



Incorporating Technical Analysis Into Your Work CFA Society of Tampa Bay

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Free Metastock Technical Analysis Software



If you want a free one-month trial of the
Metastock technical analysis software used to
prepare the slides in this class, they are
available from the instructor.

You will need to fax in the form to be assigned
a user ID and password.



Outline

- Philosophy – why technical analysis works
- Charting basics
 - ▶ Incorporating technical analysis with fundamental analysis
 - ▶ Inter-market analysis



Charles Dow

“The market reflects all the jobber knows about the condition of the textile trade; all the banker knows about the money market; all that the best-informed president knows of his own business, together with his knowledge of all other businesses; it sees the general condition of transportation in a way that the president of no single railroad can ever see; it is better informed on crops than the farmer or even the Department of Agriculture. In fact, the market reduces to a bloodless verdict all knowledge bearing on finance, both domestic and foreign.”



George A. Akerlof and Robert J. Shiller

"To understand how economies work and how we can manage them and prosper, we must pay attention to the thought patterns that animate people's ideas and feelings, their *animal spirits*. We will never really understand important economic events unless we confront the fact that their causes are largely mental in nature."

From the new book – *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism*



History of Technical Analysis

- ▶ First known use was in 1700s in Japan for trading rice
- ▶ Until after WW II in U.S., technical analysis was the only widely used form of security analysis
 - No reliable fundamental data available until Securities Act of 1933 implemented
 - Prior to 1930s
 - Fundamental data was not reliable – releasing false financial information was common
 - Insider trading was legal and common – insiders sold and passed on info to others. This actually improved accuracy of TA since all information could be utilized in trading.



Growing Acceptance of TA

- ▶ 1934 – publication of *Security Analysis* by Graham and Dodd launches fundamental analysis field
- ▶ 1949 – Robert McGee charged with securities violations by SEC for TA-based recommendations
- ▶ Federal Reserve paper in 2000 cited efficacy of TA
- ▶ Bank of Japan uses TA for currency trading
- ▶ 2005 – SEC accepts CMT exam for technical analysts in lieu of Series 86
- ▶ Academia has moved from strong form market efficiency / anti TA to the point where many universities offer courses in TA. *“Sure technical analysis works in practice, but it will never work in theory.”*
- ▶ CFA Body of Knowledge now includes technical analysis



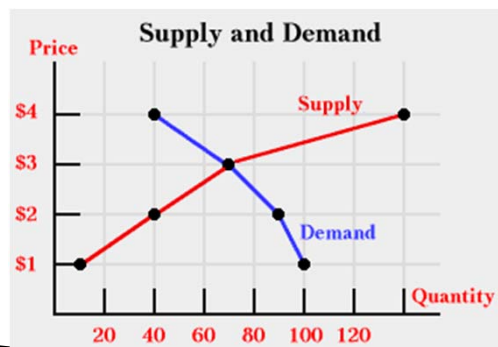
Fundamentals Versus Technicals

- ▶ Are stock prices arrived at using fundamental valuation:

$$P_0 = \frac{\text{Div}}{r - g}$$

OR

- ▶ Are they arrived at by the forces of supply and demand?



Fundamentals Are Only An Indirect Driver Of Security Prices

- ▶ On a real time basis, the price of any freely traded security is based on the balance between supply and demand
- ▶ For many market participants, fundamental analysis is the basis of their decisions
- ▶ But fundamental analysis is only one of many inputs and different analysts produce different valuations
- ▶ Technical analysis is the study of real time movements in price, volume and trend
 - Interaction between supply and demand



Technical Analysis Is Subjective

- ▶ Technical analysis provides a tool to predict securities prices using price and volume data displayed graphically
- ▶ Keep in mind that technical analysis is often subjective, particularly in recognizing patterns
- ▶ Also, for nearly every widely accepted technical rule, there is a contrarian rule – if everyone is bullish, there is no one left to buy, so prices will decline.



