CAPITAL

- A fancy word for money
- Characteristics: **mobile, sensitive, scarce**
- **Direct investing** – when investments are made in "hard" assets… like buildings, machinery, equipment
- **Indirect investing** – purchases of securities issued (which means sold) by governments or corporations
- This course is all about indirect investing

SOURCES AND USERS OF CAPITAL

- Individuals – domestic and foreign
- Businesses – stocks and bonds
- Government – Federal, Provincial & Municipal… budget surpluses & deficits

MAJOR INSTRUMENTS

- Debt or Fixed Income… Bonds versus Debentures
- Equities – Common and Preferred Shares
- Investment Funds – Mutual Funds
- Derivative Products – Options & Futures and Forwards
- Others – include linked notes and ETFs

PRIVATE EQUITY

- The financing of firms unwilling or unable to find capital using public means. The asset class includes both debt and equity; long-term returns for private equity typically exceed other asset classes because private equity tends to be riskier

- There are several means by which private equity investors finance firms:
    1. Leveraged buyout – the acquisition of companies financed with debt and equity
    2. Growth capital – financing expanding firms
    3. Turnaround – out of favour industries that need operating restructuring
    4. Early stage venture capital – industries/companies in the infancy stages of development
    5. Late stage venture capital – more established, rapidly growing firms that are still *not* profitable
    6. Distressed debt – buying bonds below par due to financial troubles at the firm

- Private equity investors are typically: public pension plans, private pension plans, endowments, foundations, and wealthy individuals and families

- The role of private equity in a portfolio context is to provide return enhancement and diversification benefits

FINANCIAL MARKETS

- **Primary market**… money flows from investors to issuing company or issuing government unit

- **Secondary market**… money flows from investors to other investors

AUCTION MARKETS IN CANADA

- Markets can be divided into auction and dealer markets

- When a trade is made, the price represents the lowest price a seller is willing to sell at and the highest price a buyer is willing to buy at

- The **bid** is the highest price a buyer is willing to pay

- The **offer** (or **ask**) is the lowest price a seller will accept

- The **spread** is the difference between the bid and ask prices. The **last price** is the price at which the last trade on that stock took place

- **Stock Exchanges** – the name says it all. A "place" to exchange stock!

CHARACTERISTICS OF A LIQUID MARKET

- Frequent sales

- Narrow spread between bid and ask

Example: $20.25 – $20.30 is a "typical" bid-ask. This tells the market that if you currently own the security and want to sell it right now, someone will give you $20.25. If you do *not* own the security and would like to buy it, you must pay $20.30.

(For valuation purposes, if you own a security you would value it at the bid price. If you are "short" a security, you would value it at the ask price.)

- Small price fluctuations from sale to sale

CANADIAN EXCHANGES

- **Toronto Stock Exchange (TSX)** lists senior equities, some convertible debt instruments, income trusts and ETFs

- **TSX Venture Exchange** – junior equities and a few debentures

- The **Alpha Exchange** lists equities, debentures, ETFs and structured products. It will also offer trading in TSX and TSX Venture Exchange securities

- The **Canadian Securities Exchange (CSE)** – equities of emerging companies

- **Montreal Exchange (MX)** – financial and equity futures and options

- **ICE Futures Canada** – agricultural futures and options

- **Natural Gas Exchange (NGX)** provides electronic trading and clearing to the North American natural gas and electricity markets

DEALER MARKETS

- Network of dealers who trade via telephone and/or computers with the dealer acting as a market maker

- Market maker's role: "Make a market" by posting a bid-ask and guaranteeing liquidity on a given issue

- Key Terms
    1. **Canadian Unlisted Board (CUB)**: internet based system for dealers to report completed trades in unlisted and unquoted equity securities
    2. **Alternative Trading Systems (ATSs)**: privately owned computerized facilities that match buy and sell orders outside of recognized exchanges
    3. **CanDeal**: fixed income trading system, a joint venture between Canada's six largest investment dealer, both an ATS and an investment dealer
    4. **CBID**: a member of IIROC and an ATS, it operates two distinct fixed-income marketplaces, retail and institutional
    5. **CanPX**: joint venture of IIAC/IIROC, it's an information processor for government and corporate debt securities, providing real-time bid and offer prices and hourly trades

FINANCIAL INTERMEDIARIES

- Investment Dealers… act on behalf of clients (agents) or risk their own capital (principals)

- Types of firms:
  1. Institutional firms – specialized services for the institutional market
  2. Retail firms – full-service firms (investment advice) and discount brokerage (trading services)
  3. Integrated firms – combine institutional and retail operations under one roof

- Organization within firms:

  1. Management. Usually includes a chairman, president, an executive vice-president and directors

  2. Front Office. Includes all staff functions pertaining directly to portfolio management activity – including sales and trading

  3. Middle Office. Typical duties include compliance, accounting, audits and legalities

  4. Back office. Trade settlement function

PRINCIPAL VERSUS AGENCY FUNCTIONS

- Most of the time, securities firms act as agents, buying and selling on behalf of clients without taking title (ownership) to those securities. Broker is a synonym for agent

- Securities firms *tend* to act as principals in the underwriting function (this is the primary market) and in secondary trading of non-equity securities (fixed income products)… "generally, most secondary trading of debt securities is conducted with the securities firm acting as principal…"

- When acting as a **broker**, a securities firm is an agent in a secondary securities transaction. However, the term "broker" may be used interchangeably to describe an investment dealer acting as a principal or an agent

THE CLEARING SYSTEM

- During the day, an exchange member will buy and sell many different listed stocks. A designated clearing systems handles the daily settlement process between members, which means exchanging securities for cash

- Securities in Canada are cleared through **CDS "Clearing and Depository Securities Inc. (CDS)**. Marketplaces like the TSX and TSX Venture and ATSs report trades to CDS's clearing and settlement. Participants with access to the clearing system include banks, investment dealers and trust companies

- The clearing system reduces the number of securities and amount of cash that has to change hands among the various members each day

BANKS AS FINANCIAL INTERMEDIARIES

- Banks operate under the Bank Act, which specifies what they can and cannot do. Banks are the *most* important player in the Canadian Securities Industry and each Bank is designated as either Schedule I, Schedule II or Schedule III

- **Schedule I Banks**: *most* Canadian owned banks are designated Schedule I. There are ownership rules – voting shares must be widely held and subject to no more than 20% ownership by any individual or group. There are 23 Schedule I Banks altogether – including Royal Bank, CIBC, TD, Bank of Nova Scotia and Bank of Montreal

- **Schedule II Banks**: incorporated and operate in Canada, but are owned by a foreign parent – examples include Citibank Canada, AMEX Bank of Canada and BNP Paribas (Canada). By law, may engage in all types of business permitted to a Schedule I Bank; however *most* derive their greatest share of revenue from retail banking and electronic financial services

- **Schedule III Banks**: foreign bank branches of foreign institutions. Schedule III banks tend to focus on corporate and institutional finance and investment banking

- Controls that inhibit information sharing between various business units are known as Information Barriers or **Firewalls**

OTHER PLAYERS

- Trust and Loan Companies – most larger ones are subsidiaries of Schedule I Banks

- Credit Unions and Caisses Populaires – co-operatively owned institutions, organized along employment, neighbourhood or ethnic-origin lines

- Insurance Companies – a recent trend is demutualization where the policyholders of the company and the owners of the company are two different groups. Life insurance companies tend to invest in mortgages and long-term bonds

- Investment Funds – may be closed-ended or open-ended

- Savings Banks – operate in Alberta

- Sales finance and consumer loan companies

- Pension plans – CPP & QPP, cover all Canadian workers. Other workplace sponsored retirement plans and trusteed pension plans also included

THE REGULATORS

- **OSFI** – Office of the Superintendent of Financial Institutions, established in 1987 to regulate banks, insurance, trust, loan and investment companies. Also supervises 1,000 federally regulated pension plans

- **CDIC** – Canada Deposit Insurance Corporation is a federal Crown Corporation that provides deposit insurance up to $100,000 per depositor

- Provincial Regulators – the regulation of the securities industry is a provincial responsibility. Ontario's regulator is the Ontario Securities Commission. The 13 securities regulators of Canada's provinces and territories joined together to form the **Canadian Securities Administrators (CSA)**

- **SROs** – Self-Regulatory Organizations – are industry organizations that regulate their own members. Canada's SROs include the Investment Industry Regulatory Organization of Canada (**IIROC**), and the Mutual Fund Dealers' Association (**MFDA**). SRO regulations apply in addition to provincial regulations. If an SRO rule differs from a provincial rule, the *more* stringent rule applies

- SRO regulation is divided between member regulation and market regulation

IIROC

- IIROC's mandate is to "set high quality regulatory and investment industry standards, protect investors, and strengthen market integrity"

- IIROC is involved with financial compliance, business conduct compliance, registration and enforcement

- IIROC's market surveillance includes real time monitoring of trading activity on the TSX, TSX Venture, the CNSX, and other platforms. It also ensures that dealer members comply with the timely disclosure of information by publicly traded companies, and carries out trading analysis with the Universal Market Integrity Rules (UMIR)

CANADIAN INVESTOR PROTECTION FUND

- CIPF protects customers in the event of the bankruptcy of a member firm. This means that if you are holding assets at a member firm and it declares bankruptcy, your holdings will be insured up to $1,000,000 per "type" of account

- CIPF does *not* protect against "normal" market losses!

- General accounts versus separate accounts – the $1,000,000 protection is for "combined" accounts.

EXAMPLE: Mr. Huang has $500,000 in a Canadian dollar trading account and $750,000 in an American dollar trading account. As well, he has $450,000 in an RRSP Account. His maximum protection under CIPF would be: $1,450,000. The trading accounts would be "combined" to arrive at a total of $1,000,000 in protection and his RRSP Account would receive up to an additional $1,000,000 in protection.

If you're unsure about when to combine accounts, think of the tax treatment. For example, Mr. Huang's trading gains in both Canadian and American dollars would be fully taxable (therefore combined); the gains in the RRSP are *not* taxable until the money would be withdrawn

- The maximum that CIPF will pay to a customer is the shortfall between any available cash and securities that the customer is entitled to and the assets of the dealer.

EXAMPLE: Meera Singh has $2 million with DEF Investment Dealer and it declares bankruptcy. DEF has assets of $60 million but owes $100 million. Meera would get $1.2 million from DEF (assets cover 60% of liabilities) and the remaining $800,000 from CIPF

- The MFDA Investor Protection Corporation (MFDA IPC) provides protection for eligible customers of insolvent MFDA member firms. Coverage provided is limited to $1,000,000 per customer account – similar to CIPF

DISPUTE RESOLUTION

- **Arbitration** is an option for clients who feel that they have been treated unfairly. An independent arbitrator listens to the facts, decides how the dispute should be resolved, and decides what penalty/remedy should be imposed. To be eligible for arbitration: The client must have first tried to have resolved the issue and the claim is $100,000 or less. Decisions are binding on both parties

- **Ombudsman for Banking Services and Investments (OBSI)** – independent of the financial services industry, its final decision is *not* binding for either the investor or the financial services provider

PRINCIPLES OF SECURITIES LEGISLATION

- "Full, true and plain disclosure of all material facts"

- Securities acts protect the public in three ways:
    1. Registration of securities dealers and advisors
    2. Disclosure of facts necessary to make informed decisions
    3. Enforcement of laws and policies

NATIONAL REGISTRATION DATABASE

- **The National Registration Database (NRD)** is a web-based system to file registration forms electronically. It is designed to enable a single electronic submission satisfy all jurisdictions in Canada. Both the IA and dealer member are required to notify the applicable SROs in writing of any material changes in the original answers to the questions on the NRD application (such as change of address)

- **Gatekeepers** in the securities industry include dealers and all of their employees, particularly in front line roles. A gatekeeper must: Collect and record client information to identify potentially suspicious clients; monitor activity in client accounts for possible illegal transactions; and report any transactions or proposed transactions in client accounts that are suspicious

- Money laundering, terrorist financing, financial fraud and illegal trading are of particular concern to gatekeepers

KNOW YOUR CLIENT

- "**Know Your Client**" – the SROs require that member firms and their investment advisors learn the essential facts relative to every client, ensure that each order is within the bounds of good business practice, and ensure that recommendations are appropriate for each client's situation

- First step in complying with KYC is completion of a **New Account Application Form**. A partner, director, officer or branch manager must approve the application prior to or promptly after the first transaction

