

ECONOMICS

A. INTRODUCTION

- Economics is the fundamental science of commerce from which the more specialized fields of study such as corporate finance, security analysis, portfolio management, & business analysis spring
- Public misperceives it as a science of prediction. Unfortunately, this prediction is often wrong.
- **THREE Levels of Economic Analysis:**
 1. Gathering Relevant Facts or Data. Called **DESCRIPTIVE** Economics
 2. Distilling a Theory on how Economic Variables interact. Called **ANALYTICAL** Economics
 3. Applying Economic Theories to particular problems. Called **APPLIED** Economics
- Deal with humans, so it is an inexact science. Use A Priori Reasoning because cannot do controlled experiments.
- Try to Create Simplistic Models to explain Complex Reality
- Traps of Creating Economic Models based on Human Behavior
 1. Fallacy of Composition → fallacy which concludes that what is good for the individual is good for the group
 2. Economic Truth may be Relative → what may be logical during a recession may be completely irrational during prosperity
 3. Cause & Effect are Hard to Distinguish in Economics → Correlation does not necessarily indicate causation
 4. Expectations Play an Important Role → difficult to measure people's expectations
 5. Intention does not equate with the end result
 6. Most models assume a relation, ceteris paribus. But usually, everything else being equal does not exist

B. RELATION BETWEEN ECONOMICS & INVESTMENT ANALYSIS

There are 2 General Approaches to the Valuation of Securities

1. **Bottom Up Approach**
 - Looks for those particular securities that represent the best value regardless of the outlook for the economy as a whole or of a particular industry. Look at Intrinsic Value of each Security and determine whether to purchase based on that analysis. Peter Lynch is a famous Bottoms Up Analyst.
2. **Top Down Approach**
 - 3 Step Process.
 - a.) Determine the Outlook for the Economy & Stock Market in General.
 - b.) Determine the Outlook for Individual Industries
 - c.) Find the most attractive stocks in the most attractive industries.

Role of Economic Forecasts

- Formulation of Expected Returns & Risks for various asset classes require that some assumptions be made about the general economic environment because:
- **BOND** Prices depend upon interest rates, which are determined in a broader economic environment
- **STOCK** prices depend upon interest rates, outlook for corporate profits, & uncertainties about that outlook.
- Thus, require opinions about the General Economy → GDP, Real Interest Rates, Inflation, Corporate Profits
- Most Analysts rely on outside forecasts → need to know the assumptions used in making the forecasts

Long-Term Secular Projections v Short-Term Cyclical Forecasts

- Investment decisions should incorporate both Long & Short-term forecasts
- Long Terms Projections are not very accurate and are based on Supply Side Factors like Demographics, Capital Formation, Productivity, & Technological Change
- Multi-faceted approach: also includes Political Theory, International Relations, Sociology, etc.
- Forecasted $\% \Delta \text{GDP}_{\text{nominal}} = \% \Delta \text{Labor Hours} + \% \Delta \text{Productivity} + \% \Delta \text{Inflation}$
- Short Term Forecasts focus on Demand Side

Linking Economic Forecasts with Security Analysis

- Analyst must
 1. Find some stable relationship between specific macroeconomic variables in the forecasts and factors that affect the individual industry and company sales & costs in which the analyst has an interest
 2. Determine the RISK involved in using the economic forecasts. (Scenario Approach or Point Estimate Approach)
 3. Understand the LEAD/LAG relations between important macroeconomic, industry and company variables
- Stock Prices tend to lead the Economy

C. IMPERFECTIONS IN MARKETS & NEED FOR REGULATION

- The Free, competitive market process is a device for producing allocative and productive efficiency. Through Price Signals, it guides resources toward the production of goods & services most wanted by society.
- As demand increases, entrepreneurs see an opportunity for economic profit. But then competition comes in to ensure that efficient production techniques will be used.
 - 1.) Producers seeking to maximize profit will be motivated to produce at the lowest cost
 - 2.) When profit potential exists, there is market entry, which will increase supply, until get to market equilibrium
 - 3.) Fosters innovation (competition drives economic profit toward Zero) In order to maintain profit, must innovate new productsThis is Adam Smith's Invisible Hand
- For Free Market to operate in a socially beneficial manner, there must be a high degree of competition. Monopolists can be fat & happy, competitors must be lean & mean

