Financial Risk Management

MSBA IN FINANCIAL RISK MANAGEMENT

Portfolio Selection

"It is better to know some of the questions than all of the answers." —James Thurber

Portfolio Selection Process

- Two Fundamental Approaches
  - 1. Top-down, three-step approach
  - 2. Bottom-up, stock valuation, stock picking approach
- The difference between the two approaches is the perceived importance of economic and industry influence on individual firms and stocks

Top-down Approach

- Top-down investing involves analyzing the "big picture". Investors using this approach look at the economy and try to forecast which industry will generate the best returns, then look for individual companies within the chosen industry and add the stock to their portfolios.
- Starts with the broad economy, then analyzes industries given the macro plays in the economy, then narrows down to companies within the industry, before selecting one or more of the companies to invest in.

Top-down overview of the valuation process

Economic Analysis

Business cycles, government policy, indicators, trade, public attitudes, legislation, inflation, GDP growth, ect.

Industry Analysis

Structure, supply-demand relationships, quality and cost elements, gov't. regulation, financial norms and standards, et. cetera

Company Analysis

Forecasts, balance sheet--income statement analysis, flow-of-funds analysis, accounting policy and footnotes, management, research, return, risk`

Stock XYZ

Together with other stocks.

Portfolio Assets

Portfolio management

Form Capital Market Expectations

The Role of Capital Market Expectations

- Capital market expectations are the investor's expectations concerning the risk and return prospects of various asset classes (macro) as opposed to specific assets (micro)
- Essential input to formulating a strategic asset allocation

Framework for Setting Capital Market Expectations

- Specify the final set of expectations needed, including the time horizon to which they apply
- Research the historical record
- Specify the method(s) and/or model(s) that will be used and their information requirements
- Determine the best source for information needs
- Interpret the current investment environment using the selected data and methods, applying experience and judgment
- Provide the set of expectations that are needed, documenting conclusions
- Monitor actual outcomes and compare them to expectations, providing feedback to improve the expectations-setting process

Money in Stock Market

- This is a Game of Money
  - Economy Growth
  - Inflation
  - Above Average Profit from Certain Sector
  - Above Average Profit from Certain Company
  - Loss of Other Investors

Pro-growth, Pro-equity, Pro-reality

Macro

GROWTH
Above-trend developed markets (DM) growth may decelerate but persist. Current recession risk remains low as economies enjoy easy financial conditions and potential fiscal impulses.

INFLATION
Diminished spare capacity across many advanced economies may support prices longer-term. Any inflation adjustments are likely to be gradual and country-specific.

MONETARY POLICY
Evolving Federal Reserve (Fed) policy is unlikely to weigh on DM growth. Structural adjustments may leave emerging markets more resilient than in prior hiking cycles.

POLITICS
Uncertainty may reemerge as looming US mid-term elections may reamplify partisanship. Italian elections, Brexit developments, and North Korea also possess disruptive clout.

RISK
Investors may be too focused on the downside. While there is no lack of headline risks, contained inflation likely keeps the most significant risk (the Fed) in check.

Pro-growth, Pro-equity, Pro-reality

Market

EQUITIES

Equities remain our preferred asset class, particularly emerging markets. Our enthusiasm is tempered by full valuations and markets heavily reliant on higher earnings.

RATES

US rates appear exposed to transitioning monetary policy, a pick-up in term premium, and shrinking spare capacity. Any move higher should be contained by limited inflationary impulses.

CREDIT

Tight spreads and higher leverage moderate our credit return expectations. Still, interest coverage is solid and default risk appears to have cleared recent commodity uncertainty.

CURRENCY

Euro and USD markets are likely to be dominated by interest rate differentials with a slight bias to USD strength near term. Sterling may be tethered to Brexit results and EM could outperform.

VOLATILITY

Low volatility may persist, reflecting strong macro underpinnings. However, high valuation heightens vulnerability to any exogenous shock or shift in the operating environment.

