

# A Layman's Guide to Financial Terms

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## Preface

This guide provides easy-to-understand definition and explanation of financial terms arranged in alphabetical order.

The idea of writing a guide like this was conceived when I first taught an introductory finance course at the University of Saskatchewan in 1992. While lecturing on certain topics, I would occasionally observe some puzzled faces upon my mentioning some basic financial terms. My private and friendly investigations revealed that students either do not know the terms, or have heard of the terms but never really understand their precise meaning. For those who are exposed to finance for the first time in their life, the textbook sometimes doesn't help either, given the sequential nature of knowledge. Those observations motivated me to produce what you are seeing now. Another, perhaps less academic reason for me to explain the terms in layman's language is my encounters with financially curious friends at cocktail parties. I would get such basic questions as "Exactly what is a derivative security?" Of course, a technical explanation can only confuse the inquirer, the end result of which may be increased consumption of alcohol due to frustration, not to mention the inquirer's unspoken judgment that the taxpayers' dollar is totally wasted on this abstract, irrelevant, and self-indulging professor!

The Guide is being updated on an ongoing basis. Suggestions are always welcome!

I would like to thank all my students, previous and current, for their usage of the Guide. I especially thank those who have provided comments. Finally, I would like to express my appreciation to my colleague, Professor Melanie Cao at York University, who has shared the enthusiasm of such an endeavor and given detailed comments and inputs.

## **List of Terms Included in this Guide**

Accounts Payable  
Accounts Receivable  
Accrued Expenses  
Accrued Taxes  
American Depositary Receipt (ADR)  
American Option  
Amortization  
Amortization Schedule  
Amortized Loan  
Annuity  
Arbitrage / Arbitraging  
At-the-money  
Bank for International Settlements (BIS)  
Bank of Canada  
Bank Rate  
Bankers' Acceptances  
Basis Points  
Beta  
Black-Scholes Option Pricing Model  
Bond  
Bond Rating  
Call Option  
Canadian Deposit Insurance Corporation (CDIC)  
Capital Asset Pricing Model (CAPM)  
Capital Gain  
Capital Loss  
Capital Structure  
Cash Flow  
Central Bank  
Clean Price  
Closed-end Fund  
Commercial Paper  
Common Shares  
Compound Interest  
Compounding

Compounding Frequency  
Contingent Claims  
Continuous Compounding  
Convertible Bond  
Coupon Payments  
Credit Rating  
Crown Corporations  
Currency Appreciation  
Currency Depreciation  
Currency Devaluation  
Currency Option  
Currency Revaluation  
Current Assets  
Current Liabilities  
Current Ratio  
Current Yield  
Daily Compounding  
Day Order  
Debenture  
Default  
Depreciation  
Derivative Securities  
Dirty Price  
Discount Bond  
Discount Rate  
Discounted Payback Period  
Discounting  
Diversifiable Risk  
Diversification  
Dividend  
Dividend Reinvestment Plan (DRP or DRIP)  
Dollar Cost Averaging  
Draft  
Duration  
Earning per Share (EPS)  
EBIT  
Effective Annual Rate (EAR)  
Euro  
Euro Currency

Eurodollar  
European Option  
Ex-dividend Date  
Exchange Rate  
Executive Stock Option  
Exercise Price  
Extendable Bond  
Face Value  
Federal Deposit Insurance Corporation (FDIC)  
Federal Reserve System  
Financial Engineering  
Fixed-income Securities  
Fixed-rate Mortgage  
Forward Contract  
Forward Interest Rates  
Fund of Hedge Funds  
Futures Contract  
GIC  
Going Public  
Gross Working Capital  
Hedge Fund  
Hedging  
Idiosyncratic Risk  
In-the-money  
Income Trust  
Index-Linked GIC  
Index Option  
Initial Public Offering (IPO)  
Interest Rate Parity  
Internal Rate of Return (IRR)  
International Monetary Fund (IMF)  
Investment Banker  
Investment Dealer  
Investment Grade Bonds  
Junk Bonds  
Leverage  
LIBOR  
Limit Order  
Line of Credit

Liquidity  
Long  
Margin / Margin Investment  
Margin Account  
Margin Call  
Market Capitalization  
Market Efficiency  
Market Order  
Marketable Securities  
Money Market Instruments  
Money Market Mutual Funds  
Monthly Compounding  
Mortgage  
Mortgage-Backed Securities  
Mutual Funds  
NASDAQ (or Nasdaq)  
Net Asset Value (NAV)  
Net Present Value (NPV)  
Net Working Capital  
No-Load Funds  
Nominal Interest Rate  
Non-diversifiable Risk  
Nonsystematic Risk  
NYSE  
Open-end Fund  
Option  
Out-of-the-money  
Over-the-Counter (OTC) Market  
Payback Period  
Portfolio  
Preferred Shares  
Price Earning Ratio (P/E Ratio)  
Prime Rate  
Put Option  
Rate of Return  
Real Interest Rate  
Real Options  
Repo (Repurchase Agreement)  
Required Rate of Return

Retained Earnings  
Registered Retirement Savings Plan (RRSP)  
Return on Equity (ROE)  
Reverse Repo  
Security  
Semi-annual Compounding  
Short / Short Selling  
Simple Interest  
Speculation  
Spot Interest Rates  
Stock Repurchase  
Strike Price  
Strip Bond  
Swap  
Systematic Risk  
T-bill  
Term Deposit  
Term Structure of Interest Rates  
Treasury Bonds  
Treasury Stock  
TSX  
Underwriter  
Variable-rate Mortgage  
Volatility  
Warrant  
Working Capital  
World Bank  
Yield Curve  
Yield to Maturity  
Zero-coupon Bond

## **Accounts Payable**

When firms make purchases on credit, the money owed is recorded as accounts payable. Accounts payable is a form of short-term financing. For example, if the purchase is for \$500,000, and the firm is given 45 days to make the payment, then in effect, the firm has obtained an interest-free loan of \$500,000 for a term of 45 days. As individuals, we typically also have a balance of accounts payable at any point in time. An obvious example is the credit card balance before the due date. Since it is a form of financing, no wonder we all prefer a longer due time for our credit card payment.

See also “Accounts Receivable”.

## **Accounts Receivable**

It is the opposite entry of accounts payable. For a firm, account receivable is the balance due from a customer. To continue the above example, the firm that makes the sales will record an account receivable of \$500,000. It is the party that provides the free financing.

See also “Accounts Payable”.

## **Accrued Expenses**

Expenses already incurred but not yet paid. As such, they are an interest-free source of short-term financing. Typical examples include unpaid taxes, wages and interest. For individuals, when we charge the restaurant bill to our credit card, between the time of eating out and the time we receive the credit card statement, the cost of the meal can be considered as an accrued expense.

## **Accrued Taxes**

Taxes owed but not yet paid. Please see “Accrued Expenses”.

## **American Depositary Receipt (ADR)**

A negotiable certificate issued by a US bank, representing a specific number of foreign shares. The foreign shares are usually held by the bank’s branch or its correspondent in the foreign country. ADR’s are traded on a US stock exchange (e.g., the NYSE) in US dollars and can be bought or sold just like domestic shares. Therefore, ADR’s are a convenient way for US investors to invest in foreign shares.

## American Option

An American option is an option that can be “exercised” anytime before a specific future date. Suppose you have a call option on a CIBC stock. The option matures on June 1, and it is now March 23. One such option allows you to buy one share at \$45. Then, between now and June 1, you may exercise your right and purchase the stock at your will. Because an American option gives you more freedom, it is normally worth more than an otherwise identical European option. An American option can be a call or a put option.

The use of the word “American” does not convey any geographical connotation, nor does it imply that the United States of America is the dreamland of freedom, regardless of its truism.

See also “Options”, “Call Option”, “Put Option”, “European Option”, and “Exercise Price” or “Strike Price”.

## Amortization

The process of amortizing a loan. Given the total loan amount, the interest rate, and the term (i.e., the number of years of borrowing), amortization is the process of finding the equal amount of payment per period and its breakdown between the interest and the principal repayment. Please see “Amortized Loan” and “Amortization Schedule”.

## Amortization Schedule

A table showing the precise breakdown between interest and principal of each periodic payment for an amortized loan. Since an amortized loan is repaid in equal amounts, each periodic payment must include some interest and some principal. We need to know the precise breakdown for tax purposes, since for most businesses, the interest payments are tax deductible.

The making of the schedule is not too difficult. Let me walk you through a simple example. Suppose you take out a loan of \$2,000, which is to be repaid annually in three equal amounts. The interest rate is 8% p.a. First we need to find the annual payment, denoted by X. Since we will make three payments of X dollars each, the present value of them must be equal to the loan amount today. In other words,

$$2,000 = X / (1+0.08) + X / (1 + 0.08)^2 + X / (1 + 0.08)^3.$$

We can easily solve for X as \$776. To create the schedule, we start with year one. For the first year, we carry the full amount of the loan, so the interest amount is simply  $2,000 \times 0.08 = \$160$ . The principal repayment is then,  $\$776 - \$160 = \$616$ . Therefore, at the end of the first year, the remaining principal is  $\$2,000 - \$616 = \$1,384$ . This process is

repeated for each year until the end of the loan. Of course, by the time you make the last payment, the loan is completely paid off and the balance is zero. For home mortgages, this is the time for a big celebration, since it is only now that you are the *bona fide* owner of the house!

<u>Year</u>	<u>Annual Payment</u>	<u>Interest Portion</u>	<u>Principal Portion</u>	<u>Balance</u>
0				\$2,000
1	\$776	\$160	\$616	\$1,384
2	\$776	\$111	\$665	\$719
3	\$776	\$57	\$719	\$0

See also “Amortized Loan” and “Mortgage”.

### **Amortized Loan**

If a loan is to be repaid in equal periodical amounts (e.g., monthly, quarterly, annually), then the loan is called an “amortized loan”. Examples of amortized loan include home mortgages and car loans.

### **Annuity**

A series of payments of equal amounts occurring at fixed intervals for a specified number of periods. Examples include mortgage payments and car loan payments.

### **Arbitrage / Arbitraging**

The process of selling overvalued and buying undervalued assets to make money. If two identical TV sets are selling at different prices at two locations of the same store (e.g., at The Bay, \$300 at the Yorkdale Mall and \$350 at the Scarborough Town Center), then arbitrage opportunities exist. You could buy the TV set at the Yorkdale Mall, and return it at the Scarborough Town Center, and pocket \$50. (Of course, the amount you can net is going to be smaller than \$50, since you have to spend a few bucks on bus fares.)

In financial markets, arbitrage opportunities can exist in, say, stock markets. If stock ABC is cross-listed on the Toronto Stock Exchange and the New York Stock Exchange, and if, at a particular moment, you observe two different prices (after adjusting for the exchange rate), then you can buy the stock at the exchange where the price is lower and sell it at the exchange where the price is higher to make “arbitrage profits”. The foreign exchange markets are another place where traders frequently explore such opportunities.

## **At-the-money**

A term used to describe the relative magnitude between the current underlying asset price and the exercise price of an option. An option is “at-the-money” when the current underlying asset price is equal to the exercise price.

Please see “Exercise Price”, “Option”, “In-the-money”, and “Out-of-the-money”.

## **Bank for International Settlements (BIS)**

Originally established in 1930 to deal with the issue of the reparation payments imposed on Germany following the First World War (hence the name), the BIS has since taken the role to promote central bank cooperation for the pursuit of global monetary and financial stability. With its headquarter in Basel, the BIS has more than 55 member central banks.

