Bloomberg Market Concepts
Economic Indicators

The Primacy of GDP

- Main measure of economic activity
- World GDP: 8% compounded annual growth over 50 years
- How accurately do GDP statistics portray the economy?
    - Inaccurately because the scope of GDP measurements can change
- Economic growth is cyclical, with series of booms and busts
- Investors interpret economy through economic indicators
- Leading indicators attract the most investor interest

Economic statistics

Essential Economic Indicators

- Economic growth
    - Gross domestic product
    - Market value of all final goods and services in a country
    - GDP = C + I + G + (X-M)
    - C = personal consumption
    - I = private investments
    - G= gov consumptions
    - X = exports
    - M = imports
    - Different countries have different emphasis on GDP (example: in America personal consumption makes up most of GDP, while in China it is Private investment)
    - Important: percentage change in GDP from one year to the next
    - Nominal GDP - inflation = Real GDP Growth
    - Real GDP growth: only production, taken out inflation effects
    - Recession: 2 successive quarters of negative real GDP growth
- Inflation
    - Erodes value of bonds
    - General increase in prices of goods and services
    - Decreases purchasing power of money
    - Sources of inflation data: quarterly GDP report, monthly CPI
    - CPI needs to be fully representative of consumer spending
    - Inflation basket
    - What was a representative basket yesterday may not be representative today
- Unemployment
    - Consumer spending based on salaries
    - Economy shrinks when unemployment rises
    - GDP growth is depressed when unemployment rises
- Business confidence
    - Business consumers make more investments when they feel confident there will be a demand for their goods and services in the future

    - ISM: gauges business confidence
    - Above 50: optimism
    - Below 50: pessimism
    - PMI and GDP move together
    - PMI is best leading economic indicator
- Housing
    - Housing starts → house building
    - Buying new house = buying new products as well
    - Housing starts against real gdp growth → there is a relationship

Monitoring GDP

- World economic indicators → US
- Check monthly: PMI, nonfarm payrolls (unemployment report), housing, inflation, CPI (in that order)
- Check if actual is better than surveyed
- First inkling comes from PMI
    - This will tell us about US business confidence
- GDP is released every quarter
    - 1st quarter: end of April
- GDP often fails to surprise because other indicators give hints
- GDP estimation by govs is time-consuming, activity
- GDP arrives too late to be useful to investors
- Instead, glean GDP growth through related indicators
- The indicators that are released first attract the most attention

Forecasting GDP

- Analysts forecast key economic indicators
- Long-term economic estimates are foundational to financial markets
- Changes in estimates illustrates economic optimism and pessimism
- Significant changes may herald an economic turning point
- Investors compile many indicators, rather than one, to predict turning points
- Turning points
- Investment banks create estimates of economic indicators to know when specific economic data points are a positive or negative surprise
- Economic surprise monitor
    - Surprise moves markets

Currencies

Currency Market Mechanics

- Currencies used to have locked exchange rates, US dollars could be directly converted to gold
- After Vietnam War, Nixon announced to suspend the convertibility of US dollars into gold, no longer had locked exchanged rates
- The US dollar equivalent of 5T of currencies are traded every day
- 1971: dawn of the modern currency markets
- Several countries peg their currencies to other currencies → to keep back inflation, etc
- Locked exchanged rates are not actually set in stone by are government aspirations
- Floating currencies move against one another in a matrix (kept in check by triangular arbitrage)
- The US dollar is the world's reserve currency and is the most heavily traded currency

Who trades currencies

- Financial investors (45%)
    - Banks, security firms, etc
    - Hot money
- Corporations
    - Global business
- Travelers

Pegged Currencies

- Currencies that linked to other currencies
- Fixed exchange rate
- FX reserves → manipulates supply demand for currency
- US dollar most commonly used (most liquid)
- Countries lift interest rates to defend pegs
    - Rate hikes
- 1997 - Hong Kong
    - Successful thwarted attack on pegs
    - Spike in FX reserves
- In 1994, the mexican peso declined against the US dollar during "Tequila Crisis." What exacerbating factor did Mexico's Tequila Crisis have in common with the Argentine crisis of 2002?
    - Both countries had large dollar-denominated debts

Floating currencies

- How much of one currency is needed to buy another
- Not pegged to another currency
- Need to be careful in units

Triangular Arbitrage

- Will not make or lose money if you keep exchanging
- Investors usually use USD as middle currency