CLIENT RELATIONSHIP MODEL (CRM)

- IIROC introduced new requirements for dealers in 2012, requiring greater disclosure requirements for advisors

- Firms are required to develop and maintain policies to identify, disclose and address existing and potential material conflicts involving clients. Firms must either: **Avoid the conflict** or **disclose the conflict** or **Otherwise control the conflict of interest situation**

- CRM Guidelines require that the suitability of an investment decision be conducted whenever any of these trigger events occur: a trade is accepted; a recommendation is made; securities are transferred or deposited to an account; there is a change of representative or portfolio manager; there is a material change to the KYC information for the account

UNETHICAL TRADING PRACTICES

- **Window dressing** – deliberately causing the last sale for the day in a security to be higher than warranted by market conditions

- **Bucketing** – confirming a transaction when none has been made

- **Front running** – taking the opposite sides of clients (that is, selling your securities when a client is buying) or trading prior to a client

CONTINUOUS PUBLIC DISCLOSURE

- "Reporting issuers" must comply with **continuous public disclosure** requirements of the acts. Any **material changes** must be reported promptly – these are changes that would be expected to have an effect on the market value of the shares

- TSX Senior Issues – comparative audited annual financial statements within 90 days of year end and comparative unaudited financial statements with 45 days of the end of each quarter

- TSX Venture Exchange Issues – comparative audited annual financial statements within 120 days of year end and comparative unaudited financial statements with 60 days of the end of each quarter

STATUTORY RIGHTS FOR INVESTORS

- These rights are for purchases on the primary market only, if the securities are issued in Canada under prospectus requirements

- **Right of Withdrawal** – within two business days after receipt of a prospectus, the purchaser can get out of the deal, no questions asked

- **Right of Rescission** – must be brought within 180 days of the date of transaction and only if the prospectus contained a misrepresentation or material omission

- **Right of Action for Damages** – if investor is financially damaged because of a misrepresentation or material omission, the investor may sue the issuer, the directors of the issuer, the investment advisor, the investment advisor's company, any expert (auditor, lawyer, geologist) whose mistake or misrepresentation damaged them financially

PROXIES AND PROXY SOLICITATION

- Shareholders have the right to vote at the company's annual general meeting. If they cannot attend in person, they may vote by proxy

- A **proxy** is a power of attorney. It must be in writing and signed by the shareholder, and it authorizes another person to vote for the shareholder

TAKEOVER BIDS

- An offer to shareholders to purchase the shares that will result in an ownership position of 20% or greater of the voting shares

- Takeover bids must comply with a number of requirements:
    1. Must be made to all holders.
    2. Must be accompanied by a **takeover bid circular**
    3. A **directors' circular** must be sent out within 15 days of the takeover bid, with a recommendation to accept or reject

- If takeover is for less than 100% and more shares are offered than the acquiring company wants to buy, then shares must be taken up on a pro rata (proportionate) basis

INSIDER TRADING

- **<u>Insiders</u>** are…
    1. Directors or senior officers
    2. People/entities with 10% or more voting shares
    3. Directors or senior officers of subsidiaries/related companies
    4. The reporting issuer itself

- Rules governing insider trading: Insiders may *not* trade based on material, nonpublic information. Insiders *must* report the extent of their direct and indirect holdings, and *must* report changes within five days of the change/trade to the administrators

FOUNDATIONS OF ECONOMICS

- Two branches of economics – **microeconomics** and **macroeconomics**

- **Microeconomics:** analyzes the market behaviour of individual consumers and firms and how prices are determined

- **Microeconomics** seeks to answer questions such as: How do minimum wage laws affect the supply of labour and profit margins? How will a new tax on mutual funds affect their sales?

- **Macroeconomics** focuses on the performance of the economy as a whole – issues like unemployment, inflation, recessions, government spending and taxation, poverty and inequality, and government deficits

- **Macroeconomics** seeks to answer questions such as: Why did output shrink last quarter? Will lower interest rates stimulate the economy?

- The Law of Demand states: The higher the price, the lower the quantity demanded

- The Law of Supply states: The higher the price, the greater the quantity supplied

- In a market economy, prices are established by **supply and demand**. If **demand** increases (relative to **supply**) prices increase… if **supply** increases (relative to **demand**) prices fall. The **equilibrium** price is set where **demand** and **supply** are equal

ECONOMIC GROWTH

- **Gross domestic product (GDP)** is the value of all goods and services produced in a country in a given time period, usually a quarter or year

- Two approaches to measuring **GDP** – the **income approach** and **expenditure** approach. **Expenditure** approach: C + I + G + (X – M) **Income** approach: Looks at total income earned

- **Nominal GDP** is the value of all goods and services produced in that year at that year's prices. **Real GDP** is the dollar value of all goods and services valued at prices in some base year

ECONOMIC GROWTH

- **Growth in GDP** results from…
  Increases in population
  Increases in the capital stock
  Improvements in technology

- If productivity growth exceeds increases in the unit costs of production, firms are able to lower the prices of the goods and services they sell

- The analysis of long-term trends in GDP growth is important. Countries with higher expected growth rates can provide investors with superior investment returns

THE BUSINESS CYCLE

- "Average" economic growth is 3.0% per year… but this growth does *not* occur at a constant rate. Rather, it varies over the business cycle – which has five distinct phases

- **Expansion:** in times of normal growth, the economy is steadily expanding… inflation is stable… businesses are investing in new capacity… corporate profits are rising… business start-ups outnumber bankruptcies… stock market is strong… good job creation with steady or falling unemployment. Growth rate of real GDP is rising

- **Peak:** final stage of expansion, demand begins to outstrip the economy's capacity to supply it. Labour and product shortages cause wage increases and inflation… interest rates rise and bond prices fall… business investment is dampened… retail sales decline (particularly of big-ticket items like cars and houses)… leading to falling profits and declining stock prices

- **Contraction:** level of economic activity declines as measured by real GDP… layoffs occur… business failures outnumber start-ups… higher defaults of corporate borrowers

- **Trough:** the recessionary conditions lead to falling inflation which leads to lower interest rates which triggers a bond rally. Consumers who postponed purchases are spurred by lower interest rates to invest… stock prices rally

- **Recovery:** GDP returns to its previous peak, beginning with the purchase of interest-rate sensitive items like cars and houses… capacity utilization is still low so prices remain stable… unemployment is still high so wage pressures are restrained

ECONOMIC INDICATORS

- **Leading indicators** peak and trough before the overall economy
  Most important leading indicators: housing starts, manufacturers' new orders, commodity prices, average hours worked per week, stock prices and the money supply

- **Coincident indicators** change at the same time and direction as the whole economy
  Most important coincident indicators: personal income, GDP, industrial production and retail sales

- **Lagging indicators** change after the economy as a whole changes
  Most important lagging indicators: unemployment, private sector plant and equipment spending, business loans, labour costs, and inflation

- **Leading indicators** tell us where we're going, **coincident indicators** where we are and **lagging indicators** where we were. For this reason, **leading indicators** are thought to be the *most* important indicators and receive the greatest attention

RECESSIONS

- Popular definition: at least two declining quarters of real GDP

- Statistics Canada definition: judged by the depth, duration and decline of business activity

- If the economy is over-heating, rather than raising interest rates so high that the economy goes into recession, public policy makers aim for a **soft landing** – a business cycle phase where economic growth slows sharply but does *not* turn negative

CANADIAN LABOUR MARKET

- Key labour market indicators:
    1. **Participation rate** – the share of the working-age population that is in the labour force
    2. **Unemployment rate** – represents the share of the labour force that is unemployed and actively looking for work. If you are unemployed and *not* actively looking for work, you are *not* considered unemployed

- **Discouraged workers** are individuals available and willing to work but who cannot find jobs and have *not* made specific efforts to find jobs in the past month. They are *not* included as part of the labour force, therefore they are *not* considered unemployed!

- Types of unemployment:
    1. **Cyclical** – tied directly to the business cycle… high during recessionary conditions, lower during periods of expansion
    2. **Frictional** – result of normal labour turnover. Part of a normal, healthy economy
    3. **Structural** – when workers are unable to find jobs because they lack the necessary skills, do *not* live where the jobs are available, or choose *not* to work at that wage rate. Structural unemployment tends to last longer than frictional unemployment and is part of a normal, healthy economy

- **Full employment** occurs when there is only **frictional** and **structural** unemployment, but no **cyclical** unemployment. **Full employment** is also known as the **natural unemployment rate**

INTEREST RATES

- One of the *most* important financial variables affecting securities markets

- Determinants of interest rates:
    1. Demand and supply of capital
    2. Default risk – the higher it is, the more expensive that money becomes
    3. Foreign interest rates and the exchange rate
    4. Central bank credibility – the Bank can act to lower or raise short-term rates directly and influence long-term rates in the process.
    5. Inflation – the higher the expected inflation rate, the higher the interest rates

- Interest rates affect the economy:
    1. The cost of capital for business. The higher, the *less* likely businesses are going to borrow and invest for the future
    2. Higher interest rates discourage consumers from spending on big ticket items like cars and houses
    3. Higher interest rates reduce the portion of household income spent on non-debt payments

- **NOMINAL INTEREST RATE = REAL INTEREST RATE + INFLATION**
  Investors base their required nominal rate of return on a real rate of return plus an inflation assumption

MONEY AND INFLATION

- Money functions as:
    1. A **medium of exchange**
    2. A **unit of account**
    3. A **store of value**

- Inflation – defined as a generalized, sustained trend of higher prices. A one-time jump in prices is *not* inflationary unless it feeds into wages and other costs.

- Inflation is measured by the **Consumer Price Index (CPI)**. It measures a shopping basket of 600 goods and services and compares one period's cost to the previous one… if the CPI was 128 last year and 131 this year, then inflation would be:

$$\frac{131 \text{ (this year)} - 128 \text{ (last year)}}{128} \times 100 = 2.34\%$$

- Costs of inflation:
    1. Erodes the standard of living of those on fixed incomes
    2. Reduces the real value of investments such as fixed-rate loans
    3. Distorts the price signals to participants in market economies
    4. Accelerating inflation generally leads to rising interest rates and recessions

- Causes of inflation
    1. Higher money growth
    2. Too low unemployment – measured by the **Phillips Curve** which argues that unemployment and inflation have an inverse relationship
    3. **Output gap** – inflation occurs when the economy is operating past its **potential GDP**

THEORIES ABOUT INFLATION

- **Cost-push inflation** occurs when there are shocks to the supply side of the economy – such as sharply higher commodity prices.