Apart from fostering monetary policy cooperation, the BIS also performs the following functions: 1) offering traditional banking services for the central bank community such as gold and foreign exchange transactions, 2) collecting, compiling and disseminating economic and financial statistics, and 3) putting in place global banking regulations such as capital requirements. The BIS is sometimes called “the bank of central banks”.

See also “Central Bank”.

## **Bank of Canada**

Canada’s central bank. Its responsibilities include supervising monetary policy, printing bank notes, and overseeing the financial system. The principal role, as defined in the Bank of Canada Act, is “to promote the economic and financial welfare of Canada.”

Bank of Canada, like other central banks, is not a commercial bank and does not offer banking services to the public.

See also “Central Bank”.

## **Bank Rate**

It is a barometer of the general trend of interest rates in the economy. It is officially administered by the Bank of Canada. When chartered commercial banks and other financial institutions borrow from the central bank, i.e., the Bank of Canada, they are charged the bank rate.

Bank of Canada makes announcements of the rate on a regular basis, mostly on Tuesdays. The announcements do not always come at fixed intervals, but the

announcements dates are always published well ahead of time. Usually, there are about eight announcements a year and all the dates are published on the central bank's home page at the beginning of the year.

The Bank can increase, decrease, or maintain the rate from the level established at the previous announcement. The central bank's decision depends on the economic situation. For example, if the inflation is on its rise, then the central bank may increase the rate. A higher rate will suppress economic activities that will in turn lead to a lower inflation.

Banks normally don't adjust their lending / deposit rates every time the bank rate changes. On the other hand, banks may adjust their borrowing / lending rate even though the bank rate hasn't changed.

See also "Bank of Canada" and "Central Bank".

### **Bankers' Acceptances**

A bankers' acceptance is a promissory note drawn for payment by a corporation on a certain date. For example, a Canadian importer, Fashion Star, imports sweaters (worth \$45,000) from South Korea. The Korean exporter demands that it receive the payment before shipments are made. But Fashion Star does not have the cash yet. In this case, Fashion Star can go to its bank, Royal Bank, to ask for a draft of \$45,000. (What is a draft? Look up "Draf" in this guide.) The draft will then be sent to the Korean exporter, which in turn sends the draft to its Korean bank for money. The Korean bank will send the draft back to Royal Bank for acceptance. Upon receipt of the draft, Royal Bank stamps "accepted" on the draft. The Korean bank will then credit \$45,000 to the Korean exporter's account.

Bankers' acceptances are short-term financing instruments that are guaranteed by the banks. Therefore they are less risky. Once "accepted", they represent real money and therefore can be bought and sold just like other securities such as stocks and bonds.

### **Basis Points**

A term frequently seen in the financial press that is used to express interest rate. One basis point is one-hundredth of a percentage point. For example, 20 basis points is 0.2%, 125 basis points is 1.25%, and so on.

### **Beta**

Measure of a security's systematic risk. A security's return may change due to both firm specific events (such as re-shuffling of the management team) and market-wide events

such as interest rate fluctuations. Beta measures the sensitivity of a security's return to the overall market's movements.

“Beta” is the English pronunciation of the second Greek alphabet, β. The authentic Greek sound of the alphabet is actually “veta”. Who initiated the abuse is still a mystery.

See also “CAPM” and “Systematic Risk”.

### **Black-Scholes Option Pricing Model**

An option pricing model developed by Fisher Black and Myron Scholes in 1973. Robert Merton independently developed the same model in the same year. The model allows users to value an option with only five inputs: the current value of the underlying asset, the exercise price, the time to maturity, the risk-free rate, and the underlying asset's volatility.

Since its publication in 1973, the model has become an industry standard in basic option valuation. It is so important that two of the authors, Robert Merton and Myron Scholes, were awarded the Nobel Prize in 1997. (Fisher Black died of lung cancer in 1995. The Nobel Prize is only awarded to people alive.)

See also “Option”.

### **Bond**

A bond is a long-term debt instrument. There are government bonds and corporate bonds. Bonds are issued by governments or corporations in order to raise funds. A firm issues bonds and receives money in return. For example, a firm may sell a 5-year bond and gets \$1,000 right away. After the issue, the firm must pay interest to the bondholder. This interest payment is called coupon payment. It is a percentage of the face value of the bond, which is normally \$1,000. The coupon payments are made either annually or semi-annually. At the end of year 5, the firm will have to return the original \$1,000 to the bondholder.

There can be many variations of bonds in terms of interest payments, denomination currency, place of issue and special provisions. As a result, you may hear people taking about all kinds of “bonds”: callable bond, convertible bond, Euro-bond, currency-bond, cocktail bond, discount bond, floating rate bond, to name a few. “James Bond” does not belong to this family though.

## Bond Rating

It is a measure of the overall credit quality of a bond issuer. The rated bonds could be issued by a sovereign government (e.g., Brazil), a municipal government (e.g., the provincial government of Ontario), or a corporation (e.g., IBM). The major bond rating services in Canada are Dominion Bond Rating Services and Canadian Bond Rating Services; those in the US include Standard & Poor's and Moody's. Each rating service employs its own rating categories, although they are quite similar. For example, Moody's employs 10 categories, ranging from the best quality to default: AAA, AA, A, BBB, BB, B, CCC, CC, C, and D.

Generally, ratings above and including BBB are considered as investment grade, meaning the bonds in question are less risky; bonds rated below BBB are more risky, and are usually referred to as "junk bonds". Insofar as bonds represent a form of borrowing, the higher the bond rating, the lower the borrowing cost, and vice versa.

The rating of a bond issue may change over time due to improvements or deterioration of the issuer's financial situation.

Judging who is the best actor for 007 or which of the 007 movies is the best is quite a different "Bond rating" exercise!

Also see "Bond".

## Call Option

A call option is a derivative security whose value depends on an underlying asset. It is a high-leverage investment instrument. Suppose you own a call option on the TD stock that is trading at \$40 per share now. The call option is the right for you to purchase a TD share at a specific price (say \$45) on a specific future date (say three months from now). Three months later, if the TD share is trading at a price below \$45, then you would throw away the call option because you do not want to buy something for \$45 which is worth less than \$45. But if the price is higher than \$45, then you would exercise your right – buy the share at \$45. Suppose the share is trading at \$60, then you make a \$15 profit. The purchase price of this option is perhaps only \$2. Therefore, your return over the three-month period is a whopping  $(15 - 2) / 2 = 650\%$ ! In contrast, the return on the stock is only  $(60 - 45) / 45 = 33.33\%$ .

See also "Put Option", "European Option", "American Option", "Index Option", and "Exercise Price" or "Strike Price".

Not to confuse "call option" with the many buttons on your phone.

## **Canadian Deposit Insurance Corporation (CDIC)**

A Canadian federal Crown Corporation. It was established in 1967 to provide deposit insurance and contribute to the stability of Canadian financial systems. CDIC insures eligible deposits at member institutions for up to \$60,000 per depositor and reimburses depositors for the amount of their insured deposits should the member institution go bankrupt.

The 2005 Federal Budget announced an increase in coverage from \$60,000 to \$100,000. If this becomes law (i.e., approved by Parliament), the coverage will be retroactive to February 23, 2005.

## **Capital Asset Pricing Model (CAPM)**

A theory developed by William Sharpe, a finance professor at Stanford University. It asserts that the expected return on a financial asset is the sum of two components: the risk-free interest rate and a risk premium. The latter in turn is the product of the asset's beta and the differential between the expected return on the market portfolio and the risk-free rate. Beta measures the systematic risk of the asset. Therefore, CAPM implies that only the systematic risk is priced.

The author of CAPM, Professor Sharpe, was awarded the Nobel Prize for this model and his other contributions to financial theories.

See also "Beta" and "Systematic Risk".

## **Capital Gain**

Value or price appreciation on capital assets. For example, you purchased a share of IBM Canada's stock for \$10, and you sold it subsequently for \$12. Then you have realized a capital gain of \$2. Likewise, if you sold a house for \$200,000 that was acquired at \$185,000, then you have a capital gain of \$15,000 (assuming you did not have to pay commissions to your friendly real estate agent).

## **Capital Loss**

The opposite of capital gain. Using the above example of stocks, if you subsequently sold the share for \$7, then you incurred a capital loss of \$3. (Only in this case, your spouse or partner may demand an explanation.)

## **Capital Structure**

Refers to the composition of a firm's capital or financing package. For example, a firm's financing may consist of 20% of debt and 80% of common equity.

## **Cash Flow**

Actual cash flowing into and out of a firm, an organization, a household, or any financial entity. For example, a firm purchases a machine for \$100,000. This \$100,000 is a cash outflow. After the purchase, the firm depreciates the machine at, say, 10% per year. The annual depreciation (\$10,000) is not a cash flow, because it does not represent real cash. The total amount has been paid in full when the machine is purchased.

## **Central Bank**

A country's bank of banks or monetary authority. It is an institution whose operations are usually independent of its government. A central bank's primary responsibility is to promote the country's economic and financial welfare. Specifically, a central bank usually makes the country's monetary policy, managing the currency circulation, and overseeing the financial system. Canada's central bank is the Bank of Canada, and that of the US is the Federal Reserve System.

Please see "Bank of Canada" and "Federal Reserve System".

## **Clean Price**

The price of a bond that does not include the accrued interest since the last coupon payment, i.e., it is simply the present value of all the remaining coupons and the par value. This is the price usually published in the financial press. When the bond is being bought or sold or when calculating the yield to maturity, the accrued interest needs to be added to the clean price. The adjusted price is called "dirty price".

See also "Dirty Price".

## **Closed-end Fund**

Legally known as "closed-end company". The company issues shares like any other corporation and the shares are traded just like stocks on major exchanges such as the NYSE. Of course, the money raised is used to buy stocks of other companies, just like how a mutual fund operates. However, there is a key difference: closed-end fund shares generally are not redeemable; once the fund is created, it is "closed". The fund itself does

not constantly issue new shares or redeem existing ones like an open-end fund or regular mutual fund does.

In addition, unlike mutual fund units, the market price of a closed-end fund's shares is determined by demand and supply and thus may be different from its net asset value (NAV).

See also “Mutual Fund”, “Open-end Fund”, “NAV” and “NYSE”.

## **Commercial Paper**

Commercial paper is a short-term promissory note issued under the general credit of a corporation. The note is often backed by the unused portion of a line of credit (from a bank) and / or a grantee of a parent corporation. It is used by corporations to raise short-term funds to finance such items as accounts receivable and inventories.

Not to confuse “commercial papers” with the pre-written articles on sale from those “term paper services” agents.

## **Common Shares**

Shares issued by corporations that come with voting rights. Normally, one share comes with one vote. Suppose that firm ABC has a total of 5,000 shares held by 45 different investors. Also suppose you are one of the 45 investors, and you hold 1000 shares. Then, when shareholders meet and elect a director, you can cast 1000 votes. Anyone who owns more than 50% of the shares has an absolute control.

Like bonds, common shares are issued by companies to raise capital. Unlike bonds, common shares carry ownership with them. To make an analogy, you may borrow \$10,000 from the bank and, together with your own savings of \$25,000, set up a printing shop. Then you are the owner of the shop. The \$10,000 is like bonds and the \$25,000 is like common shares. As a shareholder, you are entitled to all the net earnings after interests and taxes. Of course, you must also bear the loss in case your company fails to produce a profit. There is no free lunch in this world.

See also “Bond” and “Dividends”.

