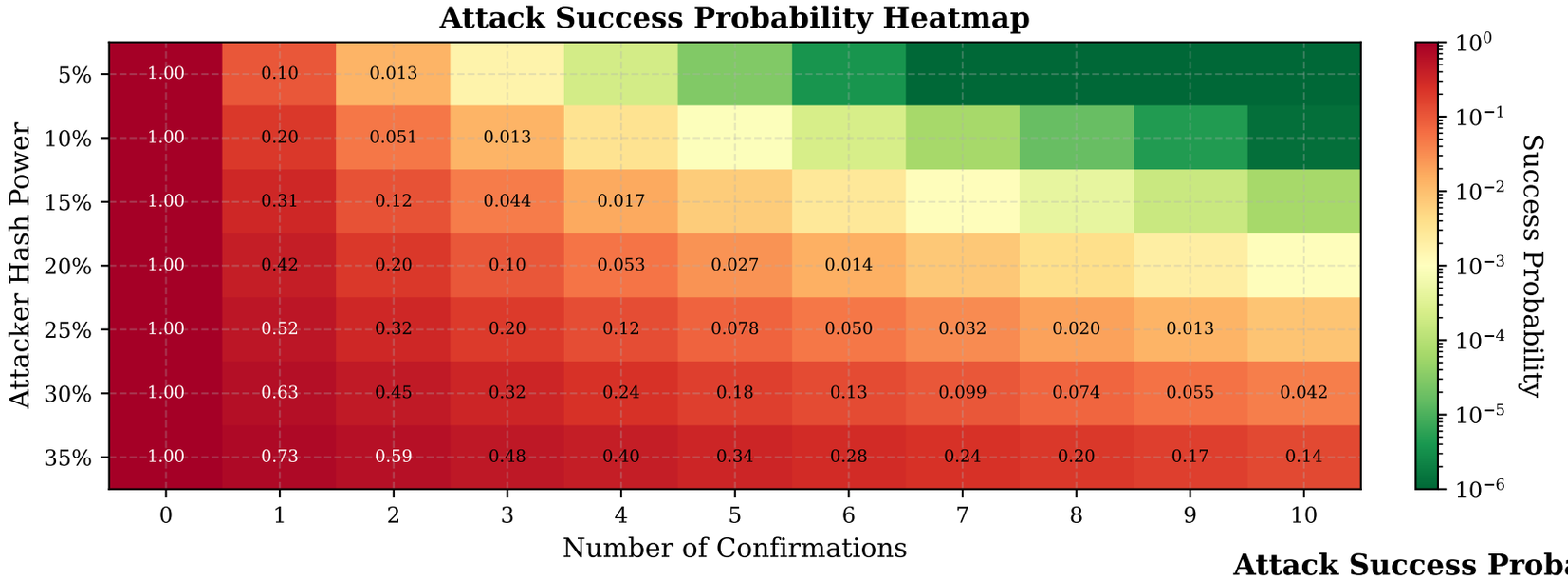
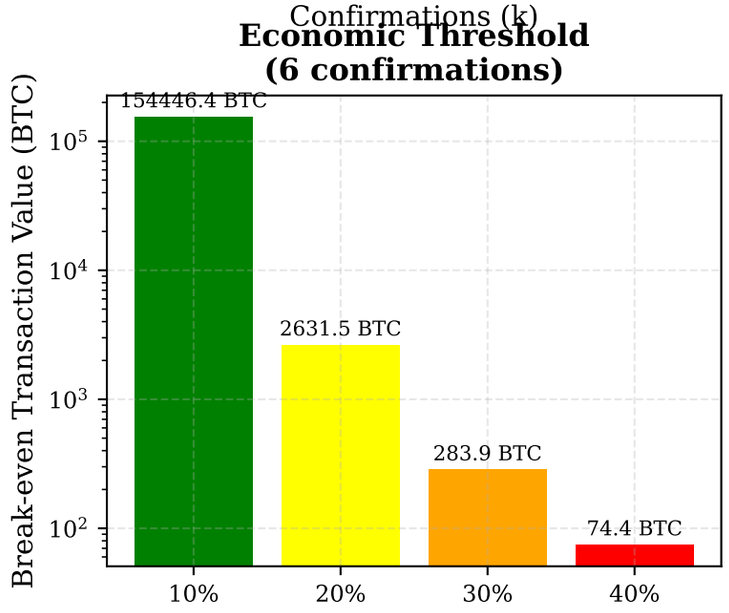
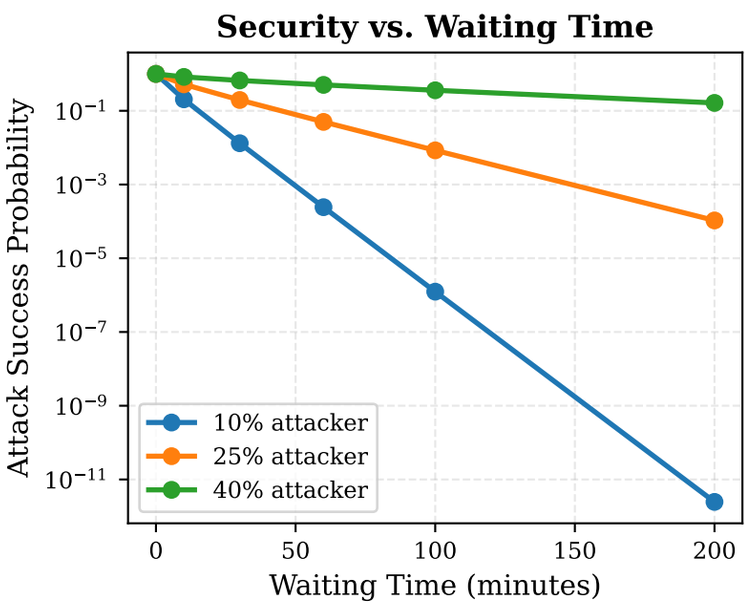
Bitcoin Double-Spend Attack Analysis: Comprehensive Study











Attack Success Probability Summary Table

Confirmations	Time (min)	10% Attacker	25% Attacker	40% Attacker
0	0	1.00e+00	1.00e+00	1.00e+00
1	10	2.05e-01	5.22e-01	8.29e-01
3	30	1.32e-02	1.96e-01	6.64e-01
6	60	2.43e-04	4.99e-02	5.04e-01
10	100	1.24e-06	8.45e-03	3.60e-01

Note: Analysis based on Nakamoto's model assuming constant hash rate, no network latency, and rational attacker behavior.
Monte Carlo simulations performed with 1,000,000 trials on GPU. Current block reward: 6.25 BTC.