- **Demand-pull inflation** occurs when actual output is greater than potential output, or there are more dollars in the hands of consumers than there are goods and services to meet that demand

- **Disinflation** is a decline in the rate of inflation. **Deflation** is a sustained fall in prices where the annual CPI is negative. The potential costs of inflation and disinflation is captured by the Phillips Curve that says that when unemployment is low, then inflation *must* be high and that when inflation is low, unemployment *must* be high

- **Sacrifice ratio** – can measure the cost of disinflation. The sacrifice ratio tells us how much GDP must be "sacrificed" to reduce inflation by 1%. Therefore, a sacrifice ratio of 3% means that if public policy makers want to lower inflation by 2%, then it will cost 6% (3% x 2%) of output

INTERNATIONAL ECONOMICS

- A country's economic transactions with the rest of the world are captured in its **Balance of Payments**. There are two elements to the Balance of Payments – the **Current Account** and the **Capital and Financial Account**

- **Current account** measures the exchanges of goods and services between Canadian and foreigners. The largest element of the current account is merchandise trade

- **Capital and Financial account** measures financial flows between Canadians and foreigners

- The **Balance of Payments** *must* balance for every country… if one has a surplus in its current account, then it *must* have a deficit in its capital account… and vice-versa

- The **exchange rate** is the price that one currency can be exchanged for another currency. If a currency goes up in value (as the Canadian dollar has recently against the American) then the Canadian dollar is appreciating and the US dollar is depreciating. An appreciating currency means that this currency has more buying power abroad and a depreciating currency means that the country's export products are becoming relatively cheaper. Exchange rates can either be **floating** (Canada – U. S., for example) or **fixed** (U. S. – China)

- **Exchange rates** are determined by differences in inflation (higher inflation leads to a depreciating currency), differences in (real) interest rates (higher real interest rates leads to an appreciation), current account surpluses/deficits, (surpluses – appreciation, deficits – depreciation), relative economic performance, (good performance – appreciation) and public debt and deficits (deficits – depreciation)

ECONOMIC THEORIES

- **Rational expectations theory** – firms and workers are rational thinkers. If the government cuts taxes temporarily to stimulate demand, it won't work because consumers will save, anticipating higher taxes in the future. If the government lowers interest rates to stimulate the economy, consumers and firms re-act by building in higher inflationary expectations; therefore the stimulative effect of the interest rate cut is negated

- **Keynesian economics** – the economy is *not* self-correcting. During recessionary periods, the government should cut taxes and increase spending to eliminate the output gap. If the economy is overheating, the government should increase taxes and reduce spending to slow it down. Keynesian economists believe that government should moderate the business cycle with changes in spending and taxation policy

- **Monetarist theory** – the economy is inherently stable and will automatically move to a path of stable growth if left to its own devices. Monetarists argue that government should simply expand the money supply at a constant rate and controlling inflation is the main policy goal which allows the economy to grow at a constant rate

- **Supply-side economics** – the market should be left alone and the best thing that government can do is reduce taxes, because this provides people with the incentive to work and produce goods and services of real value

FISCAL POLICY

- Defined as the use of government's power to tax and spend to pursue social goals such as full employment and long-term sustained economic growth

- If government revenues exceed spending, it is running a **surplus**. If spending exceeds revenues, it is running a **deficit**. When governments run deficits, they *must* compete for capital with private institutions

BANK OF CANADA

- Its roles: regulate credit and currency in the best interests of the nation, to control and protect the external value of the monetary unit, mitigate fluctuations in the general level of production, and promote the economic and financial welfare of the Dominion

- Functions:
    1. Act for Government in the issuance and removal of notes
    2. Act as the Government's Fiscal Agent (financial advisor on debt management, foreign exchange)
    3. Conduct monetary policy – this is the *most* important function of the Bank of Canada

MONETARY POLICY

- Monetary policy sets to improve the performance of the economy by regulating the growth in money supply and credit

- Goal of monetary policy is to preserve the value of money by promoting sustained economic growth with price stability

- Bank has specific inflation-control targets – CPI should range from 1% to 3%

IMPLEMENTING MONETARY POLICY

- Bank of Canada carries out monetary policy primarily through changes in the Target for the Overnight Rate

- **Overnight rate –** interest rate set in the overnight market, where major Canadian financial institutions lend each other money on a short-term basis. The band for the overnight rate is 50 basis point – ½ of 1%. The **Bank Rate** is the minimum rate at which the Bank of Canada will lend money on a short-term basis to the Chartered Banks and other members of the **Canadian Payments Association (CPA)**. The **Bank Rate** is the upper limit of the operating band for the **Overnight Rate**

- Open market operations – these are voluntary transactions conducted between the Bank of Canada and Chartered Banks to influence the level of interest rates. The two main open market operations are **Special Purchase and Resale Agreements (SPRAs)** and **Sale and Repurchase Agreements (SRAs)**

- **SPRAs** are used by the Bank to relieve undesired upward pressure on interest rates. The Bank will purchase government securities from a primary dealer with an agreement to buy them back the next day at a predetermined price. In the short run, this means that more money is in the system, which has a downward effect on interest rates

- **SRAs** are used by the Bank to relieve undesired downward pressure on interest rates. The Bank will sell government securities to a primary dealer with an agreement to sell them back the next day at a predetermined price. In the short run, this means that less money is in the system, which has an upward effect on interest rates

CASH MANAGEMENT OPERATIONS

- To facilitate the transfer of payments between major financial institutions, the Bank of Canada established the **Large Value Transfer System (LVTS)**. It allows these institutions to reconcile their balances on a daily basis, and borrow funds from another institution (if necessary) to reconcile its balances. This ensures that trading in the overnight market stays within the Bank's 50 basis point operating target

- The Bank of Canada can also influence short-term interest rates with drawdowns and deposits, moving federal government money to and from the Bank of Canada and Chartered Banks. If the Bank wants to lower interest rates, it will effect a **redeposit**, moving funds into the Chartered Banks. If the Bank wants to increase interest rates, it will effect a **drawdown** which takes funds from the Chartered Bank system

GOVERNMENT POLICY CHALLENGES

- There is a divide in opinion about the effectiveness of Federal Government Policy. Some believe that it is necessary to stabilize the economy. Others believe that it is so slow to act that its actions are often counter-productive

- Monetary policy *most* directly impacts short-term interest rates while markets determine long-term interest rates. Therefore, there may be a disconnect between intended monetary policy and its actual results

- It is widely agreed that large and persistent government deficits have consequences: Higher interest rates, and higher interest payments on debt

- Fiscal policy is *not* always synchronized with monetary policy – that is, Government may be following an expansionary program of higher spending and tax cuts, even while the Bank of Canada may be raising interest rates to cool down the economy

THE FIXED-INCOME MARKETPLACE

- Companies issue bonds to take advantage of their **"leverage"** potential. This means that they hope to borrow money at 6% and reinvest it in their operations and make 10% – and keep the spread as a reward for the company owners/shareholders

- A **bond** is secured by physical assets. A **debenture** is secured by "something other than a physical asset" – which means the residual assets of the company. It is equally legally binding to pay interest and principal on both bonds and debentures

- Most bonds/debentures pay interest semi-annually or twice a year. This means that a bond with a 5% **coupon rate** or **interest rate** actually pays 2.5% every six months. Coupon payments are based on the **face, par value** or **maturity** amount of the bond. These payments do *not* change if and when the market value of the bond/debenture changes

- Consider the cash flows of a two-year "straight bond" (which means no special features) with a face value of $1,000,000 and a coupon of 5.5% that was issued on May 1st, 2015:
    1. May 1st 2015, issuing company would receive $1,000,000
    2. Nov 1st 2015, issuing company would pay $27,500
    3. May 1st 2016, issuing company would pay $27,500
    4. Nov 1st 2016, issuing company would pay $27,500
    5. May 1st 2017, issuing company would pay $1,027,500

PRICE AND YIELD

- Bonds that trade in the secondary market have a quoted **yield**

- Yield refers to "total return", a combination of the coupon payment and any capital gain or loss associated with the bond

- Bonds trade a **discount** when their current market price is less than their par value… and in this case, their yield would exceed their coupon rate

- Bonds trade a **premium** when their current market price is greater than their par value… and in this case their yield would be less than their coupon rate

- Corporate bonds will trade at a premium because either:
  1. Interest rates have decreased since the bond was issued
  2. The credit quality of the issuer has improved, and they are considered *less* risky securities than previously thought

- Corporate bonds will trade a discount because either:
  1. Interest rates have increased since the bond was issued
  2. The credit quality of the issuer has worsened, and they are considered *more* risky securities than previously thought

TERM TO MATURITY

- The term to maturity of a bond is determined from the present to its maturity date. Therefore, if a bond had been issued four years ago for a ten year term, this would be understood as a bond with six years to maturity
    1. Bonds with one year or less until maturity are considered Money Market instruments
    2. Bonds with one to five years to maturity are short-term
    3. Bonds with five to ten years to maturity are medium-term
    4. Bonds with greater than ten years are long-term

EXAMPLE: "A bond was issued in the Year 2004 that would mature in 2024. In the year 2016, this would be understood as a medium-term bond." The fact that it was originally issued as a long-term bond is irrelevant

- Bonds that trade on the secondary market can be understood as being **liquid**, **negotiable**, or **marketable**
    1. Liquid bonds trade in significant volumes and can be traded without making a significant sacrifice in price
    2. Negotiable bonds can be transferred because they are in deliverable form
    3. Marketable bonds have a ready market because their price and features are attractive – however, they may *not* be liquid

- **Strip bonds** or **zero coupon bonds** are created when a dealer acquires a block of high-quality bonds and separates the coupon payments and principal, and sells each separately at a discount. The amount of discount determines the annualized rate of return the investor will enjoy

BOND FEATURES

- **Callable** or **redeemable** feature gives the issuer the right to call or redeem the debt before its stated maturity. Generally, this feature is exercised if interest rates have decreased since the bond was issued

- Standard call features – Provincial bonds are usually callable at par plus accrued interest. Most corporate bonds are issued with the **Canada yield call** feature which means that the issuer can call the bonds at the greater of par value or a price based on the yield of an equivalent Government of Canada (GOC) bond plus a **yield spread**

- **Extendible bonds** allow the investor the option to extend the maturity at the same or a slightly higher rate of interest

- **Retractable bonds** allow the investor the option to receive principal back prior to the stated maturity date

CONVERTIBLE BONDS

- **Convertible bonds** provide the investor the option of receiving common shares instead of principal. This is why they are called "convertible" – the investor has the choice of converting a debt investment into an equity investment

EXAMPLE: "A $1,000 face value convertible bond pays 4% interest and is convertible into 50 common shares." In this case, the decision to convert would be driven by the common share price. If it exceeded $20 per share, it would be attractive to convert – because 50 x $20 = $1,000… the break-even price

- Convertible shares are issued by companies to help reduce their borrowing costs. Convertible shares are purchased by investors because they are a "two-way" security… there's the security of debt with the potential for significant capital appreciation

- **Forced conversion** is a feature built into convertible bonds where the company can force the investor to convert the bonds into common shares, if the share price exceeds a stipulated level

- When the common share price exceeds the break-even conversion price, the convertible bonds are said to be "selling off the stock". In our example: If the common shares are $25, then the convertible bond will be worth at least $1,250 (50 x $25)

SINKING FUNDS AND PURCHASE FUNDS

- **Sinking funds** and **purchase funds** mean that the issuer may repay portions of their bonds before maturity

- **Sinking fund** provisions are sums of money set aside to retire debt at stipulated prices and are as binding on the issuer as any mortgage provision

- **Purchase fund** provisions kick in if the bonds fall below a certain market price – purchase funds are intended to act as a price support. Purchase funds generally retire less of an issue than a sinking fund

PROTECTIVE PROVISIONS

- These are safeguards provided to bond investors to help protect their payments of interest and principal
    1. **Security** means that details of the assets that support the debt are provided (e.g., mortgage-backed or asset-backed securities)
    2. **Negative pledge** means that the borrower will *not* pledge any assets if the pledge results in less security for the debt holder
    3. **Limitation on Sale and Leaseback** protects the debt holder against the firm selling and leasing back assets that provide security for the debt
    4. **Sale of Assets or Merger** means that in the event that all of the firm's assets are sold or the company is merged with another company, the debt must be retired or assumed by the new merged company
    5. **Dividend Test** establishes the rules for the payment of dividends by the firm
    6. **Debt Test** limits the amount of additional debt that a firm may issue by establishing a maximum debt-to-asset ratio
    7. **Additional Bond Provisions** state which financial tests and other circumstances allow the firm to issue additional debt
    8. **Sinking or Purchase Fund and Call Provisions** outline the provisions of the sinking or purchase fund, and the specific dates and price at which the firm can call the debt

FEDERAL GOVERNMENT SECURITIES

- The Government of Canada issues a variety of fixed-income securities
    1. Marketable bonds – largest single issuer in the Canadian marketplace. One of its products is **real return bonds**, where the return is based on inflation (as measured by CPI) plus a stated "real" coupon
    2. **Treasury bills** – short-term government obligations, offered in denominations from $1,000 to $1,000,000. These are auctioned every two weeks by the Minister of Finance through the Bank of Canada with original terms to maturity of 3 months, 6 months and 1 year. T-bills are issued at a discount and mature at 100. The difference between the issue price and maturity value is taxable as interest income; however we do *not* consider T-bills as interest-paying instruments
    3. **Canada Savings Bonds (CSBs)** – sold in registered form, owner must be a Canadian individual, estate, or trust for an individual. They are always redeemable at par value plus accrued interest – but cannot be re-sold. Therefore, they are liquid, but neither negotiable nor marketable. CSBs are sold with a regular interest or compound interest option. **Canada Premium Bonds** are similar to CSBs but offer a higher interest rate when issued. But they can only be redeemed once a year without penalty

PROVINCIAL AND MUNICIPAL SECURITIES

- Provincial bonds are second in quality only to Government of Canada direct and guaranteed bonds

- Provinces offer direct bonds and guarantee the bonds of provincially appointed authorities and commissions. Guaranteed bonds are as secure as direct bonds