Anti-trust Laws

- Individual producers don't like competition; want it eliminated
- Easier to erect high Barriers to entry to keep competition down & profits up than it is to compete on the basis of price & innovation

FUNCTION of Anti-trust Legislation

1. Foster Competition Among Firms operating in the Same Industry
2. Prevent Businesses from Engaging in Practices which reduce Competition
 - a.) Collusion with Competitors to Make Price Agreements
 - b.) Having Non-compete Agreements with Competitors to divide the market into segments
 - c.) Engaging in Predatory Pricing, price below cost to drive competitors out and later have monopoly power
 - d.) Exclusivity Contracts where a manufacturer prohibits retailers from selling products of a rival
 - e.) Reciprocal Agreements where the buyer of a product requires the seller to purchase some other product as a condition of doing business

PRINCIPAL US ANTI-TRUST LAWS

1. **Sherman Act of 1890**
 - a.) Illegal to form a Trust, Combination, or Conspiracy that has the effect of unfairly restraining trade
 - b.) Illegal to Monopolize or Conspire to Monopolize any part of trade through unfair or unethical means
2. **Clayton Act** – Spell out more clearly which practices constituted unfair or unethical business practices that restrain trade. Includes:
 - a.) Price Discrimination → Charging Different Prices for the same good in different markets where the price differential is NOT related to cost differentials
 - b.) Tying Contracts
 - c.) Exclusive Contracts
 - d.) Interlocking Stockholding
 - e.) Interlocking Directorates
3. **Federal Trade Commission Act** – Established FTC as the administrator of the antitrust laws. FTC defines the unfair methods of competition. Concerned mainly with enforcing consumer protection laws, prohibiting deceptive advertising, and preventing overt collusion.
4. **Robinson-Patman Act of 1936** – Prohibits selling goods at unreasonably low prices if the effect is to reduce competition. Prohibits not only predatory pricing, but even prevents low-cost producers from under-pricing higher-cost rivals.
5. **Wheeler-Lea Act of 1938** – Gave FTC the power to ban and prosecute firms for false & deceptive advertising
6. **Celler-Kefauver Act of 1950** – Prevents a firm from acquiring the assets of another if the effect is to substantially to reduce competition.

Controversy surrounding anti-trust policy. Fallacy of Bigness reducing competition.

1. Bigness does not necessarily reduce competition. Many industries are dominated by a few firms that compete vigorously.
2. Bigness does not guarantee abnormally high profitability
3. Bigness does not necessarily mean that a firm is unwilling to innovate, change, improve, and adapt to new circumstances. Firms might become big by doing those things. Don't want to punish success.
4. Prices of products made in an industry dominated by a few large firms does not necessarily mean that they are higher than would be if lots of small firms.

Mergers can be beneficial if they produce efficiencies that lower costs and these costs are passed on to consumers

Since the 80's Governments Challenge Mergers if

1. Foreign Competition is insignificant, more likely to challenge merger
2. Merger effectuate to prevent one firm from going bankrupt, less likely to challenge
3. Horizontal mergers are most likely to be challenged, Vertical mergers less likely to be challenged, and Conglomerate mergers are least likely.
4. Higher the BTE, more likely to challenge
5. If tend to concentrate industry in small number of firms according to **Hefundahl Index**, more likely to challenge → $H = S_1^2 + S_2^2 + \dots + S_n^2$. Where S_1 is the % of the market controlled by the 1th firm in the industry. If $H < 1,000$, won't challenge. If proposed merger raises H by more than 100 points and $H_{\text{pre-merger}}$ is 1000, likely to challenge. Also, if raise by more than 50 and $H_{\text{pre-merger}}$ is 1,800 generally challenged.

Economic Regulations

- Economic Regulations, beyond anti-trust, are thought to be justified if:
 1. To Regulate a **natural monopoly**. 1 firm, operating efficiently, is all that is needed to satisfy a market. (public utilities)
 2. To prevent **cut-throat competition** which would eventually eliminate all but a few firms and thus reduce competition.
 3. To **cross-subsidize markets**. Sometimes, markets are more costly to serve than others. Rural v Urban.

