

UVOD U TEHNIČKU ANALIZU

PERO ŠVELJ
LUKA SREMIĆ

SADRŽAJ

1. UPOZNAVANJE
2. GRAFIKONI
3. TREND
4. OBRASCI TRENDNA
5. POMIČNI PROSJECI
6. OSCILATORI
7. POKAZATELJI OBUJMA TRGOVANJA



1. UPOZNAVANJE

1. UPOZNAVANJE

- Što je to tehnička analiza?
- Što analizira?
- S kojim ciljem?

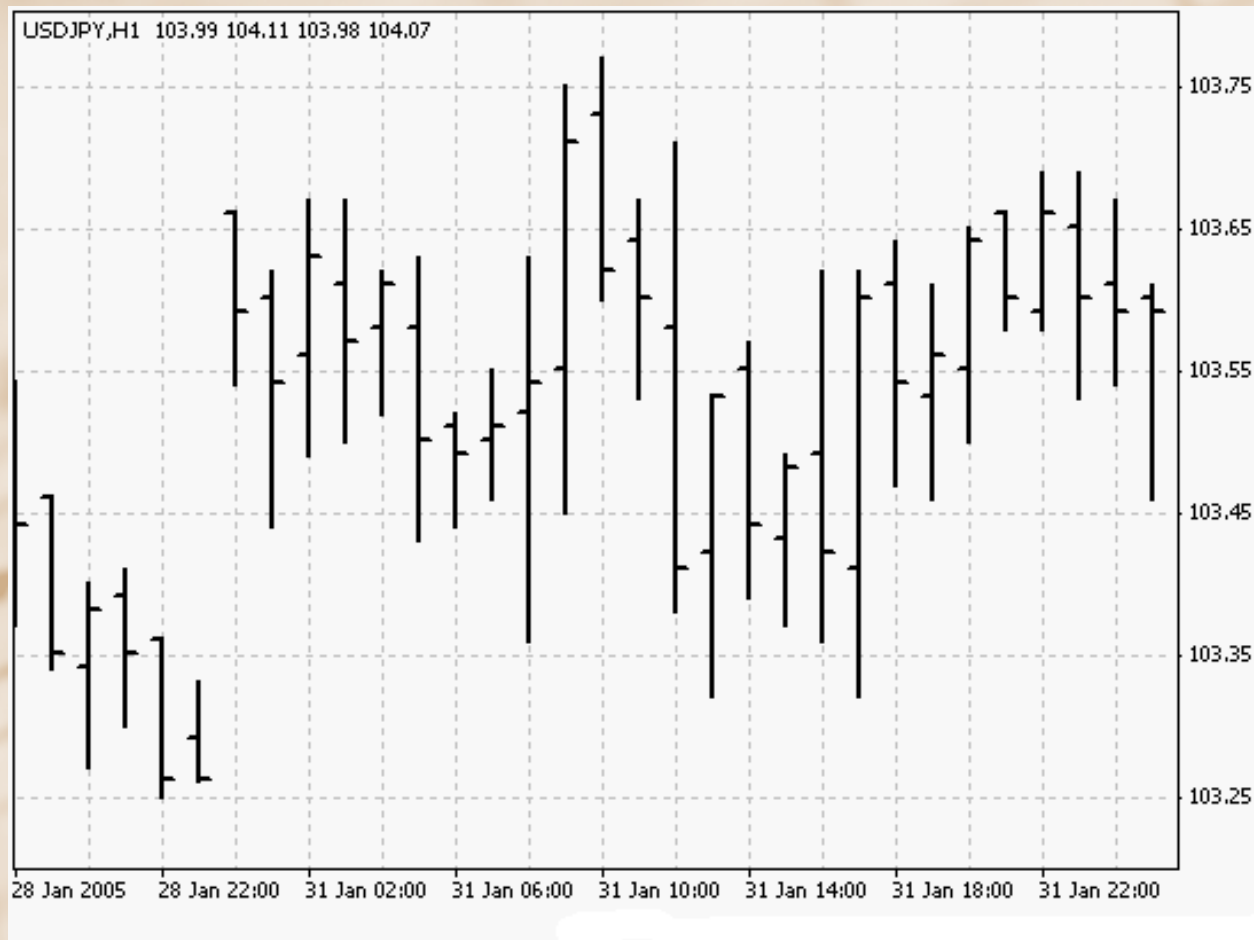


2. GRAFIKONI

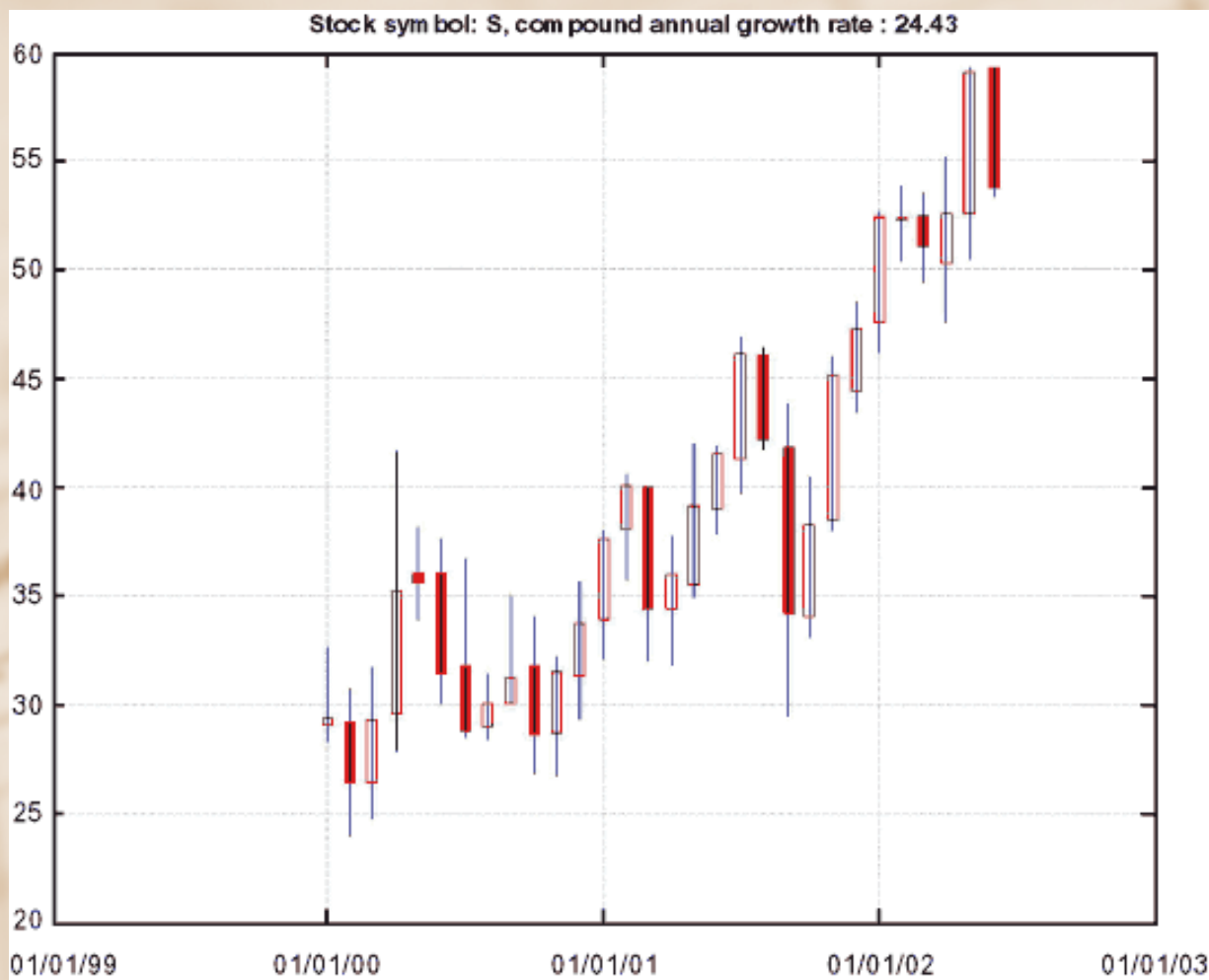
2. GRAFIKONI

- VRSTE GRAFIKONA:
 - Stupčasti
 - Svijeća
 - Linijski
 - Križić-Kružić
- VRSTE MJERILA
 - Aritmetičko
 - Logaritamsko