Know How

- Sell high, buy low?
  - Cashing out can be costly
- Sit tight:
  - Smaller downside, quicker recovery
- Single stocks, singular shocks:
  - The risk of concentration
- Beyond borders:
  - Going global, staying selective
- Trade in places:
  - Emerging markets' earnings power
- Measuring up:
  - Municipal diversification can go a long way

The Bulls, the Bears, and the Farm

- Bulls Make Money, Bears Make Money, Pigs Get Slaughtered

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Economics Indicators

Economic Indicators

- Predicting the business cycle is tricky. Often the economy does not do what economists expect. Looking at lots of indicators give them a feel for what is going on and an idea of how to prepare for the future.
- Def. Trends in the economy which tell economists where the business cycle is going and where it has been.

Key Economics Indicators

- Understand the role of economic indicators and their importance to financial markets
- Realize the complexities of modern financial markets and their importance to the economy
  - Markets and instruments
  - Banks
  - Central banking
  - Monetary theory
- Discussion of the key economic indicators and how these influence securities prices

The Economic Indicators

- Economic indicators measure economic performance
- Some indicators are very important
  - GDP growth, unemployment and inflation
  - These embody the ultimate objectives or goals set by the Federal Reserve
- However, other economic indicators are more focused on specific measures and provide insight into how the economy is performing

Market Moving Indicator

Market Moving Indicator

- PMI Composite Flash
- Consumer Price Index
- Durable Goods Orders
- EIA Petroleum Status Report
- Employment Situation
- Existing Home Sales
- Fed Chair Press Conference
- FOMC Forecasts
- FOMC Meeting Announcement
- FOMC Minutes
- GDP
- Housing Starts
- Industrial Production
- International Trade
- International Trade in Goods
- ISM Mfg Index
- Jobless Claims
- New Home Sales
- Personal Income and Outlays
- Philadelphia Fed Business Outlook Survey
- PMI Manufacturing Index Flash
- PPI-FD
- Retail Sales

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Merit Extra Attention Indicator

Merit Extra Attention

ADP Employment Report
Beige Book
Business Inventories
Chicago PMI
Construction Spending
Consumer Confidence
Consumer Sentiment
Empire State Mfg Survey
Employment Cost Index
Factory Orders
Housing Market Index
Import and Export Prices
ISM Non-Mfg Index
JOLTS
Motor Vehicle Sales
Pending Home Sales Index
PMI Manufacturing Index
Productivity and Costs
S&P Corelogic Case-Shiller HPI
Treasury Budget
Treasury International Capital

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Other Kay Indicator

Other Key Indicator

- Baker-Hughes Rig Count
- Retail Inventories [Advance]
- Wholesale Inventories [Advance]
- Atlanta Fed Business Inflation Expectations
- Bank Reserve Settlement
- Bloomberg Consumer Comfort Index
- Chain Store Sales
- Challenger Job-Cut Report
- Chicago Fed National Activity Index
- Consumer Credit
- Corporate Profits
- Current Account
- Dallas Fed Mfg Survey
- E-Commerce Retail Sales
- ~~EIA Natural Gas Report~~
- Farm Prices
- Fed Balance Sheet
- FHFA House Price Index
- FOMC Meeting Begins
- Gallup US Consumer Spending Measure
- Gallup US ECI
- Gallup U.S. Job Creation Index
- Gallup Good Jobs Rate
- Kansas City Fed Manufacturing Index
- Labor Market Conditions Index
- Leading Indicators
- MBA Mortgage Applications
- Money Supply
- NFIB Small Business Optimism Index
- PMI Services Flash
- PMI Services Index
- Quarterly Services Survey
- Redbook
- Richmond Fed Manufacturing Index
- State Street Investor Confidence Index
- TD Ameritrade IMX
- Wholesale Trade