## **Compound Interest**

Interest paid not only on the principal, but also on the interest earned so far. For example, for a deposit of \$1,000 with a compound interest rate of 5% p.a., the balance at the end of the first year is \$1,050, out of which \$50 is the interest earning. In the case of compound interest, the \$50 interest will also earn interest in the second year. So the total balance at

the end of the second year will be,  $\$1,000(1 + 0.05) + \$50(1 + 0.05) = \$1,102.5$ , or simply,  $\$1,000(1 + 0.05)^2 = \$1,102.50$ . In contrast, if we have simple interest, then the balance at the end of the first year is still  $\$1,050$ ; however, that at the end of the second year will be only  $\$1,100$ , since we simply earn another  $\$50$  in the second year. In other words, if the interest is specified as simple interest as opposed to compound interest, then we earn interest only on the principal. As you can see, we definitely prefer compound interest as far as deposits are concerned.

Also see “Compounding” and “Compounding Frequency”.

## Compounding

The arithmetic process of finding the future value of a series of cash flows when the interest rate is specified as compound interest rate. For instance, with a compound interest rate of 10% p.a., the future value (at the end of year two) of  $\$100$  one year from now and  $\$300$  two years from now is  $100(1+0.1) + 300 = \$410$ . The reverse process (i.e., finding the present value of a series of cash flows) is called “discounting”.

See also “Compounding Frequency”.

## Compounding Frequency

The frequency at which the interest is compounded. In the example of “compound interest”, we show that, with an annual interest of 5% and an initial balance of  $\$1,000$ , the balance at the end of year two will be  $\$1,102.50$ . Here, the interest is compounded annually, meaning that we tally up the balance every 12 months and roll over the total balance. However, if the interest is compounded more frequently, then the balance would be higher. Suppose the interest is compounded semi-annually, i.e., suppose we tally up the balance every 6 months. In this case, with a 5% annual rate, after 6 months, the total balance will be  $1000(1+0.05/2) = \$1,025$ . In the second half of the first year, we would earn interest on the  $\$25$  interest earned during the first half of the year. So the balance at the end of year one will be  $1025(1+0.05/2) = \$1,050.625$ . Compared with annual compounding, the extra amount of  $\$0.625$  is the extra interest earned during the second year due to more frequent compounding.

In general, if the specified annual interest rate is  $r$  and the compounding frequency is  $m$  per year (e.g.,  $m = 2$  with semi-annual compounding), then the future value of  $\$1$  today  $n$  years from now is,

$$\left(1 + \frac{r}{m}\right)^{mn}.$$

To continue the above example, the future value of  $\$1,000$  six years from now will be

$$1,000\left(1 + \frac{0.05}{2}\right)^{2 \times 6} = \$1344.89.$$

As you can see, the more frequent the compounding frequency, the higher the future value. More frequent compounding includes quarterly compounding, monthly compounding, weekly compounding, and daily compounding. There is even continuous compounding where the interest is compounded so frequently that the frequency  $m$  in the above formula is set to infinity! Don't get too excited though, since the extra gain is not that much, surprisingly. It turns out that when we set  $m$  to infinity, the above formula becomes  $e^{0.05 \times 6}$ . Therefore, with continuous compounding, the ending balance after six years will be  $1000e^{0.05 \times 6} = \$1,349.86$ . The extra interest compared with the semi-annual compounding is only  $\$1,349.86 - \$1,344.89 = \$4.97$ .

See also "Effective Annual Rate".

### **Contingent Claims**

A term used interchangeably with "Derivative Securities".

### **Continuous Compounding**

Please see "Compounding Frequency".

### **Convertible Bond**

A bond that can be converted into common shares at a pre-specified conversion ratio. Conversion ratio is simply the number of shares each bond can exchange into. When the firm's stock is doing well, convertible bonds tend to get converted. Obviously, a convertible bond is more desirable than an otherwise identical straight bond, hence it tends to carry a lower coupon rate. Firms issue convertible bonds in order to save financing cost (i.e., lower coupons) and signal their confidence about the future (i.e., higher stock prices). In this sense, the conversion feature is similar to warrants attached to regular bond issues.

Please see "bond" and "Warrant".

### **Coupon Payments**

See "Bond".

## **Credit Rating**

Usually refers to the credit quality of a debt issuer. Please see “Bond Rating”.

## **Crown Corporations**

Corporations owned by a government. For example, Canada Post is a crown corporation owned by the federal government. The government may privatize the crown, in which case we say the corporation has gone public. One example is Canadian National (CN), which was privatized in November 1995. See “IPO”.

As you can see, crown corporations are not firms making the elegant headwears worn by the royals.

## **Currency Appreciation**

It is a change in exchange rate. Specifically, it is the increase in one currency’s value against that of another currency due to market conditions. For instance, if one Canadian dollar was worth 81 cents US yesterday and it is worth 81.5 cents US today, then we say the Canadian dollar has appreciated against the US dollar. We speak of currency appreciation or depreciation when the currency in question is free to respond to market conditions.

See also “Currency Depreciation”, “Currency Devaluation”, “Currency Revaluation” and “Exchange Rate”.

## **Currency Depreciation**

It is a change in exchange rate. Specifically, it is the decrease in one currency’s value against that of another currency due to market conditions. For instance, if one Canadian dollar was worth 81 cents US yesterday and it is worth 80.3 cents US today, then we say the Canadian dollar has depreciated against the US dollar. We speak of currency depreciation or appreciation when the currency in question is free to respond to market conditions.

See also “Currency Appreciation”, “Currency Devaluation”, “Currency Revaluation” and “Exchange Rate”.

## **Currency Devaluation**

It is an adjustment in a controlled or government stipulated exchange rate. Specifically, it is the downward adjustment in one currency’s value against that of the counterparty

currency. For instance, the Chinese yuan is pegged to the US dollars at 8.26 yuan per US dollar. If the Chinese government adjusts the rate to 9.38 yuan per US dollar, then we say the Chinese yuan has been devalued against the US dollar. We speak of currency devaluation or revaluation when the exchange rate in question is officially controlled by the government.

See also “Currency Appreciation”, “Currency Depreciation”, “Currency Revaluation” and “Exchange Rate”.

### **Currency Option**

Option written on a foreign currency. It is the right to buy or sell a certain amount of foreign currency at a fixed change rate.

Please see “Option”.

### **Currency Revaluation**

It is an adjustment in a controlled or government stipulated exchange rate. Specifically, it is the upward adjustment in one currency’s value against that of the counterparty currency. For instance, the Chinese yuan is pegged to the US dollars at 8.26 yuan per US dollar. If the Chinese government adjusts the rate to 7.56 yuan per US dollar, then we say the Chinese yuan has been revalued against the US dollar. We speak of currency revaluation or devaluation when the exchange rate in question is officially controlled by the government.

See also “Currency Appreciation”, “Currency Depreciation”, “Currency Devaluation” and “Exchange Rate”.

### **Current Assets**

A firm’s investment in short-term assets such as cash, marketable securities, inventory, and accounts receivable. Here “current” means “ease of converting into cash”. It doesn’t mean that the firm also has “old” or “past” assets. The amount of current assets depends on the firm’s policy on working capital management.

See also “Accounts Receivable”, “Current Liabilities”, “Marketable Securities”, “Working Capital”, and “Net Working Capital”.

## **Current Liabilities**

A firm's sources of short-term financing. They typically include accounts payable, short-term loans, maturing long-term loans, accrued taxes and other accrued expenses such as wages. The amount of current liabilities depends on the firm's policy on working capital management.

See also "Accounts Payable", "Accrued Expenses", "Accrued Taxes", "Working Capital", and "Net Working Capital".

## **Current Ratio**

It is the ratio of current assets over current liabilities. It measures a firm's ability to satisfy the claims of short-term creditors using exclusively current assets such as cash and marketable securities.

See also "Current Assets" and "Current Liabilities".

## **Current Yield**

This is a concept pertaining to coupon paying bonds. It is the annual interest payment divided by the current price of the bond. For example, if a 9% coupon bond is selling for \$968.32, then the current yield is  $90/968.32 = 9.29\%$ . Although frequently quoted by traders and brokers, current yield can be misleading if one doesn't fully understand the nature of bonds. As the name suggests, it only measures the current return from the bond. As time goes by, this number will change even if the interest rate remains constant. To continue the above example, the bond price will gradually revert to the par \$1,000 as the maturity approaches. Therefore, the current yield on the bond will decline over time. But this will be offset by a capital gain due to the price appreciation. The opposite holds for a bond selling above par: the current yield will gradually increase, accompanied by a capital loss due to the price reverting to par. Regardless of the bond price, in net, the total return (i.e., the sum of current yield and the capital gain / loss) on the bond will be simply the market interest rate, and this return is more or less the same across different bonds.

See also "Capital Gain" and "Capital Loss".

## **Daily Compounding**

Please see "Compounding Frequency".

## **Day Order**

A trading request submitted by a customer to either buy or sell stocks that is good for the day. By the end of the day, if the order is not canceled or still not executed, then it expires automatically. All orders are day orders unless otherwise specified.

See also “Limit Order” and “Market Order”.

## **Debenture**

A type of borrowing by corporations. They are bonds not backed or secured by any collateral.

## **Default**

Failure to fulfill a contract or an obligation. For example, a company may default on its bonds by not paying interest. (Students failing to hand in an assignment may also be considered as a form of default. But the students in question are generally not eligible for court protection!)

## **Depreciation**

It is the annual charge against accounting income that reflects the cost of capital equipments used up in production. For reporting purposes, the firm can choose its own method of depreciation (e.g., straight-line method); but for tax purposes, the firm must use the Capital Cost Allowance (CCA) schedule to calculate the allowable amount. It is important to stress that depreciation is an accounting number, not a cash flow. The firm already pays up the total price of the equipment when it acquires it; the firm no longer has to incur additional annual expenses (i.e., depreciation) down the road. The easiest way to understand depreciation is from the tax perspective. Generally, firms are allowed to deduct production costs from revenue when calculating taxable income. Investments of plants and equipments are of course part of production costs. But since their economic life is much longer than a tax cycle (usually one year), the tax authorities do not allow firms to claim the entire capital investment as production costs in one year. They want firms to spread the costs over the years during which the equipments in question are in service. This is why depreciation shows up in the income statement.

## **Derivative Securities**

A general term for a special class of financial instruments. A derivative security is a financial instrument whose value is derived from a fundamental security such as a bond or a stock. For example, you can sell a piece of paper to another individual, which obliges

you to sell one share of Air Canada's stock at \$12 three months from now. This piece of paper is obviously a contract between you and the other party. For the other party, the contract is worth some money, because after three months, the Air Canada stock may be trading at \$18, in which case the other party will have a net profit of \$6. Today's value of the contract obviously depends on the future performance of the stock. In other words, its value is derived from the value of the Air Canada stock. This type of contract is actually called a "Call Option".

See "Call Option", and "Put Option".

## **Dirty Price**

The price of a bond that includes the accrued interest since the last coupon payment. It is the sum of the bond's "clean price" and the accrued interest. This is the price a buyer pays when he / she buys the bond. To illustrate, suppose you are acquiring a bond that pays semi-annual coupons with an annual coupon rate of 8%. Two months have past since the last coupon payment, and suppose the clean price (i.e., the present value of all the remaining coupons and the par) is \$928. Since you will receive the next coupon but you only earn it for four months, so to speak, so you must also pay for the two months that have passed. The accrued interest in this case is,  $[8\%(\$1000)/2](2/6) = \$13.33$ . So the dirty price is  $\$928 + \$13.33 = \$941.33$ .

See also "Clean Price".