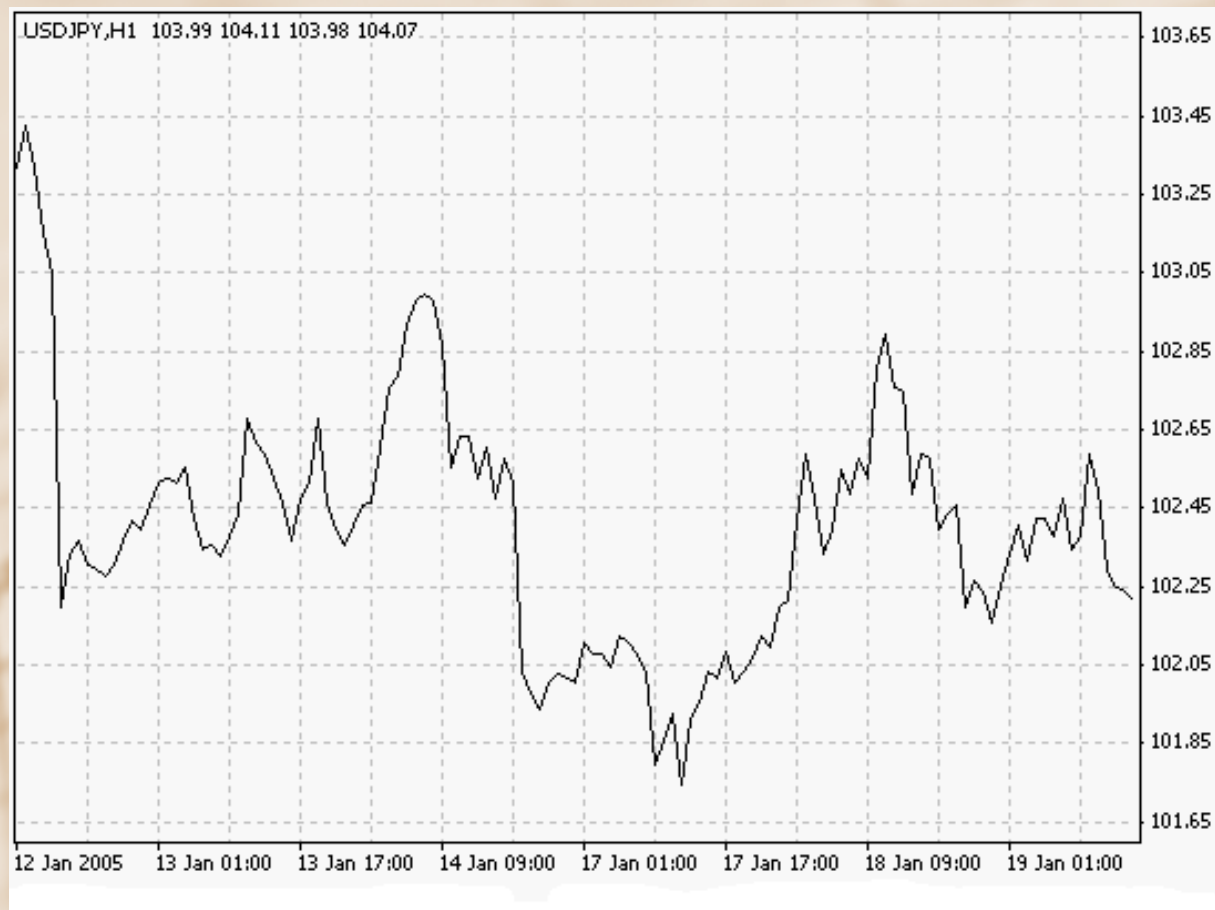
2.1 STUPČASTI GRAFIKON



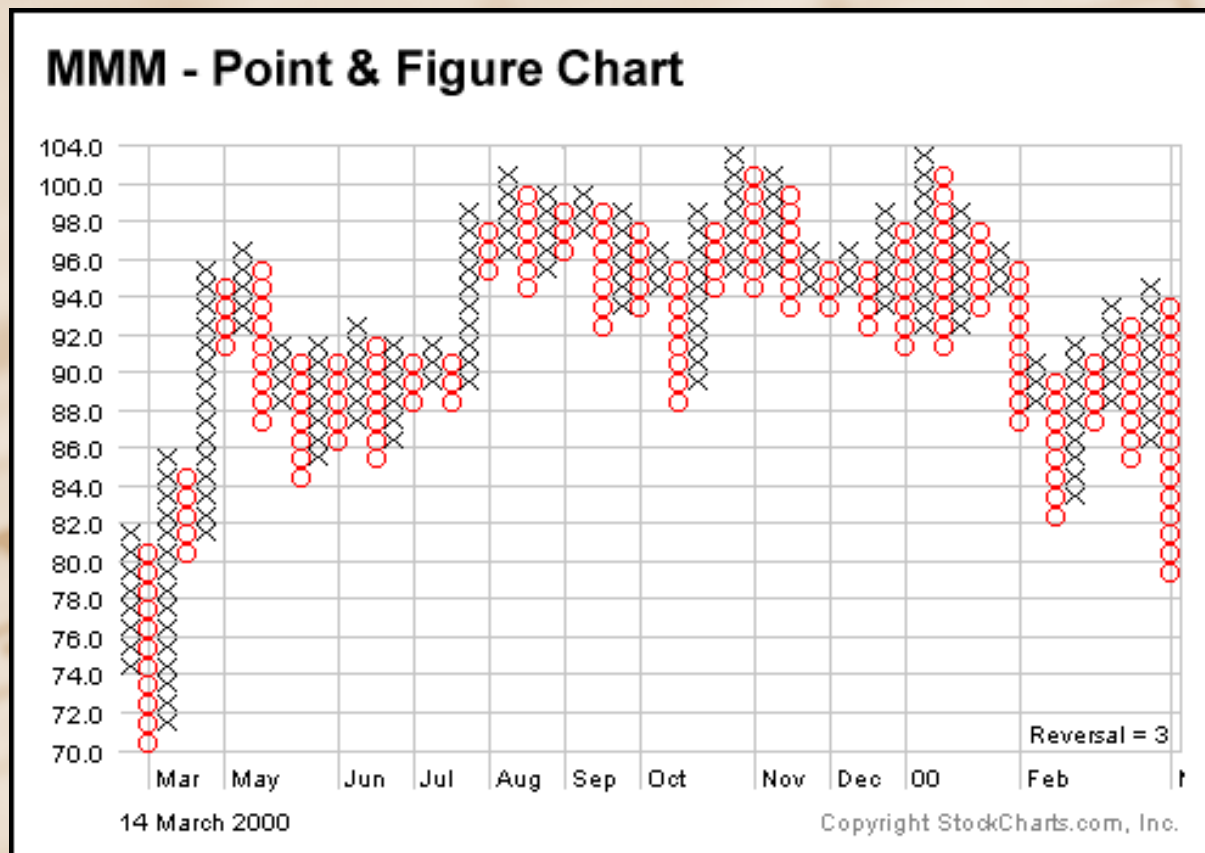
2.2 GRAFIKON SVIJEĆA



2.3 LINIJSKI GRAFIKON



2.4 KRIŽIĆ-KRUŽIĆ GRAFIKON



2.5 MJERILA

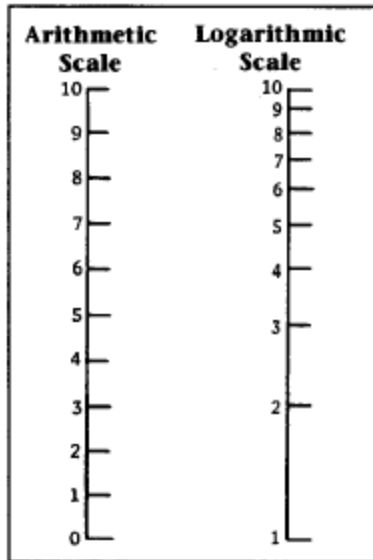


Figure 3.5 A comparison of an arithmetic and logarithmic scale. Notice the equal spacing on the scale to the left. The log scale shows percentage changes (right scale).

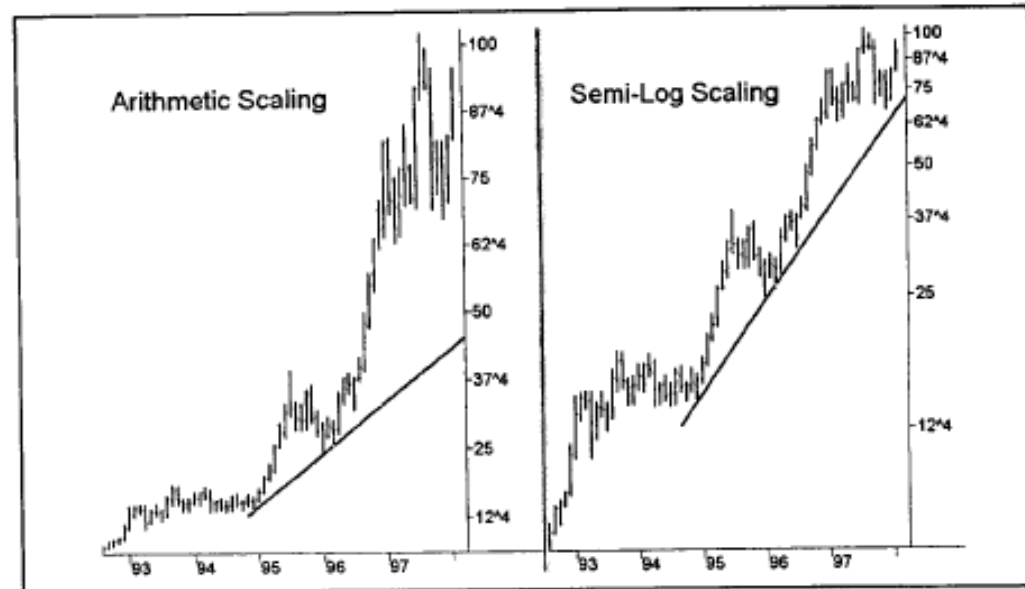


Figure 3.6 Longer view of Intel using two different price scales. The chart to the left shows the traditional arithmetic scale. The chart on the right shows a logarithmic scale. Notice that the three year up trendline worked better on the log chart.