- Most provinces also issue their form of Savings Bonds, similar to CSBs

- Municipal (city) governments use **instalment debentures** or **serial bonds**. With these bonds, a portion of the principal amount is paid annually – a ten year debenture issue with a face value of $10,000,000 would be structured such that $1,000,000 is retired at the end of each year

CORPORATE BONDS

- **Mortgages** or **mortgage bonds** are loans secured by a pledge of land, buildings or equipment. These are very secure borrowings. **First mortgage bonds** are the senior securities of a company

- **Collateral trust bonds** are loans secured by a pledge of securities – such as common shares. Collateral trust bonds are issued by holding companies

- **Equipment trust certificates** are loans secured by real property – such as transportation companies like CP Locomotives

- **Subordinated debentures** are junior to other securities or other debts – they are the riskiest kind of debt; therefore provide the highest return

- **Floating-rate securities** automatically adjust their payments based on an underlying agreed upon formula

- **Corporate notes** are unsecured promises to pay interest and are junior to all other fixed-interest securities of the borrower. Finance companies frequently use a type called a **secured note** or **collateral trust note**

DOMESTIC, FOREIGN AND EUROBONDS

- **Domestic bonds** are issued in the currency and country of the issuer. **Foreign bonds** are issued in a currency and country other than the issuer. **Foreign pay bonds** are issued in a currency other than the issuer's currency, but sold in the issuer's country. **Eurobonds** are issued and sold outside a domestic market and are typically denominated in a currency other than that of the domestic market

- **Preferred debentures** are long-term subordinated debentures with terms in the range of 25 – 99 years. They pay interest but it can be deferred for as long as five years at the discretion of management

- High-yield bonds are considered non-investment grade. They have higher risk; therefore these bonds typically pay higher coupons and have higher yields

OTHER FIXED-INCOME SECURITIES

- **Bankers' Acceptances** are commercial drafts drawn by a borrower for payment on a specific date. They are guaranteed at maturity by the borrower's bank

- **Commercial Paper** is an unsecured promissory note issued by a corporation or an asset-backed security backed by a pool of underlying financial assets

- **Term Deposits** offer a guaranteed rate for a short-term deposit (usually up to one year) with penalties for early withdrawal (the first 30 days after purchase)

- **Guaranteed Investment Certificates (GICs)** offer fixed rates of interest and have a variety of special features:
    1. Escalating rate GICs – the interest rate increases each year
    2. Laddered GICs – the investment is equally divided into multiple term lengths to reduce interest rate risk
    3. Instalment GICs – an initial lump sum contribution is followed by weekly, bi-weekly or monthly additions
    4. Index-linked GICs – the return is linked to an underlying equity market such as the TSX or S&P 500
    5. Interest-rate-linked GICs – offer returns linked to other interest rates, such as prime or money market rates

READING A BOND QUOTE

Issue	Coupon	Maturity	Bid	Ask	Yield
ABC Company	11.5%	July 1/28	99.25	99.75	11.78%

- This bond was issued by ABC Company. From the bond quote, we cannot determine the date of issue

- The coupon rate of 11.5% is based on the par value of the bond

- The maturity date establishes when the principal amount will be returned to the investor

- The "bid" price of 99.25 means that if an investor had $1,000 face value, it could be sold for $992.50 plus accrued interest

- The "ask" price of 99.75 means that if an investor wanted to purchase $1,000 face value, it would cost $997.50 plus accrued interest

- Because the bond is trading at a discount, the yield is higher than the coupon. The yield of 11.78% implies that this would be the investor's effective return when both coupon payments and capital gains are factored in

BOND RATING SERVICES

- In Canada, the **DBRS**, **Moody's Canada** and **Standard & Poor's Bond Rating Service** provide independent ratings for debt securities

- "AAA" rating implies the highest quality of bond

- "BBB" rating implies that interest and principal are currently protected, but the company may be vulnerable to sudden swings in economic conditions

- "CCC" rating implies speculative quality

- "D" bonds are in default

FIXED INCOME SECURITIES: PRICES AND TRADING

- The most accurate method of determining the value of a bond is its **present value**. When you purchase a bond, you know the future receipts – interest payments and principal. An investor must determine what they are presently worth

- To determine the present value, an appropriate **discount rate** must be applied to the future cash flows. The discount rate is, effectively, the rate of return required by an investor

- There are four steps in calculating a bond's present value:

    1. Choosing the appropriate discount rate
    2. Calculating the present value of the coupon payments
    3. Calculating the present value of the principal
    4. Adding the present value of the coupon payments and principal together

PRESENT VALUE CALCULATION

- A 6% semi-annual pay bond has two years to maturity. What is its present value assuming an investor has a i) 5% discount rate and ii) 8% discount rate?

- This bond would have the following cash flows:
  $3 in six months' time (first cash flow)
  $3 in twelve months' time (second cash flow)
  $3 in eighteen months' time (third cash flow)
  $103 in twenty-four months' time (fourth cash flow)

- Because the bonds pay interest semi-annually, the discount rate must also be adjusted for semi-annual. Therefore, you would discount the cash flows by the following factors: $(1.025)^1$ & $(1.025)^2$ & $(1.025)^3$ & $(1.025)^4$ for the 5% factor and $(1.04)^1$ & $(1.04)^2$ & $(1.04)^3$ & $(1.04)^4$ for the 8% factor

- The present value with the 5% discount rate would be:
  $\$3/1.025^1 + \$3/1.025^2 + \$3/1.025^3 + \$103/1.025^4 = \$101.88$

- Calculator keystrokes:
  1. Program your calculator to END & P/Y = 2
  2. [2ND][PMT]… you will see either END or BGN. If BGN, then [2ND][ENTER]… and you should see END which is what you want.
  3. [2ND][I/Y]… you should see P/Y = ???... [2][ENTER].
  4. [4][N]… this represents the number of coupon payments
  5. [5][I/Y]… this represents the discount rate
  6. [3][PMT]… this represents the coupon payment
  7. [100][FV]… this represents the value at maturity
  8. [CPT][PV]… 101.88. This represents the current price that an investor would pay today in order to realize a yield to maturity of exactly 5%.

- The present value with the 8% discount rate would be:
  $\$3/1.04^1 + \$3/1.04^2 + \$3/1.04^3 + \$103/1.04^4 = \$96.36$

- KEY POINTS:
  1. If this were an annual pay bond, the cash flows would be \$6 and \$106 and the discount factors 1.05^1 and 1.05^2 or 1.08^1 and 1.08^2
  2. The higher the discount rate, the lower the present value of the bond

OTHER BOND YIELDS

There are three yield formulas that you are responsible for: T-bill yield, current yield, and yield to maturity

- **T-bill yield**: T-bills are issued at a discount and mature at par. The return that the investor makes is the difference between the discount and maturity value.

EXAMPLE: A T-bill is priced at 97.50 with 310 days to maturity. What is its yield?

$$\frac{100 - 97.50}{97.50} \times \frac{365}{310} \times 100 = 3.02\%$$

- **Current yield**: This is the annual cash flow from an instrument, relative to the purchase price (necessary to receive that cash flow)

- **Yield to maturity**: Takes into account the annual cash flow from the bond, plus/minus the gains/losses received if the bond is purchased at a discount/premium. It is an estimate of the average rate of return earned on a bond if it is bought today and held to maturity. It is assumed that all coupon payments are reinvested at a rate equal to the YTM. The risk that coupon payments cannot be reinvested at the same rate is termed **reinvestment risk**

TERM STRUCTURE OF INTEREST RATES

- The graph that shows the time to maturity (along the "X" axis) and the required yield (along the "Y" axis) is known as the **yield curve**. The yield curve shows the required return, or yield, for a given class of bond in relation to its time to maturity

- **NOMINAL RETURN = REAL RETURN + INFLATION**
  Bonds are quoted in the marketplace as per their nominal return; however what investors are *most* interested in is the bond's real return. To determine this, investors must make their own assumptions about inflation

- Two factors affect forecasts for the real interest rate:
  1. The real interest rate rises and falls through the business cycle, becoming lower during recessions and rising during the expansion phase
  2. An unexpected change in the inflation rate also affects the real interest rate – unexpectedly high inflation leads to lower real interest rates

EXPLANATIONS FOR THE YIELD CURVE

There are three theories that have been developed to explain the shape of the yield curve: Expectations Theory, Liquidity Preference Theory, and Market Segmentation Theory

- **Expectations Theory** – the slope of the yield curve reflects expectations about future interest rates. An upward sloping yield curve means that the market believes that interest rates will increase in the future; a downward sloping yield curve that interest rates will decrease in the future

- **Liquidity Preference Theory** – investors prefer liquid investments, and when a bond matures, it will convert into cash. Therefore, investors prefer short-term bonds and to get them to invest in long-term bonds, they must enjoy higher yields. According to this theory, an upward sloping yield curve reflects additional return for assuming additional (term) risk

- **Market segmentation theory** – the yield curve represents the supply and demand for bonds of various terms, primarily influenced by the bigger players in each sector. According to this theory, the yield curve can be any slope or shape

BOND PRICING PROPERTIES

- The stronger the borrower's financial position and higher its credit rating, the lower the interest rate it has to pay investors for using their funds

- Long-term bonds are *more* volatile in price than short-term bonds. This is because there is a longer term over which the change in interest rates can affect the value of the bond

- Low coupon bonds are *more* volatile in price than high coupon bonds. This is because with low coupon bonds, the return of the investor is *more* dependent on the capital gain

- Special features like the callable or retractable or extendible or convertible features also impact the pricing of bonds

- The relative yield change is *more* important than the absolute yield change – a drop in yield from 12% to 10% will have less of an impact than a drop in yield from 4% to 2%

DURATION

- Bond prices have an inverse relationship to interest rates: An increase in interest rates leads to lower bond prices and a decrease in interest rates leads to higher bond prices

- **Duration** quantifies the relationship between bond prices and interest rates. Duration is a measure of the sensitivity of a bond's price to changes in interest rates

- A bond with a duration of 5 implies the following: If interest rates increase by 1%, then the bond will fall in value by 5%. If interest rates decrease by 1%, then the bond will rise in value by 5%

EXAMPLE: A bond priced at 95 has a duration of 4. What is its price assuming that interest rates increase/decease by 1%? The bond's change in price will be 95 x .04 = 3.80. Therefore, its new prices will be 91.20 (assuming higher interest rates) and 98.80 (assuming lower interest rates)

EXAMPLE: A bond priced at 102 has a duration of 6. What is its price assuming that interest rates increase/decrease by 1.5%? The bond's change in prices will be 102 x .06 x 1.5 = 9.18. Therefore, its price would be 92.82 (higher) and 111.18 (lower)

EXAMPLE: A bond priced at 110 has a duration of 8. What is its price assuming that interest rates increase/decrease by 25 basis points (or ¼ of 1%)? The bond's change in price will be 110 x .08 x .25 = 2.20. Therefore, its price would be 107.80 (higher) and 112.20 (lower)

HOW BOND MARKET TRADING WORKS

- Fixed income trading in the investment banking business is divided between two separate areas of operation – the sell side and the buy side

- **Sell side** is the investment dealer side. Sell-side institutions trade for their own accounts. Sell-side services include everything related to creating, producing, distributing, researching, marketing and trading fixed-income products

- **Buy side** is the investment management side. They are typically engaged buying and holding securities on behalf of their institutional clients. Most buy-side firms divide fixed-income investment management duties into two primary occupational roles: Portfolio manager and trader

- **Inter-dealer brokers** act as agents, bringing together institutional buyers and sellers in matching trades. They perform similar functions to those of a market exchange

- All non-electronic trades are carried out over the telephone, and then a **trade ticket** or electronic confirmation is sent out which contains the following information: Specifics of the counterparties to the trade; identification of the bond; the bond's CUSIP number; the par value of bond; price and often yield; settlement date; custodian's name; and total settlement amount, sometimes with the amount of accrued interest shown separately

CLEARING AND SETTLEMENT

The settlement date of a trade is when the investor must pay for the security purchased.

