

## Buying call options to hedge a short sale (protective calls)

### SITUATION

An investor having made a short sale of shares can use a call option on the underlying security to protect himself from unfavourable price fluctuations. The call option constitutes effective protection against a rise in the market price of the security sold short, since it establishes the maximum price to be paid to buy back the shares.

### OBJECTIVE

Buying call options to hedge a short sale of shares.

### STRATEGY

Suppose an investor “shorts” 1,000 shares of DEF Corporation when it is trading at \$20.25. The investor is hoping to make a profit on a forecasted decline of the shares since this will enable him to buy back the shares sold short at a total price below the revenue of \$20,250.00 (= 1,000 x \$20.25). Note that for simplicity, the financing costs of short-selling are not considered (readers unfamiliar with stock short-selling should consult their broker for more details).

He risks, however, a rise in DEF shares that could cause him to incur substantial losses. To hedge this risk, he decides to buy 10 DEF JUN 20 call options at \$1.10 per share or \$1,100.00 total. He has, thus, assured himself of a purchase price of \$20.00 per share for the underlying stock in case it should rise.

### RESULTS

On June 13, the price of DEF Corporation shares had risen to \$22.00 (= \$22,000.00) and the investor decides to close out his short position before a further rise in the share price causes additional losses.

Rather than trying to buy back his shares on the open market, he simply exercises his 10 DEF JUN 20 calls and delivers an order to his broker to close out his short obligation. But note that the investor’s total losses on his misforecast of the future price of DEF are limited to \$850.00 (i.e. the call premium paid \$1,100.00 minus \$250.00, the difference between the price at which the shares were shorted, \$20.25 and the strike price \$20.00). Had he not hedged with the 10 calls, his losses would have totaled \$1,750.00 due to the impact of a rise of \$1.75 in the price of the 1,000 shares he shorted. Losses on an unhedged short sale are theoretically unlimited.