3. TREND

3. TREND

- Osnovne vrste trenda
- Potporne i otporne razine



3.1 OSNOVNE VRSTE TRENDNA

– Rastući

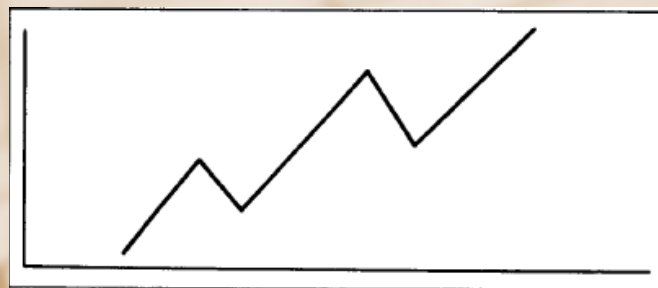


Figure 4.1a
Example of an
uptrend with
ascending peaks
and troughs.

– Horizontalni

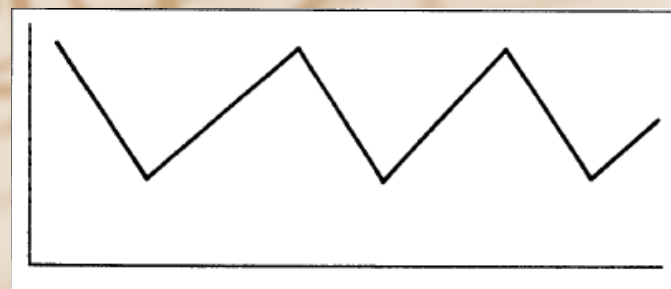


Figure 4.1c
Example of a
sideways trend
with horizontal
peaks and
troughs. This
type of market
is often referred
to as "trendless."

– Padajući

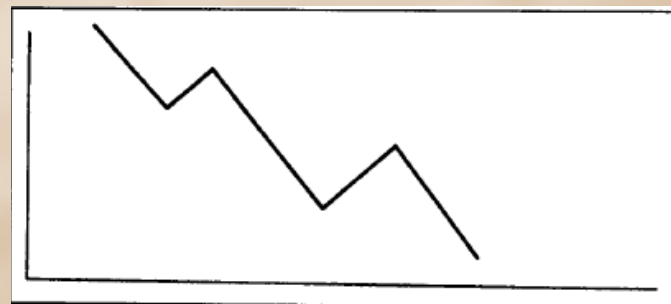


Figure 4.1b
Example of a
downtrend with
descending peaks
and troughs.

3.2 POTPORNE I OTPORNE RAZINE

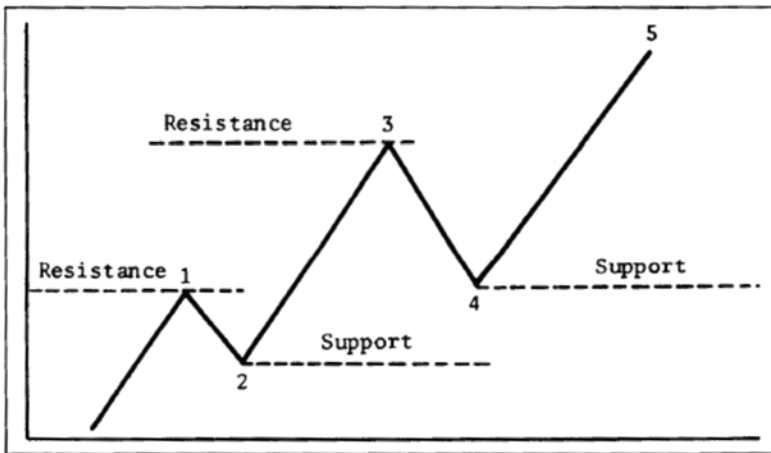


Figure 4.3a Shows rising support and resistance levels in uptrend. Points 2 and 4 are support levels which are usually previous reaction lows. Points 1 and 3 are resistance levels, usually marked by previous peaks.

POTPORNA RAZINA

- Razina cijena pri kojoj počinje prevladavati kupnja

OTPORNA RAZINA

- Razina cijena pri kojoj počinje prevladavati prodaja

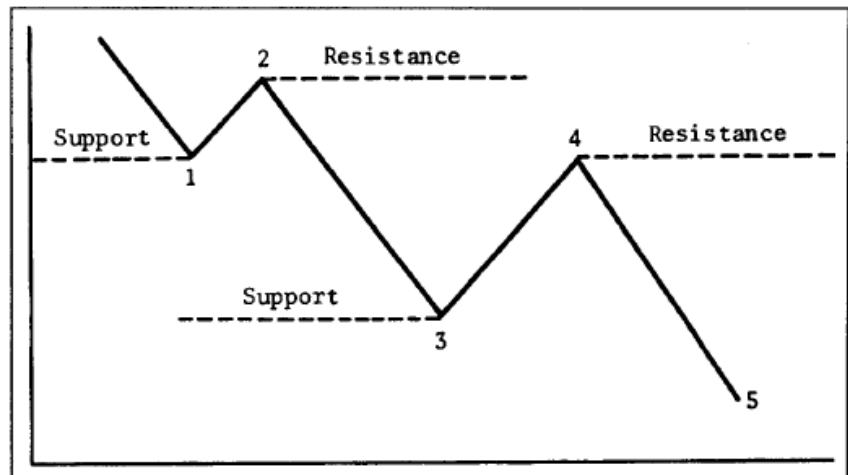


Figure 4.3b Shows support and resistance in a downtrend.

3.3 KANALI

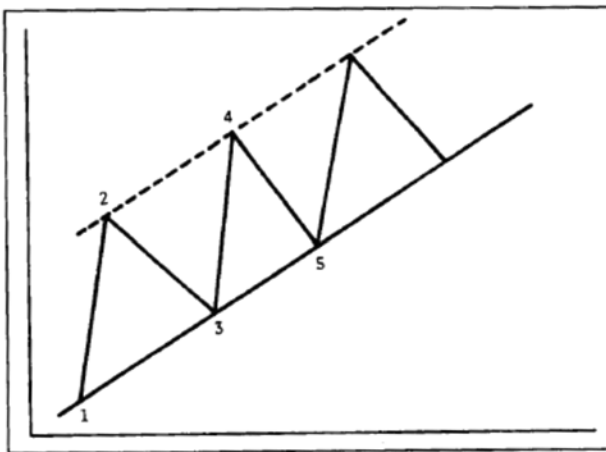


Figure 4.16a
Example of a trend channel. Once the basic up trendline is drawn (below points 1 and 3) a channel, or return, line (dotted line) can be projected over the first peak at 2, which is parallel to the basic up trendline.

Dugoročno, trendovi se kreću unutar kanala.....

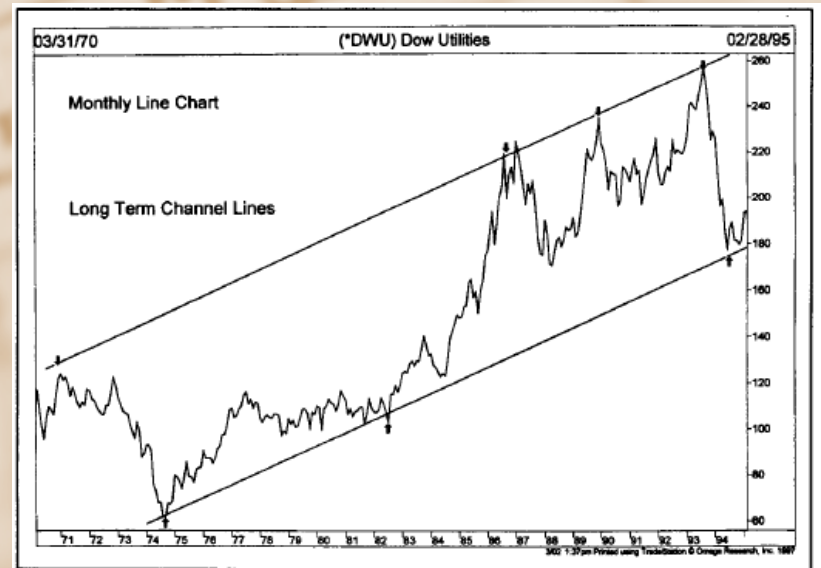


Figure 4.16c Notice how prices fluctuated between the upper and lower parallel channels over a period of 25 years. The 1987, 1989, and 1993 tops occurred right at the upper channel line. The 1994 bottom bounced off the lower trendline.