Problems of Regulation. Inflexible & bureaucratic.

1. Economic Conditions change rapidly while political change is slow. Existing regulations persist longer than their usefulness.
2. Bureaucratic process can erect Barriers to Entry that insulate an industry from competition.

Ways Regulation can stifle the free market process

1. Regulation benefits special interest groups who use it for re-distributional effects which impedes efficiency. Thus, best lobbyists win rather than efficiencies
2. Regulation is inflexible and can't adapt to change, while market is constantly adapting
3. Regulators often adopt the views of the regulated, where market adopts views of market.
4. Regulations stifle innovation because rigidity does not allow room for change
5. Regulations involve coercion because they force buyers and sellers to act in ways which they would not, if left on own. Leads to wasted resources trying to beat the system and trying to enforce the system
6. Domestic regulations impose costs on domestic producers that foreign competitors can ignore

Social Regulation

- Social Regulation is an attempt to solve the problems of External benefits & costs that exist in an imperfect market (free-riders & shirkers). Called EXTERNALITIES
- Ways it is done
 1. Mandating that certain regulations be followed
 2. Taxing polluters an amount necessary to cover the social costs of pollution
 3. Subsidizing the costs of products involving social benefits

Cost of Regulation

- Regulations impose costs to be paid to the government. In a sense, they are taxes.
- Unforeseen Effects are also costly and work in the opposite direction of the policy intent
- HEALTH & SAFETY: protect consumers & workers. Impose costs, but may be unnecessary. If consumers are willing to pay for the safety, they will pay for it anyway, without the regulation.
- CAFÉ (Corporate Average Fuel Economy) adhere to certain average gasoline mileage requirements. Force to produce smaller cars. But these cars were less safe, encouraged small cars to be produced domestically & large cars to be produced foreign (which is opposite of comparative advantage), and overall fuel consumption has increased (because kept older fuel inefficient cars rather than buy smaller more expensive cars)

D. CURRENCY & EXCHANGE RATES

Floating Exchange Rate System

- Currencies are neither anchored to gold, nor to each other, through any system of fixed exchange rates. Every nation is free to pursue its own monetary policy.
- Demand & Supply of a currency freely appreciate or depreciate relative to any other currency
- Supply is determined by a Monetary Policy.

Factors Affecting the Value of a Currency

1. **Monetary Policy**

- Supply curve is determined by the local monetary policy
- Easy monetary supply indicates a shift of the supply curve to the right (tight to the left)
- Thus look at the relative monetary policies of the 2 currencies.
- Relative Ease → weaken local, relative tight → strengthen local

2. **Relative Product Prices**

- If US goods are relatively cheap, will be in high demand. Thus, lowest price level nations tend to have the strongest currency.
- PURCHASING POWER PARITY → Currency exchange rates adjust to the relative price levels or expected inflation
- **Absolute Purchasing Power Parity** $S_{Y/X} = CPI_Y / CPI_X$
 - For Absolute Purchasing Power Parity to hold, must assume that the CPI measures the exact same things which can be internationally tradable, which is usually a bad assumption.
- **Relative Purchasing Power Parity** $S_{t Y/X} / S_{0 Y/X} = [(1+I_Y) / (1+I_X)]^t$
 - Measures the change in exchange rates between 2 periods of time and the expected inflation differentials of the 2 nations
 - The Law of One Price → Product has one international price.

3. **Relative Income Levels**

- The Higher the Income, the more a country consumers, including imported goods. As Income grows, tend to have weaker currency in order to get foreign currency to pay for imports.
- Because goods are less mobile than capital, the INCOME effect ends to be weaker than the other forces that impact a currency.

4. **Tastes & Quality Considerations**

- Countries whose goods are perceived to be of good quality will have stronger currency

5. **Interest Rate Differentials**

- Relatively High Interest Rates will attract Foreign Capital. This Price Effect strengthens the currency

6. **Relative Profit**

- If Relative ROE is high, it will attract foreign capital. Tends to strengthen currency

7. **Relative Risk Outlook**

- Safe Havens Attract capital and have stronger currencies

8. **Currency Speculation**

- Currency can strengthen or weaken as a result from speculation.