Currency Valuation

- Law of one price
- Three main currency drivers
    - Surprise changes in interest rates
    - Surprise changes in inflation
    - Surprise changes in trade
- Interest rates
    - When central bank unexpectedly increases interest rates, government bond yields rise, and the currency strengthens because investment is attracted from around the world
- Inflation
    - Excess money supply
    - Rises in inflation will weaken the currency
- Trade
    - Changes in trade changes demand for a currency
    - All else being equal, countries that are major net exporters have more attractive currencies
- Summary
    - Value of a currency is relative and not absolute
    - Trade weighted basket express currency overall strength and weakness
    - In the long run, the “law of one price drives currency values
    - In the short run, there are three main drivers of currency valuation

Central Banks and Currencies

- Want low but positive inflation rate (around 2%)
- Inflation is psychological
- Summary
    - Central banks control the levers of the currency markets (through interest rates)
    - The standard inflation target is 2% for industrialized nations
    - Inflation can lead to a vicious cycle of pay increases leading to price increases
    - Deflation can led to a vicious cycle of purchase deferrals and layoffs

Currency Risks

- Weakening of domestic currencies against the US dollar provides boon to exporting corporations
- Tools to assess currency risks
    - Historic volatility of currency pair values
    - Analyst forecasts of currency pairs
- Gold
    - Gold is durable and rare, not able to be manipulated by government
    - Viewed as an inflation hedge
    - Durable perception of value throughout history
- Summary
    - Currency movements can wreak havoc on corporations and investors

    - Historic volatility and currency rate forecasts shed light on currency risks
    - Forward agreements lock in currency rates, facilitating hedging and speculation
    - The fact that gold is scare and cannot simply be printed has meant that it has retained value

Fixed Income (Bond Market)

- Size
    - More than 2.1 trillion bonds
    - US: More than 1086 activity traded bonds in government
        - 14 trillion dollars gov bonds
        - 8 mill corporate bonds
        - After 2nd world war
    - Government bond market: sovereign bank market
- Government indebtedness
- Foreign owners of government bonds
- What quality of US gov bonds causes investors to buy them when market volatility rises?
    - US bonds are low risk
- Corporate bonds
    - 1980
    - Companies borrow because debt repayments lower tax bill
    - Being financed through bond market saves money
    - Can borrow for longer term from bond markets than from banks
- The structure of a bond
    - IOU that promises to make regular fixed payments(coupons) and large payment at end (principal)
- Bond yields
- Ordinary bond has rigid schedule of repayment amounts and timings of repayments
- However, price of bond can go up and down in the marketplace
- Fixed income does not mean fixed APR or fixed price
    - APR = Yield
    - Main input is price of bonds and what payments will happen it the future
    - Price of bond goes up, yield goes down
- Summary
    - Fixed income is another word for bond market, where loan agreements are bought and sold
    - The term fixed income stems from the fixed nature of bond repayments
    - The growth of governments has been the main factor giving rise to 101T world bond market
    - Investors view US gov bonds as the safest, most liquid financial assets in the world
    - There are millions of bonds outstanding and investors use yields to compare one bond to another

Bond Valuation

- Bond yield: the amount of return an investor realizes on a bond
- Shortcut to calculating
    - YAS function on bloomberg terminal
    - Equivalent bank deposit rate
    - Interest rate of an equivalent bank account for the duration of the bond
- Bond yields = advertised deposit rate
    - Rates offered to new buyers will change based on price of bond
- Bond valuation drivers
    - Credit risk
    - Macroeconomics
- Credit risk
    - Bonds are reliant on borrower's ability and willingness to pay
    - Bond prices today reflect beliefs on repayments in the future
    - More risk = higher yield
    - Higher yield: Makes future borrowing more expensive for the governments
- Credit Risk Factors
    - Debt/GDP
    - Deficit/GDP: higher ratio means higher rate that government is racking up debt, which leads to higher yield
    - Repayment schedule: aggressiveness of repayment schedule
        - DDIS function shows repayment schedule
        - Short term (lower interest rates) and long term borrowing
        - US is very creditworthy, and investors will not "pull out the rug from underneath"
- Credit Risk Indicators
    - Credit ratings
        - Many credit rating agencies that rate bonds
        - Investment grade and non-investment grade
    - Credit default swaps
        - Alternative to monitoring credit ratings
        - Form of insurance against govs and companies going bust
        - Real time readings based on traded instruments
        - Higher spread = higher risk
- Macroeconomics
    - Short term interest rates
    - Inflation: higher inflation, higher yield
        - Bond yields are nominal (not adjusted for inflation)
        - Bad for lenders, good for borrowers
        - Deflation; good for lenders, bad for borrowers
- Rise in creditworthiness → higher bond price
- Investor compare bonds by the yields of single bonds
- Summary