3.4 POSTOTNA ODSTUPANJA

Najčešće, odstupanje od nekog glavnog trenda se nalazi u intervalu od 33% do 66%

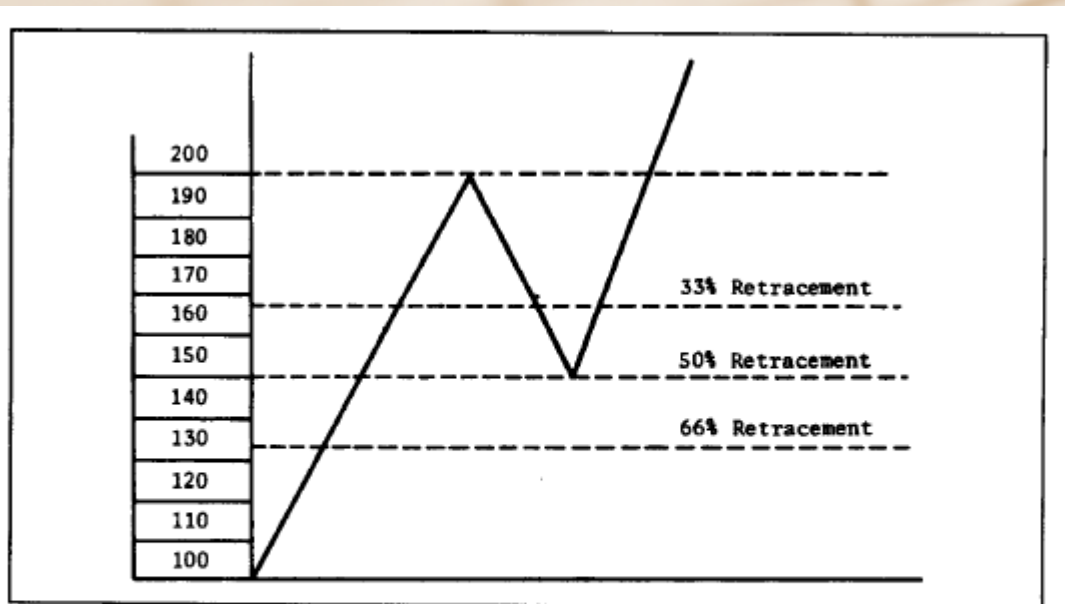


Figure 4.20a Prices often retrace about half of the prior trend before resuming in the original direction. This example shows a 50% retracement. The minimum retracement is one-third and the maximum, two-thirds of the prior trend.

3.5 OBUJAM TRGOVINE

- Obujam trgovanja najčešće prati glavni trend
- Važan pokazatelj obrata trenda kod padajućeg trenda
- Manje pouzdan kod rastućeg trenda

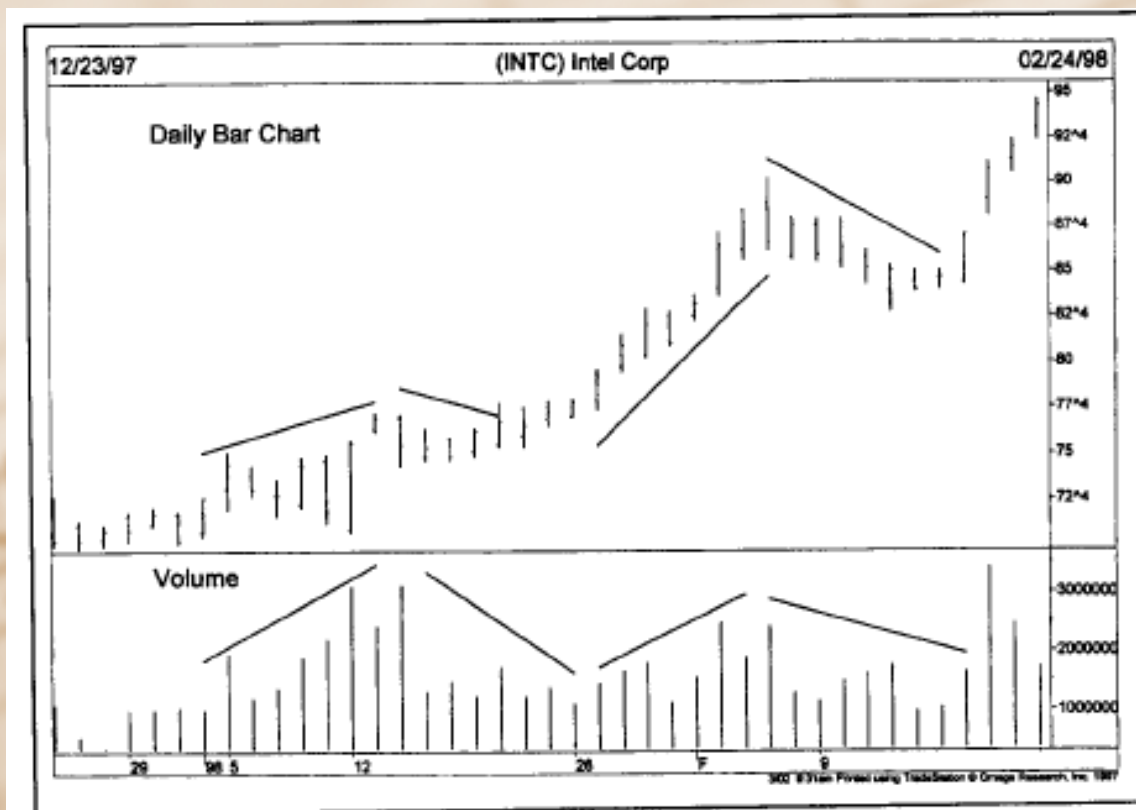


Figure 7.4 The volume bars are following Intel's price uptrend. Volume is heavier as prices are rising, and drops off as prices weaken. Notice the burst of trading activity during the last three days' price jump.



4. OBRASCI TRENDNA

4. OBRASCI TRENDNA

- OBRASCI OBRATA TRENDNA
- OBRASCI NASTAVKA TRENDNA

4.1 OBRASCI OBRATA TRENDNA

- NAJČEŠĆI OBRASCI
 - Glava i ramena
 - Trostruki vrhovi i dna
 - Dvostruki vrhovi i dna
 - Okrugli i šiljasti oblici

4.1.1 GLAVA I RAMENA

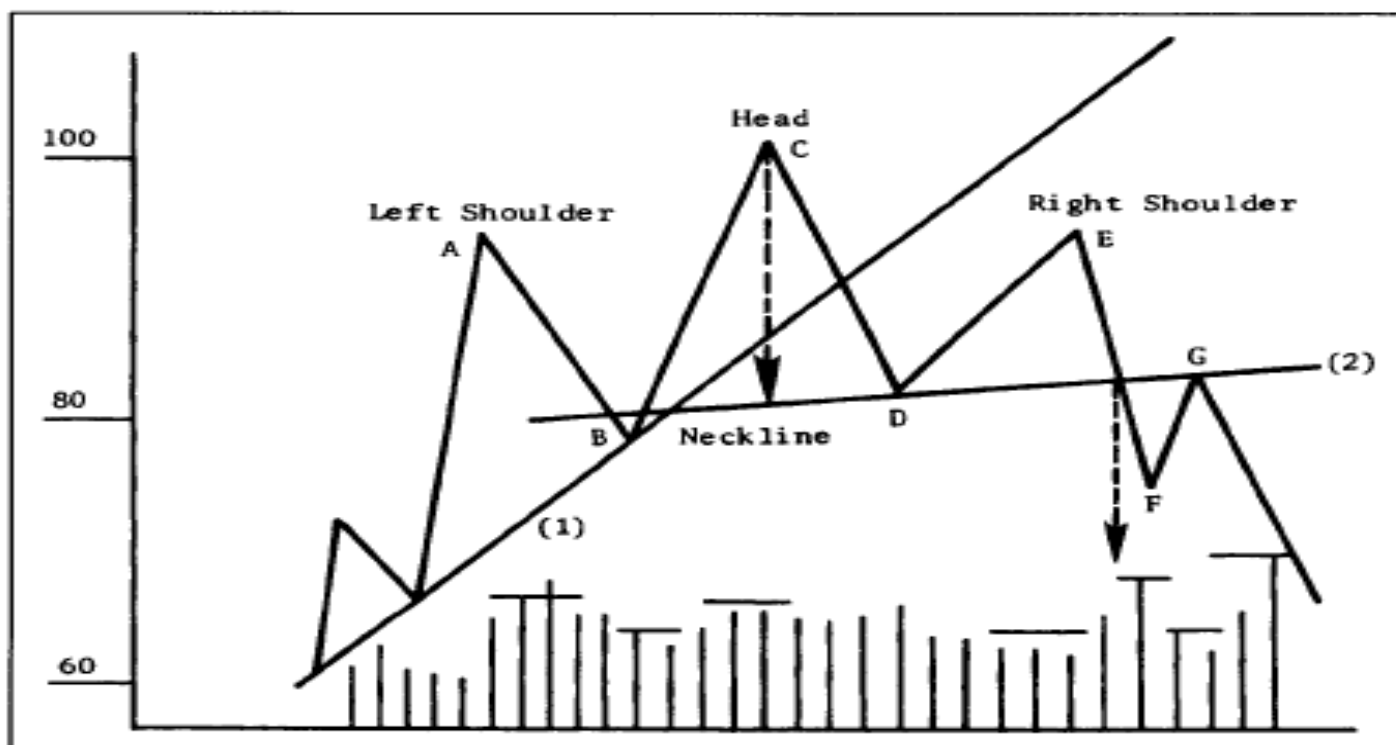


Figure 5.1a Example of a head and shoulders top. The left and right shoulders (A and E) are at about the same height. The head (C) is higher than either shoulder. Notice the lighter volume on each peak. The pattern is completed on a close under the neckline (line 2). The minimum objective is the vertical distance from the head to the neckline projected downward from the breaking of the neckline. A return move will often occur back to the neckline, which should not recross the neckline once it has been broken.