These, taken together, provides ambiguous clues as to currency movement. About the only ones that are clear are QUALITY, RISK, MONETARY POLICY

Advantage: Market automatically adjusts

Disadvantage: no Discipline to policy makers.

E. BALANCE OF PAYMENTS

- A Nation's Balance of Payments consists of 3 Component Parts
 1. Balance on **Current Account**
 2. Balance on **Capital Account**
 3. Official Reserve Account of Transactions
- **Balance on Current Account** is the Σ of
 - Balance of Trade (Exports – Imports)
 - Net Investment Income (Interest, Dividends, & Profits Coming in v Going Out)
 - Other Transfers (miscellaneous net inflows (outflows) from (to) abroad that occur for NON-economic reasons (military, foreign aid, charity, etc.)
- **Balance on Capital Account**
 - Net Foreign Purchases of Long-term US Assets
 - Private Transfers of Financial Assets
- **Official Reserve Account of Transactions** → Balance (Plug) from Government
- *Balance of Payments Accounting Identity*
$$\text{Balance on Current Account} + \text{Balance on Capital Account} + \text{Official Reserve Account} = 0$$
$$\text{Current Account Deficit} = \text{Capital Account Surplus}$$
 (when Government stays out in a CLEAN Floating Exchange Rate System)

Currency Market Interventions

- In Clean Floating Exchange Rate Systems, governments & Central Banks do not intervene. However, governments do not always allow a Clean Exchange Rate System
- This is due to the fact that the exchange rate is a powerful tool of economic policy that can be used to influence real economic activity.
- When the TREASURY intervenes, it can sell official assets that it already owns. CENTRAL BANKS can intervene by using money it creates (un-sterilized intervention) or money it obtains by selling assets it owns (sterilized intervention)

F. FOREIGN EXCHANGE RATE PARITY RELATIONS by Solnik

There are 4 Fundamental Parity Relationships in International Finance

1. Purchasing Power Parity

Absolute Purchasing Power Parity: $S_{Y/X} = \text{CPI}_X / \text{CPI}_Y$

Relative Purchasing Power Parity $S_{t, X/Y} / S_{0, X/Y} = [(1 + E(I_X)) / (1 + E(I_Y))]^t$

2. International Fisher Equation

$r_Y - r_X = r_{Y, \text{real}} - r_{X, \text{real}} + E(I_Y) - E(I_X)$

Interest rates will tend to equalize across nations

3. Efficiency of Exchange Rate Expectations

$F_{0, X/Y} = S_{1, X/Y}$

4. Interest Rate Parity

$F_{X/Y} / S_{X/Y} = [(1 + r_X) / (1 + r_Y)]^t$

- Taken together, these relationships imply the following
 1. Differences in observed nominal interest rates between 2 firms should equal the differences in their expected spot exchange rate movements
 2. Exchange Rate risk is the same thing as inflation uncertainty.
- In REAL WORLD, Purchasing Power Parity does not explain short-term movements in currency exchange rates...why?
 1. CPI are computed differently, i.e., use a different basket
 2. PPP holds only for freely traded international goods
- Also, International Fischer is not held out by empirical evidence, same with Exchange rate expectations

FORECASTING FOREIGN EXCHANGE RATES

3 Different Views to forecast Future Foreign Exchange Rates

1. *Purchasing Power Parity Approach*

- Use either Absolute or Relative Purchasing Power Parity
- Problem: not all goods are tradable on an international basis
- Empirical Evidence shows this does not hold

2. *Balance of Payments Approach*

- A Nations' Balance of Payments must Balance *ex post*.
- Use Econometric Models to Predict each segment of the Balance of Payments *ex ante*
- Problems: complex involving scores of simultaneous equations (plus, cannot effectively predict intervention)

3. *Asset Market Approach*

- Expectations & Efficient Market Theory Approach

Synthesis

- In the Short Run, Asset Market Approach is Best
- In the Intermediate Term, Balance of Payments Approach is Best
- In the Long Term, Purchasing Power Parity is Best

Exchange Rate Forecasting Techniques

1. *Naïve* → *Forward Currency Exchange Rate as Proxy for Market's Expectation*. Use Interest Rate Parity. Assume Risk-neutral & efficient. Empirical Evidence is not strong on this.
2. *Economic Approach* → *use Econometric Models*. Try to predict Balance of Payments. Tough to forecast, model can misspecify.
3. *Political Approach* → *Based on analyzing Central Bank intervention*. Analyze Politics.
4. *Technical Analysis* → *Charting & time-series analysis*. Tough to do.