    - Bond yield is just interest rate on an equivalent bank account for the duration of the bond
    - 3 biggest factors driving yields are creditworthiness of borrower, inflation, and short term interest rates
    - Bond market instill discipline in govs as declining creditworthiness makes future borrowing more expensive
    - Short-term borrowing is cheaper but riskier for borrowers than long-term borrowing as it relies on the ongoing appetite of the lenders
    - As payments to bondholders are fixed, inflation will corrode the purchasing power of fixed bond repayments, sending yields up
    - As US gov bond yields serve as benchmarks for all investments, yields on other bonds tend to move with them

Central Bankers and Interest Rates

- Protect currency from inflation through interest rates → 2% inflation target
- High inflation will erode price of bonds and send yields up
- Treasury Inflation Protected Securities (TIPS) → not eroded by inflation
- Output gap: difference between actual and potential output divided by potential output
    - Slack: negative output gap, look out for deflation
    - Tight: positive output gap, look out for inflation
- Short term interest rates
- Statements
- Fed's favorite inflation gauge is Core PCE
- Summary
    - Most central banks have a mandate to prevent runaway inflation and deflation
    - As inflation is corrosive to bonds, fixed-income investors watch for any signs of inflations
    - Central banks closely monitor inflation expectations and output gaps when making decisions
    - Central banks contain inflation and deflation by directly changing interest rates or by altering interest rate expectations
    - Over the past few decades, short term interest rates have been the tool of choice to steer economies

The Yield Curve

- Visual representation of cost of borrowing
- X axis: bonds of varying maturity
    - Different US bonds and plots their yields at that time
- Slope up to compensate lenders for higher risk of longer term bonds
- Spread: how much more a business pays to borrow money than the government does
- Regulates corporate borrowing
- Government bonds influence housing market

- Summary
    - Yield curve represents cost of borrowing for various loan lengths
    - Yield curves are naturally upward sloping due to elevated risk of long-term lending
    - Corporate bonds are priced using a spread off the government yield curve so the yield curve indirectly regulates company funding
    - Consumer borrowing for big ticket items is priced off the yield curve
    - Yields of developing economies are correlated, which means that the overall movement in yields has a global impact

Movements in the Yield Curve

- Left hand: interest rates
- Right hand: inflation expectations
- Gradient of the yield curve
- Summary
    - Left of yield curve is the overnight interest rate set by the central bank
    - The right of the yield curve is driven primarily by inflation expectations
    - While the left hand end of the yield curve is locked, the right hand ends floats freely
    - A steep yield curve signals improving times
    - A flat yield curve signals worsening times
    - An inverted yield curve often precedes a recession

Equities

Introducing the Stock Market

- Index weight %: market cap of one stock/total market cap for all stocks
- Points contribution of one stock = index level x index contribution of one stock
- DJIA is calculated by adding together share prices of 30 constituent companies
- Summary
    - IPO raise money and/or transfer ownership
    - Companies delist when they are bought, go bust, or balk at reporting requirements
    - Equity indices come in all shapes and sizes
    - Index performance is calculated from the performance of index members

The Nature of Equities

- Equities: unknown residual earnings (no guarantees)
    - Full ownership
- Calculating returns
    - Trough level to peak level
    - Index move is difference
    - Percent movement is index move/trough level
- Factors to consider when comparing returns

    - Role of dividends in equity returns
    - Nominal nature of stock and bond returns
- Summary
    - Shareholders own a share of company earnings and assets
    - Stocks are volatile because earnings are volatile
    - Shareholder returns come from both shares going up and payment of dividends
    - The range of shareholder outcomes is asymmetrical. Shares can go to zero or can multiply in value

Equity Research

- How to estimate future company earnings
    - Industry classification
    - Suppliers and buyers
    - Revenue projections
    - Cost base
- Beats or misses (above or below estimates)
- Summary
    - Analysts must know the industries in which a company operates
    - Industry estimates are foundational to a company financial model
    - Industry drivers help formulate earning estimates
    - Investors asses company results by comparing them to estimates