4.1.2 TROSTRUKI VRHOVI I DNA

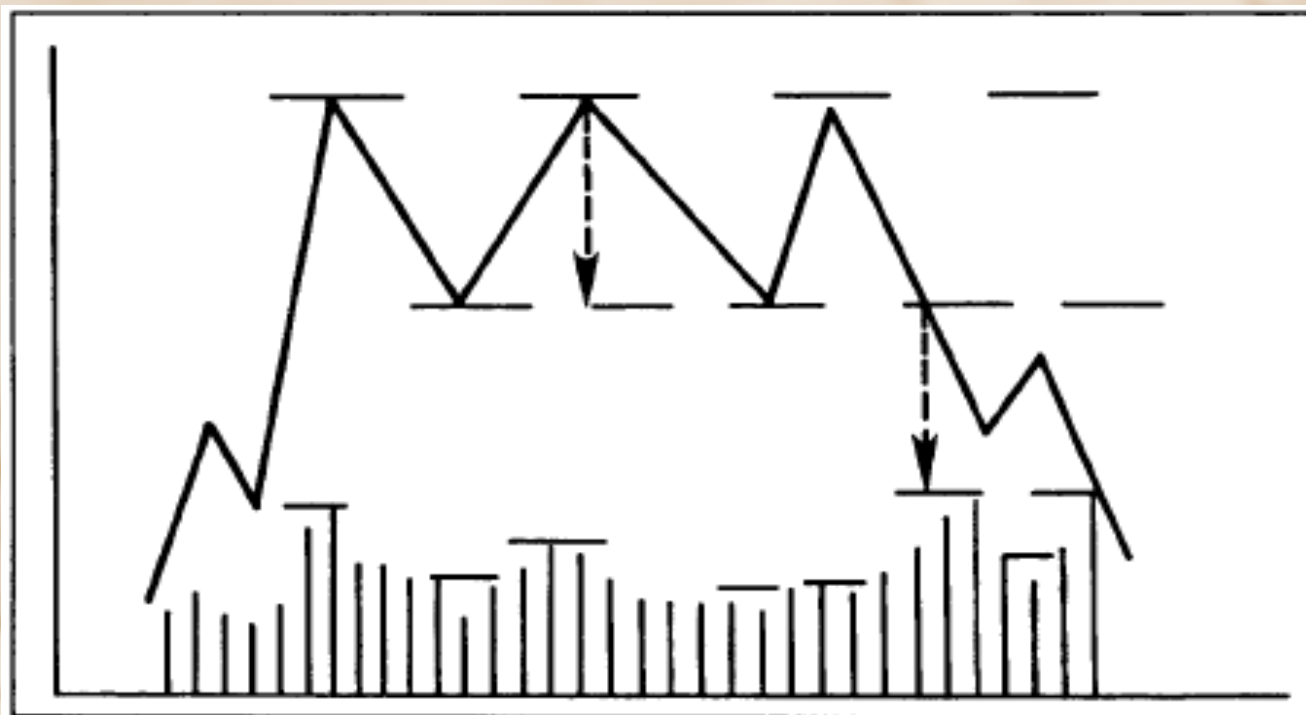


Figure 5.4a A triple top. Similar to the head and shoulders except that all peaks are at the same level. Each rally peak should be on lighter volume. The pattern is complete when both troughs have been broken on heavier volume. The measuring technique is the height of the pattern projected downward from the breakdown point. Return moves back to the lower line are not unusual.

4.1.3 DVOSTRUKI VRHOVI I DNA

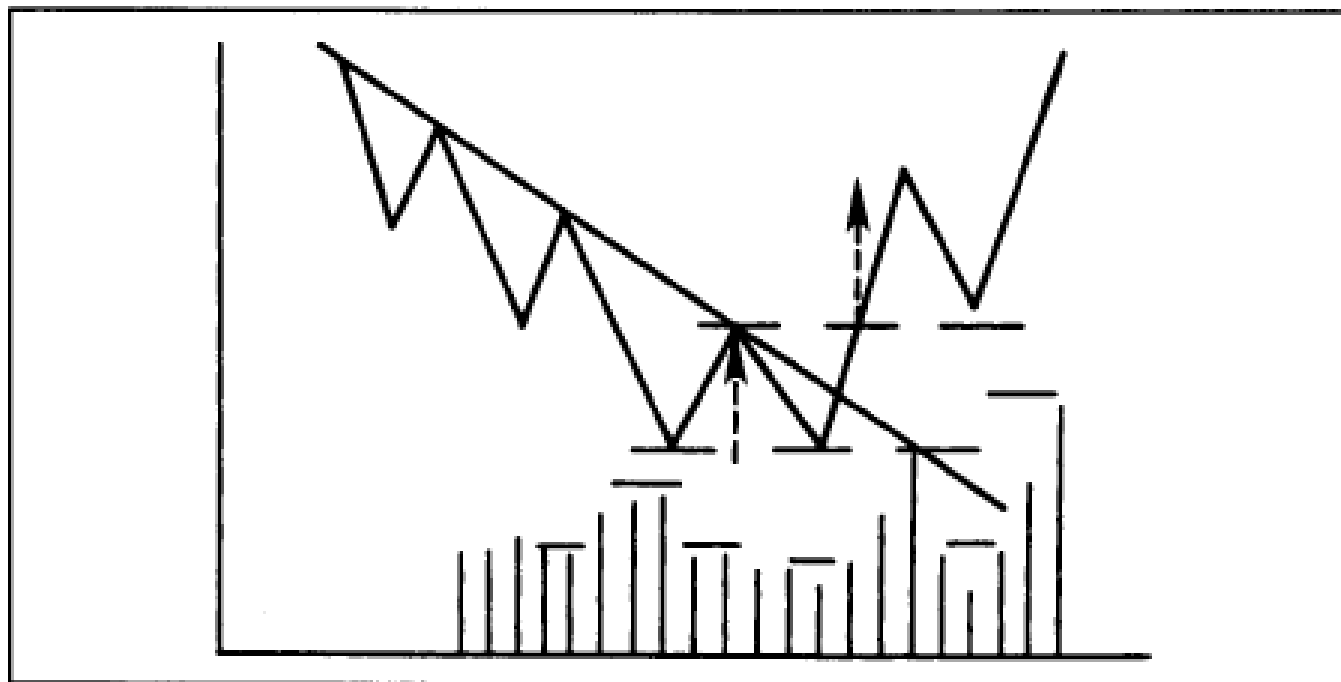


Figure 5.5b *Example of a double bottom. A mirror image of the double top. Volume is more important on the upside breakout. Return moves back to the breakout point are more common at bottoms.*

4.1.4 ŠILJASTI I OKRUGLI OBLICI

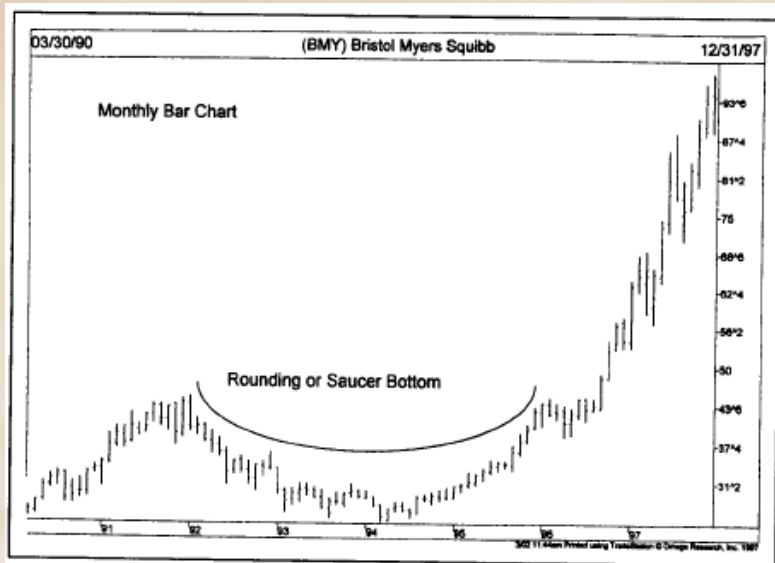


Figure 5.8 This chart shows what a saucer (or rounding) bottom looks like. They're very slow and gradual, but usually mark major turns. This bottom lasted four years.

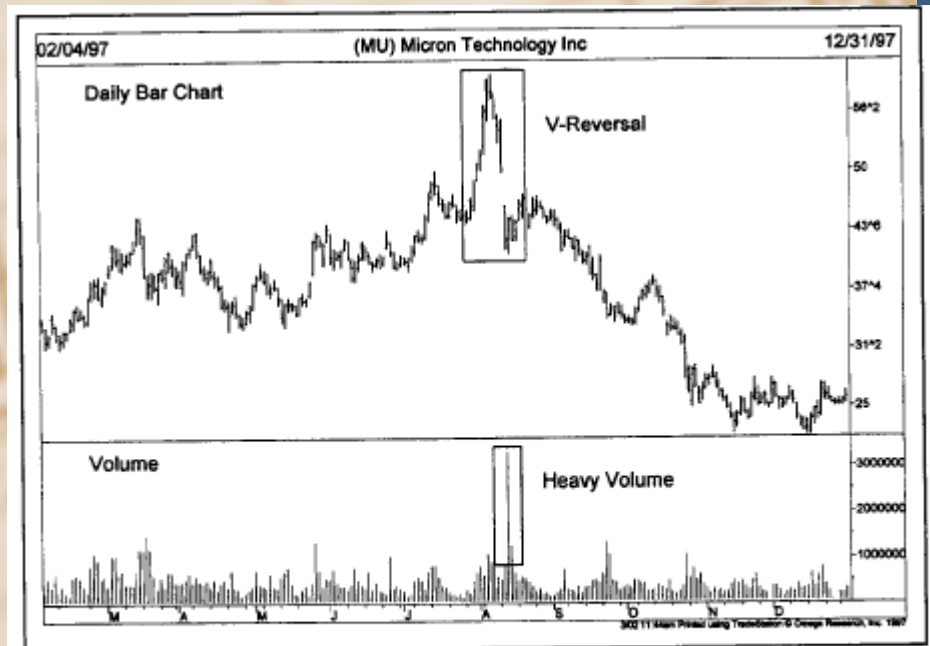


Figure 5.9 Example of a v reversal pattern. These sudden reversals take place with little or no warning. A sudden price drop on heavy volume is usually the only telltale sign. Unfortunately, these sudden turns are hard to spot in advance.