## **Discount Bond**

A bond that does not pay coupons. Investors purchase the bond at a "discount" and receive the par value at the end of the investment period. For example, Jack purchases a Government of Canada discount bond for \$863.84. The bond matures three years from now, at which point he will get \$1000 (par value) back. No coupon payments are made between now and maturity. In a sense, a discount bond is almost the same as a T-bill, except that a discount bond normally has a longer maturity. A discount bond is also like a GIC except that a GIC is guaranteed by the CDIC (Canadian Deposit Insurance Corporation) while a discount bond is not.

Note that the word "discount" has nothing to do with lowering prices to attract customers.

See also "Bond", "Strip Bond", "GIC", "T-Bill", and "CDIC".

## **Discount Rate**

Rate of return used to value future cash flows. It essentially measures the worth of tomorrow's money in today's terms. For example, if \$1 one year from now is worth

\$0.83333 today, then the discount rate is 20%:  $\$1 / (1 + 0.2) = \$0.83333$ . Of course, knowing the discount rate and future cash flows, we can also find their today's value. For example, with a discount rate of 10% per year, \$100 one year from now plus \$150 two years from now will be worth,

$$\$100 / (1 + 0.1) + \$150 / (1 + 0.1)^2 = \$214.88 \text{ today.}$$

Discount Rate is not to be confused with the percentage markdown in a merchandise sale.

Also see "Internal Rate of Return" and "Net Present Value".

### **Discounted Payback Period**

See "Payback Period".

### **Discounting**

The process of finding the present value of a series of cash flows. It is the reverse process of compounding. For example, if you are scheduled to receive \$2,000 one year from now and \$3,500 two years from now, and the interest rate is 10% p.a., then the present value of the cash flows is,  $2000/(1+0.1) + 3500/(1+0.1)^2 = \$4,710.74$ .

Please see "Compounding".

### **Diversifiable Risk**

Synonym of "nonsystematic risk".

### **Diversification**

It is an equivalent saying of "don't put all your eggs in one basket". If you invest all your money in only one stock, then your fortune will depend on the performance of this stock. If the stock flies, you become rich; if the stock sinks, you become poor. However, if you spread your money over several stocks, which we call a portfolio, then your fortune will not take wild swings. This is because, the individual stocks within the portfolio may still fluctuate a lot, some shooting up, some dropping like flies. But overall, the combined return will be stable. In other words, by holding more stocks in one portfolio, we can hope the idiosyncratic movements to cancel each other and are left with the stable growth that is the market-wide return. The canceling of the idiosyncratic movements among individual stocks is called diversification. As a rule of thumb, holding 10 to 15 unrelated stocks will achieve almost complete diversification.

Please see "Portfolio".

## **Dividend**

Income received from common stock investments. Just as you receive interest by holding bonds, you receive dividends by holding stocks. Dividends are paid by companies from which you purchased your shares. Normally, they are paid quarterly. As a rule of thumb, dividend yield (which is the total annual dividend divided by the share price) is generally lower than the interest rate.

## **Dividend Reinvestment Plan (DRP or DRIP)**

A plan that allows shareholders to automatically reinvest their cash dividends in additional shares. Many Canadian companies have DRP's or DRIP's. Examples include Alcan, BEC, and Canadian Tire, to name a few. The main advantage of DRP's is the ability to acquire more shares without incurring commission fees. However, since shareholders in effect receive cash dividends first and then purchase company shares, they still have to pay taxes on the dividend amount.

## **Dollar Cost Averaging**

An investment strategy where money is invested in installments at equal intervals. Suppose you would like to invest \$12,000 per year in the stock market. You could either make the entire investment once, or spread over, say, 12 months by investing \$1,000 per month. The spreading strategy is the so-called dollar cost averaging. The advantage of this strategy is the avoidance of the negative effect of major market swings. In other words, because you are buying over a period of time, for a fixed investment amount (e.g., \$1,000) you will acquire more shares when the market is low and fewer shares when the market is high, allowing you to average out the overall purchase cost.

## **Draft**

A draft is also called a "bill of exchange". It is a form signed by one party to request a sum of money from another party. It is used most often by importers and exporters. Once the draft is accepted or guaranteed by a bank or a company, it becomes a "Bankers' Acceptance". In finance, "draft" has nothing to do with snapping up good hockey players or going to the army.

## **Duration**

The average, effective maturity of a coupon bond. We can think of a coupon bond as a series of discount bonds. Each coupon (and the par) can be thought of as a single discount bond. Since the current value of the bond is simply the sum of the present values of all

the future coupons and the par (i.e., all the “discount bonds”), dividing the present value of each “discount bond” by the current value of the bond gives us the weight of each discount bond. The weighted average of the discount bond maturities is then duration. It turns out that duration also measures a bond’s interest rate sensitivity. For example, if a 10-year bond’s duration is 5.8 years, then for a one-percent change in interest rate, the bond price will change by 5.8 percent.

See also “Discount Bond”.

### **Earning per Share (EPS)**

The reverse of P/E ratio. Please see P/E ratio.

### **EBIT**

Earnings Before Interest and Taxes. It is the total income (operating and non-operating) before deductions of interest and taxes.

### **Effective Annual Rate (EAR)**

In order to understand EAR, you need to read up “compounding frequency” first. When the stated annual rate is compounded more than once a year, we are able to earn interest more frequently. As shown in the explanations of “compounding frequency”, for the same annual rate, more frequent compounding will lead to a higher balance for the same initial amount of deposit. For example, with an annual rate of 12%, regular annual compounding will lead to a balance of \$1.12 after one year if the initial deposit is \$1. But with semi-annual compounding, the ending balance is  $(1+0.12/2)^2 = \$1.1236$ . In this case, we can say that the effective annual rate due to semi-annual compounding is 12.36%. In other words, an annual rate of 12% compounded semi-annually is equivalent to an annual rate of 12.36% compounded annually. In general, if the stated annual rate is  $r$  and the compounding frequency is  $m$  times a year, then the EAR is solved from

$$\left(1 + \frac{r}{m}\right)^m = 1 + EAR, \text{ in other words, } EAR = \left(1 + \frac{r}{m}\right)^m - 1.$$

To give another example, with an annual rate of 8% and daily compounding, the EAR is  $(1+0.08/365)^{365} - 1 = 0.08328 = 8.328\%$ .

### **Euro**

The name of the unified currency adopted by the European Union. The currency was launched on January 1, 1999 and the exchanges rates among the member countries were

frozen irrevocably after that date. The new currency went into circulation from January 1, 2002.

## **Euro Currency**

Any currency transacted outside of the country of issue. For example, if someone deposits ¥20 million into a bank account in Singapore, then the 20 million Japanese yen will be referred to as Euro yen.

Please see “Eurodollar”.

## **Eurodollar**

US dollars transacted outside of the United States. Since this type of transactions originated in Europe (mostly in London) shortly after the Second World War (when Eastern European investors started shifting their US dollar deposits out of the US due to the cold war), the dollars were dubbed “Eurodollars”. But the term has been generalized. Any currency that is transacted outside of the country of issue is generally referred to as Euro currency. Therefore the Japanese currency borrowed or lent in Canada will be called Euro yen, and so on. Confusion started to develop as the European Union rolled in its own new currency in 2002 that is called “Euro”.

## **European Option**

A European option is an option that can be “exercised” only on a specific future date. Suppose you have a call option on a CIBC stock. The option matures on June 1, and it is now March 23. One such option allows you to buy one share at \$45. Then, before June 1, there is nothing you can do no matter how high the share price is. You can only buy the share on June 1, should its price be above \$45.

A European option can be a call option or a put option. Here, the word “European” does not have any geographical connotation.

See also “Options”, “Call Option”, “Put Option”, “American Option”, and “Exercise Price” or “Strike Price”.

## **Ex-dividend Date**

The date on which the dividend leaves the share. Why does the financial industry create such a date? The purpose is to avoid confusion and ensure fairness with respect to dividend payments when the shares are being bought or sold around the time the dividend is paid. To illustrate, suppose the company announces that it will make a quarterly

dividend payment of \$0.5 per share to those shareholders who are on record as of Friday, June 10. Suppose Mary Smith buys 100 shares from John Turner on June 9 (Thursday). When the firm compiles its shareholders list, it has not received the notification from the broker who handled the transaction, and John Turner's name is still on the list. So the dividend goes to Mr. Turner. However, on June 10 when the dividend is paid, the share price will naturally drop by \$0.5. Poor Ms. Smith suffers a loss of  $\$0.5 \times 100 = \$50$  for nothing! This is not fair! To avoid such a situation, the major exchanges in North America require two business days prior to the record date for recording ownership changes. The date two days prior to the record date is then called the ex-dividend date. The dividend leaves the share on this day. In our example, Mr. Turner will not receive the dividend since it already leaves the share. Rather, Ms. Smith will receive it, which will make up the \$0.5 loss per share on June 10.

See also "Dividend".

## Exchange Rate

It is the units of a given currency that can be purchased with one unit of another currency. For example, in the first half of 2005, the exchange rate between the US dollar and the Canadian dollar is about \$0.81US/Cdn\$. This means that one Canadian dollar can buy 0.81 US dollars. More examples: on August 7, 2002, the *Wall Street Journal* reported the following currency units per US dollar: £0.6494 and ¥120.87.

One wonders why some currencies (e.g., the British pound) are so big while some other currencies (e.g., the Japanese yen) are so small. A smaller currency doesn't mean the issuing country is poor; and a bigger currency doesn't indicate extra wealth either. There are two fundamental factors determining the general magnitude of the exchange rate between two currencies: the total wealth of each country and amount of currency each government chooses to circulate. The former is endowed and the latter is man-made. So as you can see, the magnitude of the exchange rate per se doesn't have any real consequence; but the change of exchange rate over time does have implications.

## Executive Stock Options

Call options issued by the company to its Chief Executive Officer (CEO) for incentive purposes. The call options are given to the CEO for free, and each option allows the CEO to purchase one share of the company's stock at a fixed price (usually the stock price at the time of issue) on a future date (usually 5 to 10 years from the date of issue). The CEO will supposedly have incentives to work hard in improving the stock price since he will personally benefit from the higher stock price through exercising the options. The CEO is restricted from selling the options. In addition, companies typically lay out some specific conditions under which the options can be exercised. The conditions usually include a target earnings per share or ROE. Companies also issue stocks to their CEO for incentive purposes.

See also “Call Option”, “ROE”.

### **Exercise Price**

It pertains to an option. It is the price at which the owner of the option can buy or sell the security. Suppose you own a European call option on a stock that is trading at \$45 now. If the exercise price is \$47 and the maturity date of the option is three months from now. Then you have the right to purchase a share at \$47 three months later should the stock price be above \$47. For instance, if the stock price is \$53, then you profit  $\$53 - \$47 = \$6$ .

See also “Options”, “Call Option”, “Put Option”, “American Option”, and “European Option”.

### **Extendable Bond**

A bond whose maturity can be extended at the choice of the bondholder. It is desirable to extend the maturity when the prevailing interest rate at maturity is lower than the coupon rate. Other things being equal, an extendable bond will sell for more than a regular bond.

See also “Bond”.

### **Face Value**

Par value of a bond, usually specified as \$1,000. Not to be confused with how much money a movie star spends on her facial lifting.

See "Bond".

### **Federal Deposit Insurance Corporation (FDIC)**

The US counterpart of CDIC. The coverage is \$100,000US per depositor.

See “CDIC”.

### **Federal Reserve System**

The monetary authority and central bank of the US. The system includes 12 Federal Reserve Banks representing twelve geographic regions of the US and is authorized to regulate monetary policy in the US and to supervise the commercial and savings banks of

the entire country. It also sets the so-called “discount rate” which is the US counterpart of the “bank rate” set by the Bank of Canada.

