# 4ᵗʰ session

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International Financial Markets                    Paula Albuquerque

# Monetary model with sticky prices and expectations (Dornbusch 1976) – From SR to LR

*Pugel, chap.18*

- (short after Bretton Woods)

- Hybrid :Long Run/ SR model.

- New elements:  sticky prices of goods in the SR. Only in LR- PPP: the foreign exchange rate and the interest rates are more volatile than the other variables.

- UIP permanently holds .

  (approximately)  Expected depreciation rate $= i - i*$

- Regressive Expectations  $E(S_{t+1}) = a \cdot S_{LR} + (1-a) \cdot S_t$ or Rational Expectations
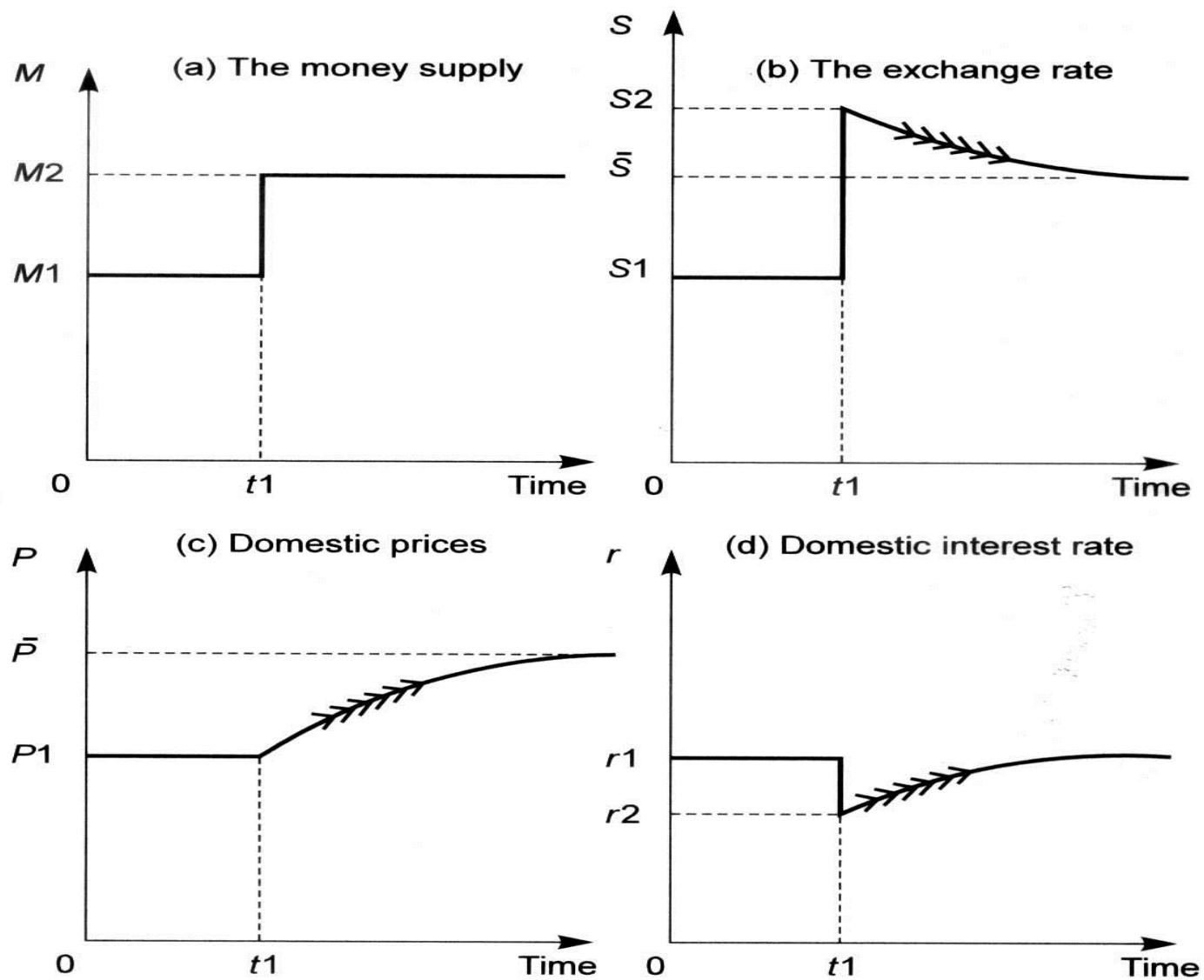
- Full employment.

