**Risk and Return and Stock Valuation**

**Learning Problems**

After completing this module, students will be able to:

1. Illustrate how diversification can reduce but not eliminate risk in a portfolio.
2. Demonstrate how beta and the capital asset pricing model (CAPM) can be used to determine the required rate of return for an equity investment.
3. Describe the different components of an equity holding return, including the dividend and capital gains yields.
4. Value shares in negative growth, no growth, constant growth, and non-constant growth scenarios using the income and market multiple approaches.
5. Indicate the different forms of equity financing for new ventures, including self-funding, crowdfunding, angel financing, and venture capital.
6. Outline the advantages and disadvantages of taking a private corporation public.
7. Describe how private and public equity placements in the primary market can be used to raise equity capital.
8. Discuss how securities are traded in the secondary market through stock exchanges and alternative trading systems.
9. Summarize the characteristics of common and preferred shares.
10. Rationalize the choice between preferred share and debt financing.
11. Explain the efficient market hypothesis, including weak-form, semi-strong, and strong-form efficiency.

**Introduction**

The value of an asset equals the present value of the future cash flows it generates. For a company’s shares, this is the present value of future dividends. These dividends may be fixed like preferred shares or grow over time like common shares. Estimating common share dividends well into the future is difficult. Equally challenging is estimating the appropriate discount rate needed to calculate the present value.

Intuitively, risk and return should move together. The higher the risk of an investment, which is defined as the variability of its future cash flows, the higher the return required by investors. This required rate of return is the discount rate used when valuing a share. If a company becomes riskier, say due to increased international competition, then the discount rate will rise, and the value of the company will fall. Measuring risk is difficult as each company has unique operating characteristics that change over time. Managers must be able to accurately determine an investor’s required rate of return or a company’s cost of capital to value its shares.

Not only is equity capital a critical source of financing, but share price maximization is a firm’s primary financial goal. For large public companies, equity can be raised by issuing new common or preferred shares, although most firms rely primarily on retained earnings to finance their growth to reduce issuance costs and prevent corporate control problems. For smaller private firms, retained earnings are even more important as a source of equity financing, as these companies cannot readily access the public equity markets. If equity capital cannot be raised through self-funding, angel investors, or venture capital, these businesses may have to limit their growth until enough retained earnings can be generated.

* 1. **| Power of Diversification**

Even a novice investor knows the importance of “not putting all their eggs in one basket” or diversifying their investment portfolio. The exhibit below illustrates this concept.

**Exhibit 1: Diversification**

**Asset A**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Economic**  **Scenario** | **Probability (P)** | **Holding Return (HR)** | **Expected Return (ER)** | **HR−ER** | **(HR−ER)2** | **P(HR−ER)2** |
| **Down** | .2 | −20 % | −4.0 % | −38.5 % | 1,482.25 | 296.45 |
| **Steady** | .5 | 15 % | 7.5 % | -3.5 % | 12.25 | 6.13 |
| **Up** | .3 | 50 % | 15.0 % | 31.5 % | 992.25 | 297.68 |
|  |  |  | ER = 18.5 % |  |  | Var = 600.26 |
|  |  |  |  |  |  | SD = 24.50 |

CV = = 1.32

**Asset B**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Economic**  **Scenario** | **Probability (P)** | **Holding Return (HR)** | **Expected Return (ER)** | **HR−ER** | **(HR−ER)2** | **P(HR−ER)2** |
| **Down** | .2 | 50 % | 10.0 % | 38.5 % | 1,482.25 | 296.45 |
| **Steady** | .5 | 15 % | 7.5 % | 3.5 % | 12.25 | 6.13 |
| **Up** | .3 | −20 % | −6.0 % | −31.5 % | 992.25 | 297.68 |
|  |  |  | ER = 11.5 % |  |  | Var = 600.26 |
|  |  |  |  |  |  | SD = 24.50 |

CV = = 2.13

**A portfolio consisting of 50% of Asset A + 50% of Asset B**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Economic**  **Scenario** | **Probability (P)** | **Holding Return (HR)** | **Expected Return (ER)** | **HR-ER** | **(HR−ER)2** | **P(HR−ER)2** |
| **Down** | .2 | 15% | 3.0% | - | - | - |
| **Steady** | .5 | 15% | 7.5% | - | - | - |
| **Up** | .3 | 15% | 4.5% | - | - | - |
|  |  |  | ER = 15.0% |  |  | Var = 0.0 |
|  |  |  |  |  |  | SD = 0.0 |

CV = = 0.0

There is a 20% probability (P) that the economy will decline, a 30% chance it will grow, and a 50% likelihood it will remain steady in the future. In a down economy, Asset A will generate a negative holding return (HR) of 20%, in an up economy, it will earn a positive HR of 50%, and in an average economy, it will yield a positive HR of 15%. Applying the P of each economic scenario to the HRs, the expected return (ER) is 15%. The difference between each HR and the ER is calculated and then squared to determine the variance (Var) for each scenario. Applying the P of each scenario again to the corresponding Var, the expected Var is determined. The square root of the expected Var is the expected standard deviation (SD). The coefficient of variation (CV) expresses the expected SD as a percentage of the ER to measure the degree of variation of the ER or the investment’s risk level.

A CV is also determined for Asset B, and then a portfolio consisting of 50% Asset A and 50% Asset B. The HR of the portfolio is equal to 50% of the HR of Asset A and Asset B. It is 15% in each economic scenario, which means the portfolio is risk-free.

What this example shows is that individual assets are risky as measured by their Var, SD, or CV, but a portfolio consisting of the two assets together can be risk-free if they move in opposite directions in different economic scenarios. Realistically, not all risk in a portfolio can be diversified away, as the correlation coefficients between most pairs of stocks are high, which means share prices move together regardless of economic conditions. Some diversifiable risk, also called unsystematic or non-market risk, can still be eliminated. This is the risk from random events such as lawsuits, strikes, or failed marketing plans that may affect one company but not the other and can be eliminated by holding a larger portfolio. For every company that is sued, another is awarded a legal settlement. When one business is hurt by a strike, another receives its lost sales. If a firm has an unsuccessful new product launch, a different company’s product will succeed. As the next exhibit shows, risk can be reduced by increasing the size of the portfolio, but only to a certain point.