4.2 OBRASCI NASTAVKA TRENDA

- NAJČEŠĆI OBRASCI:

- Trokuti
- Zastave
- Klinovi
- Pravokutnici
- Glava i ramena

4.2.1 TROKUTI

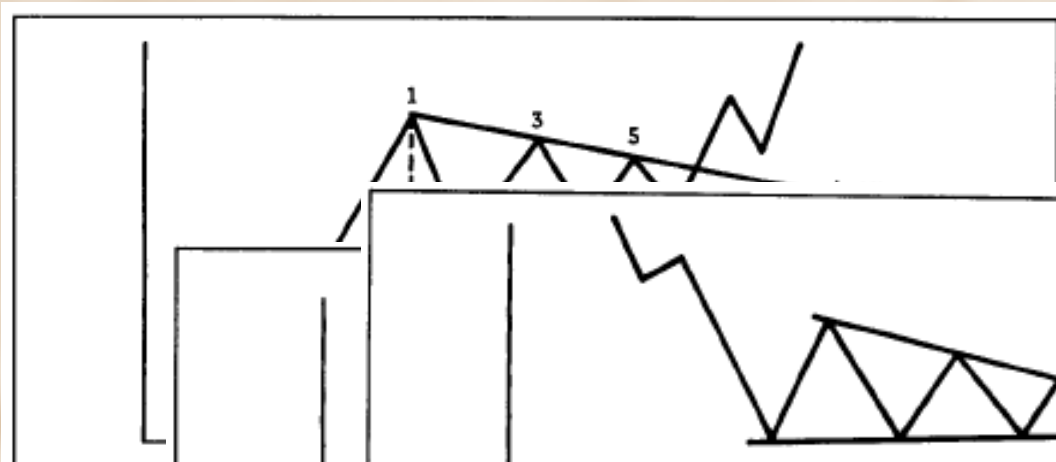


Figure 6.1a
converging
The vertical
lines meet i

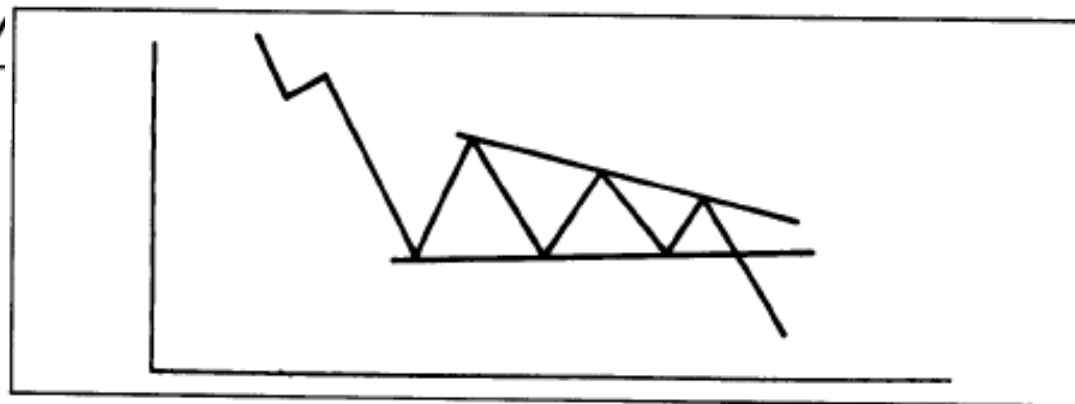


Figure 6.1b Example of a descending triangle. Notice the flat bottom line and the declining upper line. This is usually a bearish pattern.

Figure 6.1c Example of an ascending triangle. Notice the flat upper line and the rising lower line. This is generally a bullish pattern.

4.2.2 ZASTAVE

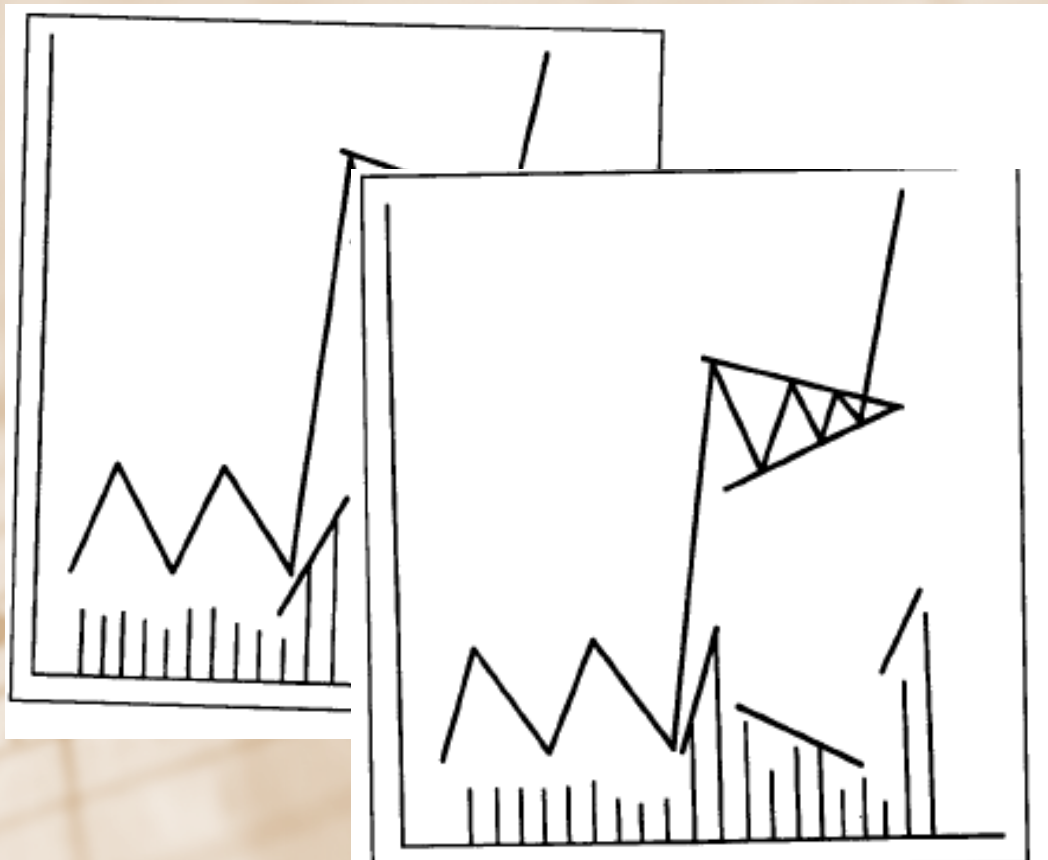


Figure 6.6b A bullish pennant. Resembles a small symmetrical triangle, but usually lasts no longer than three weeks. Volume should be light during its formation. The move after the pennant is completed should duplicate the size of the move preceding it.

4.2.3 KLINOVI

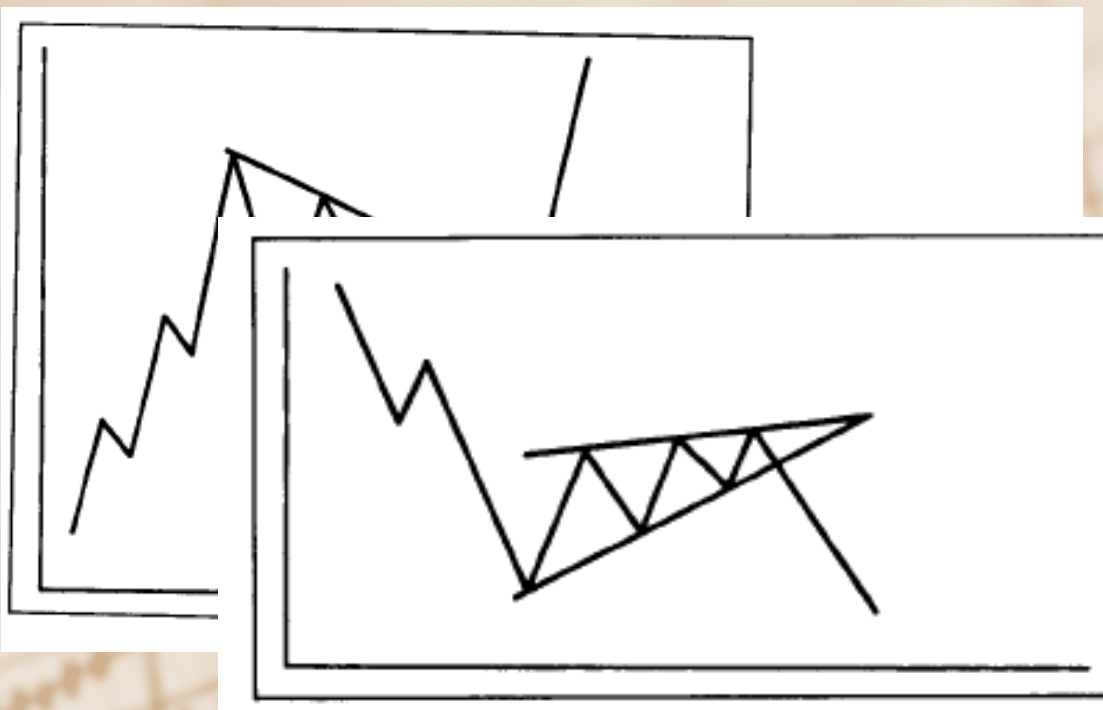


Figure 6.8b
Example of a bearish wedge. A bearish wedge should slope upward against the prevailing down-trend.