See also “Bank of Canada”, “Central Bank” and “Bank Rate”.

## **Financial Engineering**

A process in which financial securities are designed and packaged with innovative features. Typically, financial engineering involves creating certain type of derivative securities. House construction is to civil engineering what security packaging is to financial engineering. They both involve putting raw materials together to come up with something for a particular purpose.

Civil engineers wear hard hats and heavy boots for protection and safety while financial engineers “wrap” themselves in legal papers full of cryptic fine prints.

## **Fixed-income Securities**

Securities that have a fixed claim on the firm’s revenue or income. Bonds and preferred shares are examples of fixed-income securities. Bondholders receive fixed income in the form of coupon payments and holders of preferred shares receive fixed income in the form of dividends. In contrast, common shareholders receive variable income since dividends on common shares are not guaranteed and can vary over time depending on the performance of the firm.

It should be noted that “fixed-income securities” generally refer to debt securities, and the income can indeed vary on some types of debt securities. For example, a bond may have a variable coupon rate linked to, say, the inflation rate.

See also “Bond” and “Preferred Shares”.

## **Fixed-rate Mortgage**

A mortgage whereby the rate is fixed. Typically the rate is renegotiated every five years, meaning that every five years, the rate is fixed according to the market condition. Once the rate is fixed, the monthly payment will remain the same over the five-year period. Please see “Mortgage” and “Variable-rate Mortgage” for related information.

## **Forward Contract**

A forward contract is an agreement to buy or sell an asset or commodity at a pre-specified price on a future date. For example, a farmer can enter a forward contract in

June to sell his wheat in September. Suppose the contract is for 10,000 bushels at a price of \$4 per bushel. Then in September, the farmer must deliver 10,000 bushels of wheat, and he will get  $10,000 \times 4 = \$40,000$ , no matter what the prevailing market price of wheat is in September. If the price is lower than \$4, then the contract turns out to be beneficial. But if the price is higher than \$4, the contract has an adverse effect on the farmer's total profit, since he could have sold the wheat at a higher price. Using a forward contract to lock into a fixed price is called "hedging"

Obviously, a forward contract has two parties, both of which must honor the contract. Forward contracts are not formally traded on exchanges.

See also "Hedging".

### **Forward Interest Rates**

To properly understand this term, you need to read up "Spot Interest Rates" first. Forward interest rates are rates applicable to future periods. Suppose the one-year, two-year and three-year spot rates are 2.50% p.a., 2.75% p.a. and 3.00% p.a., respectively. Those are the rates applicable if you want to deposit money right now. What if you like to arrange a two-year deposit one year from now, and you would like to fix the rate now? This rate is an example of forward rates. How do we work it out? We can arrive at the proper forward rate by commonsense. Let this forward rate be  $R$ . Then, we can compare two investment alternatives: 1) invest \$1 today for three years at 3.00% p.a. to end up with  $\$1(1+0.03)^3$ , and 2) invest \$1 today for one year at 2.50% p.a. and roll it over for another two years at  $R$  to end up with  $\$1(1+0.025)(1+R)^2$ . Since both investments are for \$1 and a three-year period, they must lead to the same ending return if  $R$  is properly set. In other words, we must have  $(1+0.03)^3 = (1+0.025)(1+R)^2$ . We can solve  $R$  as  $R = 3.25\%$ . We can use similar methods to solve for other forward rates.

See "Spot Interest Rates".

### **Fund of Hedge Funds**

A fund of hedge funds is a mutual fund of hedge funds. In other words, it is an investment company that invests in hedge funds (as opposed to individual securities). Although hedge funds themselves are subject to very little regulation, funds of hedge funds must file certain reports to concerned authorities.

See also "Hedge Fund" and "Mutual Fund".

## **Futures Contract**

Exactly like a forward contract except that a futures contract is standardized and formally traded on major exchanges such as the Winnipeg Commodity Exchange and the Chicago Mercantile Exchange.

## **GIC**

A GIC (Guaranteed Investment Certificate) is an investment instrument offered by banks and trust companies. The term of a GIC can range from six months to five years. “Term” means the length of time you would like to lock your money in. For example, a two-year, 5% GIC of \$1,000 means you deposit \$1,000 today, you will get \$50 interest each year in the next two years, and you will also get the \$1,000 back at the end of year two. The 5% interest rate is guaranteed. Normally, the longer the term, the higher the rate. Banks frequently require a minimum amount of deposit, usually \$1,000. It should be noted that the rate on GIC’s is normally much higher than the rate you can get from your savings account.

A drawback of GIC’s is that once you lock your money in, you cannot get it back before the term ends. For this reason, the rates on GIC’s are normally higher than those on similar instruments such as term deposits.

GIC’s are insured under the CDIC.

See also “Index-Linked GIC” and “CDIC”.

## **Going Public**

When a closely held company sells shares to the public at large for the first time, the company is said to “go public”. The offer of shares to the public in this case is called “initial public offering”. The common reason for going public is to access the capital market for more funds. Going public means the company must now satisfy certain conditions and regulations. For example, the company must report accounting information regularly to the exchange that lists its stock.

See also “IPO”.

## **Gross Working Capital**

It simply refers to the current assets on a firm’s balance sheet. Please see the explanation of “Current Assets”.

## **Hedge Fund**

A fund that is allowed to use aggressive strategies unavailable to regular mutual funds, including selling short, leverage, and using derivatives. Hedge funds are mostly exempt from the rules and regulations governing regular mutual funds. By law, the number of investors within a hedge fund is restricted to a specific number (usually 100), hence the minimum investment per account is usually high (ranging from \$250,000 to over \$1 million). Another difference between hedge funds and regular mutual funds is, the management team of the former usually collects a percentage of the profits, while the latter only charges a management fee.

See also “Mutual Fund” and “Fund of Hedge Funds”.

## **Hedging**

A financial arrangement aimed at reducing or eliminating negative impacts on profits due to unexpected price changes. Forward contracts are the most typical instruments used for hedging. Since a forward contract has the effect of locking into a fixed price, hedging eliminates price risks in both ways. For example, if a farmer hedges against price risk by selling his crop forward, then his revenue is locked into a fixed level. If the actual market price of crop is low, he will avoid a lower revenue; but if the market price is high, he will forgo an otherwise higher revenue. There is not free lunch!

See also “Forward Contract” and “Speculation”.

## **Idiosyncratic Risk**

Synonym of “nonsystematic risk”.

## **In-the-money**

A term used to describe the relative magnitude between the current underlying asset price and the exercise price of an option. An option is “in-the-money” if the immediate exercise value is positive. So, a call option is “in-the-money” when the current underlying asset price is higher than the exercise price; a put option is “in-the-money” when the current underlying asset price is lower than the exercise price.

Please see “Call Option”, “Put Option”, “Exercise Price”, “At-the-money”, and “Out-of-the-money”.

## Income Trust

An income trust is a legal entity holding an underlying asset or a group of assets. The assets are usually from a subdivision of a firm. The income generated from these assets is distributed to unit-holders tax-free.

One can think of an income trust as a representative of shareholders having entitlement to the income of a designated group of assets. The trust offers units to the public much like an IPO and then uses the proceeds to purchase the equity and debt of the operating entity such as a subdivision of a firm. It is this structure that leads to the tax exemption of the income.

Although income trusts have gained much of their popularity lately, the first income trust appeared in the 1980s in the form of royalty trust (on gas and oil sectors) and REIT (real estate investment trust). Income trust now represents a significant proportion of total listing on most exchanges in North America. Some exchanges have created a sector index for it.

See also “IPO”.

## Index-Linked GIC

As the name suggests, the payoff of this type of GIC is linked to stock market indexes such as the S&P/TSX60. Here is how a typical index-linked GIC works. Bank customers deposit money for a specified maturity, say three years, at a specified annual rate, say 1.5%. Suppose the GIC is linked to the S&P/TSX60 whose current level is 450. At maturity, if the index is below 470.56 (which is 450 compounded at 1.5% per year for three years), then, the customer will simply get the 1.5% annual return as promised. But if the index at maturity is above 470.56, say 520.93, then the customer will get the actual index return, in this case it is 5% per year which is higher than the promised 1.5% per year.

Obviously, the good thing about an index-linked GIC is its unlimited upward potential. But there is no free lunch! The “price” a customer has to pay is the much lower promised annual rate. If the stock market stays flat or declines, then the customer will get a return much lower than that on an ordinary GIC.

In many cases, the banks only guarantee the principal (with a zero guaranteed return). Also, some banks use the monthly average of the market index in the last year of the GIC contract to calculate the index return, which on average has the effect of lowering the return they pay on the index-linked GIC. Moreover, some banks put a cap on the index return when calculating GIC returns. For example, if the cap is 15% p.a., then even if the market returns 23% that year, the return on the GIC is still 15%.

## Index Option

An index option is an option whose value depends on a stock index such as the S&P/TSX60, while a stock option depends on a particular stock. Because a stock index normally consists of many individual stocks, it is difficult to buy or sell the basket of stocks. As a result, most index options are settled in cash.

## Initial Public Offering (IPO)

Initial Public Offering refers to the first-time issuance of common shares by a corporation. In this case, we say the firm or corporation is going public in order to access the capital markets for funds. The corporation could be a privately owned firm initially such as a small family owned technology firm or a crown corporation such as Canada Post.

As an example, Canadian National (CN), established in 1919 as a crown corporation, was privatized in November 1995 through Canada's largest and most successful IPO to that date. 83.8 million shares were put into the market, which produced a total proceed of \$2.2 billion. From that point on, CN became a public corporation.

## Interest Rate Parity

It refers to the linkage between two countries interest rates and the exchange rates. Let's take the US and Japan as an example. Let  $r_{\$}$  and  $r_{¥}$  be the US and Japanese interest rates respectively, and  $S_{\$/¥}$  and  $F_{\$/¥}$  be the spot and forward exchange rates in terms of dollars per Japanese yen. The interest rate parity is then expressed as

$$\frac{1 + r_{\$}}{1 + r_{¥}} = \frac{F_{\$/¥}}{S_{\$/¥}}, \text{ or equivalently, } 1 + r_{\$} = \frac{F_{\$/¥}}{S_{\$/¥}} (1 + r_{¥}).$$

How is this relationship arrived at? By using simple common-sense arguments. Let me walk you through. Suppose you have one dollar to invest. If you invest in the US, then your gross return is  $\$(1 + r_{\$})$ . What about investing in Japan? First, you need to convert the one dollar into Japanese yen, which is  $1/S_{\$/¥}$ . Then we invest the yen to get a gross return of  $(1/S_{\$/¥})(1 + r_{¥})$ . If we convert this yen amount to dollar at the future market exchange rate, we don't know how many dollars we will get back. How do we eliminate this exchange rate risk? By entering into a contract to sell yen forward. Since the forward exchange rate is  $F_{\$/¥}$ , we will be able lock into  $F_{\$/¥} (1/S_{\$/¥})(1 + r_{¥})$  dollars. In well-functioning markets, investing in the US and investing in Japan must lead to the same return, i.e.,  $(1 + r_{\$}) = (1/S_{\$/¥})(1 + r_{¥})$ , which is precisely the interest rate parity. So, as you can see, many seemingly formidable theories are based on nothing but common sense.

See also "Exchange Rate" and "Forward Contract".