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Treasury Events

Treasury Events

4-Week Bill Announcement
4-Week Bill Auction
3-Month Bill Announcement
3-Month Bill Auction
6-Month Bill Announcement
6-Month Bill Auction
52-Week Bill Announcement
52-Week Bill Auction
2-Yr FRN Note Announcement
2-Yr FRN Note Auction
2-Yr Note Announcement
2-Yr Note Auction
3-Yr Note Announcement
3-Yr Note Auction
5-Yr Note Announcement
5-Yr Note Auction
5-Yr TIPS Announcement
5-Yr TIPS Auction
7-Yr Note Announcement
7-Yr Note Auction
10-Yr Note Announcement
10-Yr Note Auction
10-Yr TIPS Announcement
10-Yr TIPS Auction
30-Yr Bond Announcement
30-Yr Bond Auction
30-Yr TIPS Announcement
30-Yr TIPS Auction
Treasury Refunding Announcement
Treasury STRIPS
Weekly Bill Settlement

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Types of Economic Indicators.

- Economic indicators are key statistics that indicate the direction of an economy. While the indicators can be numerous, there are three broad categories of economic indicators:
  - Leading Indicators (where the cycle is going)
  - Coincident Indicators (where the cycle is now)
  - Lagging Indicators (where the cycle has been)

Types of Economic Indicators.

- Leading indicators, such as consumer durables, net business formations and share prices, are used to predict the future movements of an economy.
- Coincident indicators, which include such things as GDP, employment levels and retail sales, are seen with the occurrence of specific economic activities.
- Finally, lagging indicators, such as gross national product (GNP), CPI, unemployment rates and interest rates, are only seen after a specific economic activity occurs.

Leading Indicators

- Def. Economic activity that happens prior to (before) a change in the economic cycle.

- These are predictors of where the economy is going next: Expansion or contraction.

Leading Economic Indicators

Indicator	Significance
• Average weekly initial claims for unemployment	• Reflect layoffs and new hires (more unemployment, contraction. Less unemployment, expansion)
• Stock Prices	• Reflect Investor attitudes (rise =expansion, fall= contraction)

Leading Economic Indicators (cont.)

Indicator	Significance
• Interest Rates	• Rates are lowered if a recession is coming, raised if expansion.
• Index of consumer confidence (a survey of how people feel about the economy)	• Reflects changes in consumer attitudes about the future.

Coincident Indicators

- Def. Information that is used to measure economic change as it happens.

1. Total industrial production
2. Total industrial sales
3. Personal Income
4. Number of employees on industrial payroll

Lagging Indicators

- Def. Economic activity that change after the business cycle expands or contracts.

1. Interest rates banks charge on loans
2. Amount of money owed

Economic Calendar

- Most of these economic indicators have a specific schedule for release, allowing investors to prepare for and plan on seeing certain information at certain times of the month and year.

Economic Calendar

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Economic Calendar

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(GMT -5:00) Eastern Time (US

12/29/2019 - 01/04/2020

Time	Cur.	Imp.	Event	Actual	Forecast	Previous
			Sunday, December 29, 2019			
18:00	KRW		Industrial Production (YoY) (Nov)	-0.3%	-1.4%	-2.1%
18:00	KRW		Industrial Production (MoM) (Nov)	-0.5%	0.5%	-1.7%
18:00	KRW		Retail Sales (MoM)	3.0%		-0.4%
18:00	KRW		Service Sector Output (MoM) (Nov)	1.4%		0.3%
			Monday, December 30, 2019			
		Holiday	Germany - Exchange Holiday - Early close at 15:05			
02:00	NOK		Core Retail Sales (MoM) (Nov)	1.0%	0.7%	-0.7%
03:00	CHF		KOF Leading Indicators (Dec)	96.4	94.5	92.6
03:00	EUR		Spanish CPI (MoM) P	-0.1%		0.2%
03:00	EUR		Spanish CPI (YoY) P	0.8%		0.4%