Philosophy Behind Technical Analysis

- ▶ All information is contained in charts
 - News is generally correctly anticipated by the markets prior to its official release or even its occurrence. e.g., political futures markets' prediction of election outcomes
- ▶ Chart patterns are due to investor psychology
- ▶ Patterns occur repeatedly and can be used to forecast markets
- ▶ Technical analysis works for any freely traded market
 - Equities
 - Fixed Income
 - Commodities
 - Currencies
 - Domestic or International
- ▶ Technical analysis works for any time frame
 - Day trader
 - Long term investor



Technical Analysis and Behavioral Finance

- Behavioral finance uses social psychology to explain market anomalies
- Technical analysis provides a set of tools to track and analyze market action, whether driven by rational or irrational factors
- Humans usually act rationally, but often act irrationally and technical analysis allows for analysis of both inputs
- The field of behavioral finance is recognizing areas of repeated irrational behavior



Technical Analysis and Behavioral Finance

- Academia and the CFA curriculum moving away from efficient markets hypothesis and accepting behavioral finance and even (gasp) technical analysis
- Behavioral finance recognizes that human irrationality often impacts investments, while technical analysis provides the tools to recognize and profit from this behavior



Technical Analysis and Behavioral Finance

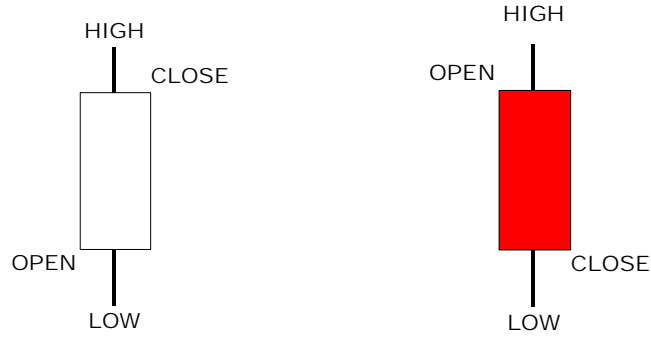
- Technical analysis works because humans, either individually or in groups, tend to repeat their behavior
- Technical analysis allows us to identify behavioral patterns in stocks and profit from repetitions of such investor behavior



Chart Construction

▶ Candlestick chart

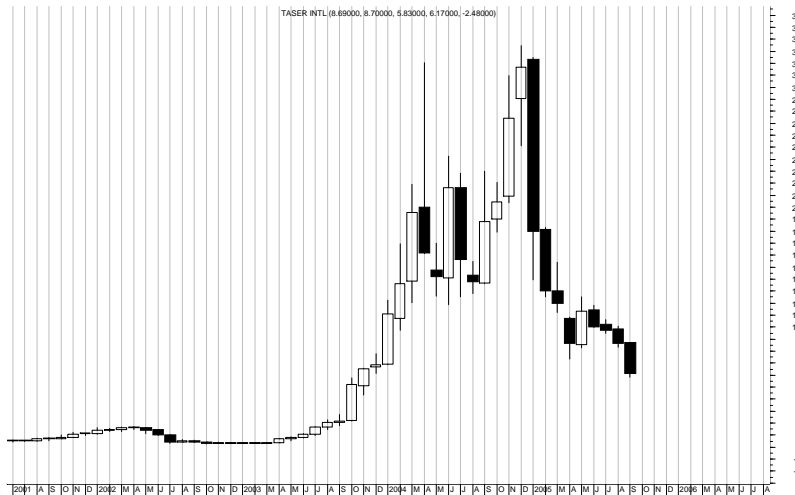
- Each candle has two elements: body and wick / shadow