## **Internal Rate of Return (IRR)**

Implied return from an investment. For example, if you put in \$100 today and get \$120 back one year from now, then the internal rate of return or IRR is 20% per year. Similarly, if you purchase a 12-month T-bill with a face value of \$1000 for \$909.09 today, then the actual return you will earn is 10% (\$1000 discounted at 10% gives you \$909.09 today). Here the IRR is 10%. In general, IRR is the discount rate that makes the net present value (NPV) of an investment equal to zero. In the T-bill example, initial investment is \$909.09, dollar return is \$1000, and  $NPV = 1000/(1 + r) - 909.09$ . When you set NPV to zero and solve for the discount rate  $r$ , you get  $IRR = 10\%$ . When the investment involves multiple cash flows over many years, the IRR cannot be solved by hand. Many spreadsheets such as Excel have built-in functions to solve for IRR. For example, if you put in \$100 today, and get back \$80 one year later and \$140 two years later, then the IRR is 64.90%.

IRR is usually used to gauge the profitability of an investment. For instance, if your minimum acceptable return is 12%, and a project offers an IRR of 14%, then this is a good project.

The word “internal” means implied or intrinsic. It has nothing to do with the cheating practice where a firm reports one return internally while another externally.

See “Net Present Value”.

## **International Monetary Fund (IMF)**

The International Monetary Fund, together with the World Bank, was created by the victorious countries of the Second World War. The two institutions, both headquartered in Washington D.C., were designed to help rebuild the post-war economy of the allied countries. Today, the main mandate of the IMF includes promoting international monetary cooperation, balanced expansion of world trade, stability of exchange rates, the avoidance of competitive currency devaluations, and the orderly correction of a country's balance of payments problems. The IMF has 184 member countries.

See also “World Bank”.

## **Investment Banker**

Synonym of “investment dealer”.

## Investment Dealer

Financial firms which specialize in selling securities on other companies' behalf. In the US, they are called investment bankers. Major investment dealers in Canada include RBC Dominion Securities, CIBC Wood Gundy, and Nesbitt Burns.

## Investment Grade Bonds

Bonds rated above and including BBB. Many institutional investors are not allowed (by law) to hold bonds rated below BBB, or junk bonds. That is why bonds rated above and including BBB are called investment grade bonds. Please see "Bond Rating".

## Junk Bonds

Bonds rated below BBB. See "Bond Rating".

## Leverage

A way of magnifying returns. Take stock investment as an example. Suppose you have \$100 to invest. The stock you are interested in is selling for \$10 per share. Suppose the stock price becomes \$14 one year later. If you put all your money in this stock, you will end up with \$140, representing a return of 40%. Now, suppose you borrow \$50 at 10% p.a. and use the \$150 (\$100 of your own and \$50 borrowed) to buy 15 shares. One year later, you sell the 15 shares for  $14 \times 15 = \$210$ . You then repay the loan plus interest, which is  $50(1+0.1) = \$55$ , and you are left with  $210 - 55 = \$155$ . In this case, your return is 55%. This is essentially leverage: borrow money to invest. Leverage enhances the overall return when the investment return (40% in our example) is higher than the interest rate (10% in our example). Of course, leverage will hurt when the investment turns out to be a poor venture. To continue the example, if the ending stock price is \$6, then you lose \$40 (or a loss of 40%) if you don't leverage; if you borrow \$50 at 10% p.a., then you lose \$65 altogether (or a loss of 65%). (Here is the calculation: gross return is  $6 \times 15 = \$90$ , net return after repaying the loan is  $90 - 55 = \$35$ , and the total loss is  $100 - 35 = \$65$ .)

For a firm, when it borrows money in the form of debt, we say it engages in a financial leverage.

## LIBOR

Short for "London Interbank Offer Rate". It is an average of the rates at which the most creditworthy banks in London lend to one another. LIBOR is quoted for various major

currencies and maturities usually shorter than one year (mostly 1, 3, 6 or 12 months). LIBOR is the most widely used interest rate index. The rates on many international loans are based on LIBOR.

LIBOR is published daily by the British Bankers Association (BBA). The LIBOR rates are based on 16 major banks' rates in 13 currencies surveyed at 11 a.m. London time.

### **Limit Order**

A trading request to buy a stock at or below a specified price, or to sell a stock at or above a specified price. For example, you may submit an order that instructs your broker to buy 500 shares of Nortel at \$5 or less. In this case, the broker will buy shares for you only if the stock is exactly \$5 a share or cheaper. In contrast to market orders, a limit order can avoid buying stocks too expensively or selling stocks too cheaply.

See also “Market Order”.

### **Line of Credit**

It is an agreement between a bank and a borrower (which could be an individual or a firm) that allows the borrower to borrow up to a pre-determined limit within a specified period of time. The limit depends on the borrower's credit-worthiness and the period is usually for one year, which can be renewed subsequently. Take a fictitious example. David Ryan just negotiated a line of credit with Royal Bank for the amount of \$50,000 and a period of one year. In this case, David can go to the bank to borrow any amount of money as he wishes within the year, as long as the total borrowed amount is not more than \$50,000. Of course, he can also repay any amount as he wishes. The main advantage of a line of credit is its flexibility and convenience. You borrow however much you need, and you do not have to negotiate with the bank every time you need funds.

### **Liquidity**

Ease with which a security can be converted into cash. Stocks and bonds can be sold quickly for cash, so they are liquid assets; but antiques or real estates cannot be sold quickly for cash and they are illiquid assets. For corporations liquidity management is important because poor liquidity may mean a failure of meeting interest payments to creditors, which in turn can result in bankruptcy.

### **Long**

Holding status of a security. “Mike longs Air Canada stock” means “Mike has bought and is holding Air Canada stock”. So roughly, “long” means “buy” or “hold”.

Also see “Short”.

### **Margin / Margin Investment**

In general, it refers to leveraged investments. For example, if you have only \$100 and you borrow another \$50 and invest the \$150 in stocks, then you have a margin investment. Typically your broker lends you the money, up to 50% of total investment or 100% of your own money. In other words, if you start with \$100, you may borrow up to \$100 and purchase stocks worth \$200.

### **Margin Account**

A brokerage account that allows margin investments. Holders of a margin account can borrow money from their brokers to leverage their investments.

See also “Margin Investment” and “Margin Call”.

### **Margin Call**

A demand from brokers for additional funds on a margin account because of adverse price movement. To protect their loans, brokers set a certain minimum value to be maintained in a margin account at all times. When the account balance falls below this minimum value due to adverse price movements, a margin call is made for addition funds.

See also “Margin Account”.

### **Market Capitalization**

Refers to the total dollar size of a company. It is the product of the number of shares outstanding and the market price per share. Since the share price changes all the time, the market capitalization of a firm also changes. For this reason, sometimes the end-of-year share price is used to calculate this quantity.

### **Market Efficiency**

It refers to how efficiently the market incorporates new information. In an efficient market, prices are always unbiased and no one can consistently beat the market. If you ever make a superior return, it would be your good luck. A University of Chicago professor, Eugene Fama, classified market efficiency into three categories. In a *weak-*

*form efficient* market, stock prices reflect all historical information (such as past price patterns and trading volumes) so that no one can make a superior return by studying price history; in a *semi-strong efficient* market, stock prices reflect not only all historical information, but also current information (such as news from the news media); in a *strong-form efficient* market, stock prices reflect all existing information including inside information (such as the things discussed by the board of directors that are not yet released to the public).

It is still under debate as to whether the market is efficient. Supporters of market efficiency cite such evidence as many mutual fund managers fail to beat the market; critics of market efficiency point to the many phenomena that contradict efficiency (e.g., the mad rush to dot com stocks in the mid 90's and the subsequent downfall of those stocks). The jury is still out. The truth is, if you really know something that others don't, for example, your nice uncle serving on company ABC's board told you that they have just approved a merger deal to buy company XYZ and this will be announced next week, then you should waste no time to buy company XYZ's stock. Chances are, when the actual announcement is made the following week, XYZ's stock price will shoot up, and you will make a nice killing. Mind you though, you and your uncle will also have a chance to reunite in jail since your transaction is considered as illegal insider trading.

## **Market Order**

A trading request to buy or sell a stock at the market price. Usually, your broker will ensure that you get the most advantageous price possible. That is, if you submit a buy order, then your broker will execute your order at the lowest asking price among all asking prices; and if you submit a sell order, then your broker will execute your order at the highest bidding price among all bidding prices. A good thing about market order is that you are almost sure that your order will be executed. Of course, you may also get your order executed at a price that is not quite what you wanted. A limit order will always guarantee the price you desire, but it may not get executed.

See also "Limit Order".

## **Marketable Securities**

Securities that can be sold on short notice. Typical examples include high-grade, short-term debt instruments issued by governments such as T-bills. Marketable securities are part of a firm's current assets, and are used by firms to management their liquidity.

Also see "Current Assets" and "Liquidity."

## **Money Market Instruments**

Refers to short-term, highly liquid debt instruments such as T-bills and commercial papers. Most mutual fund companies provide Money Market Funds that invest in the aforementioned securities. Investors may use money market funds as a temporary parking place for their money, because the return on these funds are much higher than that of a typical bank account.

## **Money Market Mutual Funds**

See “Money Market” and “Mutual Funds”.

## **Monthly Compounding**

Please see “Compounding Frequency”.

## **Mortgage**

Money borrowed from a bank to be invested in real estate properties. A residential mortgage is for a private dwelling such as a house while a commercial mortgage is for a commercial property such as a convenient store at the street corner. The total amount of borrowing is called “principal”, and the number of years over which the mortgage is to be paid off is called “term” or “amortization period”. For example, you can take out a mortgage of \$250,000 to be amortized over 25 years. Here, “amortization” means you make equal periodical payments that include both principal repayment and interest. The payment period is typically monthly, although bi-weekly payment is also common. By the end of year 25, you will have completely paid off the mortgage. The rate based on which the periodical payments is calculated can be variable or fixed. Please see “Fixed-rate Mortgage” and “Variable-rate Mortgage” for details.

## **Mortgage-Backed Securities**

Shares of a particular type of “mutual fund” which invests in a pool of residential mortgages. The mortgages are initially arranged by banks and subsequently sold or “securitized”. Take CIBC as an example. Numerous house buyers borrow money from CIBC in the form of mortgages. To the bank, these mortgages are just like loans in that the borrowers pay interests as well as repaying the principal. The bank can package or bundle up individual mortgages and turn around sell them as mortgage-backed securities. This way, the bank can free up money and loan out again as new mortgages. What does the bank gain in this process? It earns a fee! Every time a mortgage is arranged, the bank charges a fee. So, in essence, investors of mortgage-backed securities collectively provide financing to the many invisible house buyers, while the bank earns a fee every time it

bridges the house buyers and the investors. The investment return on mortgage-backed securities comes from monthly mortgage payments by the many house buyers.

See “Mortgage”.

## **Mutual Funds**

Investment products offered by mutual fund companies. A mutual fund is a basket of shares. Suppose you invest with mutual fund company ABC. ABC gets money from you and turns around to invest the money in different shares. The type and proportion of shares to invest in are up to the mutual fund companies to decide. But generally speaking, funds are specialized. For example, a single mutual fund company (AGF, e.g.) can offer many specialized funds such as fixed-income funds, equity funds, and Asia funds. A fixed-income fund would invest in only fixed-income securities such as T-bills and bonds. Likewise, an Asia fund would invest in only stocks in Asia (e.g., Hong Kong, Japan and Singapore). Since a mutual fund is a basket of different securities, the fund value is more stable relative to a single share price.