**Exhibit 2: Diversifiable and Non-Diversifiable Risk**

**Diversifiable**

**Risk**

**Total Risk**

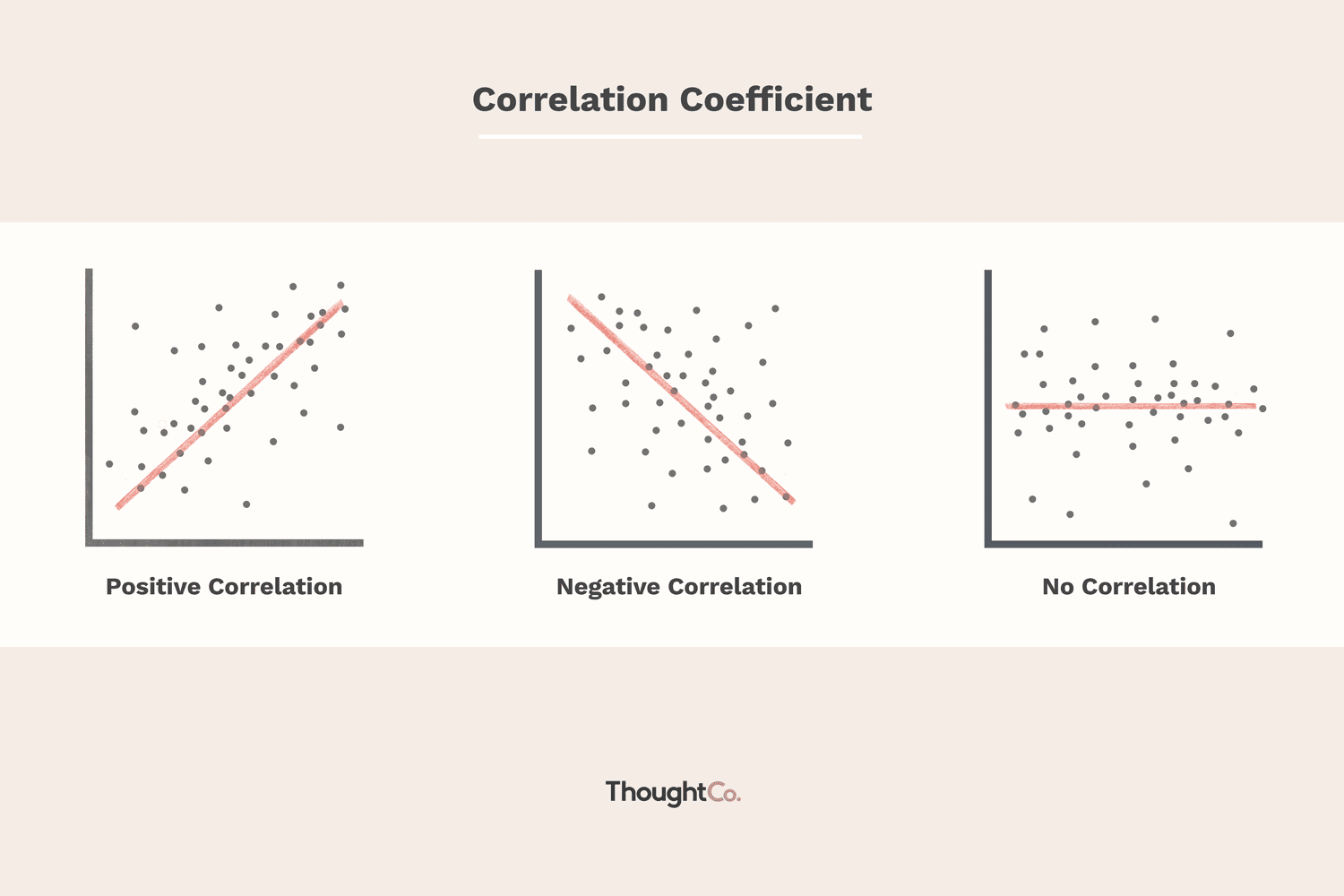
**Non-diversifiable Risk**

Non-diversifiable risk, also called systematic or market risk, cannot be gotten rid of. It includes risk from the business cycle, inflation, or interest rate movements that affect all companies simultaneously. Companies only pay investors for their non-diversifiable risk, as all other risks can be diversified away if investors maintain a properly diversified portfolio. This market risk is measured by beta, which is used in the Capital Asset Pricing Model (CAPM) to determine an investor’s required rate of return (RRR) or a firm’s cost of capital.

**More on Diversification**

An investment portfolio is a grouping of financial asset classes with similar characteristics such as large-cap, mid-cap, small-cap, growth, value, international, or emerging market stocks; short, intermediate, long-term, investment grade, or high yield bonds; domestic or international real estate; gold; commodities; cash and cash equivalents in different currencies; derivative securities like futures, options, or swaps; and collectibles such as art or sports memorabilia. When building a portfolio, asset classes that have low or negative correlations with other classes make excellent diversifiers. Correlation coefficients measure how asset classes move relative to one another. If they move in the same direction at the same time, they are positively correlated. If they move in the opposite direction at the same time, they are negatively correlated. If they move randomly relative to each other, they are uncorrelated.

**Exhibit 3: Correlation Coefficients**



Asset classes with little, no, or negative correlation with other asset classes are excellent for diversification, but these types of investments are difficult to find. Most asset classes are positively correlated, so the potential to diversify is limited, and considerable market risk remains in the portfolio.

**Exhibit 4: Asset Class Correlation**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Asset Class** | **U.S. Large-Cap Growth** | **U.S. Large-Cap Value** | **U.S. Mid-Cap Growth** | **U.S. Mid-Cap Value** | **U.S. Small-Cap Growth** | **U.S. Small-Cap Value** | **International Stocks** | **Emerging Markets Stocks** | **U.S. Investment Grade Bonds** | **U.S. High-Yield Bonds** | **Non-U.S. Bonds** | **Cash** | **Commodities** | **Real Estate** |
| **U.S. Large-Cap Growth** | 1.000 | 0.848 | 0.896 | 0.740 | 0.856 | 0.718 | 0.582 | 0.517 | 0.189 | 0.528 | 0.005 | 0.023 | 0.124 | 0.444 |
| **U.S. Large-Cap Value** | 0.848 | 1.000 | 0.778 | 0.899 | 0.743 | 0.844 | 0.586 | 0.537 | 0.230 | 0.577 | -0.008 | 0.052 | 0.141 | 0.588 |
| **U.S. Mid-Cap Growth** | 0.896 | 0.778 | 1.000 | 0.776 | 0.980 | 0.792 | 0.558 | 0.559 | 0.125 | 0.562 | -0.019 | -0.019 | 0.162 | 0.515 |
| **U.S. Mid-Cap Val** | 0.740 | 0.899 | 0.776 | 1.000 | 0.767 | 0.957 | 0.536 | 0.512 | 0.212 | 0.620 | -0.015 | -0.002 | 0.150 | 0.678 |
| **U.S. Small-Cap Growth** | 0.856 | 0.743 | 0.980 | 0.767 | 1.000 | 0.805 | 0.539 | 0.560 | 0.097 | 0.581 | -0.036 | -0.035 | 0.161 | 0.541 |
| **U.S. Small-Cap Value** | 0.718 | 0.844 | 0.792 | 0.957 | 0.805 | 1.000 | 0.516 | 0.517 | 0.160 | 0.644 | -0.032 | -0.013 | 0.157 | 0.701 |
| **International Stocks** | 0.582 | 0.586 | 0.558 | 0.536 | 0.539 | 0.516 | 1.000 | 0.667 | 0.170 | 0.398 | 0.288 | 0.052 | 0.181 | 0.389 |
| **Emerging Markets Stocks** | 0.517 | 0.537 | 0.559 | 0.512 | 0.560 | 0.517 | 0.667 | 1.000 | 0.036 | 0.432 | 0.025 | 0.003 | 0.201 | 0.343 |
| **U.S. Investment Grade Bonds** | 0.189 | 0.230 | 0.125 | 0.212 | 0.097 | 0.160 | 0.170 | 0.036 | 1.000 | 0.382 | 0.447 | 0.237 | -0.107 | 0.157 |
| **U.S. High-Yield Bonds** | 0.528 | 0.577 | 0.562 | 0.620 | 0.581 | 0.644 | 0.398 | 0.432 | 0.382 | 1.000 | 0.082 | 0.010 | 0.039 | 0.499 |
| **Non-U.S. Bonds** | 0.005 | -0.008 | -0.019 | -0.015 | -0.036 | -0.032 | 0.288 | 0.025 | 0.447 | 0.082 | 1.000 | 0.229 | -0.076 | -0.001 |
| **Cash** | 0.023 | 0.052 | -0.019 | -0.002 | -0.035 | -0.013 | 0.052 | 0.003 | 0.237 | 0.010 | 0.229 | 1.000 | -0.163 | -0.050 |
| **Commodities** | 0.124 | 0.141 | 0.162 | 0.150 | 0.161 | 0.157 | 0.181 | 0.201 | -0.107 | 0.039 | -0.076 | -0.163 | 1.000 | 0.159 |
| **Real Estate** | 0.444 | 0.588 | 0.515 | 0.678 | 0.541 | 0.701 | 0.389 | 0.343 | 0.157 | 0.499 | -0.001 | -0.050 | 0.159 | 1.000 |

Source: Morningstar 2020

Correlation coefficients between asset classes are not always stable. During a financial crisis, they all move towards 1.0, resulting in less diversification when it is needed the most to reduce risk.

* 1. **| Beta and the Capital Asset Pricing Model**

Beta measures the degree to which the return on a company’s stock varies with the market portfolio. The market portfolio is a large collection of stocks where all diversifiable risk has been eliminated. Large stock indexes like the Russell 1000 (i.e. 1,000 largest U.S companies) or S&P 500 (i.e. 500 largest U.S. companies) are good proxies for the market portfolio, while the S&P/TSX Composite Index (i.e. approximately 250 largest Canadian companies) is not due to the small size of the Canadian stock market and its dependence on natural resource stocks. Despite its popularity, the Dow 30 (i.e. 30 largest companies in the U.S) would also be a poor market portfolio as it accounts for a much smaller percentage of the market capitalization of U.S. stocks than the S&P 500 and Russell 1000, which account for approximately 75% and 92%, respectively.