4.2.4 PRAVOKUTNICI

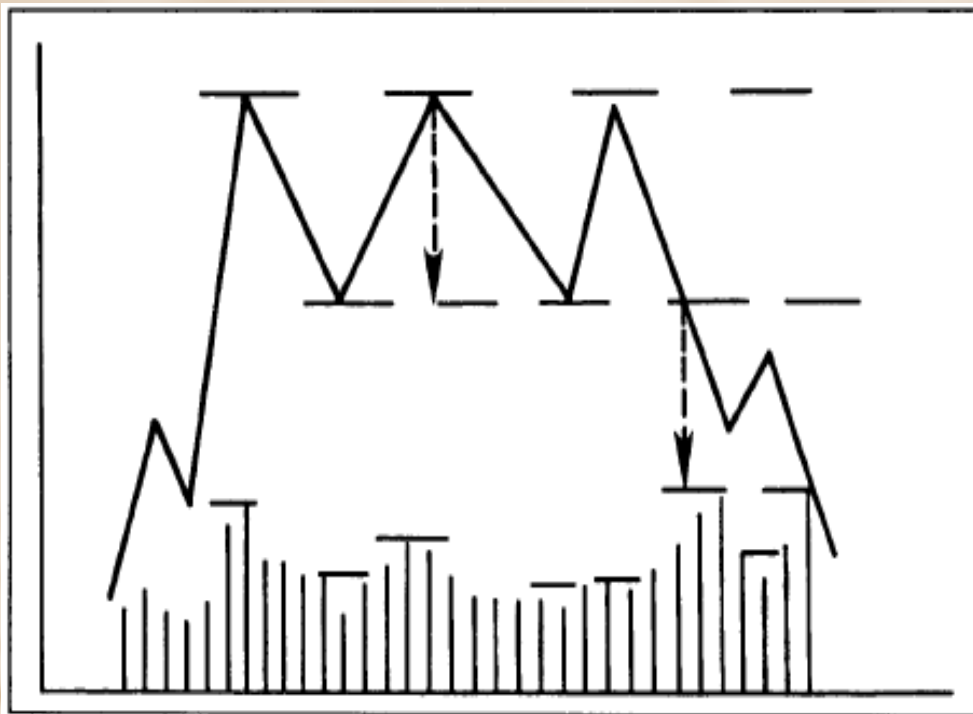


Figure 5.4a A triple top. Similar to the head and shoulders except that all peaks are at the same level. Each rally peak should be on lighter volume. The pattern is complete when both troughs have been broken on heavier volume. The measuring technique is the height of the pattern projected downward from the breakdown point. Return moves back to the lower line are not unusual.

Figure 6.9a
Example of a bullish rectangle in an uptrend. This pattern is also called a trading range, and shows prices trading between two horizontal trendlines. It is also called a congestion area.

4.2.5 GLAVA I RAMENA

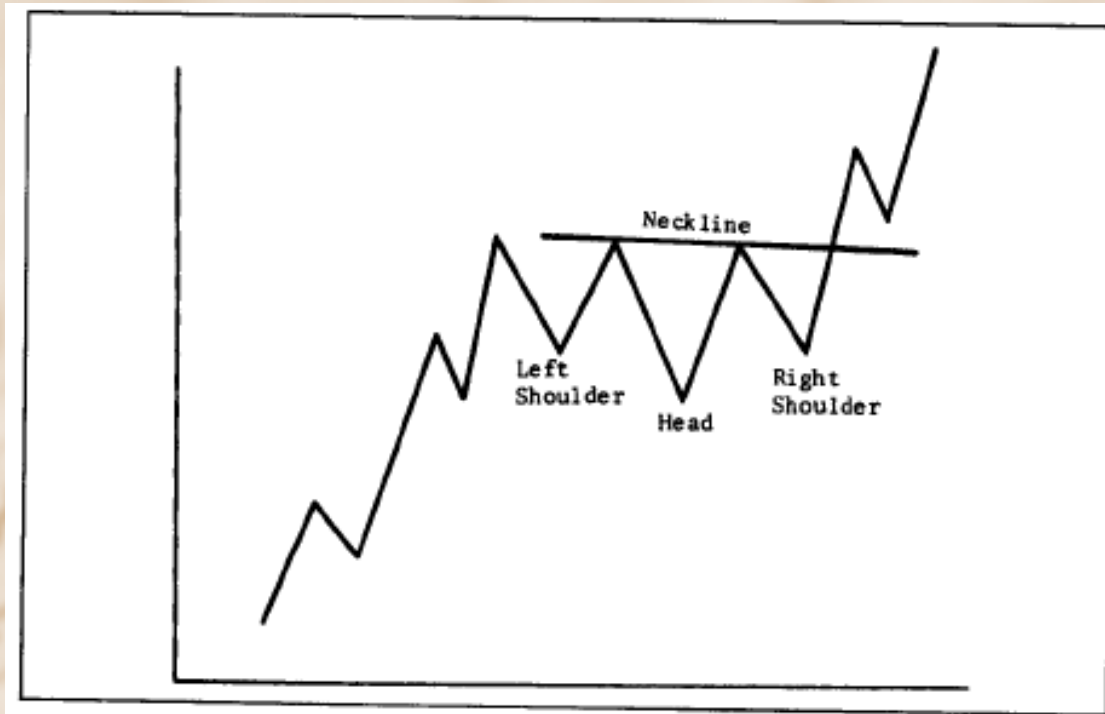


Figure 6.11a *Example of a bullish continuation head and shoulders pattern.*

The background of the slide features a blurred image of a financial chart. The chart is plotted on a grid with horizontal and vertical lines. A line graph is visible, showing an overall upward trend with some fluctuations. The chart is rendered in a light, sepia-toned color, making it a subtle background element. The text '5. POMIČNI PROSJECI' is overlaid on the lower-left portion of the chart area.

5. POMIČNI PROSJECI

Pomični prosjeci

- MA (5-20)

- Pomični prosjek slijedi trend i signalizira početak novog ili obrat starog trenda.
- Kraći pomični prosjeci su osjetljiviji na cjenovna kretanja od dugih pomičnih prosjeka.
- Kraći pomični prosjeci su bolji u trenucima obrata trenda
- Dugi pomični prosjeci su bolji za vrijeme rastućeg ili padajućeg trenda

- Bollingerova ovojnica

- Ovojnica koja se koristi uz dvadesetročni pomični prosjek, omogućuje usporedbu kretanja cijene i volatilnosti.
- Sastoji se od tri linije:
 1. središnja linija pomičnog prosjeka cijene (obično se ne prikazuje)
 2. gornja granica (pomični prosjek uvećan za 2 standardne devijacije)
 3. donja granica (pomični prosjek umanjen za 2 standardne devijacije)

MA (5-10); Bollingerova ovojnica



The background features a grid of light brown lines on a darker brown background. A blue gradient overlay covers the left side of the image. A faint, dark line graph is visible on the grid, showing a series of data points connected by lines, with some points having vertical error bars. The graph appears to be a plot of an oscillating signal over time or frequency.

6. OSCILATORI



Oscilatori(indikatori)

- MACD- Moving Average Convergence/Divergence je jedan od najjednostavnijih i najpouzdanijih indikatora. Temelji se na razlici između kraćeg i dužeg pomičnog prosjeka.
- Dvije linije
 - 1. Brža linija MACD (razlika između dva eksponencijalno vagana pomična prosjeka EMA zaključnih cijena koji su obično dvanaestoročni(12) i dvadesetšestoročni(26)).
 - 2. Spora linija(signalna linija)obično je eksponencijalno vagani devetoročni pomični prosjek EMA.

Oscilatori(indikatori)

- MACD kupovni signali su:
 1. Pozitivna divergencija - MACD raste a cijena stagnira ili pada,
 2. Pozitivno presijecanje MACD i 9-dnevnog pomičnog prosjeka - prelazak vrijednosti MACD iznad 9-dnevnog prosjeka,
 3. Prelazak MACD vrijednosti iz negativne u pozitivnu - pokazatelj da je momentum postao pozitivan.

MACD prodajni signali su:

1. Negativna divergencija,
 2. Negativno presijecanje MACD i 9-dnevnog pomičnog prosjeka,
 3. Prelazak MACD vrijednosti iz pozitivne u negativnu.
- MACD linije fluktuiraju oko horizontalne linije(nulte linije), Presjecanje horizontalne linije je još jedan signal.

