

67. Assume the Black-Scholes framework.

- In a securities market model, there are two stocks, S_1 and S_2 , whose price processes are:

$$\frac{dS_1(t)}{S_1(t)} = \mu[dt + 20dZ(t)],$$
$$d[\ln S_2(t)] = 0.03dt + 0.2dZ(t),$$

where μ is a constant and $\{Z(t)\}$ is a standard Brownian motion.

- S_1 does not pay dividends.
- For $t \geq 0$, S_2 pays dividends of amount $0.01S_2(t)dt$ between time t and time $t + dt$.
- The continuously compounded risk-free interest rate is 4%.

Determine μ .

- (A) -0.04
- (B) -0.02
- (C) 0
- (D) 0.02
- (E) 0.04