Review of Exchange Rate Forecasts

Can try several methods to evaluate the performance of foreign exchange rate forecasters.

1. Mean Square Error
2. Percentage Correct
3. Excess Return

G. INTERNATIONAL ASSET PRICING by Solnik

- Most studies conclude that national security markets are efficient because there seems to be no autocorrelation of the residuals of stock returns over short periods of time. But over the long term, some autocorrelation has been observed suggesting that markets are driven by fads & bubbles. So, in the short term, prices drift away from fundamental value, but then it reverts over the long term
- But, are there efficiencies between national securities markets? Are international markets integrated or segmented?
- Seems to be more segmented.
 1. Psychological barriers exist preventing investors from engaging in a large volume of trading in foreign markets
 2. Legal restrictions may inhibit the free flow of capital across borders
 3. Trading internationally is more costly than trading domestically
 4. Some nations discriminate through taxes on international investing
 5. Political risks exist when investing in foreign markets
 6. Currency risks exist when investing in foreign markets

Importance of Monetary Policy in Affecting Security Prices

- When tight, Bear Markets, when Easy, Bull Markets
- Monetary Policy is the Driving Force in determining the behavior of financial markets

Inflation & Security Prices

- Inflation is Bearish & Low Inflation is Bullish

Effect of Currency Exchange Rate Movements on Security Prices

- Strong Currencies produce results that have different results
 - Reduce Inflation, Bullish
 - Reduce Foreign Trade Surplus (or enhance deficit) which slow GDP and can be Bearish
 - Lowers interest rates, which is Bullish
 - Reduces Profit Potential for Exporting firms which is bearish, but importing firms can be helped
 - Discourages Capital flow from abroad, which reduces the demand for domestic securities and be bearish; but if rises fast, can attract foreign investors and be bullish

H. BRAVE NEW BUSINESS CYCLE: No Recession in Sight by Dudley

- Economic Expansion since 1982 has been long, and virtually uninterrupted,
- Post War expansions typically lasted only 5 years, but now the expansions grow more slowly and fall much less

Competitive Structure of the US Economy has Changed → Reasons for Lengthened Expansion

1. Competitive Structure has changed

- Most US firms are no longer price searchers (oligopolies); they are now PRICE TAKERS due to Global Competition; therefore, biggest goal is to keep costs under control
- Use JIT Inventory & Flexible Labor

2. Technological Improvements

- Capital Goods are now delivered more quickly
- Can base purchasing decisions on the short-term, and that leads to flexibility
- Also, more productive

3. Financial Deregulation has Reduced Cyclicalities in the Housing Market

- Now compete for funds and borrowers

4. US has opened up to International Markets

- Less Cyclical

Current Expansion Should Continue

1. Inventories are Low and likely to rise, leading to expansion
2. Worries over household indebtedness are overdone. Houses do not reduce indebtedness until lose confidence in the future
3. Monetary policies have been easing abroad and should help exports
4. Inflation is low, no reason for Fed to tighten
5. Fiscal policy is no longer restrictive
6. Housing Starts, Auto Sales, & Consumer Confidence tend to lead the business cycle and they are still high

Bad Effects of New Competitive Structure

1. Debt is Likely to increase (as long as foresee good time, take on leverage)
2. When downturn comes, will take time to repair balance sheets
3. Downturns will be more shallow, but longer
4. Recovery will be less buoyant than usual

Implications for Financial Markets

1. Longer Expansion & Lower Interest Rates are Bullish
2. More Cyclical Volatility in Real Interest Rates
3. Periods of Deflation are likely to be longer resulting in downward nominal bond yields
4. Yield spreads will be narrower, but more volatile
5. Equity markets might become more volatile