A firm’s beta is the slope of the ordinary least of squares (OLS) regression line or characteristic line between the returns on the market portfolio (i.e. x-axis) and the returns on the company’s share (i.e. y-axis). Beta is usually calculated using monthly stock returns over the past five years, which provides a large sample size of 60 observations. A measurement period of more than five years is typically not representative of the firm’s current performance, as its operations will have changed significantly due to internal growth and acquisitions. Beta can be easily calculated using the Slope function in Excel.

**Exhibit 5: Calculating Beta**

**Characteristic line**

**Slope of line = 1.25**

A beta of greater than 1.0 means the company’s stock returns move together with the returns on the market portfolio but fluctuate more, a beta of less than 1.0 means the company’s returns move together with the market portfolio’s returns but fluctuate less, and a beta equal to 1.0 means the company’s returns move together with the market portfolio’s returns and fluctuate at the same rate. A beta of less than zero means the company and the market portfolio move in opposite directions, but this is rare, especially for equity investments. The beta of a portfolio equals the weighted average of its asset betas based on its current market values.

Beta is the measure of non-diversifiable risk, systematic risk, or market risk in CAPM. This model states that:

kc = kf + Bc (km – kf)

kc – Cost of common equity

kf – Risk-free rate

Bc – Beta of the firm

km – Market rate

(km – kf) – Market risk premium

All investors expect to earn the risk-free rate plus the market risk premium (MRP) adjusted for the riskiness of the company as measured by its beta. The risk-free rate is the return investors earn on riskless government bonds with a maturity that matches the time horizon of the company or the project being evaluated. Given the long life of most companies and projects, this is typically the 20-year or 30-year government bond rate.

The market rate is the return on a market portfolio of risky stocks that are only exposed to market risk. The MRP is the extra return that investors expect to receive if they go from an investment in riskless government bonds to one in a market portfolio of risky stocks. Beta measures the riskiness of a company’s stock relative to the market portfolio and is used to adjust the MRP to determine the appropriate return for an investment. If a company’s beta is greater than 1.0, this means they are riskier than the market and require a return that is greater than the MRP. The opposite is true if the beta is below 1.0. As shown in the exhibit below, the security market line plots the CAPM and shows the relationship between a company’s beta and its expected return when the risk-free rate is 4.0% and the MRP is 5.0%. Stock traders will quickly eliminate any variations from this line if capital markets are efficient.

**Exhibit 6: Security Market Line**

**Security market line**

**Holding Returns**

The price of a common share is calculated using the present value of a perpetuity with growth formula. If that formula is manipulated to isolate the share’s annual holding return (kc), it shows that the holding return consists of two components.

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Capital gains yield

Dividend yield

=

The dividend yield comes from the company’s cash dividends, and the capital gains yield comes from growth in its share price. Investors in mature companies receive most of their holding return from the dividend yield, as these firms have fewer growth opportunities, so they pay higher dividends. Those who invest in growth companies receive most of their holding return from the capital gain yield, as these businesses retain their earnings to finance growth. Mature companies are attractive to investors who want regular cash payments to meet their spending needs and wish to avoid the insecurity of fluctuating stock prices. Growth companies are more appropriate for long-term investors who wish to defer income taxes by receiving more capital gains, allowing their investment to grow quicker. Long-term investors can also average out fluctuations in the share price over time.

* 1. **| Stock Valuation**

A company is owned and ultimately controlled by its common shareholders. They elect the board of directors that hires and oversees the management and share in any residual income of the business after paying the interest owed to its debt holders and dividends owed to its preferred shareholders. Preferred shareholders are not owners as they do not vote in the company’s affairs and are not entitled to any of the firm’s residual income. The value of a business or its common shares can be defined in different ways.

**Market value.** The price that an entire business or its shares trade at in an efficient capital market.

**Fair market value.** The price that a business or its shares should trade at in an efficient capital market. Fair market value is estimated when a market value is not available or markets are not operating efficiently.

**Intrinsic value.** This is what an equity analyst believes a firm is truly worth after considering all relevant information and eliminating short-term pricing irregularities. If capital markets are efficient, the intrinsic value should match the market value and fair market value, meaning there is no mispricing due to market inefficiencies.

The income, market multiples, asset-based and residual income approaches are used to value a business. With the income approach, a business’s future operating cash flows are forecasted and then discounted using an appropriate cost of capital. The market multiples approach is a more straightforward method that uses industry average ratios such as price/ earnings, price/book value, or price/sales. These ratios are multiplied by a company’s earnings, book value, or sales per share to determine its fair market value. The asset-based approach takes a business’s historical cost balance sheet and restates its total assets and liabilities at fair market value. Finally, residual income starts with a firm’s book value and adds any income a business expects to earn over its equity investors’ RRR, which is equivalent to its goodwill. The income and market multiples approaches are the most common in practice and will be examined in the remainder of this section.

**Stock Valuation Using the Income Approach**

The value of any asset equals the present value of the future cash flows investors will likely receive. For a rental property, the cash flows are the rental payments minus any cash expenses. For a bond, they are the regular interest payments plus the return of principal at the end of the bond’s life. Determining the value of a business and its equity securities is no different. The value of a share equals the present value of all future dividends that are likely to be paid to the shareholders.

It is impossible to tell precisely how long a company will survive, so valuators adopt the going concern principle and assume that their dividends will grow indefinitely. Lower dividends now mean higher dividends in the future as earnings are reinvested in the business. It is challenging to estimate the value of anything over an indefinite period accurately. To deal with this uncertainty, business valuators use three variations of the dividend discount model (DDM).

**One stage or constant growth.** This model assumes that dividends grow indefinitely at the same rate. Using the present value of a perpetuity with growth formula, the intrinsic value (V0) of a business today can be determined using estimates of next year’s dividend (D1), the appropriate cost of common equity (kc), and the expected long-term growth rate of the company’s dividend (gd).

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This model is best used to value mature companies with stable dividend growth rates and a consistent ratio of dividends to long-term earnings (i.e. a stable dividend payout ratio). The growth rate cannot exceed the nominal growth rate of the economy, which is usually 2.0% to 3.0%, or the company will essentially become the economy over the long term, but it can be less for slow-growth, no-growth, or negative-growth firms. No growth is used to value preferred shares, while negative growth is used to value declining industries, natural resource properties that are being depleted, and other projects with limited lives. The cost of common equity reflects the risk level of the company being valued.

**Two-stage.** This model is more flexible as it initially allows for a high-growth stage of varying lengths, possibly due to a new product innovation, followed by a mature-growth stage with lower growth once industry competition intensifies, new companies enter the market, and demand stabilizes. The value of the firm relating to the mature-growth stage only is called the investment’s terminal value.

Terminal Value

V0 = + + +

In practice, a business valuator typically includes a supernormal growth rate estimate based on their research for the first stage, which is usually three to five years. Estimating growth accurately after that is difficult, so valuators typically assume a second-stage growth rate that approximates the long-term growth rate of the economy or less, as in the one-stage DDM.

**Three-stage.** This model improves on the two-stage model by allowing a more gradual transition from the high-growth to the mature-growth stage by introducing a middle stage where the growth rate declines, usually in a linear manner. It is unreasonable to expect the growth rate to change in just one year. Each analyst subjectively determines the length of this transition stage.

**Stock Valuation using Market Multiples**

When using the market multiples approach to value a firm, a benchmark multiple is first calculated that relates share price (P) to a measure of financial performance such as earnings per share (EPS), book value per share (BVPS), or sales per share (SPS). The company then multiplies this historical benchmark multiple by estimated future EPS, BVPS, or SPS to determine an appropriate share price. Finally, this price is multiplied by the number of common shares to calculate the intrinsic value (V0) of the firm.

V0 = Benchmark () (EPS) (Number of common shares)

V0 = Benchmark () (SPS) (Number of common shares)

V0 = Benchmark () (BVPS) (Number of common shares)

Given the uncertainty of business valuations, analysts typically use more than one type of benchmark multiple to improve the accuracy of their results.