White body means market closed UP
Close > Open

Dark body means market closed DOWN
Close < Open

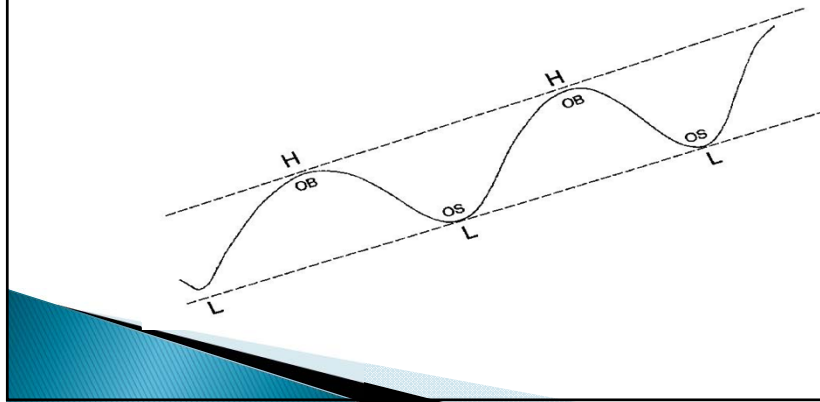
Chart Construction



Trend Analysis

Uptrend and Downtrend

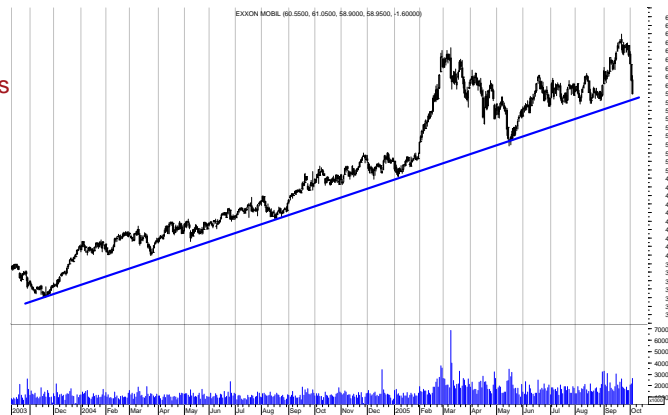
1. An uptrend is defined as a series of higher lows and a higher highs
2. A downtrend is defined as a series of lower lows and lower highs
2. OB (overbought) is the upper parameter of a trend
3. OS (oversold) is the lower parameter of a trend



Trend Lines

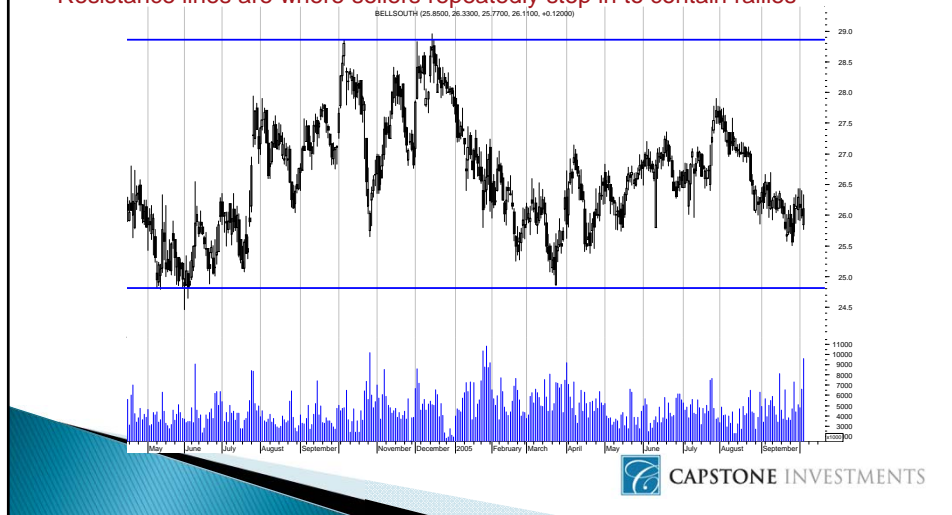
Trend lines indicate the relative strength of buyers and sellers

- Upward sloping trendline means more buying pressure than selling pressure
- Downward sloping trendline means more selling pressure than buying pressure



Support and Resistance Lines

- Support lines indicate price levels where buyers repeatedly step in to halt declines
- Resistance lines are where sellers repeatedly step in to contain rallies



Moving Averages

- Moving average lines are an average of a specified number of prior day's closing prices
- Moving average crossovers can be used as trading signals
- Short-Term crosses above Long-Term = BUY; ST crosses below LT = SELL



Technical Analysis With Fundamental Analysis

- ▶ Use technical analysis to provide a quick overview of various markets, e.g., bonds, equities, commodities, currencies
- ▶ Use technical analysis to provide a quick overview of various national equities markets, e.g., DJIA, S&P 500, FTSE, DAX, CAC, Nikkei, Hong Kong, Shanghai
- ▶ Technical analysis works on any freely traded market – and you do not even have to know what the market is to analyze it
- ▶ You can perform more analysis using technicals in a limited time than any other method



Technical Analysis With Fundamental Analysis

Using Technical Analysis To Identify Promising Stocks for Further Fundamental Analysis

- ▶ Analyze the nine S&P sectors to find best and worst performing sectors
- ▶ Identify best performing individual stocks in best performing sectors
- ▶ Identify worst performing individual stocks in worst performing sectors

(Technical analysis can also be used after fundamental work has been done using techniques already covered to gauge timing.)