- T-bills have same day settlement

- Government of Canada (GOC) bonds and GOC guaranteed bonds with a term of three years or less to maturity settle two business days after the trade date

- GOC bonds and GOC guaranteed bonds with a term of three years or more and corporate bonds settle three business days after the trade date

- **Bearer bonds** – bonds where coupon payments are detached and treated like "cash". The bearer is the rightful owner

- **Registered bonds** – bear the name of the rightful owner and can only be sold or transferred when the owner signs the back of the certificate

- Bonds today are issued in a **book-based format** with depository, trade clearing and settlement services provided by participating clearing providers

ACCRUED INTEREST

Bond owners can sell their bonds in between the payment or coupon dates. If they do so, the buyer of the bond must compensate the owner for interest *not* received – because the bond issuer promises to pay interest only twice a year

- Calculating accrued interest:

    1. Work out the two dates of the year that coupon payments are made. One is the day of the maturity date and the other is six months after that… e.g, January 15th and July 15th or February 1st and August 1st or March 10th and September 10th

    2. Work out the interest earned on a daily basis. This is the face value multiplied by the coupon rate divided by 365.

    3. Count the number of days from the last coupon payment to the settlement date of the trade.

    4. Multiply #2 by #3 – this is the accrued interest

ACCRUED INTEREST (con't)

EXAMPLE: A $250,000 face value bond with a 5% coupon matures October 1st, 2015. If the bond is priced at 102, what is the i) accrued interest and ii) total that the buyer of the bond would have to pay the seller of the bond, assuming the bond were purchased on Monday June 2nd?

1. This bond pays interest on October 1st and April 1st.

2. Daily interest: $250,000 x .05 divided by 365 = $34.25

3. Number of days: 29 in April, 31 in May and 5 in June for a total of 65 days.

4. Accrued interest: $34.25 x 65 = $2,226.25
   i) $2,226.25
   ii) $250,000 x 1.02 + $2,226.25 = $257,226.25

BOND INDEXES

Bond indexes are samples drawn from the bond market to provide investors with an indication of how the overall bond market is doing.

- Bond indexes are used in three ways:
    1. As a guide to performance of the overall market
    2. As a performance measurement tool to assess managers
    3. To construct **bond index funds**

- PC Bond offers a comprehensive set of Canadian bond indexes. The DEX Universe Bond Index tracks the broad Canadian bond market, including both government and corporate bonds. It measures total return and is capitalization-weighted

- Global indexes track global bond indexes, U.S. bond indexes, Government bond indexes, Emerging market bonds, and High-yield bonds

EQUITY SECURITIES

- Common shareholders are the owners of the company. Therefore, their claims on the company's revenues and assets are (in the following order) behind:
    1. Bondholders
    2. Debenture holders
    3. Preferred shareholders
    4. Common shareholders

- Dividend payments are *not* "guaranteed" in the manner that interest payments are. Dividends are paid at the discretion of the Board of Directors

- Common shares are now registered in **street certificates** – in the name of the securities dealer rather than the investor. This facilitates easy trading. The **Canadian Depository for Securities Limited (CDS)** offers computer-based systems to replace certificates

- Stocks trade in uniform lot sizes on exchanges – the usual trading unit is 100 shares. A group less than that is referred to as an **odd lot**

BENEFITS – COMMON SHARE OWNERSHIP

- Potential for capital appreciation – for many investors this is the main attraction of common shares. There is the potential for a compounding effect of one's returns, assuming that the company retains its earnings over time and reinvests them profitably in the business

- Right to receive dividends

- Voting privileges – including ability to elect directors and vote on other important issues affecting the company

- Favourable tax treatment of dividends and capital gains

- Marketability – facilitated through stock exchanges

- Right to receive copies of annual reports and quarterly financial reports

- Right to examine company documents

- Right to attend Annual General Meetings and question management at those meetings

- Limited liability – the *most* that an investor can lose is his/her original investment in the company

DIVIDENDS

- A company's net earnings after payment of preferred dividends belong to the common shareholders. Mature companies (such as banks) pay a high ratio of their earnings out as dividends; growing companies (technology) typically retain a high proportion of earnings within the company

- Most established companies pay a **regular dividend**, which is usually paid quarterly. In addition, some companies may pay an extra dividend, usually at the end of the Fiscal Year

- When the Board of Directors decides to pay a dividend, the amount, record date and payment date are part of that announcement

EXAMPLE: "The Board of Directors of Canadian National Railway Company has declared a quarterly dividend of $.375 per share on the outstanding common shares. The quarterly dividend is payable on June 30, 2016 to shareholders of record at the close of business on June 9, 2016."

- Dividends may be paid in the form of additional stock rather than cash. **Stock dividends** are treated as regular cash dividends for tax purposes

DIVIDEND PAYMENT DATE CHRONOLOGY

- There are four important dates in the dividend chronology: cum-dividend date, ex-dividend date, record date and payment date

- The **cum-dividend** date is always three business days prior to the record date. This is the latest date an investor can purchase the shares and receive the dividend

- The **ex-dividend** date is the next business day after the cum-dividend date. Investors who held the shares on the cum-dividend date could sell their shares and still receive that dividend on the payment date. Alternatively, an investor who purchased the shares on the ex-dividend date and held the shares on the payment date, would *not* receive that dividend

- The **record date** is important to the extent that with it, investors can determine the cum and ex-dividend dates

- The **payment date** is the date on which the money is actually received by the investor

VOTING PRIVILEGES

- Not all common shares have voting privileges – or the same voting privileges relative to other common shares

- **Restricted shares** are common shares that give the shareholder the right to participate to an unlimited degree in the earnings of the company, but do *not* have full voting rights. There are three categories of restricted shares:
    1. **Non-voting** – have no right to vote, except in limited circumstances
    2. **Subordinate voting** – have the right to vote, but another class of shares carry a greater voting right on a per share basis
    3. **Restricted voting** – carry a right to vote, subject to a limit or restriction on the number or percentage of shares that may be voted by a person, company or group

- Stock exchanges require that restricted shares are identified by the appropriate term and disclosure documents such as information circulars and annual reports are sent to shareholders describing the restrictions on the voting rights of the restricted shares

TAX TREATMENT OF COMMON SHARES

- Capital gains are taxed at an inclusion rate of 50%. This means that if the investor earns $100 in capital gains, he/she gets to keep $50 tax-free and $50 is taxed at the prevailing tax rate for that investor

- Dividends from taxable Canadian corporations receive preferential tax treatment – in the following manner.
    1. An investor receives $225 in dividends from a Canadian corporation that has already paid tax on its earnings
    2. The investor is required to "gross up" the dividend by 38%... in this case, the gross-up would be $85.50
    3. The gross-up is added to the amount of the dividend to establish the taxable amount of the dividend… in this case, $310.50
    4. The investor claims a credit of 15.02% of the taxable amount of the dividend, or $46.64. This means that the tax authorities have deemed this investor to already have paid $46.64 in tax – just by receiving this dividend
    5. The investor pays tax on the $310.50 at his/her marginal rate, then claims the dividend tax credit against that

Note: You are NOT responsible for this calculation on the Volume One Examination – you are for Volume Two!

- If an individual receives dividends from non-Canadian companies, there is usually a withholding tax at source

STOCK SPLITS AND CONSOLIDATIONS

- **Stock splits** generally occur when a company's common shares have been appreciating rapidly in price. The Board of Directors submits a by-law for approval, whereby common shareholders will exchange their current number of shares for a greater number – the typical formula is 2 for 1

- A stock split of 4 – 1 means that an investor will have four times the number of shares at approximately one-quarter the previous price. A stock split should *not* affect either the value of the investor's holdings, or his/her proportionate ownership in the company

  PRE-SPLIT: 100 shares at $25
  POST-SPLIT: 400 shares at $6.25

EXAMPLE: "An investor purchased 500 shares of ABC Company when it IPO'd, paying $30 per share. When the shares reached $45, the company executed a 3 for 1 split. When the shares were $22.50 on a post-split basis, the investor sold 500 shares. What is her profit on this sale?"

To solve this type of question, adjust the original purchase price by the terms of the split: 500 shares at $30 is the equivalent of buying 1,500 shares at $10. Therefore, her profit would be ($22.50 – $10.00) x 500 = $6,250

SPLITS AND CONSOLIDATIONS (cont'd)

- A **reverse split** or a **consolidation** has the opposite effect – it means a reduced number of shares at a proportionally higher price per share

- A common motivation for a stock split is to increase the marketability of the common shares, making it more affordable for an investor to purchase one board lot

- A common motivation for a consolidation is to increase the market price of the common shares, allowing them to remain listed on a major exchange such as the TSX or NYSE

READING STOCK QUOTATIONS

52 weeks								
High	Low	Stock	Div.	High	Low	Close	Change	Volume
12.55	9.25	BEC	.50	10.65	10.25	10.35	+.50	6,000

- The “High” of 12.55 refers to the highest price the security has traded at over the past 52 weeks
- The “Low” of 9.25 refers to the lowest price the security has traded at over the past 52 weeks
- “BEC” is the trading symbol, or ticker symbol of the stock. This is an abbreviation that traders use when they enter orders for the stock on their computer systems
- “.50” is the annual dividend that BEC has paid over the past 52 weeks
- “10.65” is the highest price BEC traded at in the last day’s session
- “10.25” is the lowest price BEC traded at in the last day’s session
- “10.35” is the last price BEC traded at in the last day’s session
- “+.50” refers to the change in the closing price from the previous day. This means that BEC closed at 9.85 the day before
- “6,000” is the number of BEC shares that changed hands that day

PREFERRED SHARES

- Preferred shares occupy a position between common shareholders and bondholders

- Preferred shares are “preferred” because they receive dividends before common shareholders and have preference with respect to assets upon dissolution of the company

- If a company has a series of preferred shares and they all rank equally with each other, they are described as **pari passu**

- Companies issue preferred shares because they involve a fixed payment – like debt instruments – without the payments of interest being legally binding

- Investors buy preferred shares because they provide income and the income is tax-advantaged compared to the receipt of interest income

PREFERRED SHARE FEATURES

- Most shares have a **cumulative** feature. If the company misses a preferred share dividend payment, the unpaid dividends accrue in **arrears** and must be fully paid out before the common shareholders receive any dividend payment

- Many preferred shares have the **callable** feature, which is a convenience to the issuer rather than the purchaser

- Preferred shares generally only have voting privileges after a stated number of dividends have been omitted

- Many preferred shares have purchase funds and/or sinking funds. The purchase fund feature is advantageous to the purchaser, acting as a price support

CONVERTIBLE PREFERREDS

- Similar to convertible bonds and debentures in that these securities allow the investor to receive a stipulated number of common shares at predetermined times

- At issue, the conversion price is above the market price of the common – in selecting convertible preferred shares, investors look at the conversion cost premium and payback period to make their decision on which convertible preferred is *most* favourable

EXAMPLE: A convertible preferred share, convertible into 2.5 common shares, currently sells for $55, and pays an annual dividend of $2.00 per share. The common shares trade for $20 and yield 1%. What is the conversion cost premium and payback period?

Conversion cost premium:

$$\frac{\text{Preferred share price – “Equivalent common shares”}}{\text{Equivalent common shares}}$$

$$\frac{\$55 - \$50}{\$50} \ (2.5 \times \$20) = 10\%$$

Therefore, there is a 10% premium to buying the preferred share which would be convertible into 2.5 common shares, or 2.5 common shares at the prevailing market price

Payback period:

$$\frac{\text{Conversion cost premium}}{\text{Yield preferred – Yield common}}$$

$$\frac{10\%}{3.6\% - 1\%} = 3.8 \text{ years}$$

This tells the investor that it will take 3.8 years for the conversion cost premium to be paid back by the higher dividend yield provided by the preferred shares ($2/$55 = 3.6%) compared to the 1% yield provided by the common shares

OTHER TYPES OF PREFERRED SHARES

- **Retractable preferred shares** allow the investor to force a redemption, either in cash or in common shares (in which case it is a **soft retractable**)

EXAMPLE: An investor purchased a 6%, $50 par value retractable preferred share at $49, retractable at the holder's option in two years and three months. What is the yield?

$$\frac{\text{Annual dividend income + Annualized Gain}}{\text{(Purchase price + Redemption price)/2}}$$

$$= \frac{\$3 + \$1/2.25}{(\$49 + \$50)/2} = \$3.44/\$49.50 = 6.96\%$$

- **Floating-rate preferreds** pay dividends that change with changes in interest rates

- **Foreign-pay preferreds** pay dividends in a foreign fund – generally American dollars in the Canadian marketplace

- **Participating preferreds** have rights to a share in the earnings of the company over and above their specified dividend rate

- **Deferred preferreds** do *not* pay out a regular dividend. Instead, the shares mature at a preset future date and the return is based on the future price and the redemption value

STOCK INDEXES AND AVERAGES

- **Stock indexes** and **stock averages** are used to measure changes in a representative grouping of stocks

- Stock indexes weight the stocks according to their market capitalization. Stock averages weight the stocks according to their market price

EXAMPLE: ABC Company is $20 and there are 10 million shares outstanding. DEF Company is $10 and there are 50 million shares outstanding.

