Required Reading:


Introduction

Fundamental analysis:

- Definition: An assessment of _____ based on the underlying _____ and _______ factors and the changes in those relationships

- Goal: Estimate ____________________ and compare to _______________
  - Bullish: Value > Price
  - Bearish: Value < Price

Technical analysis:

- A forecasting method for price movements using ______________________________

- No explicit use of the “fundamentals”

- Typically based on _____________ arguments
Pring (2002, p. 2), a leading technical analyst, provides a more specific definition:

The technical approach to investment is essentially a reflection of the idea that prices move in trends that are determined by the changing attitudes of investors toward a variety of economic, monetary, political, and psychological forces. The art of technical analysis, for it is an art, is to identify a trend reversal at a relatively early stage and ride on that trend until the weight of the evidence shows or proves that the trend has reversed.

Technical analysis includes a variety of forecasting techniques

- _______ analysis
- _______ recognition analysis
- _________________ indicators
- Seasonal tendencies
- _______ analysis
- Computerized ____________

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**Getting Started in Technical Analysis**

**Technical Analysis for the Rest of Us**
Numerous surveys indicate that market practitioners attribute a ____________ to technical analysis

Smidt

- Surveyed trading activities of amateur traders in the US commodity futures markets in 1961
- About _____ of respondents claimed that they used _____ either exclusively or moderately in order to identify ________

Group of Thirty

- Surveyed the views of market participants on the functioning of the foreign exchange market in 1985
- Results indicated that ______ of bank respondents and _____ of the securities houses believed that the use of technical analysis had a significant impact on the market
More recent surveys:

- Commodity trading advisors and hedge fund managers rely heavily on computer-guided __________________

- About ________________ of foreign exchange traders around the world believe that technical analysis is the major ________ determining exchange rates in the short-run up to six months

Technical methods are highly ________________!

- Group of Thirty study conclusion: “Technical trading systems, involving computer models and charts, have become the vogue, so that the market reacts more sharply to short term trends and less attention is given to basic factors”

- In this lecture we will focus only on learning the technical methods

- Assessment of their usefulness is left to the next lecture
Figure 4.1
A Typical Bar Chart
Format for a Commodity Futures Contract

FIGURE 4.2
Illustration of an Uptrend Line Drawn across Two Daily Price Lows

During 1997, a major sell signal to place a short hedge prior to planting, a signal to lift the short hedge in July, and a second sell signal in September.

FIGURE 4.6
Illustration of a
Resistance Plane at Life-of-Contract Highs

FIGURE 4.8
Demonstration of Possible Market Actions at the Life-of-Contract High Resistance Plane

FIGURE 4.9
Market Action around the Contract High on October 1997 Soybean Meal Futures.

FIGURE 4.11
Illustration of a Support Plane at Life-of-Contract Low

FIGURE 4.12
Demonstration of Possible Market Actions at the Life-of-Contract Low Support Plane

FIGURE 4.13
Demonstration of a Price Decline through Support on the February 1998 Pork Belly Futures

FIGURE 4.15
A Double Bottom on a
Bar Chart at Contract
Lows.

Agricultural Futures and Options: Principles and
Strategies. Wayne D. Purcell and Stephen R. Koontz
FIGURE 4.23
An Island Reversal Top on a Bar Chart

FIGURE 4.25
Demonstration of Bull and Bear Flags on a Bar Chart

FIGURE 4.27
A Bear Flag on
September 1997 Corn Futures

FIGURE 4.29
Triangle Formations as Consolidation Patterns on a Bar Chart

FIGURE 4.33
Congestion Areas as Possible Consolidation Patterns on a Bar Chart

FIGURE 4.35
Demonstration of the
Price Projection Using a
Series of Chart Gaps

Agricultural Futures and Options: Principles and
Strategies. Wayne D. Purcell and Stephen R. Koontz
Overbought/Oversold Indicators

![Relative Strength Index Chart]

**FIGURE 6.2**
Relative Strength Index on the March 1998 Feeder Cattle Futures Chart

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**TABLE 4.1**
Procedure for Calculating a 14-Day Relative Strength Index

To calculate:

1. Record the last 14 day-to-day price changes based on closing prices.
2. Sum the negative and positive changes and divide each sum by 14 to create a “down average” and “up average,” respectively.
3. Define Relative Strength Index as \( (U)/(U + D) \) where \( U \) = up average and \( D \) = down average.
4. Employ RSI = \( (U)/(U + D) \times 100 \) to convert to percentages versus decimals.