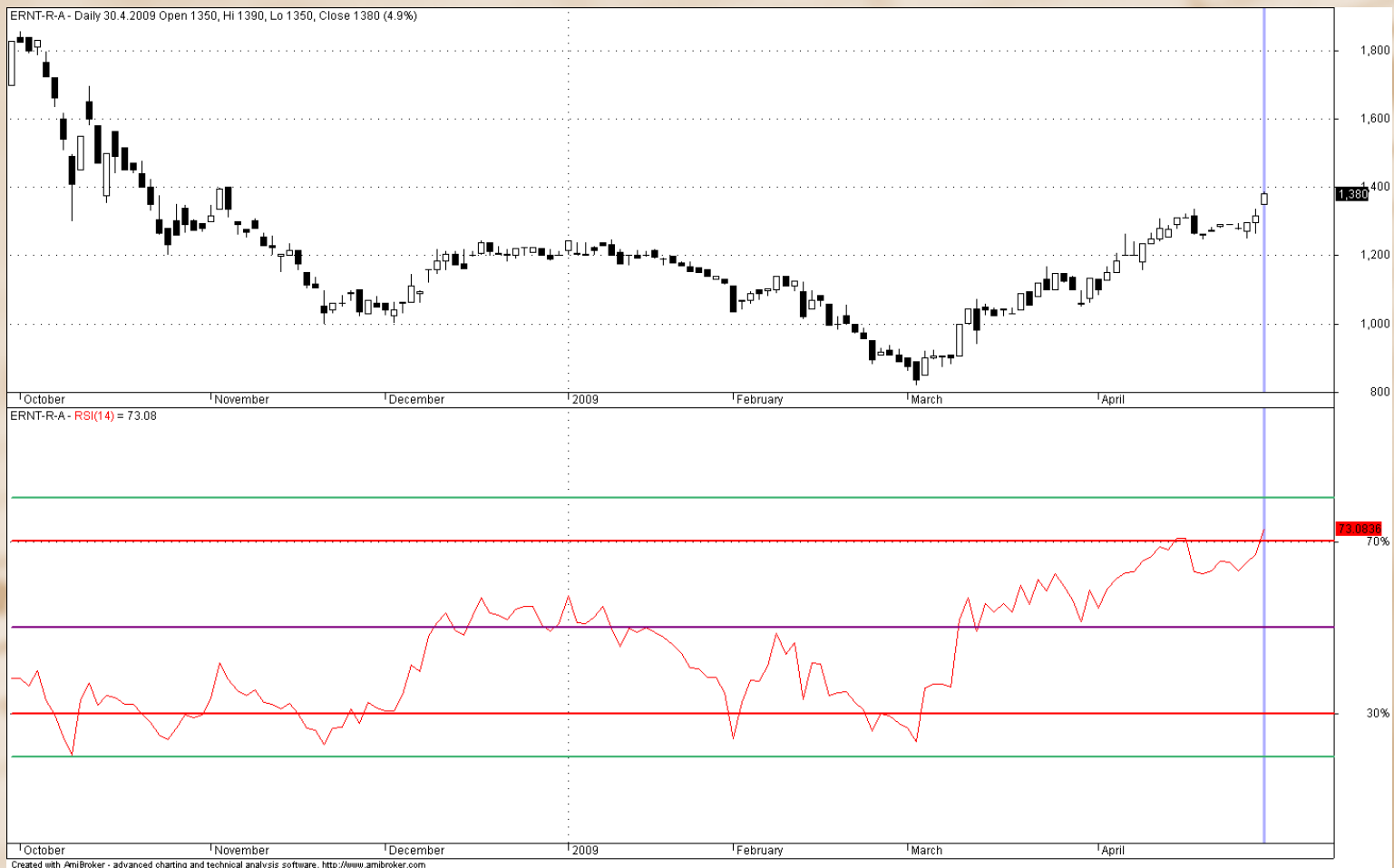
MACD oscillator



Oscilatori (indikatori)

- RSI Relative Strength Index je momentum oscilator koji u odnos stavlja veličinu nedavnog rasta cijene i nedavne gubitke pri padu i taj odnos prikazuje u vrijednostima od 0 do 100.
- RSI ima gornju i donju granicu(0-100), a horizontalna linija se nalazi na 50.
- Područja podkupljenosti (između 20-30)
- Područja prekupljenosti (između 70-80)

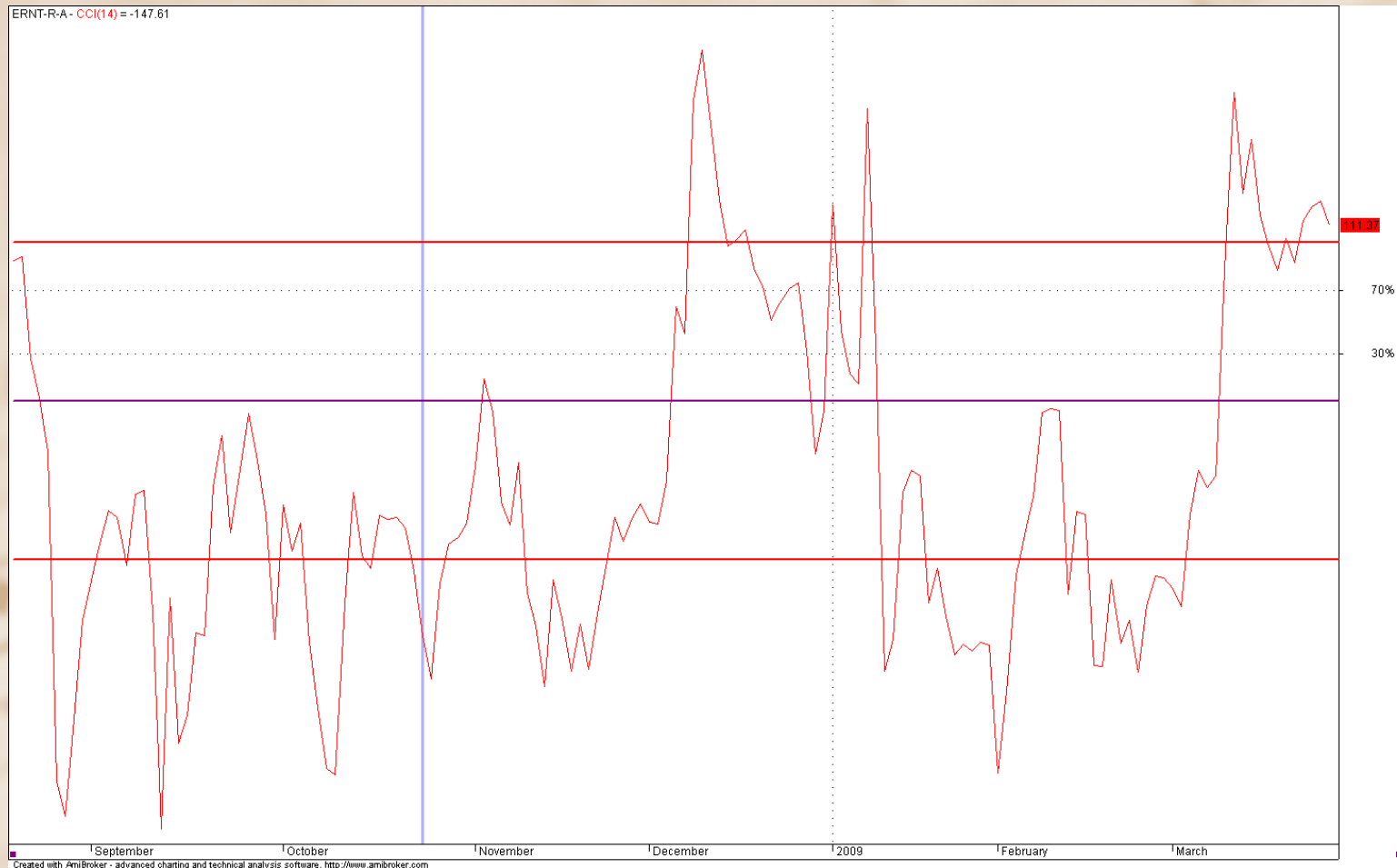
RSI Oscillator



Oscilatori (indikatori)

- Commodity Channel Index služi utvrđivanju ciklusa promjena cijene.
- Temelji se na pretpostavci da se promjene cijena odvijaju u ciklusima, s višim i nižim cijenama koje se ponavljaju u određenim intervalima.
- CCI fluktuirá iznad i ispod nule, s tim da je 70-80 % vrijednosti indeksa obično između -100 i 100 bodova
- Glavne točke indeksa
 - Linija -100
 - Linija 100
 - Linija 0

CCI oscillator



Oscilatori (indikator)

- ROC Rate of Change je oscilator koji opisuje brzinu promjene cijene. Prikazuje postotnu razliku trenutne cijene i one od prije 10 dana.
- Dobivene vrijednosti osciliraju iznad i ispod nulte linije. Analiziraju se visoke i niske vrijednosti koje govore o jačini trenda, pozitivne i negativne divergencije te prelasci vrijednosti ispod i iznad nule.
- Prelazak ROC vrijednosti iznad nule ukazuje na kratkoročni uzlazni trend a presijecanje nulte linije prema dolje ukazuje na kratkoročni silazni trend.

ROC oscillator



Oscilatori (indikatori)

- ATR Average true range je indikator oscilacije cijene odnosno volatilnosti.
- Najčešće se koristi 14-dnevni ATR.
- Niske vrijednosti ATR-a indikator su mirnog trgovanja i niske volatilnosti a visoke indikator su suprotnog. Visoke vrijednosti često označavaju nagli rast ili pad cijene i rijetko su dugotrajne.

ATR oscillator





7. VOLUMEN TRGOVANJA

Volumen

- On Balance volumen OBV



**HVALA NA PAŽNJI!
PITANJA?**

8. ZAKLJUČAK