Figure 7.2    *The dynamics of the Dornbusch overshooting model*

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- Expansion of $M^s$ → (sticky P)  $M^s/P$ increases. →  interest rate decreases.

- Capital outflows and currency depreciates. (**departure from PPP**)

- Investors know that  this currency depreciation is not lasting. According to the UIP, if  $i - i* < 0$, that must be compensated by an expected appreciation.  (foreign exchange rate overadjusted)

- In the LR,  P start rising, as a consequence of the rise in demand. (The demand rises because of  ↘$i$  and because of the currency depreciation) .

  - ↗P will reestablish PPP.
  - ↗P  → ↘$M^d/P$   → ↗$i$
  - The currency slowly appreciates to its LR values.

- This model shows how the foreign exchange rate may be highly volatile in the SR, even converging to the PPP in the LR.

- Movements apparently inconsistent with the fundamentals may be part of LR sensible adjustment process. Exchange rate volatility is needed to temporarily equilibrate the system in response to monetary shocks

# Forward-looking nature of Exchange Rates

- Quantity Theory oriented models

Exchange Rate – passive role of balancing the Money Market; No role for Exchange Rate expectations.

- Expectations oriented asset-market models

Spot Exchange rate adjusts to events that have not materialized but are already anticipated.

(The same as the preices of other assets)

UNANTICIPATED vs ANTICIPATED changes

↘

News

Exercise

- In the discussion of short-run exchange rate overshooting, we assumed that real output was given (fixed). Assume instead that an increase in the money supply raises real output in the short run. How does this affect the extent to which the exchange rate overshoots when the money supply first increases?

- Meese & Rogoff (1983) Empirical exchange rate models of the seventies: do they fit out the sample?, *J. International Economics*, 14, pp.3-74

# Technical Analysis

- In foreign exchange markets, it is basically used in <u>intradaily</u> transactions.

- Surveys of dealers – almost all use to some extent.

- Fundamental Analysis (examination **of the product**) vs Technical Analysis (observation of behaviours)

> "*A cynic is a man who* **knows the price of everything** *and the* **value of nothing**". Lord Darlington, in Oscar Wilde's <u>Lady Windemere's Fan</u>

*"The trend is your friend."*

- Trends – changing attitudes of investors
- Trends - predictability


- It is based on the assumption that the market is inefficient and so it is possible to forecast the behaviour of the foreign exchange rate: the past is used to forecast the future. Extrapolation.

*"History repeats itself."*

- Identification of patterns.

- Signals to sell or to buy based on trends or on more complex rules.

- Extrapolative methods. Charting, mechanical rules.

  - Charting (very subjective)

    - Peaks and Throughs; Trendline

  - Mechanical rules

    - Filter rules: produce a buy (sell) signal whenever the exchange rate rises (falls) by more than a given percentage from its most recent low (high).

    - Moving averages

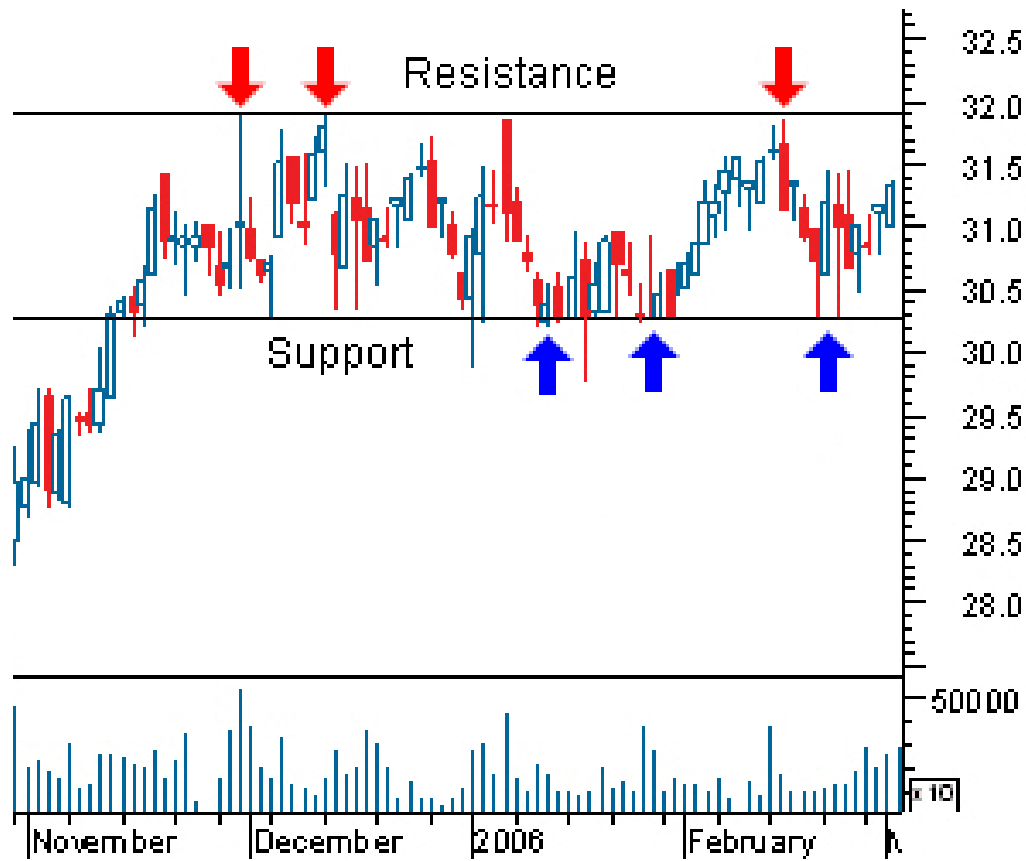    - Other, more complex mathematical functions.