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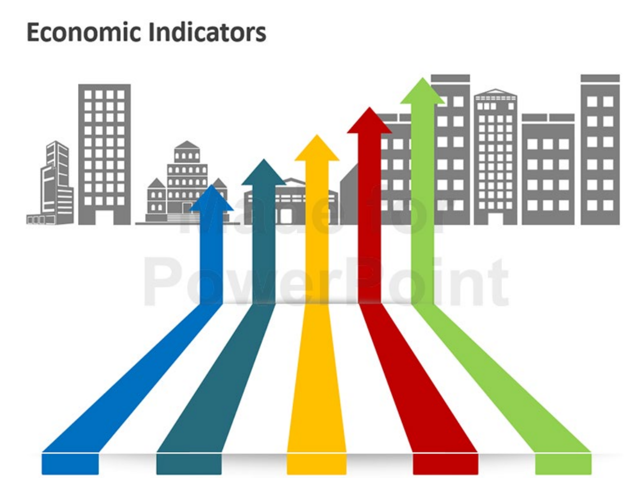
Key Economics Indicators



GDP

- The gross domestic product (GDP) is a comprehensive scorecard of the country's economic health. As an aggregate measure of total economic production for a country, GDP represents the market value of all goods and services produced by the economy during the period measured, including personal consumption, government purchases, private inventories, paid-in construction costs and the foreign trade balance (exports are added, imports are subtracted).
- GDP consists of the total value of the nation's production and is made up of purchases of domestically produced goods and services by individuals, businesses and the government.

Importance of GDP for investors

- Investors look at the growth rate in GDP as part of their asset allocation decision. They can also compare the GDP growth rates of different countries and make decisions about allocating their assets to stocks in these fast-growing economies.
- The Federal Reserve uses the growth rate and other GDP stats as part of their decision process in determining what type of monetary policies to implement. If the growth rate is slowing they might implement an expansionary monetary policy to try to boost the economy.

Employee Situation Report

- "The Employment Situation Report," also known as the Labor Report, is an extremely broad-based indicator released by the Bureau of Labor Statistics (BLS). It is made up of two separate and equally important surveys.
- The first, the "establishment survey," is a sampling of more than 400,000 businesses across the country.
- It is the most comprehensive labor report available, covering about one-third of all non-farm workers nationwide, and presents final statistics including non-farm payrolls, hours worked and hourly earnings. The data sample is both large and deep, with breakouts covering more than 500 industries and hundreds of metropolitan areas.

Employee Situation Report

- The second survey, referred to as the "household survey," measures results from more than 60,000 households and produces a figure representing the total number of individuals out of work, and from that the national unemployment rate.
- The data is compiled by the U.S. Census Bureau with assistance from the Bureau of Labor Statistics. This carries a census-like component, bringing demographic shifts into the mix, which gives the results a different perspective.
- Both sets of survey results will show the change from the previous month, and also year-over-year, as trendlines are very important with this often-volatile statistic.

Importance of the Labor Report to investors

- This report is highly important to investors and can move the markets. The information is timely regarding both wage and job growth.
- Many analysts consider this the best single measure of the health of the economy.
- The non-farm payrolls figure is very important on Wall Street; it's the benchmark labor statistic used to determine the health of the job market because of its large sample size and historical significance of accurately predicting business cycles.
- The payroll figures from the establishment report are considered a coincident indicator.

The Initial Jobless Claims Report

- New unemployment claims are compiled weekly to show the number of individuals who filed for unemployment insurance for the first time.
- An increasing (decreasing) trend suggests a deteriorating (improving) labor market. The four-week moving average of new claims smooths out weekly volatility.

Importance of Jobless Claims to investors

- Jobless claims are an easy way to gauge the strength of the job market. The fewer people filing for unemployment benefits, the more have jobs, and that tells investors a great deal about the economy.
- Nearly every job comes with an income that gives a household spending power. Spending greases the wheels of the economy and keeps it growing, so a stronger job market generates a healthier economy.