Stock Average: ($20 + $10)/2 = $15

Stock Index: ($20 x 10mil + $10 x 50mil)/60 mil = $11.67

- A stock average gives the heaviest weighting to those shares with the highest market price. A stock index gives the heaviest weight to those shares with the highest market capitalization

CANADIAN MARKET INDEXES

- There are two major indexes calculated in Toronto, the **S&P/TSX Composite Index** and **S&P/TSX 60 Index**

- To be included in the S&P/TSX Composite, a stock *must* meet specific criteria based on price, length of time listed on the exchange, trading volume, capitalization and liquidity

- The S&P/TSX 60 Index comprises the 60 largest companies (by market capitalization) on the TSX. It is divided into 10 sectors, the heaviest weightings belonging to the Financials, Energy and Materials sectors and the lightest weights belonging to Utilities, Health Care, Consumer Staples and Consumer Discretionary

- **The S&P/TSX Venture Composite Index** is the benchmark for the public venture marketplace

UNITED STATES MARKET INDEXES

- **Dow Jones Industrial Average (DJIA)** – made up of 30 stocks that trade on the NYSE and Nasdaq. This is an average – or price-weighted – which means that it does *not* take market capitalization into effect. The DJIA is composed of blue-chip stocks with a lower risk profile than the overall market, hence it tends to under-perform the broader markets in the long run

- **S&P 500** – market capitalization weighted, consists of the 500 largest companies that trade in the United States. This has become the main gauge for measuring the investment performance of institutional investments in the United States

- **The NYSE Composite Index** – includes all listed common equities on the New York Stock Exchange

- **The Amex Market Value Index** – all stocks listed on the American Stock Exchange and includes reinvestment of dividends, thus is a total return index

- **Nasdaq Composite Index** – market capitalization weighted index of more than 4,000 stocks that trade over-the-counter… often used as a proxy for the Tech sector

- **The Value Line Composite Index** – an equal-weighted index of 1,700 stocks, this is the broadest available barometer of all the U. S. indexes

INTERNATIONAL MARKET INDEXES

This will likely be tested in the following way: "Investment Advisor John Doe's client, Jane Smith, believes that Japan's (or the UK's or France's or Germany's) economy will outperform over the next decade. Therefore, John Doe should overweight Jane Smith in which of the following international indexes or averages?"

- **Nikkei Stock Average Price Index** – calculated like the Dow Jones Industrial Average, the Nikkei tracks performance in Japan

- **FTSE 100 Index –** 100 largest listed companies by market capitalization in the United Kingdom

- **DAX Index –** Germany's DAX consists of 30 blue-chip stocks

- **CAC 40 Share Price Index** – based on 40 of France's largest 100 companies, calculated by market capitalization

- **Swiss Market Index** – Switzerland's blue-chip index, made up of a maximum of 20 of the largest and *most* liquid stocks on the Swiss market, ranked by market capitalization

CASH ACCOUNTS

- Under cash account rules, an investor must fully pay for purchases and delivery of securities by no later than the settlement day of the trade. For equity securities, this is three business days after the trade date

- Free credit balances are uninvested funds held in client accounts. These are payable on demand to clients; however may be used in the "conduct" of the member firm's business. What this means is that free credit balances count towards the investment dealer's capital base for regulatory purposes

MARGIN ACCOUNTS

- **Margin** refers to the portion of funds the investor must personally provide for a purchase. The remaining amount is the **loan value** that the investment dealer will provide to the client

- Investment dealers loan money to investors because this generates more trading activity (higher commissions) and because loaned money is charged interest. Because these are secured loans – secured by the stocks being purchased – they *tend* to be very safe loans

- A long margin position allows an investor to partially finance the purchase of securities by borrowing money from the dealer

- A short margin position allows an investor to sell securities short by arranging for the dealer to borrow the securities to cover the short position

- A **Margin Account Agreement Form** must be obtained from a potential margin client before business is transacted

- Interest on the loan is calculated daily and charged monthly

LONG MARGIN ACCOUNTS

- The IIROC establishes Maximum Loan Values – member firms may loan *less* at their discretion, but *not* more. The loan value is based on the market price of the security and is constantly re-adjusted as the market price of the security changes

- Loan values:
    1. $2.00 and over – 50% of market value
    2. $1.75 to $1.99 – 40% of market value
    3. $1.50 to $1.74 – 20% of market value
    4. Under $1.50 – No loan value
    5. Securities Eligible for Reduced Margin – 70% of market value

- There are five distinct steps that must be performed in order to calculate the margin required for an investor at any one time:

    1. Calculate total cost of the purchase
    2. Calculate the loan value, based on *most* current market close
    3. Calculate the margin: #1 – #2
    4. If the price changes, re-calculate the loan value
    5. Compare the original loan value to new loan value. If #4 is greater than #2, there is a margin surplus. If #2 is greater than #4, there is a margin deficit

LONG MARGIN EXAMPLES:

EXAMPLE: An investor purchases 2,000 shares at $1.70. What is the margin required? What is the margin surplus or deficit the next day, assuming the shares close at $1.82?

1. Total cost of purchase: 2,000 x $1.70 = $3,400
2. Loan value: 20% of $3,400 = $680
3. Margin required: $3,400 – $680 = $2,720
4. New loan value: 40% x $1.82 x 2,000 = $1,456
5. Margin surplus: $1,456 – $680 = $776

EXAMPLE: An investor purchases 1,000 shares at $15, believing that the security was common stock (50% loan value). After making the appropriate margin deposit, she learns that it was eligible for reduced margin (option-eligible) the next day when it closes at $17.50. What is her margin surplus or deficit?

1. Total cost of purchase: 1,000 x $15 = $15,000
2. Original loan value: 50% of $15,000 = $7,500
3. Margin required: $15,000 – $7,500 = $7,500
4. New margin: 70% of 1,000 x $17.50 = $12,250
5. Margin surplus: $12,250 – $7,500 = $4,750

SHORT SELLING

- **Short selling** is the sale of securities that the seller does *not* own. The motivation is to sell the securities today and buy in the future at a lower price. Short selling is done by Investor One borrowing the shares from Investor Two through the investment dealer

- Margining Short Positions:
    1. $2.00 and over – 150% of market value
    2. $1.50 to $1.99 – $3.00 per share
    3. $.25 to $1.49 – 200% of market value
    4. Under $.025 – 100% of market value plus $.25 per share
    5. Securities Eligible for Reduced Margin – 130% of market value

EXAMPLE: An investor short-sold 3,000 shares of DEF Security, eligible for reduced margin, at $22 per share and bought it back at $20. What is his margin requirement and profit/loss on the position?

Margin requirement:
Minimum account balance: 3,000 x $22 x 130% = $85,800
Less proceeds from short sale: 3,000 x $22 = $66,000
Minimum (additional) margin required: $19,800

Profit/loss:
Sale proceeds: 3,000 x $22 = $66,000
Buy-back: 3,000 x $20 = $60,000
Profit: $66,000 – $60,000 = $6,000

SHORT SELLING – MAJOR POINTS

- There is no time limit on short sales. Short positions can be maintained indefinitely, provided that the stock does *not* become de-listed or worthless, as long as the investor can borrow the shares, and adequate margin is maintained in the short account

- If the investment dealer cannot borrow shares, the investor may have to cover the position immediately, regardless of its prevailing market price

- All exchanges require that their members determine whether a sell order is a short or long sale, and total short positions are compiled and reported twice a month

- Dangers of short selling:
    1. There can be difficulties borrowing a sufficient quantity of the shorted stock
    2. The short seller is responsible for maintaining adequate margin
    3. The short seller is liable for paying any dividends
    4. Buy-in requirements become effective if adequate margin cannot be maintained by the client
    5. It is difficult to obtain up-to-date information on total short sales of a security
    6. Price action in a shorted security may become volatile
    7. Short selling exposes the investor to a theoretically unlimited loss

SETTLEMENT PROCEDURES

- Once a transaction has occurred, both buyer and seller receive a **confirmation** and they must "settle" the transaction. The seller must deliver the security and the buyer must deliver the money

- In Canada, stock and bond certificates are *not* in the form of paper but held electronically by a clearing corporation. At the end of the day, the clearing corporation settles all purchase and sales of stock and bonds among dealers

ORDER TYPES

- **Market Order –** assures immediate execution, gives the trader the authorization to buy at the offer price and sell at the bid price

- **Limit Order –** implies a price limit on the order, establishing a maximum buy price and minimum sell price

- **Day Order –** stipulates that the limit order entered will be in force for only one day, then automatically cancels. All orders are considered day orders unless otherwise specified

- **Good Through Order –** stipulates a finite number of days that the limit order is open for. It automatically cancels if *not* filled

- **Good Till Cancelled (GTC) Order –** remains in effect until it is either executed or cancelled. Many firms limit GTC orders for a maximum of approximately 30 days

ORDER TYPES (cont'd)

- **Any Part Order** – authorizes the sale or purchase of any order where the client will accept all stock in odd, broken or board lots

- **All or None (AON) Order** – the trader must execute the total number of shares as specified on the order before the client will accept a fill

- **Stop Loss Order** – a sell order that is executed when the price drops to a specified level, at which point it becomes a market order. This is a protective strategy to lock in gains or limit losses when an investor is long a security

- **Stop Buy Order** – a buy order that is executed when the price rises above a specified level, at which point it becomes a market order. This is the opposite of a stop-loss order and is often used by short-sellers to protect from large losses

- **Professional (Pro) order –** a Pro Order relates to an account belonging to an employee, partner, director, officer, etc. of the member firm. "Where the order of a client competes with a non-client order at the same price, the client's order is given priority of execution over the non-client order."

DERIVATIVES

- A **derivative** is a financial contract whose value is derived from the value of some other asset. The two basic types of derivatives are **options** and **forwards**

- Features common to all derivatives:

    1. All derivatives are contractual agreements between two parties, known as counterparties
    2. All derivatives have an expiration date
    3. The price or formula for determining the price has been set in advance
    4. Derivatives are a zero-sum game

- Derivatives trade either over-the-counter (OTC) or through an organized exchange. The OTC market is a lightly regulated network of brokers and dealers. The exchange is a legal corporate entity. There are two exchanges in Canada, the Bourse de Montreal and ICE Futures Canada

- **OTC Advantages:** private transactions, no performance bond necessary, less regulated, customization

.0

- **Exchange Advantages:** easy termination prior to expiry, clearinghouse guarantees financial performance

TYPES OF UNDERLYING ASSETS

- Commodities – such as oil, gas, precious metals, wheat

- Financials – equity and equity indexes, interest rates, currencies

Investors – both individual and institutional – use derivatives for two purposes: Speculation and hedging

- Speculation – means taking on risk in order to enjoy higher returns

- Hedging – means reducing risk and sacrificing the potential for higher returns

OPTIONS

- An option contract gives the buyer (long position) the right to buy (call contract) or sell (put contract) at a specified price for a specified period of time. The seller of an option contract is obligated to buy (put contract) or sell (call contract) at a specified price for a specified period of time

- The specified price is known as the **strike price** or **exercise price**. To compensate the seller for taking on an obligation, the buyer of the option must pay a non-refundable amount of money, the **premium**

	Buyer or holder	Writer or seller
Call	Pays premium and has the right to buy	Receives premium and has the obligation to sell
Put	Pays premium and has the right to sell	Receives premium and has the obligation to buy

- An option's **trading unit** specifies the size or amount of underlying asset. All exchange-traded stock options have a trading unit of 100 shares. Therefore, the seller of 100 call contracts has the obligation to sell 10,000 shares of the underlying security

- Options that can be exercised at any time during their lives are **American-style**. Options that can be exercised only at expiration are **European-style**

- **LEAPS** are long term option contracts with the same risks and rewards as regular options

INTRINSIC VALUE AND TIME VALUE

- An **opening transaction** in an option trade occurs when a new position is established. An opening buy results in a long position while an opening sell results in a short position. **Offsetting transactions** are the opposite of opening transactions. By offsetting, the investor closes the position, eliminating either the right or obligation originally entered into