**Comparing P/E, P/S, and P/BV Multiples**

A P/E multiple measures how much investors are willing to pay for each dollar of a company’s earnings. It is the most widely recognized and commonly used market multiple as earnings are the primary indicator of financial performance since they include both revenues and costs. Despite its popularity, using the P/E multiple to value a firm has several potential shortfalls. Many companies manipulate earnings to misrepresent their financial performance. Aggressive revenue recognition policies are adopted to record sales prematurely. Costs are reduced through excessive cost capitalization, altering accounting estimates like the bad debt percentage, or delaying discretionary expenses such as advertising, maintenance, or research and development. Companies may not intentionally manipulate their financial statements, but the wide choice of accounting policies under IFRS makes them less comparable to other firms. P/E multiples also vary over the business cycle, especially for cyclical firms like automobile manufacturers that experience large swings in sales and have high fixed costs that cause profits to be even more volatile. Finally, earnings can sometimes be small, zero, or negative, especially for start-up and cyclical companies, which is illogical when used in a P/E multiple.

Some analysts prefer the P/S multiple to the P/E multiple because sales are easier to estimate, never negative, more stable than earnings over the business cycle, and subject to less accounting manipulation. Sales should still be normalized for the business cycle and adjusted for aggressive revenue recognition practices to provide a more accurate valuation. The main problem with the P/S multiple is that it does not include operating expenses and interest, making it a poorer measure of a business’s overall performance. The P/S multiple is effective when valuing mature companies or firms with standardized operating procedures resulting in similar cost structures. This is the case with franchises where P/S multiples are used to value individual outlets when they are traded between franchisees or with the franchisor. P/S multiples are also employed to value start-ups that are not yet generating profits.

Other analysts prefer the P/BV multiple to the P/E multiple because BV is nearly always positive, is more stable over the business cycle, and is harder to manipulate. The main problem with this multiple is that many assets and liabilities are recorded at historical cost instead of fair market value, while other assets, such as patents that are developed internally, are not included in the balance sheet at all. For the best results, book value should be recalculated to include all recognized and unrecognized assets and liabilities measured at their fair market value. This is difficult in practice because of limited company financial disclosures, and some intangible assets, such as superior employees, strong customer service, or superior product quality, are complicated to measure. Finally, the P/BV multiple is not suitable for service firms that have few fixed assets or companies in sub-industries with significant differences in cost structure due to varying degrees of labour or capital intensity. Remember that preferred shares and any preferred dividends in arrears need to be removed from book value, as only common equity is being valued. For valuation purposes, preferred shares are treated as debt.

**Determining the Historical Benchmark Multiple**

P/E is the most popular market multiple. To apply this valuation approach, the analyst first calculates the benchmark P/E multiple and then multiplies it by the firm’s estimated future EPS. The benchmark P/E multiple is calculated in two ways.

**Comparable companies.** Businesses with equivalent operational and financial characteristics should have similar financial ratios. As a result, the average or median P/E ratio for a carefully selected group of comparable companies or a peer group should provide a reliable benchmark P/E multiple. Median values are typically used instead of the mean to eliminate the effect of outliers.

Industrial classification systems determine groupings of comparable companies. One commonly used system is the Global Industry Classification Standard (GICS) sponsored by Standard & Poor’s and MSCI. This system classifies companies by sector, industry group, industry, and sub-industry, with sub-industry being the most precisely defined category. The exhibit below gives an example of how a company producing auto parts and equipment is categorized.

**Exhibit 7: Global Industry Classification Standard**

**Sector**

Energy

Materials

Industrials

Consumer Discretionary

Consumer Staples

Health Care

Financials

Information Technology

Telecommunication Services

Utilities

Real Estate

**Industry Group – Consumer Discretionary**

Automobiles and components

Consumer durables and apparel

Consumer services

Media

Retailing

**Industry – Automobiles and Components**

Auto components

Automobiles

**Sub-industry – Auto Components**

Auto parts and equipment

Tires and rubber

To determine the most accurate benchmark P/E multiple, comparable companies should be selected from the relevant sub-industry group. If the number of companies in the sub-industry is insufficient to provide a reliable benchmark, the larger industry, industry group, or sector grouping may be used. However, these companies will be less representative of the firm being valued.

**Historical average price multiples.** If dependable comparable companies or peer group data are not available, the benchmark P/E multiple can be calculated using the company’s average or median P/E ratio over the last business cycle. Do not use this method if a firm’s business mix or level of financial or operational leverage has changed appreciably, as past data will not be representative of future performance.

**Estimating Future EPS**

EPS is calculated using either trailing EPS from the previous four quarters or leading EPS estimated for the next four quarters. Leading EPS, also called forward EPS, is preferable as it is forward-looking and incorporates recent operational and financial changes such as a company expansion or a revision to its capital structure. Trailing EPS should be used if reliable leading EPS estimates are not available.

When calculating leading EPS, valuators can use their own earnings forecasts, forecasts of a particular equity analyst who follows the company, or consensus forecasts of all equity analysts provided by financial information firms. The exact method used to calculate trailing and leading EPS varies among the information providers, so analysts must ensure all earnings data is measured consistently. Diluted EPS should be used to include the potential effect of convertible securities or options.

* 1. **| Raising Equity Capital**

New start-ups have difficulties accessing equity capital. Commercial banks and credit unions typically provide some debt financing, but companies can only fund so much of their operations with debt because of the risks of overborrowing. Financial institutions are also hesitant to lend to new firms due to their limited business experience and financial track record, and impose strict loan conditions and high collateral requirements. In the early stages of their development, start-ups typically resort to self-funding, crowdfunding, angel financing, or venture capital to satisfy their equity needs.

Once a small business is established, its improved access to commercial lending and retained earnings are generally enough to finance its operations. If it continues to grow, it may decide to use private placements of debt and equity to bypass commercial lenders and access more equity than is available from its retained earnings. The largest companies may choose to go public and use public placements of debt and equity to raise even more capital. Both debt and equity financing follow a pecking order as companies move through their life cycles from small start-ups to large public corporations.

**Self Funding**

Most start-ups have no choice but to use the owner’s assets and connections to raise capital. Funding sources may include their savings such as Registered Retirement Savings Plans (RRSPs) and Tax-Free Savings Accounts (TFSAs); re-mortgaging a primary residence; selling personal property such as a cottage or boat; borrowing “patient money” or “love money” from family and friends; using credit card debt despite the exorbitant interest rates; and possibly swapping shares in a new business for legal, accounting and other services provided by local business professionals.

**Crowdfunding**

Crowdfunding allows start-ups and small businesses to raise modest amounts of capital through small contributions from many people through web-based crowdfunding portals. The three main crowdfunding models are:

**Donor-based.** Used by individuals and small organizations to raise funds for medical bills, family expenses, charitable causes, accident or disaster relief, and business ventures. Donors receive nothing in return for their contribution but personal satisfaction.

**Rewards-based.** Provides entrepreneurs with funds for business start-ups or new product development. In exchange for their financing, contributors receive a reward such as a free product or can pre-purchase products at a reduced price. This not only provides companies with capital, but it also allows them to test market demand. Success in raising capital this way can also be used to attract more conventional sources of financing, such as commercial loans.

**Securities-based.** Preparing a prospectus and audited financial statements to raise capital in the public financial markets is very costly for start-ups and small businesses, so regulators in most provinces provide an exemption that allows them to raise funds without this documentation. In British Columbia, they can sell common and preferred shares, and debt instruments such as bonds or limited partnership units directly to investors using a crowdfunding portal up to a maximum of CAD 250,000 per issue with no more than two issues per year. Each investor can contribute up to CAD 1,500 or CAD 5,000 if the investment is made through a registered investment dealer.

All companies must provide an Offering Document, which contains information about the business, the securities being offered, how the funds are being used, the risks involved, and how successful the company’s past crowdfunding distributions have been. This information must be kept up-to-date, and the Offering Document is submitted to regulators once the distribution is complete. Regulators do not review or approve the Offering Document, so investors should be very cautious and thoroughly research the company before investing. All portals must provide warnings on their websites about crowdfunding’s unique risks, and investors must confirm that they have read the Offering Document before they can invest. Portals can screen potential issuers to protect their reputations and increase their success rates. Before using crowdfunding, companies must carefully consider whether they are capable and willing to deal with so many new shareholders. Minimum contribution rules can help reduce the number of investors.