Personal Income and Outlays

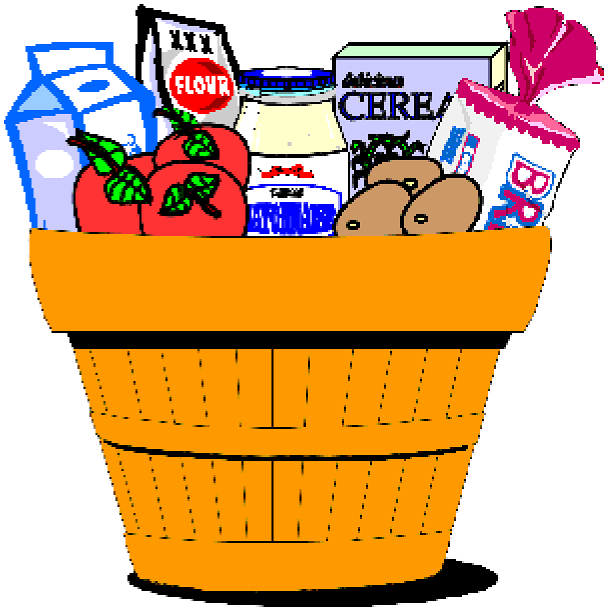
- The "Personal Income and Outlays Report" (sometimes called the Personal Consumption Report) is issued by the Bureau of Economic Analysis (BEA) monthly. The report contains two sections, which together provide insight into consumer behavior and total economic consumption. The first section deals with personal income, while the other deals with personal outlays.
- Personal income is a measure of income received from wages and salaries, dividends and interest, rental income, and the like. All are measured in actual dollars and usually expressed in percentage terms. Wages and salaries are the dominant contributor to the aggregate total.
- Personal outlays are made up of mostly personal consumption on goods and services, but also includes interest payments made on non-mortgage debt and transfer payments to government or social services.

Importance of Personal Income and Outlays

- Personal consumption drives almost 70% of our economic output as measured by gross domestic product (GDP).
- The report shows current consumer spending versus money saved for the future. Higher levels of personal consumption often translate into short-term GDP growth, a sign of potential growth in the near term. However, if this consumption is at the expense of consumer savings and investment, this could hinder long-term growth.
- Personal consumption patterns can also point to economic trends and which industries/companies might benefit or be hurt by changes in personal consumption patterns.

Consumer Price Index (CPI)

- The Consumer Price Index (CPI) is the benchmark inflation guide for the U.S. economy.
- The CPI measures the retail price changes of about 80,000 goods and services purchased by consumers, called a market basket. The market basket covers over 180 categories falling into eight major groupings:
  - Food and beverage
  - Housing
  - Apparel
  - Transportation
  - Medical care
  - Recreation
  - Education and communication
  - Other



Importance of CPI

- Many experts consider CPI as the best gauge of inflation available to investors and others. Inflation has an impact on interest rates and many business and investing decisions. An accurate measure of inflation is key to decision makers in formulating their plans.
- Gives the most insight into future Fed rate moves
- Highly watched and analyzed in the media
- Good regional and industry breakdowns for investor research

Industrial Production

- Each month the Federal Reserve releases its report on industrial production as well as its report on capacity utilization.
- The report covers manufacturing, mining and gas and electric utilities.
- The detail from the industrial section can help illustrate changes in the structure of our economy.

Importance of Industrial Production

- The release can frequently move the markets as industrial production is considered to be an indicator for future inflation. The level of industrial production as well as capacity utilization can be a predictor of future activity.
- If these sectors are operating at near full capacity then there is a chance that prices will increase, leading to potential inflationary pressures.

Producer Price Index (PPI)

- The Producer Price Index (PPI) of the Bureau of Labor Statistics (BLS) is a family of indexes that measures the average change over time in the prices received by domestic producers of goods and services.
- PPIs measure price change from the perspective of the seller.