Chart by MetaStock          Copyright © 2006 Investopedia.com

- It is considered that the price seldom passes the resistance level or comes under the support level.
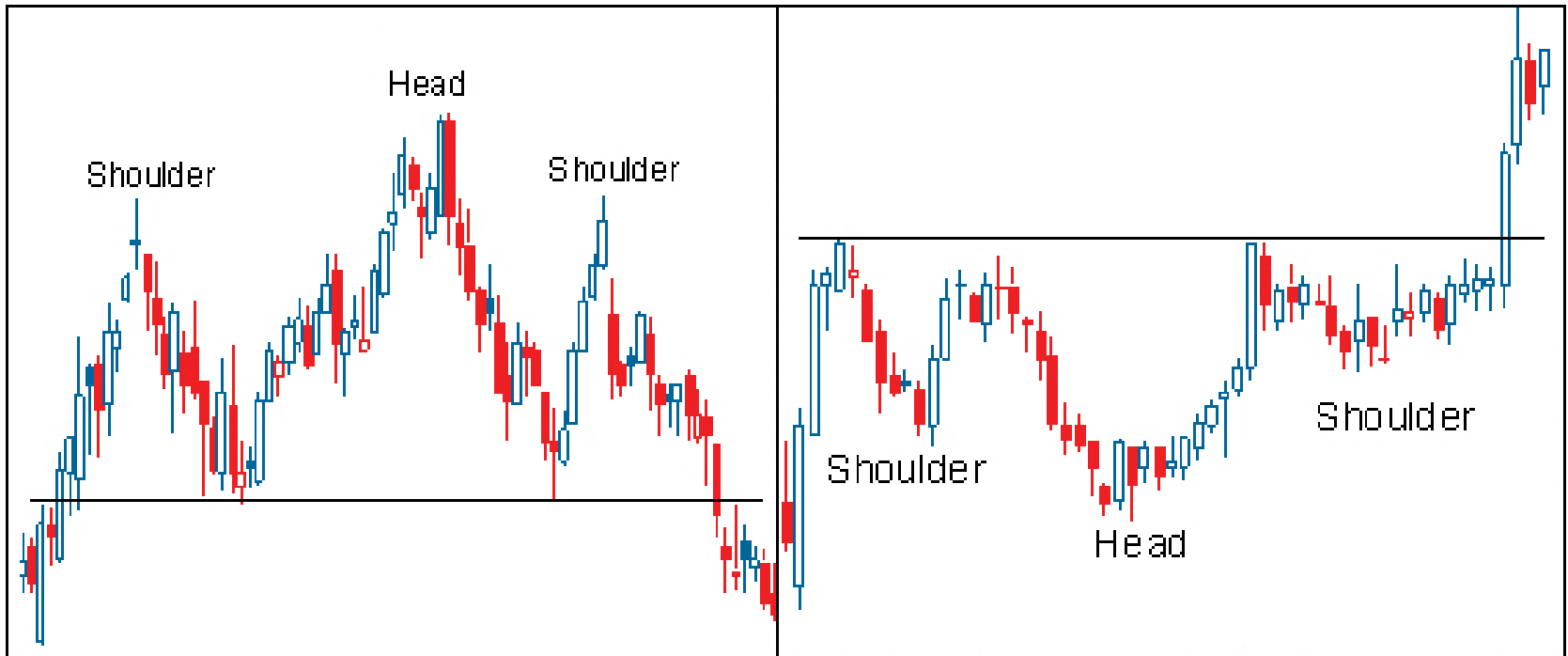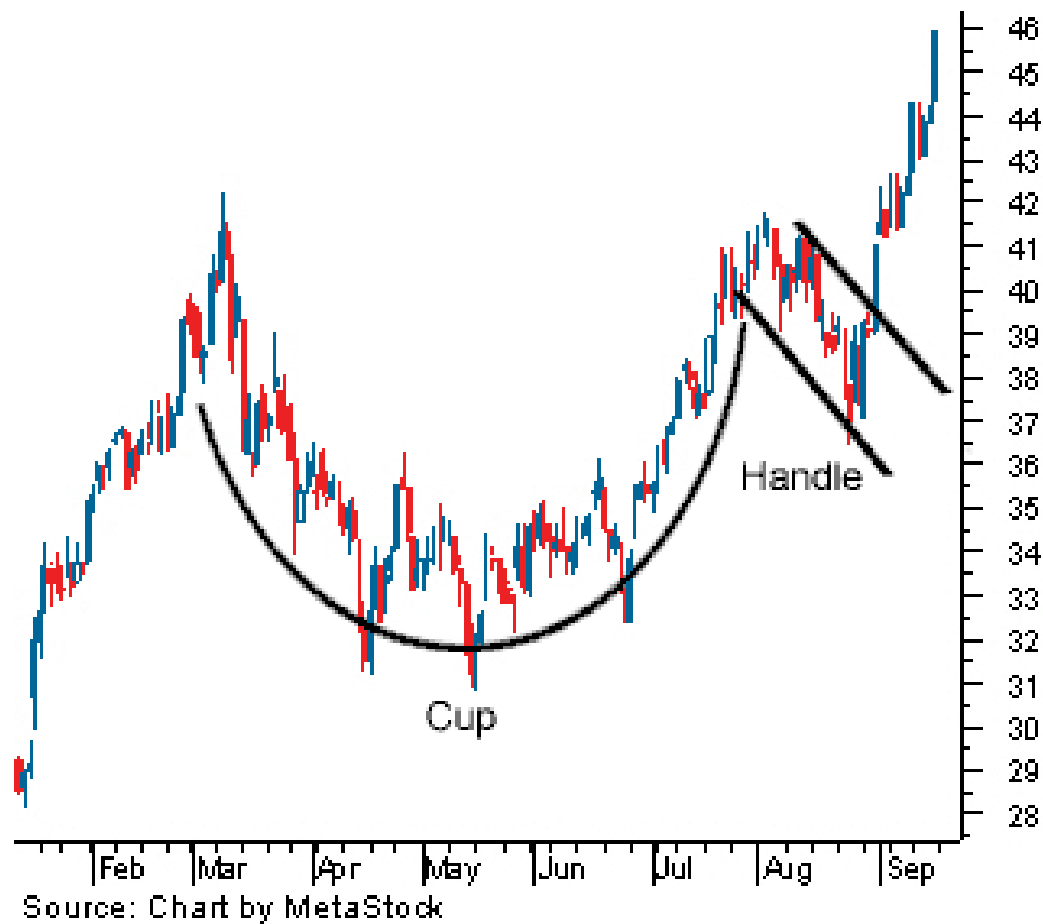- Inversion, once the levels are broken.

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Head

Shoulder

Shoulder

Shoulder

Shoulder

Head

Chart by MetaStock

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▪To identify  a trend inversion .

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# Triple top – trend reversal

Source: Chart by MetaStock

- **Continuation pattern**, when crossing the resistance level of the handle. The cup must always precede the handle.

