Module 1

Technical Analysis: The process of making prediction about the future by analyzing historical market action. **Market action:** includes the 4 primary sources of market data are 1) price, 2) time, 3) volume (or open interest for derivative contracts) and 4) breadth.

3 Key Assumptions of TA: 1. All market influences are discounted (or reflected) in prices. – Focus on price action 2. History repeats itself. – That explains why chart patterns are important 3. Prices move in trends. – information disseminated from informed professionals or insiders to aggr. investors, and then to the general investing public. In addition, technicians claim that processing new information takes time.

Fundamental vs. Technical - TA: Focuses on market action; Studies the effect; Tool of forecasting and timing **FA:** Focuses on economic forces of D/S that influence prices; Studies the cause; Tool for forecasting only **Both:** prices acts as a leading indicator of the fundamentals, since assumption 1 is true than TA includes FA.

Arithmetic Scale (Linear Scale) – Show identical distances for identical point/price moves – space between 2 to 4 is the same as 20 and 22 – Problem: 100% from 2 to 4 but only 10% return from 20 to 22 (visual distortion) – ok for: short-term charts (<=1 yr)

Module 1 (cont)

Ratio Scale (Log Scale) – Show identical distances for identical percentage moves – space between 2 to 4 is the same as 4 and 8 – Application: long-term charts (> 1 yr)

Module 2

Trend: direction of the market action

6 Tenets of Dow Theory: 1. The Averages Discount Everything. 2. The Market Has Three Trends. 3. Major Trends Have Three Phases. 4. The Averages Must Confirm Each Other. 5. Volume Must Confirm The Trend. 6. A Trend Is Assumed To Be In Effect Until It Gives Definite Signals That It Has Reversed.

Trading Rule for Dow: When the yield on DJIA falls to 3% or below => sell signal (market tops) • When the yield on DJIA increases to 6% or above => buy signal (market bottoms)

Support and Resistance

Return-Risk Ratio = (next resistance – current price)/(current price – next support)

Make sure RRR is greater than 3

buy above a key support

sell just below a key resistance

Autocorrelation: correlation between members of series of observations ordered in time. Math.:Correlation measures the linear relationship between two random variables • -1 ≤ correlation ≤ +1

Negative Autocorrelation: for performance means higher risk. for trading means market is ranging, oscillating.

Support and Resistance (cont)

Rule for breakout: Penetrated by more than 3% and for more than 2 consecutive days

Tim Fong's 3-Step Price Action Analysis: 1. Touching down or up 2. Fighting 3. Departing – Reversing the trend if you win the battle in step 2 – Continuing the trend if you lose the battle in step 2

Module 3

Market Order: a buy or sell order to be executed by the broker immediately at current market prices. • Limit Order – A limit order is an order to buy a security at no more or sell at no less) than a specific price.

Stop Order: A stop order is an order to buy (or sell) a security once the price of the security has climbed above (or dropped below) a specified stop price. When the specified stop price is reached, the stop order will become a market order.

Trailing Stop Order: entered with a stop parameter that creates a moving or trailing activation price – This parameter is entered as a percentage change or actual specific amount of rise (or fall) in the security price – Key advantage of setting a trailing stop sell orders are used to maximize and protect profit as a stock's price rises and limit losses when it's price falls

Reversal pattern(reversal in trend is pending): H&S tops and bottoms; Double tops and bottoms; Rounded/saucer tops and bottoms; Key reversal day; Island reversal day

Continuation pattern: Triangles; Wedges; Flags and Pennants; Broadening Tops; Rectangles

Module 3 (cont.)

Pattern Formation and Its Trading Application: 1.Classification of reversal vs. continuation pattern; 2. Determination of bullishness or bearishness.; 3. Confirmation of pattern and breakout; 4. Measurement of minimum price objectives

Bid 1.21 Ask 1.25 Bid Size 5: the market is willing to buy 500 shares at 1.21 and to sell at 1.25

Tops vs. Bottoms: 1)The bottom formation usually takes longer to form.; 2)Volume confirmations are generally more important for bottom formation.

Flag vs. Pennant: pennant consolidation is formed by two converging trendlines. volume tends to contract even more during formation of a pennant. both have similar measuring implication, take similar time to develop

Module 3 (cont. 2)

VIX: Measure of the implied volatility of at-the-money S&P 500 index options with 30-day maturity

Statistics

sample mean: x_bar = (Σ xi) / n financial interpretation: expected return

Standard Deviation: s = sqrt [Σ (xi – x_bar)2 / (n – 1)] Financial Interpretation: Volatility (Risk or Deviation from the Expectation)

Skewness: Biasedness towards upside potential or downward risk (i.e. positive skewness = long right tail of the return distribution)

Technical Analysis of Financial Markets Cheat Sheet

by lh2018 via cheatography.com/70804/cs/17949/

Statistics (cont)

Kurtosis: Stability or Surprise Index (Excess Kurtosis > 0 means that it has more peakedness than normal distribution)

Correlation: Effectiveness of hedge (Ex.: USD & Gold)

Indicators

Trend-following Indicators: 1) SMA, WMA and EMA; 2) MA Envelopes; 3) Bollinger Bands

Momentum Indicators (Oscillators): 1) ROC; 2) RSI; 3) MACD; 4) Stochastic

Momentum Indicators

Momentum: measures the speed of price change and provides a leading indicator of changes in trend.

Momentum signals: 1) Zero crossover; 2) Divergence (or trend analysis of momentum vs. price) 3)Extreme values (overbought vs. oversold)

A divergence occurs when price and momentum indicator fail to confirm one another.

Momentum signals should always be used in conjunction with a trend-reversal signal by the actual price

Mom. Indic. (cont.)

ROCt =(Pt – Pt-n)/ Pt-n

ROC = [(Current Price / Price n periods ago) – 1] x 100

MACD$_t$ = $EMA_{t, 12}$ – $EMA_{t, 26}$

RSI = 100 – 100/(1+RS) where RS = (total gain / n days) / total loss / n days)

RSI = 0 if falls all days; RSI = 100 if up all days; RSI = 50 if flat

RSI **thresholds**: – Use 20/80 when the stock is “trending”; – Use 30/70 when “oscillating”

More Indicators

DMI made of ADX, +DI and -DI

ADX > 20 => trending; • Long when DI+ crosses over DI- • Short when DI+ crosses below DI-

TR = max(Ht - Lt, Ht - Ct-1, Ct-1 – Lt)

Keltner Channel vs. MA envelopes: KC uses ema by definition; ATR is used to calculate the bands for KC

KC made up of 2 bands plotted around an EMA

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