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5.1 8.3 13.4

0.38

RSI 38
Contrary Opinion Indexes

- Another form of overbought/oversold indicator
- Designed to measure the ____________ of market participants regarding future price trends
- Various _____________ indicators are widely followed in financial markets
  - Bullish Consensus
  - Market Vane

Construction of Consensus Indicators

- A sample of market analysts, traders, or investors is surveyed for their __________ on price trends
- Reading newsletters, conducting mail surveys, or by personal interview
- Each of the individuals surveyed is then placed in a category indicating the ________________ __________ of their market view
• The rating scale can be as simple as either bullish or bearish, or some type of numerical scale of the degree of bullishness

• In the first case, the consensus indicator is simply the ___________ of individuals with a bullish market view

• In the second case, the consensus indicator is the ____________ of the individual ratings.

**Use of Contrary Opinion Indicators**

• ______________________________

• High percentage of traders ________________

• High percentage of traders ________________
Trading Systems

A technical trading system consists of a set of _____ that result from parameterizations, and each trading rule generates ______________ (long, short, or out of the market) according to their parameter values

Popular technical trading systems include

- Moving averages
- Channels
- Momentum oscillators

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TABLE 5.1

A demonstration of 3- and 10-Day Moving Averages for Lean Hog Futures: Calculations and Buy-Sell Signals

FIGURE 5.8
Bar Chart and Performance of 9- and 18-day Moving Averages for December 1996 Corn Futures

FIGURE 5.9
Bar Chart and Performance of 9- and 18-Day Moving Averages for December 1997 Corn Futures

Literally thousands of technical trading systems!
Market Efficiency

Nothing more than the application of ___________ competition to the determination of ____ over _____.

Key: With sufficient competition, price in an efficient market will never be higher or lower than the “true” equilibrium value.

Two sources of ______________ in efficient markets:

1. Temporary

   • Small, short-term price movements due to ________ supply-demand ____________ between buyers and sellers

   • __________ effect through time

   • Occurs over very _____ time intervals, typically by the minute or, at most, the hour
2. New information

- New data on _______________ factors, such as crop size, exports, etc.

- New information changes ______________ price

- ______________ in content, timing and importance

- If it is not unpredictable, then it _____ be ____ information!
Bottom Line: Equilibrium price is a ______________ because market information changes

- Prices respond __________ to bullish new information

- Prices respond __________ to bearish new information

- Arrival of new information must be ______, if not, information is not new

- Implies _____________ must be __________
Coin Flipping Experiment

1. Start graph at $5.00/bu.

2. Flip coin one time

   - heads: daily high up 10 cents from previous close

   - tails: daily low down 10 cents from previous close

3. Setting the close

   - heads: market closes at high of daily range

   - tails: market closes at low of daily range

4. Generate 30 “days” (one flip/day)

Fun with random numbers:

Random Walks and Commodity Prices

Price _______ in an efficient market from day to day are ____________

• Behave as if generated by ____________
• Called a ____________ by statisticians
• Analogy to the path of a drunk walking home from a bar (I am not making that up!)

After the fact, _______ and ______________ may appear

• No _______ power whatsoever
• Purely _______ information
• Similar to “patterns” in ______________
• Outcome of a ______________
A Warning

- Do not interpret the coin-flipping exercise as proving that commodity prices follow a random walk and that technical analysis is worthless

- Market efficiency is a theory that may or may not describe the movement of actual prices

Technical analysts respond

Two ____________ explanations usually offered in defense of technical analysis:

- Works because so many people _____

- Works because it takes advantage of natural _________________ in people (e.g. waves of irrational optimism and pessimism)

More _______ explanations have been offered in the finance and economics literature in recent years
Price may adjust ______ to ______________ due to:

- Noise
- Market frictions
- Market power
- Trader sentiments
- Herding behavior
- Chaotic dynamics

____________________ allows technical methods to profit