Notice how the short-term average crossing above the long-term average signals the beginning of an uptrend.
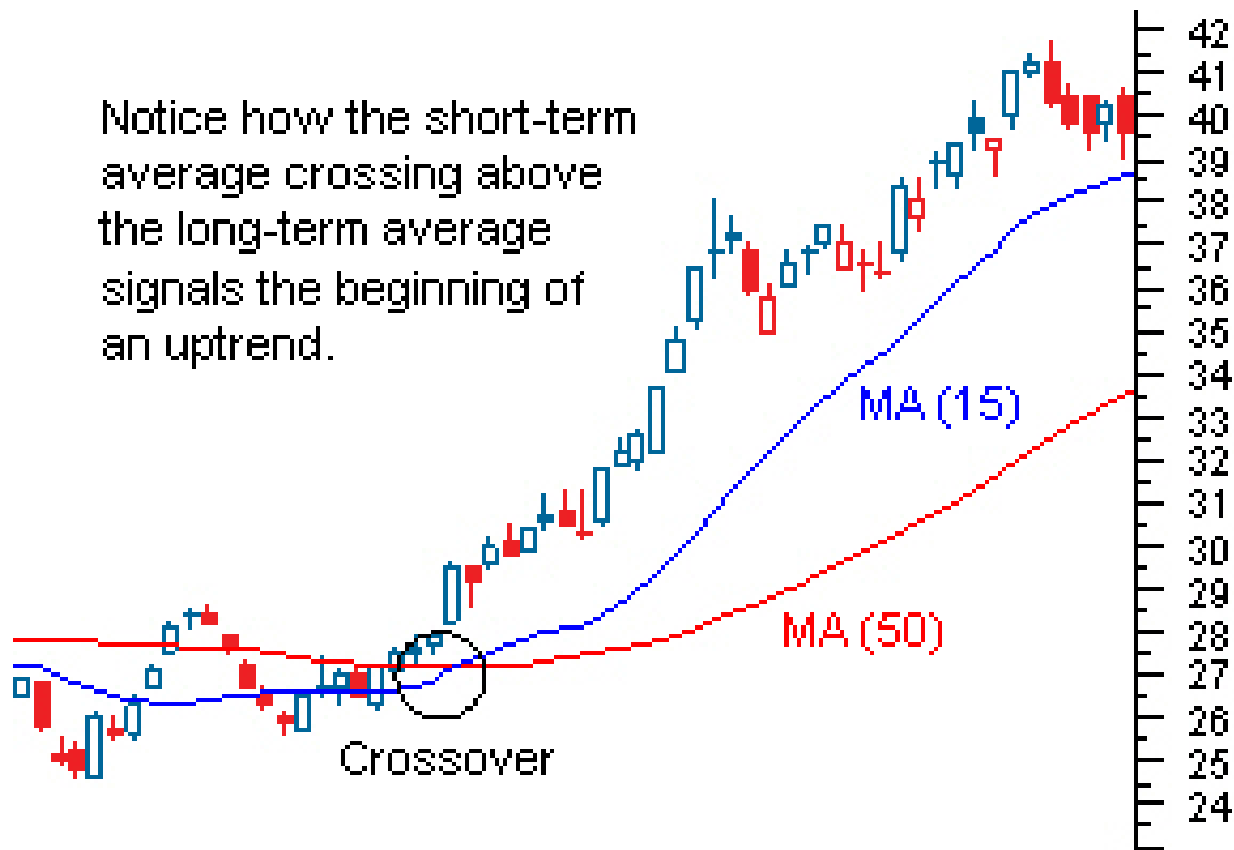
MA (15)

MA (50)