Absolute Valuation

- Stock split
- Reverse stock split (stock consolidation)
- Valuations are opinions
- Assessing fair market valuation
    - Absolute valuation (discounted cash flow valuation)
    - Relative valuation (comparing to similar company or overall market)
    - What is a fair market value for the company?
- Five steps to absolute valuation
    - Estimate long-term future cash flows
    - Estimate discount rate aka “WACC”
    - Take estimated future cash flows
        - Discount cash flows using WACC
    - Deduct the firm’s indebtedness and add the firm’s cash file to derive market cap
    - Divide estimated market cap by number of shares to give estimated fair share price from the valuation
- US bonds set the baseline for the discount rate for equity investors
    - Needs to be higher than bond rate due to riskiness
- Calculating cost of equity (WACC)
    - 10 year gov bond yield
    - Historical overall market return
    - Market risk premium (market return - 10 year bond yield)

    - Consider how much riskier this stock is (beta)
        - Beta function
    - Multiply beta by previously calculated expected market return
        - Equity risk premium
    - Add back risk free rate to equity risk premium
- Discounting cash flows
    - Riskier the firm, the less you will value future cash flows
- Summary of absolute valuation process
    - Estimate future cash flows for firm by honing set of assumptions for the future
    - Estimate discount rate (WACC)
    - Discount future cash flows using WACC
      Subtract the value of debt and add on any cash to arrive at estimate of equity value
    - Divide market cap estimate by number of shares to give your estimated fair share price
- Lower 10 year bond → lower WACC
    - Lower WACC → higher estimated share price
    - This is how interest rates influence share price
- Wacc is greater than nominal GDP growth
    - In the long run, we are dead
- Heavily indebted companies have more volatile share prices that companies with no debt
    - Total value of firm changes but amount owed to bond holders does not
- Enterprise value: total firm value which is divided up between shareholders and bondholders
    - EV = total equity value + net indebtedness of firm
    - EV = market cap + debt - cash
- Many sensitivities to absolute valuation
- Higher beta = more sensitive to changes in the overall stock market
- Absolute valuation assigns greater value to short term than long term
- Calculating WACC example
    - Equity mix * cost of equity = contribution from equity
    - Debt mix * cost of debt = contribution from debt
    - WACC = contribution from equity + contribution from debt
- Summary
    - Absolute valuation involved the discounting of future cash flows
        - Main driver is how you think company will perform
    - Future profits in the long term are worth less than future profits in the short term
    - Good financial models balance simplicity with insight
    - The concept of absolute valuation is theoretically perfect
    - The outputs from absolute valuations are usually precisely wrong
    -

Relative Valuation

- Comparing company to itself, similar company, or overall market
- Two step process
    - Metrics
    - Applications
- Dividend yields
    - Regular, steady payments to shareholders paid in cash out of company earnings
    - May vary while bond payments usually do not
    - Easier to calculate than bond yields
    - Dividend per share / price per share = dividend yield %
    - Lower dividend yield = more expensive stock
- Earnings yield
    - Earnings per share/price per share = earnings yield %
    - Share price = earnings per share /earnings yield
    - Another valuation measure
- Price to earnings ratio (P/E ratio)
    - Price per share/earnings per share = PE ratio
    - Reciprocal of earnings yields
    - Could also divided total market cap by earnings for the whole firm
    - Multiple earnings by P/E earnings to get equity value (market cap)
    - Earnings x P/E ratio = Market cap
    - Estimating P/E ratio is difficult when company is going through a rapid growth phase
        - Multiple expansion and multiple contraction
- Comparing metric to
    - Same metric over history (how has company metric changed over time)
    - Same metric for similar company
    - Same metric for overall market
- Comparing to market
    - Using dividend yield from measures such as S&P 500
- Summary
    - Relative valuation is quick and easy comparison of valuation to another
    - Risk of relative valuation is being led by astray by unrealistic reference points
        - Imprecision, subjectivity, inability to spot generalized under or overvaluation
    - Earnings and multiples are used to estimate fair share prices
        - Multiplying estimated earnings per share by what they consider is a fair P/E ratio
        - Share prices influenced by change in earnings and change in P/E ratio
    - Fast growing companies warrant high multiples and vice versa
    - State of the economy is a key driver of relative valuation

Summary of Equities

- Index movements are driven by movements in member stocks

- Volatility of earnings leads to volatility of share prices
- Uncovering industry drivers is key to estimating earnings
- Absolute valuation is in theory perfect but has practical limitations
- Relative valuation is easier but sensitive to earnings growth
-