## **NASDAQ (or Nasdaq)**

Short-hand form of National Association of Securities Dealers Automated Quotation System. Nasdaq started as a quotation system for stocks not traded on formal exchanges such as the NYSE (New York Stock Exchange). But it has grown to be an organized market with its own listing requirements. Unlike formal exchanges such as the NYSE, Nasdaq doesn't have a physical location to conduct trading activities. It is a computer network connecting all the dealers and brokers. There are more shares listed on Nasdaq than on the NYSE, and the trading volume (i.e., number of shares) is also larger on the Nasdaq. However, the market capitalization of stocks traded on the NYSE is larger than that on Nasdaq. This is because NYSE tends to list all the large companies (such as MG and Ford), while Nasdaq has relatively smaller companies. But this is not strictly true. Microsoft, listed on Nasdaq, is a case in point.

See also “Over-the-Counter Market”, “NYSE”, and “TSX”.

## **Net Asset Value (NAV)**

Per-share value of a mutual fund at the end of the business day. It is calculated by dividing the total value of the fund's holdings by the number of shares outstanding. In an open-end fund, when new investors wish to purchase shares or when existing mutual fund investors wish to redeem their shares, the fund will complete the transactions based on the NAV at the close of that business day.

See also “Mutual Fund”, “Closed-end Fund” and “Open-end Fund”.

## Net Present Value (NPV)

Value of future cash flows in today's terms net of investments. For instance, if you invest \$10,000 today on a venture and expect to receive a net income of \$8,000 next year and \$9,000 the year after. If your required minimum return on an investment is 10%, then using this discount rate of 10%, you could calculate the NPV of this venture as

$$\$8,000 / (1 + 0.1) + \$9,000 / (1 + 0.1)^2 - \$10,000 = \$4,710.74.$$

Also see "Discount Rate" and "Internal Rate of Return".

## Net Working Capital

The difference between a firm's current assets and current liabilities.

See also "Current Assets" and "Current Liabilities".

## No-Load Funds

Mutual funds that are sold with no commissions. Mutual funds offered by banks are typically no-load funds. The majority of the mutual funds are sold through brokers in which case a commission of some sort will be charged.

## Nominal Interest Rate

It is the risk-free interest rate we earn on a T-bill or a bond issued by the federal government. "Risk-free" here means the instrument we are holding (e.g., T-bill) has no default risk. The word "nominal" is with respect to the word "real". In other words, nominal interest rate is the sum of real interest rate plus anticipated inflation. Since we can observe neither the real interest rate nor the anticipated inflation, we never know the true composition of the nominal interest rate. However, we can always use recent inflation as a guide for estimating future inflation. Therefore, once observing the nominal interest rate and the past inflation rate, we can have a rough idea of the magnitude of the real interest rate.

But why do we demand an interest rate that is the sum of the real interest rate and anticipated inflation? To understand this, suppose we are in a world without inflation, i.e., a world where prices never change. If we deposit \$100 today, we will demand more than \$100 back one year later since we are giving up consumption today. We demand a return to compensate for the delay of consumption. Suppose this rate is 3%. Then we are basically saying that today's \$100 is equivalent to next year's \$103. Suppose the price of apple is one dollar per pound. Then the above means we demand three more pounds of apple if we have to postpone buying 100 pounds today. The 3% is the real return on

investing or real interest rate. Now, let's suppose there is a 7% inflation. The price of apple one year later is \$1.07 per pound. If we still demand 3% for postponing buying apples today, then we can get only  $103/1.07 = 96.26$  pounds of apple one year later. We will be worse off. How do we make sure that we still get 103 pounds of apple? We should demand a total interest rate such that we end up with  $\$100(1+0.03)(1+0.07)$ . Dividing this by the price \$1.07, we get 103 pounds. If we multiply out the above expression, we have  $\$100(1+0.03)(1+0.07) = \$100(1+0.03+0.07+0.03 \times 0.07) \cong \$100(1+0.03+0.07) = \$100(1+0.1)$ . In the middle step, we omitted the term  $0.03 \times 0.07$  since it is very tiny. As you can see, the total interest rate we demand is roughly 10%, which is the sum of the real interest rate and the anticipated inflation. This is the nominal interest rate.

### **Non-diversifiable Risk**

Synonym of “systematic risk”.

### **Nonsystematic Risk**

The part of a financial asset's risk that is not associated with the overall market risk. It is firm-specific and can be diversified away when many assets are put in the same portfolio. Examples of nonsystematic risk include management risk (e.g., a scandal involving the company's CEO) and possible losses due to accidents (e.g., a fire at a company's main assembly line). Since this type of risk is confined to a particular company and is not market-wide, they can be diversified away.

See also “Diversification” and “Systematic Risk”.

### **NYSE**

Short for “New York Stock Exchange”. It is a formal stock exchange with a physical location. It is the largest exchange in the US. It tends to list only the largest companies in the US. NYSE also lists shares of many large foreign companies.

See also “Nasdaq”, “Over-the-Counter Market”, and “TSX”.

### **Open-end Fund**

A mutual fund that continually creates new shares and redeems existing ones on demand. An open-end fund values its portfolio holdings at the end of each day, and then calculates the so-called net asset value (NAV), which is essentially the total value of portfolio

holdings divided by the number of shares outstanding. Sales of new shares or redemptions of existing ones will be based on this NAV.

Unlike that of a closed-end fund's shares, the value of open-end fund's shares will go up and down purely due to the changes in the value of the securities held in the fund. The majority of mutual funds are open-end funds.

See also "Closed-end Fund", "Mutual Fund" and "NAV".

## **Option**

An option is the right to buy or sell a stock at a particular price on a specific date. See also "Call Option", "Put Option", "European Option", "American Option", "Currency Option", and "Index Option".

## **Out-of-the-money**

A term used to describe the relative magnitude between the current underlying asset price and the exercise price of an option. An option is "out-of-the-money" if the immediate exercise value is negative. So, a call option is "out-of-the-money" when the current underlying asset price is lower than the exercise price; a put option is "out-of-the-money" when the current underlying asset price is higher than the exercise price.

Please see "Call Option", "Put Option", "Exercise Price", "At-the-money", and "In-the-money".

## **Over-the-Counter (OTC) Market**

A market whereby securities such as stocks and bonds are traded among dealers and brokers connected through telephone and computer networks. The key difference between a formal exchange such as the NYSE and an OTC market is, a formal exchange has a physical location to conduct trades, which an OTC market doesn't. Nasdaq is an OTC market.

See also "Nasdaq", "NYSE", and "TSX".

## **Payback Period**

It is a metric used to evaluate a capital investment project. It is the number of years needed to recover the initial investment. Suppose that a three-year project requires an initial investment of \$1.5 million, and it will generate the following cash flows for the three years: \$0.6 million, \$0.8 million, and \$2.0 million. As can be seen, after the first

two years, we recover only \$1.4 million of the investment; we still need to recover \$0.1 million, which will take only a fraction of the third year:  $(\$0.1 \text{ million} / \$2.0 \text{ million})(1 \text{ year}) = 0.05 \text{ years}$ . Therefore the total payback period for this project is  $2 + 0.05 = 2.05 \text{ years}$ .

To reflect the time value of money, sometimes people calculate the so-called “discounted payback period”. All you have to do is to discount the future cash flows first to get their present values, and then go through the same procedure as before. To continue the above example, suppose the discount rate is 12% p.a., then the present values of the three future cash flows are,  $\$0.6 / (1+0.12) = \$0.5357 \text{ million}$ ,  $\$0.8 / (1+0.12)^2 = \$0.6378 \text{ million}$ , and  $\$2.0 / (1+0.12)^3 = \$1.4236 \text{ million}$ . Then the discounted payback period is 2.229 years. The calculation is as follows:  $2 + (1.5 - 0.5357 - 0.6378) / 1.4236 = 2.229$ .

See also “Discount Rate” and “Discounting”.

## **Portfolio**

A basket of securities. For example, you may invest \$5,000 in government bonds, \$4,000 in stocks, and \$6,000 in T-bills. The total investment in all these securities is called a portfolio.

See also “Diversification”.

## **Preferred Shares**

Shares issued by corporations that guarantee relatively stable dividends, but do not come with voting rights. These shares are “preferred” since they enjoy a higher priority (relative to common shares) when it comes to dividend payments.

## **Price Earning Ratio**

P/ E ratio for short, it refers to the ratio of stock price over the recent annual earning per share. For example, if Stock Bre-Y is trading at \$10 now and its earnings per share in the past year is \$0.5, then the P / E ratio is  $10 / 0.5 = 20$ . A similar ratio can also be calculated for a stock index. Typically, P / E ratio for a stock index can be anywhere between 15 and 60, although the normal range is around 20 or so. Stable stocks tend to have low P / E ratios, and fast growing stocks have high P / E ratios. For instance, in January 1999, the stock of Ebay had a P / E ratio around 2,000. That is very high by any standard! It reflects the mad bidding on that company’s stock.

## Prime Rate

The rate a commercial bank (Royal Bank, e.g.) charges its most credit-worthy corporate customers (BCE, e.g.) for short-term loans. It is lower than the bank loan rates charged on small businesses or individual borrowers. Prime rates may differ across banks, but they tend to be very close due to competitions among banks.

Prime rate is periodically reset in accordance with the movement of bank rate. Generally speaking, prime rate is 1% to 1.5% above the bank rate. It is not unlikely that an individual obtains a loan from a bank at the prime rate. One scenario is, the loan is fully guaranteed by, say, a fixed term GIC. Another scenario is, you are super rich but still need a loan. For some reason, banks seem to have more confidence in super rich individuals than, say, business school students.

See also “Bank Rate” and “GIC”.

## Put Option

A put option is a derivative security whose value depends on a particular underlying asset. It is a high-leverage investment instrument. Suppose you own a put option on the TD stock that is trading at \$40 per share now. The put option is the right for you to sell a TD share at a specific price (say \$42) on a specific future date (say three months from now). Three months later, if the TD share is trading at a price above \$42, then you would throw away the put option because you do not want to sell something for \$42 which is worth more than \$42. But if the price is lower than \$42, then you would exercise your right — sell the share at \$42. Suppose the share is trading at \$35, then you make a \$7 profit. The purchase price of this option is perhaps only \$1. Therefore, your return over the three-month period is  $(7 - 1) / 1 = 600\%$ !!

A put option holder tends to have sweet dreams about market crashes.

See also “Call Option”, “European Option”, “American Option”, “Index Option”, and “Exercise Price” or “Strike Price”.

## Rate of Return

A number used to measure investment performance over a fixed period. For example, you spent \$4,000 purchasing some stocks 3 months ago. You sell the stocks for \$4,400 today. Then the rate of return of your investment is  $(4400 - 4000) / 4000 = 0.1 = 10\%$ . If you sell the stocks for \$3500, then the rate of return is  $(3500 - 4000) / 4000 = -0.125 = -12.5\%$  (needless to say, in this case, you lose the chance to brag).

## **Real Interest Rate**

It is part of the nominal interest rate. Please see “Nominal Interest Rate” for details.

## **Real Options**

A real option refers to the managerial flexibility in a capital budgeting situation. This concept is best explained through an example. Suppose there are two projects (A and B) that are identical in every aspect, except that Project B can be terminated and sold back to the government for a pre-set price one year later. In this case, we say that Project B has a real option in it, and it is an abandonment option. The choice of abandoning the project one year later is very much like a put option (and the pre-set price is the exercise price). Therefore real options add value to a capital project. In this example, one year later, if the prospect is not very bright for the remaining life of the project, then getting out to avoid further loss is a good thing. This is where the value is from. Project A doesn't have this option.