Crossover

Chart by MetaStock    Copyright © 2006 Investopedia.com

**Bollinger band**: considers the volatility in the determination of the resistance and support levels . The bands are 2 standard deviations above and below the Moving Average (of approx. 20 days).
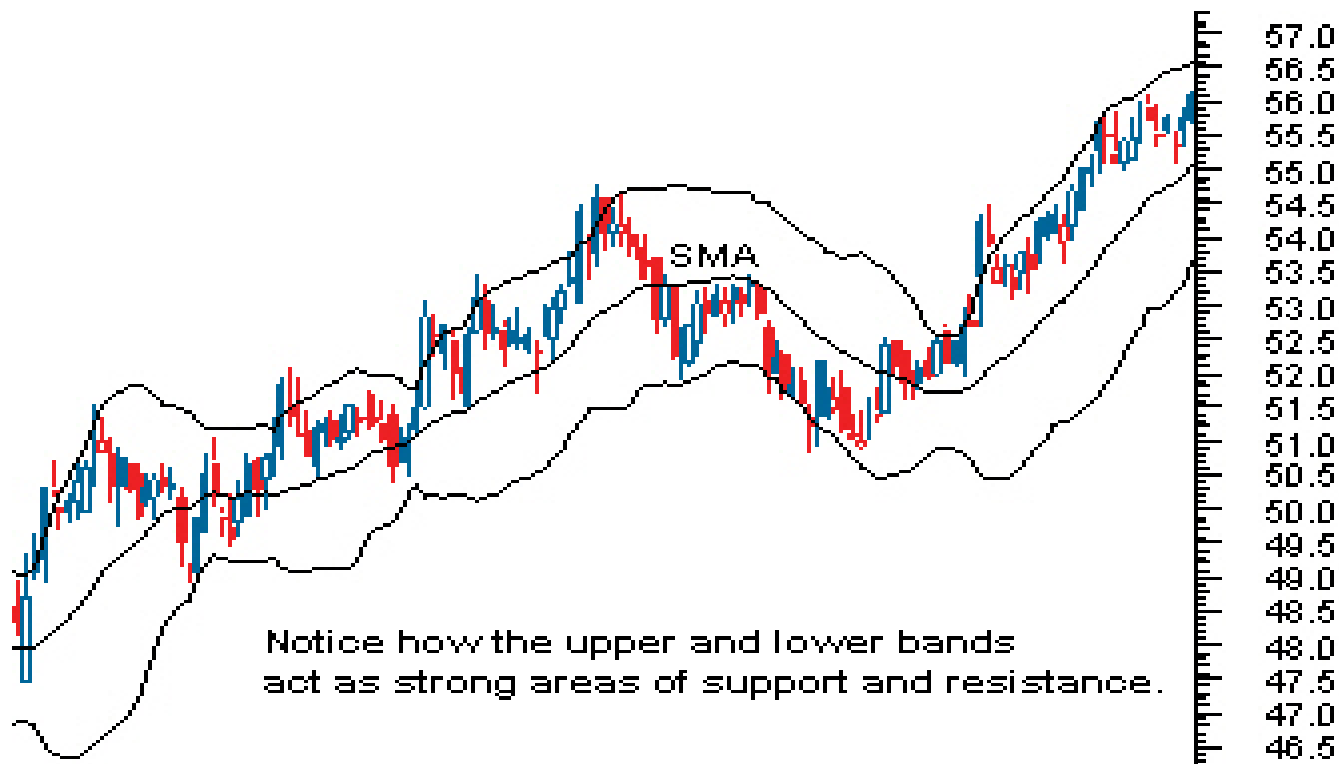


SMA

Notice how the upper and lower bands
act as strong areas of support and resistance.

Chart by MetaStock          Copyright © 2006 Investopedia.com

$$momentum = close_{today} - close_{N\ days\ ago}$$

Gives an idea of the intensity of the trend.

Onother measure that gives the idea of the intensity of the trend is VOLUME.

technical analysis video

https://www.youtube.com/watch?v=LhanMQHY_tg

# Efficient Markets and Technical Analysis

- Technical Analysts believe they can **beat the market**.
- **Efficient Markets Hypothesis**: Prices reflect all relevant information. They are the market's best guess of the fundamental value.
  - Only <u>news</u> causes prices to move. Markets adjust very rapidly.
  - Trends occur by chance. They cannot be exploited to make money.

- Evaluation of technical trading strategies
  - Mixed results
  - Difficulties:
    - Results may show profitable trading rules on certain datasets, not on others. Negative results ignored but positive results published.
    - Apparently successful trading strategies may indicate that risk is not measured properly, and not necessarily inefficiency

- The Technical Analysis and **the Psychology of Investors**
  - ❖**Patterns exist because of the predictability (**not necessarily the rationality) **of investors**
  - ❖**TA may be popular because of:**
    - ▪ <u>Representativeness</u>

      Not considering other determinants of the probability of an event, a period of partial observation is representative of the global image.

    - ▪ <u>Communal Reinforcement</u>

      Believing what many people say. Doing what many people do.

    - ▪ <u>Selective Thinking</u>

      Believing more in positive events than in negative events, ignoring negative evidence.

      - ▪ <u>Confirmation bias</u> is a subcategory – People look for evidence that confirms one's previous beliefs. .

- Might create some departures from perfect efficiency that permit trading rules to have value. But that does not explain the time variation in the returns (profitable simple rules from mid-70's 1990, not so much after that).