Combining Technical and Fundamental Analysis

- ▶ Many practitioners will first look at a chart when investigating a new security
 - This immediately identifies the trend determining whether the market has a favorable or unfavorable view of fundamentals
 - A chart is perhaps the most efficient way to quickly research a security
- ▶ TA can be used before fundamental analysis
 - TA screening tools can identify specific securities or sectors worthy of further fundamental analysis.
- ▶ TA can be used after fundamental analysis
 - Is the fundamental conclusion consistent with market trends?
 - If not this can suggest that the analyst missed important information that the market is considering or that the market is itself misinformed, suggesting a potential trading opportunity.
 - Considering market technicals is like looking both ways before crossing the street, even when the traffic signal is green.



Technical Analysis As A Risk Management Tool

- ▶ Support and resistance levels
 - Breakdowns of key support levels are a signal of increased risk for long positions
- ▶ Trend lines
 - Breakdown of key trend lines are another risk signal
- ▶ Oscillators
 - Look for unusual activity and overbought or oversold levels
- ▶ Bollinger Bands
 - Breakouts of normal BB trading pattern
- ▶ Moving average crossovers
 - Short-term MA crossing below long-term is a risk signal
- ▶ Pattern breakouts
 - Both continuation and reversal patterns can be used to identify risk levels



Inter-market Analysis

- ▶ Analysis of one financial market to predict direction of a related market
 - Commodities
 - US dollar
 - Bonds
 - Equities
- ▶ Relationships
 - Commodities and interest rates directly related
 - Commodity prices changes is inflation/deflation
 - Commodities and the US dollar inversely related
 - Commodity prices are really just ratios e.g. \$/unit
 - Equities and bonds are directly related – interest rates and equities inversely related



Key Intermarket Charts

- ▶ CRB Index
- ▶ Gold
- ▶ US dollar
- ▶ US T bond prices
- ▶ US ten year bond rate
- ▶ S&P 500



CRB Index



Gold



US Dollar

US DOLLAR INDEX ICE Continuous (77.1050, 77.6250, 75.2350, 76.6910, -0.76600)



US T Bond Composite

US T BONDS COMPOSITE Continuous (130.969, 133.000, 129.906, 130.668, -0.25000)



US 10-Year T Bond Yield



S&P 500



Internet-Based Technical Analysis Tools

- ▶ Stockcharts.com
- ▶ Bigcharts.com
- ▶ Google finance
- ▶ Yahoo! finance



Technical Analysis Organizations

- ▶ IFTA – International Federation of Technical Analysts – IFTA.org
- ▶ MTA – Market Technicians Association – MTA.org
 - Administers most widely respected TA charter program – the Chartered Market Technician (CMT) program
 - Market Technicians Association Educational Foundation (MTAEF) is a non-profit which produces university level TA course materials
- ▶ Many countries also have TA societies

Market Technicians Association

- ▶ MTA is the main US technical analysis society
- ▶ Administers the Chartered Market Technician – CMT – program
- ▶ CMT program requires three levels of exams or two exams and an academic quality paper
- ▶ Market Technicians Association Educational Foundation – MTAEF
 - Non-profit foundation which produces course materials for technical analysis education at universities



CMT Program

- ▶ Level One Topics
 - Terminology of technical analysis
 - Methods of charting
 - Determination of price trends/ basics of pattern recognition
 - Establishing price targets
 - Equity market analysis
 - Applying technical analysis to bonds, currencies, futures and options
- ▶ Fees
 - \$250 program registration
 - \$250 level one exam fee
- ▶ Level one exam is 2 hours, 120 multiple choice questions



Suggested Readings

- ▶ **Technical Analysis of the Financial Markets**

- John J. Murphy

- ▶ **Technical Analysis Explained**

- Martin J. Pring

- ▶ **Technical Analysis of Stock Trends**

- Robert Edwards and John Magee

This book is the classic text on technical analysis

Original version contained chart examples from the '20s, 30s and 40s.

The above three books are the current readings for CMT Level 1.

- ▶ **The Encyclopedia of Technical Indicators**

- Robert W. Colby

This is a more advanced book explaining the use of dozens of technical trading indicators.