- Options are written with a variety of strike prices. The relation between the exercise price of the option and value of the underlying value of the asset establishes its **intrinsic value**

- XYZ Security is $25. It has $20 calls trading at $7, $25 calls trading at $2, and $30 calls trading at $1. We would say that the $20 call has $5 of intrinsic value, because it is would "intrinsically" be worth $5 to have that option and exercise it immediately. The $20 call would be **in-the-money**. The $25 call would have no intrinsic value and be at-the-money. The $30 call would have no intrinsic value and be **out-of-the-money**. The $7 value of the $25 call would be divided between $5 of intrinsic value and $2 of time value

- DEF Security is $50. It has $45 puts trading at $1.50, $50 puts trading at $2.50 and $55 puts trading at $6. The $55 put would have $5 of intrinsic value, because it would "intrinsically" be worth $5 to have that option and exercise it immediately. The $50 put would be at-the-money. The $45 put would be out-of-the money. The $6 value of the $55 put would be divided between $5 of intrinsic value and $1 of time value

OPTION PRICE = INTRINSIC VALUE + TIME VALUE

If an option has zero intrinsic value, then its entire value would be attributed to time value

OPTION STRATEGIES

- Buying call options:
    1. As a speculative strategy – buying calls allows investors to use leverage to increase the return relative to the investment made
    2. To manage risk – buying calls allows investors to lock in a price, assuming that they will receive the funds later

- Selling call options:
    1. Covered call writing – investors own the underlying and sell options to receive the premium. The premium plus the exercise price becomes the total receipt
    2. Naked call writing – investors do not own the underlying, but sell the option to receive the premium

- Buying put options:
    1. As a speculative strategy – a less risky alternative to short-selling
    2. Buying puts to manage risk – as insurance against stocks investors hold, locking in a minimum sell price

- Writing put options:
    1. Cash secured put writing – investors have the cash to pay for the underlying security if assigned
    2. Naked put writing – investors sell the put in the hope of receiving the premium and *not* having the security put to them

FORWARDS AND FUTURES

- Forwards are contracts between two parties that bind both buyer and seller to buy/sell a specified asset at a specified price for a specified period of time

- When a forward is traded on an exchange, it is understood as a **futures contract**

- The buyer is the long and the seller is the short

- When futures are traded on an exchange, there is the requirement to deposit and maintain adequate margin in the futures account. There is daily settlement of gains and losses; this is known as **marking-to-market**

- Futures strategies are similar to option strategies in that they can be used to hedge positions and reduce risk or they can be used for speculative purposes

RIGHTS AND WARRANTS

- **Rights** and **warrants** are used by companies to raise investment capital instead of conducting a secondary offering

- A right is a privilege granted to a shareholder to acquire additional shares directly from the issuing company, at a discount to the current market price. This allows the company to raise investment capital, yet offer a benefit to existing shareholders at the same time

EXAMPLE: "ABC Company declares a rights offering where each shareholder receives one right, and five rights plus $10 will allow the shareholder to purchase an additional treasury share." (The market price of the shares is $12)

- When the rights offering is declared, the rights are "attached" to the shares, then the shares go "ex-rights". The formula for the value of one right during the cum rights period:
  $\frac{\text{Market price} - \text{Subscription price}}{\text{\# of rights for one new share} + 1} = \frac{\$12 - \$10}{6} = \$.33$

- The formula for valuing one right during the ex-rights period:
  $\frac{\text{Market price} - \text{Subscription price}}{\text{\# of rights for one new share}} = \frac{\$12 - \$10}{5} = \$.40$

- To determine the number of new shares that could be issued and total capital raised:
  Number of new shares = # of shares outstanding/5
  Total capital: Number of new shares x $10

RIGHTS AND WARRANTS (cont'd)

- A warrant is a security that gives its holder the right to buy shares in a company from its issuer at a set price for a set period of time. It is similar to a call option, except options are contracts between investors and the issuing company is *not* involved in option trading

- Warrants are often used as a **sweetener** as part of a package of a new debt or preferred share issue

- Warrants, like options, are comprised of intrinsic value and time value. If the exercise price of the warrant is lower than the current market price of the security, then the warrant has intrinsic value – the remainder of its value would be understood as being time value

- Companies raise additional funds through a rights offering because:
    1. Market conditions may *not* be conducive to a secondary offering of common shares
    2. The company may want to give existing shareholders the opportunity to maintain their proportionate ownership in the company

- Warrants are generally longer-lived than rights. Warrants are issued with terms of several years while rights are issued with terms of several weeks

BUSINESS STRUCTURES

- **Sole proprietorship** – one person runs his/her business and is taxed on earnings at his/her individual rate. Owner is personally liable for debts

- **Partnerships** – two or more people contributing to the business, in the form of capital, expertise or both. **General partners** are involved in the day-to-day operations of the business and are personally liable for debts; **Limited partners** cannot participate in the daily business activities and their liability is limited to their original investment

- A **corporation** is a distinct legal entity separate from the people who own it. Property acquired by the corporation belongs to the corporation itself, *not* its shareholders. Shareholders have no liability for the corporation's debt. Corporations can easily raise equity and debt and therefore are more suitable for large business ventures

- **Private corporations** limit in their charters the number of shareholders to no more than fifty, the public is prohibited from subscribing, and shareholders are restricted in their ability to transfer shares

- **Public corporations** do *not* have the restrictions that private corporations do. All companies that trade on the stock exchange are, by definition, public corporations

ADVANTAGES OF INCORPORATION

- Limited liability of shareholders – the most money you can lose is what you pay for the shares, either through the primary or secondary market

- Continuity of existence – corporation's existence only ends through an event like bankruptcy

- Transfer of ownership – easily facilitated through the auspices of the stock exchange

- Ability to finance – raising of capital easier than for sole proprietorships or partnerships

- Growth – corporate structure well suited to handle the large amounts of capital needed to grow a business

- Legal entity – a corporation can be sued, even by the shareholders!

- Professional management – the ownership and managerial functions are separated

DISADVANTAGES OF INCORPORATION

- Loss of flexibility – corporation is subject to many rules, including the need for continuous disclosure of information

- Taxation – the possibility of double taxation arises

- Expense – additional costs include annual returns, audits, shareholders' meetings, etc.

- Capital withdrawal – statutory procedures for redemption and purchase of shares by the corporation itself are onerous

VOTING AND CONTROL

- A corporation is regulated by:
  1. The federal or provincial charter under which it is incorporated
  2. Its own charter
  3. Its by-laws

- Provisions in the by-laws deal with such items as shareholder meetings and how to notify shareholders, information about directors, declaration and payment of dividends, date of fiscal year end, and signing authority

- All shareholders must be given the opportunity to receive materials relating to shareholder meetings, including receiving **proxy** forms. A proxy is a power of attorney that gives a designated person the authority to vote the absentee shareholder's shares. It is mandatory to send out proxy forms before a shareholder meeting, accompanied by an **information circular** which contains details about what will be voted on at the meeting

- **Voting trusts** may be formed when a corporation is undergoing a restructuring. Shareholders deposit their shares with a **trustee**, which effectively means that the shareholders do *not* have the right to vote and control the company's direction. The purpose is to protect the interests of others who may contribute capital to the company in its time of difficulty

STRUCTURE OF AN ORGANIZATION

- The shareholders are the owners of the company

- The shareholders elect a Board of Directors. The board's primary responsibilities:

    1. Set company policies by passing resolutions
    2. Appointment and supervision of officers and signing authorities for banking, approving budgets
    3. Personally liable for illegal acts of the corporation done with their knowledge and consent
    4. Personally responsible for employees' wages, declared dividends and government remittances
    5. Must act honestly, in good faith and in the best interests of the corporation

- To qualify as a director, an individual must be of the age of majority, of sound mind and *not* an undischarged bankrupt

- Chairman is elected by the Board of Directors and presides over board meetings. Chairman may also be the chief executive officer or president

- President is appointed by and responsible to the board of directors. The President himself/herself appoints vice-presidents to head specific areas of the corporation, such as sales and finance

GOVERNMENT FINANCING

- **Financing** or **underwriting** is the process by which an issuer (governments or corporations) raise debt and/or equity. For governments this financing is often accomplished through an auction process and occasionally through a **fiscal agency**

- The Canadian Government uses the **competitive tender system** for most products. **Government securities distributors** submit bids, and highest price (lowest yield) wins. These bidders are Schedule I and Schedule II Banks, investment dealers and foreign dealers. The *most* important dealers are known as **primary dealers**

- The **non-competitive tender** system involves carving out a portion of the issue and allocating to smaller distributors at the average price for the winning, competitive bids

- New issues of provincial direct and guaranteed bonds are usually sold at a negotiated price through a fiscal agent. **Direct bonds** are issued in the government's name. **Guaranteed bonds** are issued in the name of a crown corporation but are guaranteed by the provincial government as to payment

CORPORATE FINANCING

- A **negotiated offering** is the *most* common means for issuing debt securities. A firm's management negotiates with a dealer with respect to type of security, price, special features and protective provisions

- Common shares and preferred shares form the company's **capital stock** or **equity capital**

- **Authorized shares** refer to the theoretical maximum number of shares that a company can issue under the terms of its charter. Usually, more shares are authorized than issued when the company goes to the capital markets for the first time to allow future growth

- **Issued shares** refer to that part of the authorized shares that have been issued by the corporation. **Outstanding** refers to the part of the issued shares that are in the hands of shareholders.

  Market capitalization = Outstanding shares x price per share

- **Public float** is the part of the issued shares that are outstanding and available for trading by the public. This excludes shares held by company officers, directors or institutions that hold a controlling interest in the company

THE CORPORATE FINANCING PROCESS

- When negotiations begin between a dealer and corporate issuer for a new issue of securities, a **due diligence report** is prepared by the dealer

- An important decision is what kind of security should be issued: Bonds, debentures, preferred shares or common shares

- Primary advantages for bonds – lower interest rates than debentures, more marketable. Primary disadvantages – less flexibility because of pledge of assets, makes mergers and acquisitions (and being acquired) *more* difficult

- Primary advantages for debentures – flexible, no specific pledges or liens and reduction in cost at issue. Primary disadvantages – higher interest rates required than bonds

- Primary advantages for preferred shares – dividend payments are *not* mandatory, greater flexibility in financing, limited lifespan through redemption of shares. Primary disadvantages – expensive because dividends are paid with after-tax income, non-payment of dividends can trigger penalties

- Primary advantages for common shares – no obligation to pay dividends, no repayment of capital, larger equity base can support more debt, market value of company easily established. Primary disadvantages – dilution for existing shareholders, dividends (if paid) *more* expensive, underwriting fees greater than if debt were issued

THE METHODS OF OFFERING

- In a **private placement**, one or a few large institutional investors are solicited to buy the entire issue. This method is cheaper and faster for the issuing company – no formal **prospectus** must be prepared

- In a **public offering**, there must be a prospectus prepared. A **primary offering** refers to the first time that a class of particular shares is available for sale to the public and generally takes place in the IPO market. A **secondary offering** refers to the second (or third or fourth) time that the class of shares is available to the public

STEPS IN THE UNDERWRITING PROCESS

- Most provinces require that issuers file both a **preliminary prospectus** and **final prospectus**. The preliminary prospectus is designed to qualify interest in the issue. After the preliminary prospectus is filed with the applicable securities commissions, the dealer has 90 days to prepare, submit and receive approval for the final prospectus. This period of time is known as the **waiting period**. During this period of time, only limited communication with investors is permitted

- The preliminary prospectus serves two key purposes: It is a key disclosure document required under the law and helps qualify interest in the issue. It does *not* include information about price and the size of an issue. The preliminary prospectus is also known as the **red herring prospectus**

- In addition to the preliminary prospectus, many investment dealers prepare a **greensheet –** a summary fact statement for sales people, highlighting the salient features of the issue

- The **final prospectus** must provide "**full, true and plain disclosure of all material facts**" about the securities to be distributed. Once the final prospectus is approved by the regulators or **blue skyed**, then it can distributed to the public

SHORT FORM PROSPECTUS SYSTEM

- The **short form prospectus** is a streamlined method of accessing funds through the public markets, available to **senior reporting issuers** who are already subject to **continuous disclosure** requirements

- The logic behind the short form prospectus system is that much of the information revealed through the preliminary and final prospectus has been in the public domain for an extended period of time, given that these are senior reporting issuers

