



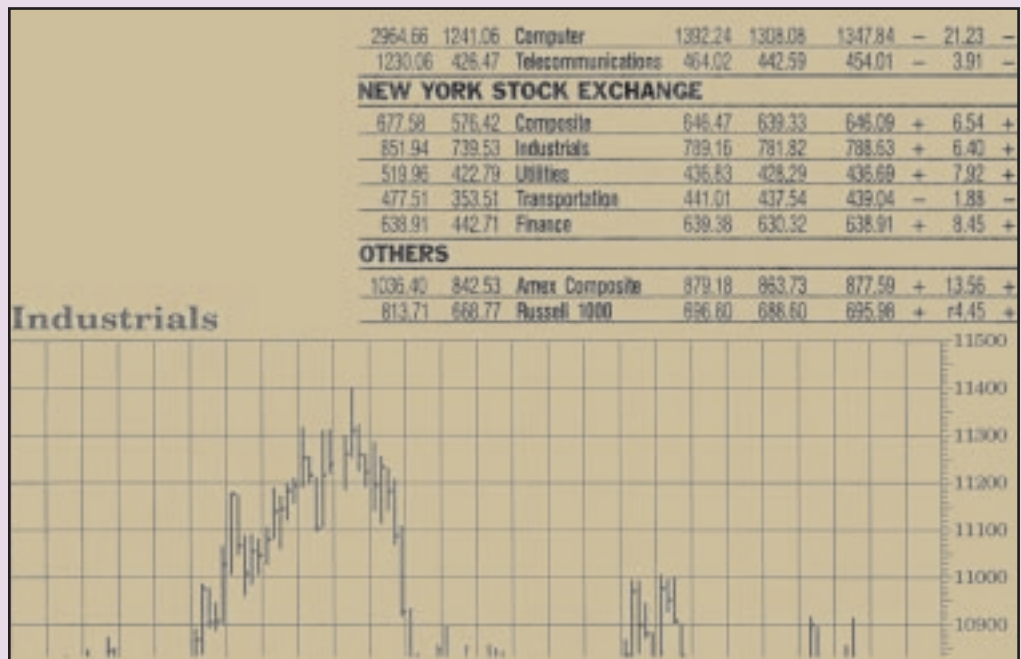
Investing in Markets

The past twenty years has seen the creation of many new sophisticated financial instruments, such as derivatives, which have helped drive the economy. Financial derivatives are mathematical instruments whose value is derived from the value of something else, and while some view them as risky, their purpose is to lessen risk by sharing it with others.

The present value of a future option is approximated with a multivariable integral. Unfortunately, the complexity of the multivariable integral increases exponentially with the number of components in the option. Thus, traditional ways of approximating quickly leave the realm of computer calculation. New methods (quasi-Monte Carlo methods using low discrepancy sequences) require fewer samples while yielding greater accuracy. These methods make the desired calculations feasible.

For More Information:

What's Happening in the Mathematical Sciences, Vol. 3, Barry Cipra.



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