

Derivatives Strategies

Problems

Aline Nuñez is a junior analyst in the derivatives research division of an international securities firm. Nuñez's supervisor, Cátia Pereira, asks her to conduct an analysis of various options trading strategies relating to shares of three companies: IZD, QWY, and XDF. On 1 February, Nuñez gathers selected option premium data on the companies, which is presented in Exhibit 1.

EXHIBIT 1 Share Price and Options Premiums as of 1 February (share prices and option premiums are in euros)

	Share Price	Call Premium	Option Date/Strike	Put Premium
IZD	93.93	9.45	April/87.50	1.67
		2.67	April/95.00	4.49
		1.68	April/97.50	5.78
QWY	28.49	4.77	April/24.00	0.35
		3.96	April/25.00	0.50
		0.32	April/31.00	3.00
XDF	74.98	0.23	February/80.00	5.52
		2.54	April/75.00	3.22
		2.47	December/80.00	9.73

Nuñez considers the following option strategies relating to IZD.

- Strategy 1: Constructing a synthetic long put position in IZD
- Strategy 2: Buying 100 shares of IZD and writing the April \$95.00 strike call option on IZD
- Strategy 3: Implementing a covered call position in IZD using the April \$97.50 strike option

Nuñez next reviews the following option strategies relating to QWY.

- Strategy 4: Implementing a protective put position in QWY using the April \$25.00 strike option
- Strategy 5: Buying 100 shares of QWY, buying the April \$24.00 strike put option, and writing the April \$31.00 strike call option
- Strategy 6: Implementing a bear spread in QWY using the April \$25.00 and April \$31.00 strike options

Finally, Nuñez considers two option strategies relating to XDF.

- Strategy 7: Writing both the April \$75.00 strike call option and the April \$75.00 strike put option on XDF
- Strategy 8: Writing the February \$80.00 strike call option and buying the December \$80.00 strike call option on XDF

Over the past few months, Nuñez and Pereira have followed news reports on a proposed merger between XDF and one of its competitors. A government antitrust committee is currently reviewing the potential merger. Pereira expects the share price to move sharply up or down depending on whether the committee decides to approve or reject the merger next week.

Pereira asks Nuñez to recommend an option trade that might allow the firm to benefit from a significant move in the XDF share price regardless of the direction of the move.

Questions

1. Strategy 1 would require Nuñez to buy:
 - A. shares of IZD.
 - B. a put option on IZD.
 - C. a call option on IZD.
2. Based on Exhibit 1, Nuñez should expect Strategy 2 to be least profitable if the share price of IZD at option expiration is:
 - A. less than \$91.26.
 - B. between \$91.26 and \$95.00.
 - C. more than \$95.00.
3. Based on Exhibit 1, the breakeven share price of Strategy 3 is closest to:
 - A. \$92.25.
 - B. \$95.61.
 - C. \$95.82.
4. Based on Exhibit 1, the maximum loss per share that would be incurred if Strategy 4 was implemented is:
 - A. \$2.99.
 - B. \$3.99.
 - C. unlimited.
5. Strategy 5 is best described as a:
 - A. collar.
 - B. straddle.
 - C. bear spread.
6. Based on Exhibit 1, Strategy 5 offers:
 - A. unlimited upside.
 - B. a maximum profit of \$2.48 per share.
 - C. protection against losses if QWY's share price falls below \$28.14.
7. Based on Exhibit 1, the breakeven share price for Strategy 6 is closest to:
 - A. \$22.50.
 - B. \$28.50.
 - C. \$33.50.
8. Based on Exhibit 1, the maximum gain per share that could be earned if Strategy 7 is implemented is:
 - A. \$5.74.
 - B. \$5.76.
 - C. unlimited.
9. Based on Exhibit 1, the best explanation for Nuñez to implement Strategy 8 would be that, between the February and December expiration dates, she expects the share price of XDF to:
 - A. decrease.
 - B. remain unchanged.
 - C. increase.
10. The option trade that Nuñez should recommend relating to the government committee's decision is a:
 - A. collar.
 - B. bull spread.
 - C. long straddle.