**Angels, Incubators, Accelerators**

New venture financing comes in stages.

**Exhibit 8: New Venture Financing**

|  |  |
| --- | --- |
| Seed financing | Researching a new business concept |
| First stage | Concept development |
| Second stage | Developing a prototype |
| Third stage | Production of a product or service |
| Fourth stage | Rapid expansion |

Angels are high-net-worth individuals, such as doctors, lawyers, retired executives, or business owners, who provide seed or first-stage financing to start-up companies early on in their development. Their goal is to generate high returns and enjoy the thrills of entrepreneurship. In many communities, angel investor groups are formed so entrepreneurs can sell their ideas equipped with a business plan and a slick “elevator pitch.” Members can invest individually or co-invest with other angels to diversify their portfolios of companies. In addition to funding that averages under CAD 1 million, angels contribute valuable business experience and contacts and may become active on the company’s board of directors.

Business incubators provide start-ups with links to angels, venture capitalists, and commercial lenders as well as an array of services including mentorship; advisory boards; networking; business plan development; seed capital; management training including business etiquette and presentation skills; office space; legal services relating to intellectual property, incorporation, governance, and regulatory compliance; accounting and information technology services; marketing and market research; and management team recruitment. The goal of an incubator is to develop businesses that can operate on their own. This may take a few months or several years, depending on the business’s development time and the owner’s expertise. Admission to an incubator is usually competitive, and only candidates with innovative ideas and strong business plans are accepted. Programs generally require that start-ups leave once they achieve certain sales or staffing goals. Most incubators are established by governments, universities, and other non-profit organizations that do not take equity. But some for-profit companies may exchange their support and investment for an ownership stake in the company. Incubators may specialize in an industry such as technology, biotechnology, or health care or support a mixture of companies.

Business accelerators are an alternative to business incubators for start-ups that are further along in the development process but still need help securing financing. These programs operate on a cohort basis, and candidates are thoroughly vetted before being selected. Just being allowed into an accelerator program attests to the quality of a start-up and makes it much easier to secure financing. Accelerators are considerably shorter than incubators, and clients leave once the program is complete.

**Venture Capital**

Venture capitalists (VCs) provide financing to start-up companies, particularly technology companies, in the 2nd, 3rd, and 4th stages of new venture financing. Venture capital (VC) is expensive as VCs must receive high returns, usually 20%-25%, to be fairly compensated for the high probability of business failure. The general rule is that only two of ten VC investments succeed.

To increase the chances of success, VCs become heavily involved in a company’s operations, serving on the board of directors, providing valuable business advice, using their industry contacts to develop a strong supplier/customer network, and recruiting new professional managers to help inexperienced founders grow the business. A start-up company should ensure that VCs are a good personal fit for their organization and have the drive, industry experience, business contacts, and funding needed to build a successful venture. Checking the references of VCs is critical to determine if they attend board meetings regularly, have valuable industry contacts, can provide additional funding if needed, and react appropriately when new ventures experience problems. Given the difficulty in finding enough venture capital, a company may have to compromise on its standards.

Venture capital is paid out in stages or rounds over a company’s life, but only if it is successful in the previous stage. Not distributing all the funding at once reduces the VC’s risk and provides businesses with a greater incentive to succeed. Some VCs specialize by geographic region, industry, or financing stage, while others are generalists who invest in a variety of projects. If VCs specialize by financing stage, ownership passes from one group of VCs to another as the company progresses through the different stages. VCs provide additional capital in each stage, so their total ownership stake in the company increases and the founder’s share falls over time. The dilemma for the founder is to retain control of the company while still raising the needed capital.

VCs are long-term investors, but in three to seven years, depending on the stage of their investment, they will want to realize a return. Common exit strategies for VCs include:

* Have the founder and management buy out the VCs if they lose faith in the project.
* Liquidate the company if it is unsuccessful.
* Sell to new VCs who are responsible for the next stage of financing.
* Take the company public in an initial public offering.
* Arrange an acquisition by a company that wants the new business concept or technology. This is the most common exit strategy.

In exchange for their cash investment, VCs receive a significant equity stake of up to 40% in the new venture in the form of common shares, convertible preferred shares, or convertible debt. Preferred shares are usually issued so VCs can convert them into common equity if the company is successful, while still providing them with preference over other investors if the business fails and must be liquidated. Also, preferred shares are used because intercorporate dividends paid by the company to the VCs are not taxable in Canada. Issuing convertible debt gives VCs higher preference if the company is liquidated, but start-ups do generally not need the interest deduction as they are not yet profitable, so this type of security is not typically issued.

**Private Equity Placement**

Securities regulators realize that the formal public placement process is not always needed to protect investors. If securities are sold directly to a limited number of institutional investors and high-net-worth individuals, regulators feel these investors are sophisticated enough to deal with issuers directly without government protection. They also believe that equity issues sold mostly to business insiders and their family, friends, and business associates require less scrutiny because of their involvement in the firm. To help companies raise equity financing more easily with minimal paperwork and government supervision, regulators may exempt companies from having to file a prospectus and allow them to sell exempt securities directly to these investors in a private or direct placement. The same process also applies to securities-based crowdfunding.

Private placements offer several advantages compared to public placements. These include negotiating funding more quickly, lowering issuance costs, being more receptive to smaller, higher-risk issues, being able to hand-pick compatible investors with the desired competencies, diversification of funding sources, and more privacy, including no public disclosure of company information.

Alternatively, exempt securities issued in private placements are much less liquid than those issued in public placements, leading to higher interest costs. Also, private placements are generally for shorter periods and smaller amounts compared to public placements. They have higher lending standards and stricter loan conditions and are more closely monitored by lenders. This is mainly because private placements have traditionally been used by small and medium-sized enterprises (SMEs) with higher risks.

The private placement industry is becoming more sophisticated, and the sizes of placements are increasing. New institutions are forming, such as TSX Private Markets, that bring together issuers and investors in the private placement market and then provide them with an active secondary market to trade their securities, enhancing their liquidity. As a result, private placements are increasingly being used by large public companies as well as SMEs to raise needed debt and equity capital.

**Going Public**

The decision to go public is an important one that has many lasting consequences for a company and its shareholders, directors, and managers. The major advantages and disadvantages include:

**Advantages**

**Higher share price.** Investors will pay more for publicly traded securities than for exempt securities because they are liquid, accurately valued, and easier to use as collateral when applying for a loan or in other business dealings.

**Financial flexibility.** Public companies can raise debt and equity financing more easily due to the larger size of the public market and its greater accessibility. New securities like convertible debt, warrants, or stock options that require a publicly traded share that is liquid and accurately valued can now be issued. Many financial institutions are restricted or prohibited from investing in exempt securities in private companies because of their higher risk and lack of liquidity. Minority investors in private firms also worry about being treated unfairly by controlling shareholders and not having regular access to reliable financial information.

**Lower cost financing.** Investors will accept lower returns on publicly traded securities due to their greater liquidity, which reduces the firm’s cost of capital. Financial institutions are also more likely to lend to companies with access to the public equity markets since shares can be issued quickly to refinance problem loans.

**Personal financial planning.** By going public, a company’s founder can more easily diversify their investment holdings by selling a portion of the business while remaining in control. Eventually, they may decide to exit the business entirely as part of their estate planning.

**Facilitates mergers and acquisitions.** Companies can more aggressively pursue mergers and acquisitions as take-over bids often include both a cash and stock component. Public firms can offer shares, but private companies have to make all-cash offers. Companies are also more likely to be targets of lucrative take-over bids if their shares trade publicly, as the market already provides an accurate valuation of the firm.

**Corporate credibility and visibility.** Free publicity received through press releases, media coverage, stock quotations, earnings announcements, analyst research reports, prospectuses, annual reports, and other public disclosures helps attract new customers, suppliers, employees, creditors, and equity investors.

**Motivation.** A publicly traded share invigorates a company and serves as an important gauge of its ongoing performance. Highly qualified employees can be attracted and retained using stock-based compensation plans such as stock options or performance shares. Publicly traded shares are more effective in these types of plans because they are liquid, accurately valued, and can be easily used as collateral when borrowing funds to exercise stock options.