The word “real” here is used to signify that the options involve real assets rather than financial assets.

See also “Option”.

## **Repo (Repurchase Agreement)**

An agreement in which the seller of a security, such as a T-Bill, commits to buy it back on a specified date for a specified price. A repo or repurchase agreement is essentially a collateralized short-term loan.

See also “Reverse Repo”.

## **Required Rate of Return**

The rate of return you require on a specific investment. It is mainly affected by the riskiness of the investment. For example, if someone borrows money from you to set up a grocery store, then you may charge a 10% interest rate. But if the money is used for gold mining, then you may require an interest rate of 20%.

## **Retained Earnings**

The sum of net earnings a firm has cumulated through time. “Net earnings” refers to the net profits ---- revenues after all operating expenses, interest payments, and taxes.

## **Registered Retirement Savings Plan (RRSP)**

A retirement savings plan available to Canadians and Canadian permanent residents. A plan holder makes tax-deductible contributions under his / her own name or that of his / her spouse or common-law partner. Income earned within the plan is exempt from taxes as long as the funds remain in the plan. The funds in the plan can be withdrawn at anytime, and the withdrawal is subject to regular taxation. In the case of spousal or common-law RRSP, the tax is levied at the rate applicable to the spouse or the common-law partner. RRSP has three advantages. First, it defers taxation. Second, earnings within the plan are tax-free until the time of withdrawal. Third, it reduces taxes since the marginal tax rate after retirement is typically lower. RRSP is similar to the 401(k) plan in the US.

## **Return on Equity (ROE)**

After-tax net income divided by the book value of equity. It reflects a firm's financial performance. For example, Canadian banks' ROE is typically between 10% and 20%. Note that ROE is only an accounting number because both the net income and equity are accounting numbers. The real return an investor makes obviously depends on the stock price and dividend payments.

## **Reverse Repo**

A reverse repo is just a repo viewed from the buyer's perspective. The buyer of the security is essentially the provider of the loan.

See also "Repo (Repurchase Agreement)".

## **Security**

A general term standing for a financial instrument. For example, a stock is a security, a bond is a security, and so is a T-bill. Insofar as security means financial assets that are essentially money, it is no wonder that we all need "security".

## **Semi-annual Compounding**

Please see "Compounding Frequency".

## **Short / Short Selling**

Referring to selling a security you don't own. Because you don't own the security, you must borrow it first. Of course, you must buy it back later to return it. Obviously, if you anticipate the price of a security to go down, then you short it. As an illustration, suppose Jack believes that BCE's stock will decline from today's \$65 to \$50 in the near future. Then Jack can borrow certain number of shares, say 100, from his broker, and sell them immediately for \$6,500. After several days, if the share price indeed tumbles to \$50, then Jack will purchase 100 shares for \$5,000 and return them to his broker. In this process Jack makes \$1,500. Very nice. But if the stock price keeps climbing up, then Jack will lose money because he has to return the shares sooner or later. For example, if the stock price is \$85 when he has to return the shares, then he will lose \$2000 in this process. (He will not brag about it to anyone in this case!)

As you can see, deciding whether to go long or short with an investment is no less tricky than deciding what to wear on an early summer day!

Also see "long".

## **Simple Interest**

Please see "Compound Interest".

## **Speculation**

The act of educated betting on the price movements of investment assets. Its synonym is "risk-taking". Risk-taking by definition can lead to either gains or losses. For example, Peter Pringle thinks that the oil price will reach \$100 a barrel in two years (while the market consensus is \$80), and he enters into forward contracts to buy oil at \$80 a barrel. In this case, we say that he is speculating on the oil price. If two years later, the market price is, say, \$110 a barrel, then he would settle his forward contracts by buying oil at \$80 a barrel, and then turn around to sell at \$110 a barrel, pocketing \$30 a barrel. Of course, he could lose a bundle if the price is low, e.g., at \$55, since he still has to buy at \$80 and then is forced to sell at \$55 a barrel.

Notice that if a refiner enters into forward contracts to buy oil at \$80 a barrel, then the refiner is hedging rather than speculating. Why? Because the refiner will not sell the oil; rather it will use it for refining.

See also "Forward Contract" and "Hedging".

## **Spot Interest Rates**

Interest rates applicable today or “on the spot”. For example, if you go to a bank branch today and intend to purchase \$1,000 worth of GIC. Depending on the number of years you want to lock your money in, the annual interest rate will be different. The one-year rate may be 2.5%, the two-year rate may be 2.75%, the three-year rate may be 3.00%, and so on. (Note: those rates are annual rates applicable to the period in question.) The rates that are prevailing today for different investment periods are called spot rates.

See also “Forward Interest Rates”, “GIC”, and “Term Structure of Interest Rates”.

## **Stock Repurchase**

It refers to a firm’s purchase of some of its own shares. Once the shares are purchased back, they become so-called “treasury stocks” and are not included in the total number of shares outstanding. Therefore, stock repurchase may improve a firm’s earnings per share and ROE when the firm is really doing well.

See also “Treasury Stock”.

## **Strike Price**

See “Exercise Price”.

## **Strip Bond**

The par part of a bond, i.e., the remaining part of a bond after the coupons are stripped away. In nature, a strip bond is a discount bond. If a bond is issued without coupon, then it is called a discount bond; if a bond is issued as a regular coupon bond, and the coupons are subsequently stripped away, then it is called a strip bond. Typically, borrowers such as governments and corporations do not issue discount bonds due to their lower issuance proceeds (compared with coupon bonds), yet discount bonds offer a useful investment opportunity. As a result, strip bonds are created to fill the gap. Strip bonds are traded over-the-counter, and one can buy them from any investment broker. In Canadian markets, strip bonds are typically stripped from bonds issued by governments (federal or provincial) and crown corporations.

Also see “Discount Bond”.

## Swap

Exchange of cash flows or financial securities. For instance, a company may swap out of a floating rate loan and get into a fixed rate loan, or vice versa. In this case, it is an interest rate swap. Similarly, a corporate borrower may exchange a US dollar loan into a Japanese yen loan, in which case it is a currency swap. There are also commodity swaps and equity swaps. In general, swaps are used by corporations and financial institutions to hedge risk or to take advantage of certain market conditions.

## Systematic Risk

The part of a financial asset's risk that is associated with the overall market risk. It is measured by "beta". A higher systematic risk means a higher chance for the asset's return and the market return to move together. When we put many stocks in one portfolio, the portfolio's risk is basically systematic risk since all firm-specific risks would cancel each other. The movement of the portfolio's return is due to market-wide factors only such as interest rate.

See also "Idiosyncratic Risk", "Diversifiable Risk" and "Nonsystematic Risk".

## T-bill

A T-bill (Treasury Bill) is a short-term security issued by the federal government to raise funds. T-bills are auctioned to major commercial banks (e.g., Royal Bank, CIBC, and TD), which in turn sell them to individual investors. T-bills are sold in discount. For example, if you purchase a \$10,000 T-bill with one year to maturity at an interest rate of 10%, then you now pay  $10,000/(1+0.1)=\$9090.91$  to get the bill. One year from now, you get \$10,000 back. Normally, T-bills are sold with time to maturity of one, three, six, or twelve months.

## Term Deposit

Exactly the same as a GIC (see GIC) except that term deposits can be redeemed prior to maturity subject to a penalty. Term deposits are also insured under the CDIC. These days, term deposits are no longer popular.

See "GIC" and "CDIC".

## Term Structure of Interest Rates

The curve relating spot interest rates to maturities. Suppose we have a series of Government of Canada strip bonds with maturities of 1-, 2-, 3-, 4-, and 5-years. Further

suppose the return or yield on each bond is 4.00%, 4.25%, 4.55%, 5.00%, and 5.50%, respectively. If we plot the yields on the maturities, we will have an upward sloping curve. This curve is called term structure of interest rate. It is a useful concept because once we have this curve, we can value any coupon bonds by doing simple cash flow discounting.

Also see “Discount Bond”, “Spot Interest Rates”, and “Strip Bond”.

## **Treasury Bonds**

A treasury bond is a long-term debt issued by the federal government. Treasury bonds are different from T-bills in that they have a longer maturity (usually longer than 10 years at issue) and carry coupons.

Please see “T-bills”.

## **Treasury Stock**

Common stock that has been repurchased by the company and held in the company's treasury. These shares don't pay dividends, have no voting rights, and are not part of the total number of shares outstanding, although they are still counted as part of shares issued.

See also “Stock Repurchase”.

## **TSX**

Short for “Toronto Stock Exchange”. It is a formal exchange with a physical location. Companies listing shares on the TSX must meet certain requirements regarding such things as the number of shares outstanding and market capitalization. The vast majority of listing companies on the TSX are Canadian.

See also “Market Capitalization”, “Nasdaq”, “Over-the-Counter Market”, and “NYSE”.

## **Underwriter**

Synonym of “investment dealer”.

## **Variable-rate Mortgage**

A mortgage whereby the rate floats with the market and can be adjusted at anytime by the bank. Whenever the rate is adjusted, a new monthly payment will be calculated for the remaining balance. When the rate goes up, the monthly payment will increase, and vice versa. Those customers who opt for a variable rate anticipate the rate to go down. Please see “Mortgage” and “Fixed-rate Mortgage” for related information.

## **Volatility**

It usually refers to the riskiness of a stock. When we say a particular stock is very volatile or has a high volatility, we mean that its price fluctuates a great deal. Most of the time, we use the standard deviation of the stock’s return to measure volatility.

## **Warrant**

A long-term call option offered with newly issued debt as a sweetener. It allows the holder to buy company shares at a pre-determined price in the future. Since call options will pay off if the firm’s stock is doing well, warrants are used to signal the confidence of the firm, which in turn will lower the coupon rate on the bond being issued. Warrants are very similar to convertible bonds in this sense. The only difference is, warrant holders pay the pre-determined price to acquire the share, whereas convertible-bond holders give up the bond in exchange for company shares at a pre-determined conversion ratio.

Since I haven’t heard of companies that attach long term put options to their newly issued shares, so there is no put option counterpart for “warrant”.

See also “Call Option”, “Convertible Bond”, and “Put Option”.

## **Working Capital**

Sometimes called “Gross Working Capital”. It is simply the current assets of a firm. This type of capital “works” for the firm in that it ensures the smooth operation of the firm. For individuals, we can think of the paddy cash in our wallet and the balance on our checking account as working capital, since they ensure that we can carry out our daily lives smoothly. Please see “Current Assets”.

## **World Bank**

The World Bank, together with the International Monetary Fund, was created by the victorious countries of the Second World War. The two institutions, both headquartered

in Washington D.C., were designed to help rebuild the post-war economy of the allied countries. The World Bank is not a bank in the common sense. It is one of the United Nations' specialized agencies, and is made up of 184 member countries. Its main mandate is to make loans to developing countries for social overhead capital projects such as building schools and health centers, providing water and electricity, fighting disease, and protecting the environment.

See also “International Monetary Fund (IMF)”.

### **Yield Curve**

Synonym of “term structure”.

### **Yield to Maturity**

Average rate of return from investing in bonds. It is the rate of return a bond investor can expect if he holds the bond to maturity and is able to reinvest all the coupons at this rate of return. In essence, yield to maturity is nothing but the internal rate of return on a bond. Since the rate at which the coupons can be reinvested is mostly governed by the market, the yield to maturity is only a benchmark number. At maturity, the actual realized return may be higher or lower than the initially calculated yield to maturity, depending on the interest rate environment.

See also “Bond”.

### **Zero-coupon Bond**

Synonym of “discount bond”.