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Importance of PPI

- The PPI measures prices at the producer level before they are passed along to final consumers. A portion of the inflation at the producer level gets passed through to the consumer price index (CPI).
- By tracking price pressures in the pipeline, investors can anticipate inflationary consequences in coming months.
- The PPI can provide analysts, business executives and investors with information about the trends in prices at various stages of the production process.

Purchasing Managers Index (PMI)

- Based on monthly questionnaire surveys of selected companies, the Purchasing Managers' Manufacturing Index (PMI) offers an advance indication on month-to-month activity in the private sector economy by tracking changes in variables such as output, new orders, stock levels, employment and prices across manufacturing industries.
- The flash index, usually released about a week before the final, gives a preliminary reading of conditions for the current month.

Importance of PMI

- The PMI is an extremely important indicator for investors looking for clues about economic growth. Many investors use the PMI as a leading indicator for Gross Domestic Product (GDP) growth or decline.
- The Fed and other central banks also use the results of PMI surveys when formulating monetary policy.

Housing Starts

- A housing start is registered at the start of construction of a new building intended primarily as a residential building.
- This narrow piece of data has a powerful multiplier effect through the economy, and therefore across the markets and your investments.

Importance of Housing Starts

- Home builders usually don't start a house unless they are fairly confident it will sell upon or before its completion. Changes in the rate of housing starts tell us a lot about demand for homes and the outlook for the construction industry.
- Furthermore, each time a new home is started, construction employment rises, and income will be pumped back into the economy.
- Once the home is sold, it generates revenues for the home builder and a myriad of consumption opportunities for the buyer. Refrigerators, washers and dryers, furniture, and landscaping are just a few things new home buyers might spend money on, so the economic "ripple effect" can be substantial especially when you think of it in terms of more than a hundred thousand new households around the country doing this every month.

New Home Sales and Existing Home Sales

- New home sales measure the number of newly constructed homes with a committed sale during the month. The level of new home sales indicates housing market trends and, in turn, economic momentum and consumer purchases of furniture and appliances.
- Existing home sales tally the number of previously constructed homes, condominiums and co-ops in which a sale closed during the month. Existing homes (also known as home resales) account for a larger share of the market than new homes and indicate housing market trends. (National Association of Realtors)

Importance of Home Sales

- This provides a gauge of not only the demand for housing, but the economic momentum. People have to be feeling pretty comfortable and confident in their own financial position to buy a house.
  Furthermore, this narrow piece of data has a powerful multiplier effect through the economy, and therefore across the markets and your investments.

International Trade

- Each month the Bureau of Economic Analysis releases their U.S. International Trade in Goods and Services Report. A key statistic from the report is the balance of trade between the U.S. and the rest of the world. The balance of trade measures the value of a country's exports of goods and service against what it imports from other countries.
- The indicator within the Trade Balance Report that is most well-known is the nominal trade deficit, which represents the current dollar value of U.S. exports minus the current dollar value of U.S. imports. The report also covers trade balances for services, such as financial and informational management, as well as for physical goods.

Importance of International Trade

- The balance of trade can help economists and investors determine the relative strength of the economy of one country versus another.
- Changes in the level of imports and exports, along with the difference between the two (the trade balance) are a valuable gauge of economic trends here and abroad. While these trade figures can directly impact all financial markets, they primarily affect the value of the dollar in the foreign exchange market.

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FOMC Forecasts

- FOMC stands for the Federal Open Market Committee. This committee, established in the Banking Act of 1935, came into existence on March 1, 1936. It consists of the seven governors of the Federal Reserve Board and five presidents of the regional Federal Reserve banks.
- It is 9 a.m. on one of eight days, usually Tuesdays, during the year when the FOMC meets. The Federal Reserve Act mandates that there be at least four meetings each year and the number of meetings has varied from four to 19 over the years. Since 1981, the FOMC has met eight times each year. Meetings generally begin at 9 a.m. and continue until about noon to 1 p.m. Twice each year, prior to the Humphrey-Hawkins report and testimony, the FOMC meets over a two-day period.