**Disadvantages**

**Compliance costs.** Going public is expensive with stock exchange listing payments, share registrar and transfer expenditures, investment banking fees, higher accounting, auditing, and legal costs, and the expense of holding annual shareholder meetings. Public companies must establish a proper corporate governance system composed of a professional board of directors and sub-committees that operate independently of management. Regulators and stock exchanges require continuous disclosures of key information including unaudited interim financial reports, audited annual reports, annual information forms, management information circulars, notices of shareholder meetings and voting results, prospectuses, insider trading reports, proxy solicitations, change of auditor notices, take-over bid circulars, issuer bid circulars, changes in percentage ownership, material change reports relating to past disclosures, and numerous news releases. Companies are held accountable for any errors or misrepresentations in these filings, which can be costly. Meeting these disclosure requirements is especially burdensome for smaller corporations whose lower sales do not yet justify these high fixed costs.

**Communications.**  Most public companies have an investor relations department that acts as a liaison with potential investors, shareholders, equity analysts, and members of the financial media. The department ensures these groups are well-informed and tries to present the company favourably, so it has continued access to capital at an affordable rate. CEOs and CFOs must devote considerable time to investor relations, which is a significant distraction from their other duties.

**Disclosure of information.**  Public companies are required to disclose important operational and financial information that they may not want to share with their competitors, governments, or other groups. Financial results, executive compensation, corporate governance practices, and director and management performance reviews are some of the information that must be disclosed.

**Market scrutiny.** Investors heavily scrutinize public companies, so corporate directors and officers must be proactive in preventing instances of insider trading, self-dealing, and nepotism. Regulators require directors and officers to file insider trading reports to detect any misuse of material nonpublic information, but companies need to introduce their own strict rules backed up by a thorough training program. Self-dealing, such as shareholder loans or lucrative contracts with other corporations in which insiders have an ownership stake, needs to be banned. Excessive pay and employment benefits, such as overly generous stock option grants or the use of lavish apartments or corporate jets, must be restricted. Hiring or awarding consulting contracts to friends or family members should be forbidden. Any of these abuses can become a major issue in the media or at the annual shareholder meeting, causing severe embarrassment to the company and a decline in its share price.

**Lack of marketability.** Many small public corporations do not have sufficient trading volume to justify coverage by equity analysts, resulting in reduced market liquidity and a lower share price. The full benefits of going public may not be realized immediately.

**Control.** By going public to access capital, a company’s founder may eventually lose voting control (i.e. over 50% ownership) of their business. As a result, the company’s directors and officers may become preoccupied with proxy fights involving disgruntled shareholders and take-over bids from unwanted suitors. This pressure may eventually lead to insiders taking the company private again in a management buyout. “Going private” transactions also occur because management wants to avoid the high cost of public disclosure, curtail embarrassing market scrutiny, hide poor corporate performance, or adopt a strategy that favours long-term over short-term earnings. Public markets are reputed for severely punishing companies for short-term declines in earnings and dividends instead of allowing them to focus on longer-term goals.

Before deciding to go public, a company should ask itself some important questions:

* Is it a market leader able to attract the interest of underwriters and investors?
* Does it have a strong record of profitability and growth?
* Is a strong business and financial plan in place? Does it have a history of meeting and exceeding its financial projections?
* Does it have a debt-to-equity ratio that adheres to industry averages? Does it have access to temporary and permanent debt financing on an ongoing basis?
* Are the funds raised being used to finance profitable growth opportunities or to pay off debt or existing shareholders?
* Does it have the commitment and management depth to operate publicly?
* Are its financial reporting and internal control systems sufficient to meet the disclosure requirements?
* Will its corporate governance system be adequate?
* Is it ready to endure market scrutiny and potential control issues?

If a company answers “yes” to these questions, it should seriously consider going public with the help of a team of qualified lawyers, accountants, and investment bankers. These professionals will guide them through the process, culminating in regulators approving a final prospectus that allows their shares to trade on a public stock exchange.

In Canada, initial public offerings (IPOs) take place on either the Toronto Stock Exchange (TSX) or the TSX Venture Exchange (TSXV). The TSX is aimed at established businesses who are experienced in public markets, while the TSX Venture provides early-stage and small businesses access to venture capital. To trade publicly on either the TSX or TSXV, companies must meet specific listing requirements relating to earnings, cash flows, net tangible assets, working capital, cash on hand, management experience, governance structure, and market capitalization. As companies grow, they can graduate from TSXV Tier 1 to Tier 2 and eventually the TSX. Each step increases their market profile, share liquidity, and access to capital. TSXV provides mentoring programs to help newly listed companies advance.

**Public Equity Placements**

Potential investors in public equity placements include sophisticated institutional or high-net-worth investors as well as members of the public. Regulators closely monitor the public issuance process to protect less experienced investors and maintain the public’s confidence in the financial markets. These issuances can involve either established companies whose shares already trade publicly, called seasoned, secondary, or follow-on offerings, or businesses selling shares publicly for the first time in an initial public offering (IPO).

Public equity placements are complex, so companies usually retain one or more investment bankers or underwriters to help navigate the process. They prepare a preliminary prospectus or “red herring” followed by a final prospectus that is approved by regulators and contains important financial information about the business and stock transaction. All potential investors must receive a copy of the final prospectus, and if important facts are omitted or misrepresented, issuers and their underwriters can be fined by regulators or sued by the investors affected.

As the preliminary prospectus is reviewed, underwriters attempt to determine the appropriate volume and offering price for the issue by placing advertisements called “tombstone” ads, conducting investor presentations or “roadshows” in major financial centres, or contacting institutional clients and retail brokers directly. The process of determining investor interest is referred to as “book building.” If demand is greater than expected, the issue is said to be oversubscribed. The limited supply of shares is allocated among interested investors, or the issuance price can be increased to reduce demand. If demand is less than expected, the underwriter can reduce the issuance price or withdraw the offer.

To streamline public equity placements, companies whose shares already trade on a public stock exchange can issue new securities using a Short-Form Prospectus Distribution (SFPD). Issuers circulate a basic prospectus to potential investors describing the type of security, amount of the distribution, and issuance price. Disclosure is limited because public companies already provide extensive information in other filings, such as their annual report. Regulators also permit a “shelf” registration, where once a prospectus is approved, companies have up to 25 days to sell the shares so they can better time equity markets. Canada and the U.S have a Multi-Jurisdictional Disclosure System (MJDS) where firms can issue shares concurrently in both countries using the same documentation. Many large domestic firms cross-list their shares in the U.S. as well as Canada to access lower-cost capital, reduce issuance costs, and make their stock more marketable. Finally, regulators host the System for Electronic Documents and Retrieval (SEDAR), which is a central electronic depository for all annual reports, prospectuses, and other information issued by public corporations in Canada.

Once the final prospectus is approved and the volume and offering price are set, the issuer and underwriter agree on a spread, which is the difference between the offering price and what the company receives. The spread is the underwriter’s profit and is exposed to varying levels of risk depending on the underwriting method used. There are four options:

**Firm commitment.** An underwriter buys the entire issue from the company at an agreed-upon price. The company is not exposed to any risk, but the underwriter’s spread can fall and even become negative if the share price declines substantially. Because of this risk, parties may negotiate a market-out clause which allows the underwriter to withdraw the issue.

**Best efforts.** An underwriter agrees to sell shares at the offering price but can return any unsold shares. The company risks not raising all the capital it needs. The underwriter earns the agreed-upon spread but may not sell the volume of shares expected. Best efforts underwriting is used by small issuers who are not well recognized and during periods of market uncertainty when risks are higher.

**Bought deal.** An underwriter agrees to buy the entire issue at a set price and then quickly sells it to a small group of institutional investors. The spread is smaller because of lower issuance costs due to the limited number of investors involved and the speed of the transaction. The deal is executed quickly, so the underwriter is not exposed to the risk of falling equity prices.

**Dutch auction.** An offering price is not established, and the underwriter sells shares using a competitive bidding process. Interested investors submit bids indicating the number of shares they want to buy and at what price. The lowest price which results in the entire issue being sold is accepted by the underwriter and is paid by all successful bidders. This system encourages potential investors to place more competitive bids, knowing they will receive the lowest price. Issuers benefit from higher bid prices.