- The **bought deal** has become a frequently used method of raising capital. The investment dealer negotiates with the issuer directly and assumes the risk of the position while the details of the prospectus are worked out

AFTER MARKET STABILIZATION

- One of the duties of a lead dealer in an underwriting issue may be to provide **after-market stabilization** of that security's offering. This involves supporting its price in the first days of trading

- There are three primary methods of after-market stabilization
    1. The lead dealer may have an **over-allotment option**, also known as a **green shoe option**. This allows it to purchase additional shares in the future at a locked-in price, taking a short position at the IPO date. If the share price falls, it can buy shares and support the price. If the share price rises, it can buy in at the locked-in price. Either way, this tends to stabilize the price

    2. The "penalty bid" means the lead underwriter will penalize members of the selling group if their customers sell (or "flip") shares in the after-market after the deal closes

    3. The dealer may post a stabilizing bid to purchase shares

THE LISTING PROCESS

- There are advantages associated with listing on a major exchange: Prestige for the company, established market value, market visibility, more information available, facilitates valuation for tax purposes, and increased investor following. Disadvantages: additional controls on management, additional costs to the company, market indifference, additional disclosure, need to keep market participants informed

- When the listing application is completed, the company signs a formal **Listing Agreement**. This is the contract that details the specific regulations and reporting requirements that the company must meet

- By signing a Listing Agreement, a company agrees to: Submit annual and interim financial reports; promptly notify the exchange about dividends or other distributions; and notify the exchange of other proposed material changes in the business or affairs of the company

WITHDRAWING TRADING PRIVILEGES

There are three temporary withdrawals of trading privileges that the exchanges can invoke:

- **Delayed opening** – occurs if before the market opens, there is a heavy influx of buy and/or sell orders for one particular security. It does *not* affect the general opening of the market

- **Halt in trading** – occurs in the middle of the trading day to allow significant news to be widely disseminated. A halt would occur if there were news of a pending merger or a major contract had been lost

- **Suspension of trading –** imposed if the company's financial condition does *not* meet the exchange's requirements or the company fails to comply with its commitment – for example, being late with financial statements

- **Cancelling a listing/de-listing** – this is a permanent cancellation of listing privileges. Reasons:
    1. Delisted security no longer exists, having merged or being bought out
    2. The company is without assets or bankrupt
    3. Distribution of the security has dwindled to an unacceptably low level
    4. The company has failed to comply with its listing agreement

FINANCIAL STATEMENTS

- There are three basic financial statements: **Statement of Financial Position**, **Statement of Comprehensive Income,** and **Statement of Cash Flows**

- The **Statement of Financial Position** – also known as the balance sheet, is a snapshot of a company's financial position at a specific date. In annual reports, that date is the last day of the company's fiscal year. This statement shows the company's assets (what it owns), its liabilities (what it owes) and the difference between the two represents the equity the shareholders have in the company

- The **Statement of Comprehensive Income** – also known as the Income Statement or Profit and Loss Statement – shows how much revenue a company received during the year, and the expenses incurred associated with generating that revenue. The difference between the two is the company's profit or loss

- The **Statement of Cash Flows** fills the gap between the balance sheet and income statement by providing information about how the company generated and spent its cash during the year

CLASSIFICATION OF ASSETS

- Basic equation of the Statement of Financial Position:

ASSETS = LIABILITIES + SHAREHOLDERS EQUITY

- Current Assets are cash and other assets such as Accounts Receivables (money owed from customers), Prepaid Expenses and Inventories (product to be sold in the future) where cash is expected within one year or a normal operating cycle of the business. Current assets are listed in order of liquidity from most liquid to least liquid

- Property, Plant and Equipment – also known as Capital Assets – consist of land, buildings, and equipment used in the day-to-day operation of the business. These assets are shown at historical cost, less accumulated amortization and depreciation. This is understood as the **net carrying amount (book value)**

CLASSIFICATION OF ASSETS (cont'd)

- **Capitalization** refers to the recording of an expenditure as an asset rather than an expense. Capitalization means that an asset appears on the Statement of Financial Position as opposed to being reflected as an expense for that period

- **Deferred charges** represent payments made by the company for which the benefit will extend over a period of years – similar to Prepaid Expenses, but over a longer period of time

- **Intangible assets** are assets that cannot be touched, weighed or measured. **Goodwill** is created when Company A purchases Company B for a value in excess of the fair value of Company B's assets

INVENTORY METHODS

- There are two methods for valuing inventory**, <u>first-in-first-out (FIFO),</u>** and **<u>Weighted Average</u>**

- Imagine that in a given period, a widget costs $1 on Day One. On Day Two it costs $2. On Day Three, the Company sells the Widget for $3

- FIFO methodology: The company would sell the unit it purchased first for $1 and record profit of $2. It would keep the unit it purchased for $2 and record inventory of $2

- Weighted Average: The company would average the cost of the units; therefore it would record profit of $1.50 and inventory of $1.50

- Bottom line: In eras of rising prices, FIFO accounting results in higher profits and higher inventories than weighted average

DEPRECIATION AND AMORTIZATION

- Companies depreciate fixed assets (such as equipment), amortize intangible assets (such as patents and trademarks) and deplete wasting assets (oil and timber)

- The logic behind this accounting treatment is that assets lose value over time. The loss in value must be reflected on both the Statement of Financial Position – where the carrying value of the asset decreases – and the Statement of Comprehensive Income – where depreciation or amortization is recorded annually

- There are two depreciation methods – straight-line and declining balance methods. The straight line method depreciates an equal amount annually; the declining balance method depreciates most in the first year and declines from there

STRAIGHT LINE DEPRECIATION

- Assume that a company purchased a machine for $1,000,000 that will provide four years of useful life, then be worth $100,000 in salvage value at the end of that time

- Straight line method: Annual Depreciation:
  (Purchase value – Salvage value)/Years of use
  = ($1,000,000 – $100,000)/4 = $225,000
  $225,000 would be the annual depreciation. After one year, the machine would have a carrying value of $775,000. After two years its carrying value would be $550,000. After three years, $325,000. After year four, it would be depreciated to its salvage value of $100,000.

	Purchase Value	Annual Depreciation	Accumulated Depreciation	Net Carrying Value
T = 0	$1,000,000	$0	$0	$1,000,000
T = 1	$1,000,000	$225,000	$225,000	$ 775,000
T = 2	$1,000,000	$225,000	$450,000	$ 550,000
T = 3	$1,000,000	$225,000	$675,000	$ 325,000
T = 4	$1,000,000	$225,000	$900,000	$ 100,000

- If the company sold the machine after, for example, Year Two for an amount other than $550,000, it would record the difference as either a gain or loss. If the machine were sold for $560,000, there would be a $10,000 gain. If the machine were sold for $525,000, there would be a $25,000 loss

DOUBLE-DECLINING DEPRECIATION

- For the double declining balance method, the annual depreciation is determined by:

  (100% divided by number of years of use) x 2…

  = 100%/4 x 2 = 50%.

  This machine would be depreciated at a rate of 50% of its original purchase price, then the remaining carrying value would be similarly depreciated until the asset depreciated to its salvage value

	Purchase Value	Annual Depreciation	Accumulated Depreciation	Net Carrying Value
T = 0	$1,000,000	$0	$0	$1,000,000
T = 1	$1,000,000	$500,000	$500,000	$ 500,000
T = 2	$1,000,000	$250,000	$750,000	$ 250,000
T = 3	$1,000,000	$125,000	$875,000	$ 125,000
T = 4	$1,000,000	$ 25,000	$900,000	$ 100,000

GOODWILL

- In common usage, goodwill is defined as the probability that a customer will return to a business – implying a value that can be quantified. However on consolidated Financial Statements, goodwill represents the excess of the amount paid for a business over its shareholders' equity. If you see goodwill on a company's statements, you know that it has been an acquirer in the past

- Imagine the following:

	COMPANY A	COMPANY B
Cash	$10 million	$ 2 million
Other Assets	$10 million	$ 8 million
TOTAL ASSETS	$20 million	$10 million
Liabilities	$ 5 million	$ 8 million
Shareholders Equity	$15 million	$ 2 million
L & S/E	$20 million	$10 million

- Company A offers to buy-out Company B for $4 million in Cash – and Company B's shareholders accept. The new consolidated Balance Sheet would be…

GOODWILL (cont'd)

	NEW COMPANY A/B
Cash	$ 8 million
Other Assets	$18 million
TOTAL ASSETS	$26 million
Liabilities	$13 million
Shareholders Equity	$15 million
L & S/E	$28 million

- This Balance Sheet no longer balances – which is why an Intangible Asset, Goodwill, is created in the amount of $2 million, which is the difference between the cash paid and the net assets of the acquired company

	NEW COMPANY A/B
Cash	$ 8 million
Other Assets	$18 million
Goodwill	$ 2 million
TOTAL ASSETS	$28 million
Liabilities	$13 million
Shareholders Equity	$15 million
L & S/E	$28 million

LIABILITIES & SHAREHOLDERS EQUITY

- Current liabilities are the mirror image of current assets – debts that must be paid within one year… the most common types are: Bank Advances, Accounts Payables, Dividends Payable, Income Taxes Payable and Bonds Due Within One Year

- Non-Controlling Interest in Subsidiary Companies appears on consolidated Balance Sheets and occurs when a company owns less than 100% of the assets and liabilities of a subsidiary. It will show 100% of the assets and liabilities and reflect the part it doesn't own as non-controlling interest

- Shareholders' Equity is divided into four different areas:
  1. **Share Capital** – amount received by the company for its shares when sold from the treasury, reflecting their par value
  2. **Contributed Surplus** – amount received by the company for its shares when sold from the treasury, above their par value
  3. **Retained Earnings** – portion of earnings retained by the company after paying dividends
  4. **Foreign Currency Translation Adjustment** – reflects change in value of foreign currencies held by subsidiaries

STATEMENT OF COMPREHENSIVE INCOME

- First section is divided into three parts:
    1. Revenue
    2. Cost of Sales
    3. Gross profit

- The operating section shows the income received, the expense incurred to obtain that income, and the balance which represents the profit or loss. The operating section is broken down in the following manner:
  NET SALES… followed by COST OF GOODS SOLD
  = GROSS PROFIT… minus OPERATING EXPENSES
  = NET OPERATING PROFIT or EBIT which is Earnings before Interest and Taxes

- In the Owners' Section, adjustments are made where companies own less than 100% of shares:

  A company owns 80% of the shares of a subsidiary. It would show 100% of the subsidiary's Assets, Liabilities and all of its Operations on its Income Statement, then "backs out" 20% of the Net Assets on the Balance Sheet and 20% of the Net Profit on the Income Statement. This "20%" is called **Minority Interest** – the portion it does *not* own

  Share of profits of associates – used where 20% to 50% of the voting shares are owned. This ownership amount is associated with significant influence without control

  Cost Method – used where ownership is 20% or less

STATEMENT OF CASH FLOWS

- The Statement of Cash Flows is divided into three sections: **Operating, Investing** and **Financing**

- **Operating** activities pertain to the normal operations of business – cash receipts from customers, paying for product, employees' wages, etc.

- **Investing** activities capture cash flows associated with the company's investment in its own operations – the purchase and sale of land, buildings and equipment necessary to drive the core operations

- **Financing** activities represent monies received from the sale of treasury shares and the issuing of bonds, retirement of debt, buying back shares and the paying of dividends

- Dividends paid to shareholders or interest paid to bondholders can be shown in either the operating or financing sections of the statement of cash flows

- Dividends or interest received by the company from its investments may be shown in either the operating or investing sections of the statement of cash flows

THE ANNUAL REPORT AND AUDITORS

- In addition to the Financial Statements, there is a great deal of information captured in the Notes to the Financial Statements

- The Notes disclose information about the company's operations, by industry and geographical area. The information for each segment should include revenue, profit and loss, capital expenditures, etc.

- Canadian corporate law requires that every limited company appoint an **auditor** to represent shareholders and report to them on the company's financial statements

- The **auditor's report** typically has four sections:
    1. Introduction
    2. Second section outlines the financial statement responsibilities of management
    3. Third section outlines the auditor's responsibilities and states how the audit was conducted
    4. Fourth section is the auditor's opinion – do the financial statements faithfully represent the company's condition?

- The auditor is supposed to ensure that the company's statements were prepared in accordance with International Financial Reporting Standards