FOMC Forecasts

- The Fed now releases economic projections four times a year (March, June, September, and December).
- Traditionally, the Fed forecasts covered GDP, the Personal consumption expenditures price index, and the civilian unemployment rate. However, the forecast report additionally now includes forecasts for the appropriate timing of the next change in the fed funds rate and the expected fed funds rate at the end of the next two years.

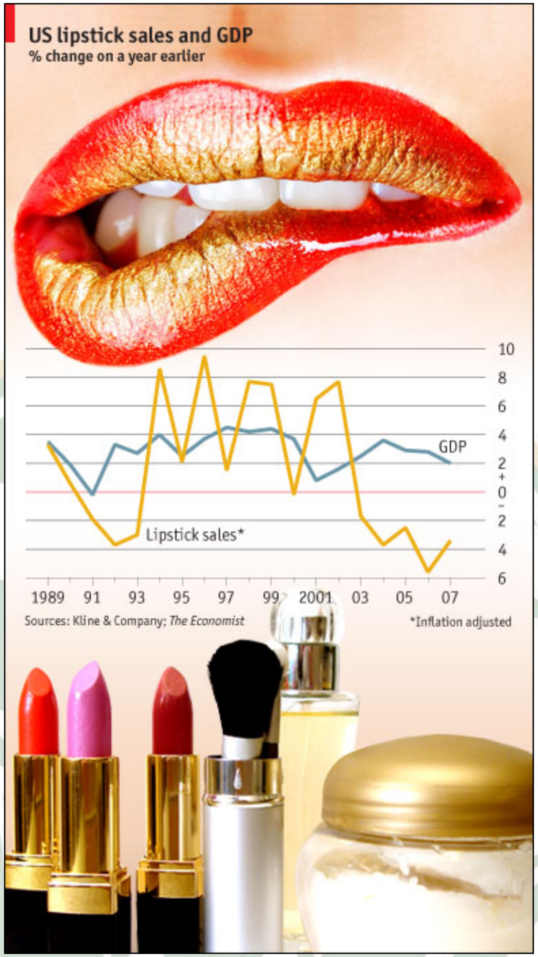
Interest Rate

- Interest rates act as the gravity for stock prices.
- When rates are high, stock prices should be lower. When rates are low, stock prices should be higher.
- After all, everything is relative in finance. Whether an investment is "good" or "bad" depends on the alternatives available at any given time.

Lipstick Index

- The lipstick index is a term coined by Leonard Lauder, chairman of the board of Estee Lauder, used to describe increased sales of cosmetics during the early 2000s recession.
- Lauder made the claim that lipstick sales could be an economic indicator, in that purchases of cosmetics – lipstick in particular – tend to be inversely correlated to economic health.
- The speculation was that women substitute lipstick for more expensive purchases like dresses and shoes in times of economic distress.

Nail Polish Index.



- In the 2010s, many media outlets reported that with the rise of nail art as fad in the English-speaking countries and as far afield as Japan and the Philippines, nailpolish had replaced lipstick as the main affordable indulgence for women in place of bags and shoes during recession, leading to talk of a **nail polish index**.

Local Pawn Shop as Economic Indicator

- Theoretically, when a shop sees pawns rise and retail sales drop, the economy is slowing. Conversely, a strong economy supposedly reduces pawns and increases sales.
- "You're at the pulse right here. It's really interesting because I can tell what's going on in the street by what is happening here."
- About 80 percent of customers who pawn an item return to pick it up, thus making good on the underlying loan, he said. "If you see that 80 drop to 75 or 70, you know a lot of people who have been pawning have hit tough times
- In a bad economy I've found it's harder for people to pay back the loans and pay the interest. In a better economy people pay on time and redeem quicker.