Instead of taking responsibility for selling the entire issue themselves, an underwriter can become the lead manager and recruit a syndicate or banking group made up of other underwriters that help sell the issue and share any risks. If additional help is needed, a selling group can be recruited that focuses on retail investors. The number of shares allocated to each syndicate member varies with their size and prestige. When many underwriters are involved, this is referred to as broad syndication, while a limited distribution or sole distribution includes a few or only one member. Broad syndications provide the issuer with the greatest control over the distribution process and the most market exposure, resulting in the highest share price. Transaction costs are higher, and the process is slower, so a limited or sole distribution may be the better option. Regardless, issuers should recruit the most reputable underwriters possible who have the specialized financial knowledge and industry contacts needed to sell the desired volume of securities at the best price possible while charging a reasonable spread.

For firm commitment and best efforts underwriting, syndicate members agree not to sell shares for less than the offering price during the selling period. The syndicate’s lead manager may buy shares during this period to support the market price and keep it above the offering price. If demand is strong, syndicate members may have an overallotment option that allows them to receive more shares than they were initially allocated to satisfy client demand. For firm commitment underwriting, once the selling period is over and the syndicate is dissolved, members can sell their shares at the current market price or wait till prices possibly improve. If best efforts underwriting is used, the unsold shares are returned to the issuer.

To promote the integrity of the financial markets, issuers and underwriters respect a “quiet period” when an IPO is being sold. During this time, issuers limit corporate disclosures to routine financial information. This focuses investors more on the company’s final prospectus when making investment decisions and discourages issuers and underwriters from trying to influence them by making exaggerated performance claims or issuing strong buy recommendations. Most IPOs also have lockup agreements where insiders, such as the issuing company’s founder or managers, are unable to sell their shares for approximately six months to support the share price and demonstrate their continued commitment to the business. Eventually, insiders will sell all or a portion of their shares to diversify their holdings or to redeploy capital to other projects, which places downward pressure on the share price.

New equity is generally issued in large amounts all at once by established underwriters. Some companies do use “dribble out” equity programs where funds are raised in smaller quantities to save on underwriting costs and profit from timing the equity markets. Companies should be careful to issue shares during bull markets when prices are overvalued and avoid bear markets when they are undervalued. They should also not sell shares when there is a lot of competition from other equity issuances.

**Trading Shares in the Secondary Market**

Once shares are issued in a public placement in the primary market, they trade in the secondary stock market through an organized stock exchange or, increasingly, an alternative trading system (ATS). Shares trading in an active secondary market are more attractive to investors as they provide greater liquidity. Major corporations can enhance this liquidity by cross-listing their shares on multiple exchanges. Stock exchanges also supply up-to-date share price data because of the continuous trading, so it is easier for companies to raise capital in seasoned offerings or execute other stock transactions such as share repurchases or take-over bids.

Most stock exchanges have become public companies that trade on their exchanges, but some are still non-profit organizations controlled by their members. Members consist of brokerage units from the different investment banks and other financial institutions that trade stocks on the exchange. Each participant rents or purchases a “seat,” which allows them to buy and sell shares for their clients. Historically, shares were traded on a physical trading floor using an “open outcry” auction. A client would initiate a buy order through a member firm’s network of stockbrokers, which was sent to the floor of the exchange. On the trading floor, this order would be matched against one or more sell orders from clients of other members. Share prices adjust in response to supply and demand forces on the floor to clear the market.

Trading was done through a “specialist” or “designated market maker” who was physically present on the trading floor and stood ready to buy or sell shares on their account to maintain market liquidity if willing buyers or sellers could not be immediately found. Most specialists made a market in the shares of five to ten companies. Instead of providing a single price quotation, specialists gave a bid price and an ask price for each share. The bid price is what the specialist would pay for a share, and the ask price is what they would sell it for. The spread between the bid and ask prices was the specialist’s profit. Because buy and sell orders could not be perfectly matched at all points in time, specialists maintained an inventory of securities so they could quickly fill orders. A small spread indicated that the market in the stock was competitive, and there was less risk of the specialist holding inventory when the share price dropped. Specialists were physically located at a spot on the exchange floor called a “post” where floor traders from the different member firms came to learn the current bid/ask prices and execute their orders.

With improvements in technology, most physical trading floors and specialists have been replaced by electronic trading systems at the stock exchanges. These systems automatically match the bid/ask prices of buy/sell orders following standard trading rules. Electronic trading offers many advantages compared to floor-based trading systems, including:

* Faster trade execution in response to market and company events.
* Lower trading costs as orders are usually matched automatically without the assistance of a specialist.
* Strict adherence to an exchange’s trading rules.
* More accurate and timely reporting of share price and volume data.
* Greater client confidentiality, especially for large trades that can cause a material change in the share’s price.
* Trading occurs on a 24/7 basis regardless of weather or other disruptions.

An important trend is the emergence of electronic communication networks (ECNs) that bypass the stock exchanges when matching buy and sell orders. This further lowers trading costs and allows transactions to occur outside regular trading hours in response to new market information or to provide more convenient trading times in different time zones. In Canada, the TSX and TSV account for 55% of the market value of all shares traded, which is declining as ATS, especially ECNs, expand their operations.

In the U.S., the two leading exchanges are the New York Stock Exchange (NYSE) and the National Association of Securities Dealers Automated Quotation System (NASDAQ). NYSE is both an auction market between designated market makers and traders on a physical trading floor and an electronic trading system where the bid/ask prices of buy/sell orders are automatically matched. All trading on the NASDAQ is done through market makers who create a market for their listed shares by quoting bid/ask prices. In Canada, the TSX and TSV dominate the market and operate on an auction basis using electronic trading only.

Stock exchanges provide traders with timely price and volume data for all their listed companies and carefully police the actions of both groups to ensure they are adhering to the exchange’s trading rules and provincial regulatory requirements. TSX or TSV-listed companies must comply with the TSX Company Manual and the Government of Ontario’s Securities Act.

**Exhibit 9: Canadian Tire Corporation**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Company**  **2 June 2020** | **Symbol** | **Daily** | | | | | **Net Change** | **52-Week High** | **52-Week Low** | **P/E Ratio** |
| **Open** | **High** | **Low** | **Close** | **Volume** |
| .Canadian Tire | CTC.A | 118.27 | 124.35 | 118.27 | 123.85 | 574,150 | +5.58 | 157.36 | 67.15 | 10.42 |

Exchanges also publish stock indexes for their listed companies. In Canada, the S&P/TSX Composite Index measures the price of the approximately 250 largest of the 1,500 companies listed on the TSX. The S&P/TSX Venture Composite Index measures the price of the approximately 400 largest of the 1,600 companies listed on the TSXV. The NASDAQ Composite Index measures the price of securities on that exchange, while the NASDAQ 100 measures the price of its top 100 companies. Other indices, such as the S&P 500 or Russell 3000, are provided by financial information companies and include shares traded on different stock exchanges.

The S&P/TSX Composite, S&P 500, and Russell 3000 are referred to as broad-based indexes because they are designed to reflect the entire stock market, but most stock exchanges or financial information providers subdivide their broad-based indexes to provide more specific information to investors. For example, the S&P/TSX Composite Index is subdivided into sector indexes, including financials, energy, materials, industrials, information technology, communication services, utilities, consumer staples, consumer discretionary, and health care. The prices of some sectors vary considerably over the business cycle, so these sub-indexes are monitored closely by analysts who hope to buy at the low point of the cycle and sell at the high point in a strategy called sector rotation. Others wish to invest early in sectors such as information technology or health that are outperforming the overall market due to current technological or demographic trends. Style indexes cater to specific investment styles such as investing in growth, value, small-cap, mid-cap, and large-cap firms.

Growth companies generate significant earnings that increase at a faster pace than the overall economy. These firms reinvest most of their earnings in new projects, and investors pay high P/E multiples because of their growth prospects. Value companies currently trade below their intrinsic values due to stock market inefficiencies, resulting in low P/E multiples. Some investors follow a growth style or strategy, expecting the growth rate to increase further, leading to even higher share prices and P/E multiples. Others follow a value style or strategy, thinking the undervalued shares will eventually rise to their intrinsic values. Investors disagree as to which investment style offers the best returns. Research seems to support the value style as investors tend to overpay for “hot” growth companies and ignore troubled value firms. Investors in small-cap and mid-cap firms pay higher returns to compensate for their greater risk due to their smaller size.

