OPTIONS AND OTHER DERIVATIVES: INTRODUCTION

A relatively recent, but extremely important class of financial assets is derivative securities, or simply derivatives. These are securities whose prices are determined by, or "derive from," the prices of other securities. These assets also are called *contingent claims* because their payoffs are contingent on the prices of other securities.

Options and futures contracts are both derivative securities. We will see that their payoffs depend on the value of other securities. Swaps, which we discussed in Chapter 13, also are derivatives. Because the value of derivatives depends on the value of other securities, they can be powerful tools for both hedging and speculation. We will investigate these applications in the next three chapters, starting in this chapter with options.

Trading of standardized options contracts on a national exchange started in the United States in 1973 when the Chicago Board Options Exchange (CBOE) began listing call options. These contracts were almost immediately a great success, crowding out the previously existing over-the-counter trading in stock options.

Options contracts are traded now on several U.S. exchanges. They are written on common stock, stock indices, foreign exchange, agricultural commodities, precious metals, and interest rate futures. In addition, the over-the-counter market also has enjoyed a tremendous resurgence in recent years as trading in custom-tailored options has exploded. Popular and potent tools in modifying portfolio characteristics, options have become essential tools a portfolio manager must understand.

In Canada, organized exchange trading of standardized option contracts began in 1975–1976 in Montreal and Toronto. The following year the two exchanges merged their options-clearing corporations, forming TransCanada Options Inc. (TCO). The Vancouver Stock Exchange joined TCO in 1984. Finally, in the year 1999 all derivatives trading in Canada (with the exception of agricultural futures) was transferred to the Montreal Exchange.

Derivatives have received some bad press in recent years, principally because they have been involved in several high-profile financial scandals, like the 1995 failure of the Barings Investment Bank in the United Kingdom. Most, if not all, such scandals have stemmed from fraudulent actions coupled with an insufficient understanding of the instruments. In fact, derivatives are simply tools to hedge or manage risk, and they don't deserve their bad name. While it is true that they are relatively difficult to master, it is also true, as we shall see, that the rewards from their use will largely repay the effort.

T his chapter is an introduction to options markets. It explains how puts and calls work and examines their investment characteristics. Popular option strategies are considered next. Finally, the chapter provides a brief overview of securities with embedded options, such as callable or convertible bonds.

17.1 THE OPTION CONTRACT

A **call option** gives its holder the right to purchase an asset for a specified price, called the **exercise** or **strike price**, on or before some specified expiration date. For example, a March call option on Alcan stock with exercise price $60 entitles its owner to purchase Alcan stock for a price of $60 at any time up to and including the expiration date in March. The holder of the call is not required to exercise the option. The holder will choose to exercise only if the market value of the asset to be purchased exceeds the exercise price. When the market price does exceed the exercise price, the optionholder may "call away" the asset for the exercise price. Otherwise, the option may be left unexercised. If it is not exercised before the expiration date of the contract, a call option simply expires and no longer has value. Therefore, if the stock price is greater than the exercise price on the expiration date, the value of the call option equals the difference between the stock price and the exercise price; but if the stock price is less than the exercise price at expiration, the call will be worthless. The *net profit* on the call is the value of the option minus the price originally paid to purchase it.

The purchase price of the option is called the *premium*. It represents the compensation the purchaser of the call must pay for the right to exercise the option if exercise becomes profitable. Sellers of call options, who are said to *write* calls, receive premium income now as payment against the possibility they will be required at some later date to deliver the asset in return for an exercise price lower than the market value of the asset. If the option is left to expire worthless because the exercise price remains above the market price of the asset, then the writer of the call clears a profit equal to the premium income derived from the sale of the option.