Credit Card charge-off rates

- A delinquency rate is the percentage of loans within a loan portfolio that have delinquent payments. A delinquency rate can be further broken down by categories. It is common for lenders to provide delinquency levels by both length of delinquency and delinquency by credit quality category.
- The charge-off rate is the amount of charge-offs divided by the average outstanding credit card balances owed to the issuer. Charge-off is actually an accounting term that means a company has decided it has no chance to collect a debt and charges it off its books.

Limitations of Economic Data

- Analyst must understand definition, construction, timeliness and accuracy of any data used, including biases
- Time lag can be an impediment to use
- Data are frequently revised by collecting officials
- Definitions and calculation methods change over time
- Data collectors often re-index, introducing the risk of mixing data indexed to different bases

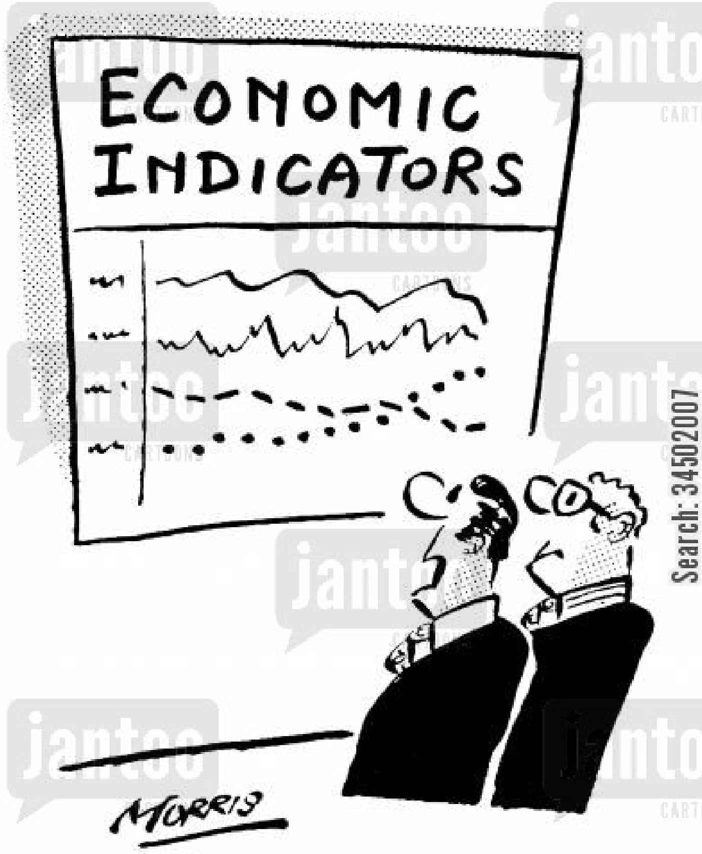
Putting It All Together

- Economic indicators are at the center of a feedback mechanism operating through economic activity, economic policy, and investor behavior
- These indicators measure how the economy is currently performing and suggest how it will perform in the future
- Markets are uncertain, and there's no hard proof that studying economic indicators improves your ability to anticipate price movements. That said, information naturally makes you more aware of the bigger picture at critical points in time. Using FRED and other resources, you can more easily track the moving parts that can impact a stock's direction and behavior.

Problems With Economic Indicators

- An economic indicator is only useful if one interprets it correctly. History has shown strong correlations between economic growth, as measured by GDP, and corporate profit growth.
- However, determining whether a specific company may grow its earnings based on one indicator of GDP is nearly impossible.
- Indicators provide signs along the road, but the best investors utilize many economic indicators, combining them to glean insight into looking patterns and verifications within multiple sets of data.
- There are only two economists in the world who know where the economy is going. And they ***disagree***!

Cartoon



"I'll tell you another economic indicator - my wallet is empty."

"I'll tell you another economic indicator dad, my weekly allowance has gone and it's only Tuesday."