

- 20.** Assume the Black-Scholes framework. Consider a stock, and a European call option and a European put option on the stock. The current stock price, call price, and put price are 45.00, 4.45, and 1.90, respectively.

Investor A purchases two calls and one put. Investor B purchases two calls and writes three puts.

The current elasticity of Investor A's portfolio is 5.0. The current delta of Investor B's portfolio is 3.4.

Calculate the current put-option elasticity.

- (A)  $-0.55$
- (B)  $-1.15$
- (C)  $-8.64$
- (D)  $-13.03$
- (E)  $-27.24$

**21-24.** DELETED

- 25.** Consider a chooser option (also known as an as-you-like-it option) on a nondividend-paying stock. At time 1, its holder will choose whether it becomes a European call option or a European put option, each of which will expire at time 3 with a strike price of \$100.

The chooser option price is \$20 at time  $t = 0$ .

The stock price is \$95 at time  $t = 0$ . Let  $C(T)$  denote the price of a European call option at time  $t = 0$  on the stock expiring at time  $T$ ,  $T > 0$ , with a strike price of \$100.

You are given:

- (i) The risk-free interest rate is 0.
- (ii)  $C(1) = \$4$ .

Determine  $C(3)$ .

- (A) \$ 9
- (B) \$11
- (C) \$13
- (D) \$15
- (E) \$17