Most stock indexes are weighted based on their market capitalization, which means more emphasis is placed on the performance of companies with high total market values. In the index’s base year, the total market value of the index is calculated by summing the current market value of each share times the number of shares outstanding. This amount is divided into the total market value of the index in any future year and multiplied by 1,000 to determine the value of the index in that future year. A basic stock index does not include any dividends paid, so any rates of return are unreliable. A total return index corrects this error by assuming all dividends are reinvested in company stock. Indexes are also rebalanced over time to update the weights used or reconstructed to eliminate any companies that have been acquired, gone bankrupt, or no longer meet the characteristics of the index, such as small-cap or value.

**Common and Preferred Shares**

If a company decides to issue new shares because of a lack of retained earnings, it must choose between common and preferred shares. These securities have very different characteristics from the issuing company’s perspective. Common shares:

* Entitles the holder to receive all residual profits of the business.
* Are not obligated to pay dividends if funds are needed internally.
* Can vote in board elections or on major decisions such as corporate take-overs.
* Typically have preemptive rights that allow shareholders to maintain their current percentage ownership by purchasing a portion of any new issuances.
* May assign their voting rights or proxy to management or another shareholder group that is opposing management on key issues.
* Can be divided into multiple share classes with different voting rights, so a shareholder group, such as the company’s founder, can maintain control.

Multiple share classes with different voting rights can consist of non-voting shares, restricted voting shares that limit the number of shares in a class that can be voted, or subordinate voting shares that receive only one vote per share, while multiple voting shares receive more than one vote per share. Non-voting or restricted voting shares receive the same dividend as voting shares, are treated the same if the company is liquidated, and may have coattail provisions that allow them to be converted into voting shares so they can participate in major corporate decisions like a take-over bid.

Non-voting, restricted, or subordinate voting shares trade at a significant discount to voting or multiple voting shares because of their limited voting rights. Many countries do not permit these types of shares as they treat most investors unfairly and reduce economic efficiency by enabling a company’s founder to retain control even when they do not have the skills to manage the business properly. Despite serious reservations, regulators in Canada do allow varying voting rights because more Canadian firms can remain independent and not be acquired by larger multinational firms. Independent companies tend to keep their high-paying head office and research and development jobs in Canada, and help protect Canadian economic sovereignty.

Preferred shares have:

* No voting rights, so there is no potential loss of control for common shareholders.
* No dilution of EPS since preferred shareholders are not owners and only provide financing in exchange for regular dividends.
* Preference over common shareholders if the company is liquidated. They will receive the preferred shares’ stated or par value, the current year’s dividend, and any dividends in arrears before any funds are paid to the common shareholders.
* Fixed dividends, adjustable or floating rate dividends based on a benchmark rate, or participating dividends.
* Ability to delay the payment of dividends indefinitely without being forced into bankruptcy.
* Conversion features that allow investors to convert their shares into common shares to take advantage of rising equity prices.
* Redemption features that force the company to buy back an investor’s shares at their request if interest rates rise.
* Call features so companies can replace or refinance shares if interest rates fall.
* Term features that require regular sinking or purchase fund payments to retire shares over a specified period.

Fixed preferred share dividends can be expressed as a dollar amount per share or a percentage of a share’s stated or par value. Some preferred shares are participating, which means they receive an additional dividend if the common share dividend is above a specified level or, in certain circumstances, such as a corporate takeover, but the majority are non-participating. Preferred dividend payments can be delayed indefinitely, but these dividends are nearly always cumulative, which means dividends in arrears must be paid in full before any common share dividends can be distributed. Also, preferred shareholders can usually vote like common shareholders if their dividends are in arrears, so companies have a strong incentive to pay these dividends on time.

A possible reason to issue preferred shares instead of common shares is to maintain corporate control, since preferred shareholders cannot vote. But this can be achieved by issuing non-voting, restricted, or subordinate voting common shares in Canada, so there must be a more important motive. Preferred shares are an alternative to debt financing as they have many of the same features as bonds, including:

* No voting rights.
* A fixed or adjustable-rate dividend that is usually always paid.
* Conversion, redemption, and call features.
* Limited terms with sinking or purchase fund requirements.
* Preference over common shareholders in liquidation.
* Preferred share ratings that are provided by the same bond rating services.

**Choice of Preferred Share or Debt**

Preferred shares are used instead of bonds when a company has an excessive amount of operating or financial leverage and cyclical cash flows and is concerned about being able to pay its fixed debt obligations in an economic downturn. Preferred shares give companies the flexibility to defer their dividend payments instead of declaring bankruptcy for non-payment, like with bonds. This added safety is reflected in the company’s debt ratio as preferred shares are usually classified as equity and not debt. Preferred shares also have the added advantage of usually not requiring sinking or purchase fund payments or collateral, which is important to companies experiencing liquidity problems.

Preferred share financing is usually more expensive than debt financing because it is subordinate in liquidation and therefore riskier; issuance costs are higher since riskier investments are more difficult to sell; and dividends are not tax-deductible by companies like interest. For firms with unstable cash flows, the safety provided by preferred shares may be worth the higher costs. Issuers should be careful when deciding between issuing debt or preferred shares, as sometimes preferred shares are the most cost-effective option. Young or high-growth companies or those experiencing financial distress cannot take advantage of the deductibility of interest, making the cost differential between debt and preferred shares much smaller or non-existent. A large percentage of preferred shares are sold using private placements, which significantly reduces issuance costs. Finally, intercorporate dividends between Canadian Controlled Private Corporations are not taxable, which reduces the required return on preferred shares.

* 1. **| More on Efficient Capital Markets**

The efficient market hypothesis (EMH) asserts that stocks are always fairly priced, so it is impossible to “beat the market” or earn “alpha” by engaging in active portfolio management. Given the considerable resources investment firms devote to stock analysis, the large amount of economic and company data available, and the speed at which stock can be traded, this is a reasonable assertion. EMH identifies three degrees of financial market efficiency.

**Strong form efficiency.** Stock prices reflect all public and non-public information about a company, so no insider information exists that can be used to earn abnormal returns. Insider information is material, non-public or confidential information about a company that is only known to its key personnel, such as members of the board of directors or senior management.

**Semi-strong form efficiency.** Stock prices only reflect public information and react quickly to non-public information as it is disclosed. Insider trading occurs when investors trade in a company’s shares while in possession of material, non-public information, or “tip” others. Securities regulators try to stop these behaviours to maintain investor confidence and the integrity of the financial markets. Companies also establish their internal procedures to prevent and publicly disclose any “leaks” of insider information quickly. Both insider trading and “tipping” are criminal offences in Canada that can result in hefty fines and lengthy prison terms.

**Weak form efficiency.** Stock prices reflect historical price and volume information.

Research shows that stock markets are weak-form efficient, so traders are not able to earn abnormal returns using technical analysis or charting. Technical analysis employs historical stock price and volume data to identify price trends and short-term trading opportunities. Markets are not strong-form efficient, so companies need to protect their corporate information, and regulators must vigorously prosecute cases of insider trading. Markets are semi-strong efficient as it is difficult to consistently earn abnormal returns greater than those indicated by the security markets line.

Passive investors believe markets are efficient and typically invest in mutual funds or exchange-traded funds (ETFs) that replicate a stock market index. Active investors think they can earn abnormal returns by finding mispriced shares with either fundamental or technical analysis. Fundamental analysis uses macroeconomic, industry, and company data to estimate a stock’s intrinsic value employing the income or market multiples approaches discussed. Using either method, if the share price is lower than its intrinsic value, an analyst will issue a buy recommendation, believing the company is undervalued. The opposite will happen if the share price is trading above its intrinsic value. Continuous trading in search of abnormal returns causes significant stock turnover in the investor’s portfolio. This trading results in high trading costs and taxes, as capital gains taxes are not being deferred.

Research indicates that passive investment management generates higher returns than active management after including asset management costs and taxes, so active management is not justified. To be successful, investors should focus on reducing their management expense ratios by adopting an indexing strategy and practicing tax-efficient investing. The ability to “beat the market” or earn “alpha” by using public information has been removed, so stock markets are semi-strong form efficient.