



# Mean Reversion vs Trendfollowing

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## Heiko Seibel



- Master in Economics
- Worked as a market maker in Europe and Asia
- Founder and portfoliomanager of a brokerage house
- Founder and partner of **Oktavest**, an asset management company
- Hedgefunds management in 2008 for international institutional investors (AUM > 200 Mio. USD)
- Initiator of two investment funds (AUM > 100 Mio. USD)
- Development of trading and investment strategies for more than a decade
- Coach for professional traders in prop trading houses or am companies.
- Blog: [www.trading-stories.de](http://www.trading-stories.de)

## Agenda

- Mean Reversion vs Trend Following
- Oldie but Goldie: The RSI
- Trading Strategies with RSI



## Tools of the Trade

- (1) Chartpatterns
- (2) Indicators
- (3) Market Structure
- (4) Sentiment
- (5) Mean Reversion
- (6) Trendfollowing
- (7) Seasonal
- (8) Cycles
- (9) Arcane



## Tools of the Trade

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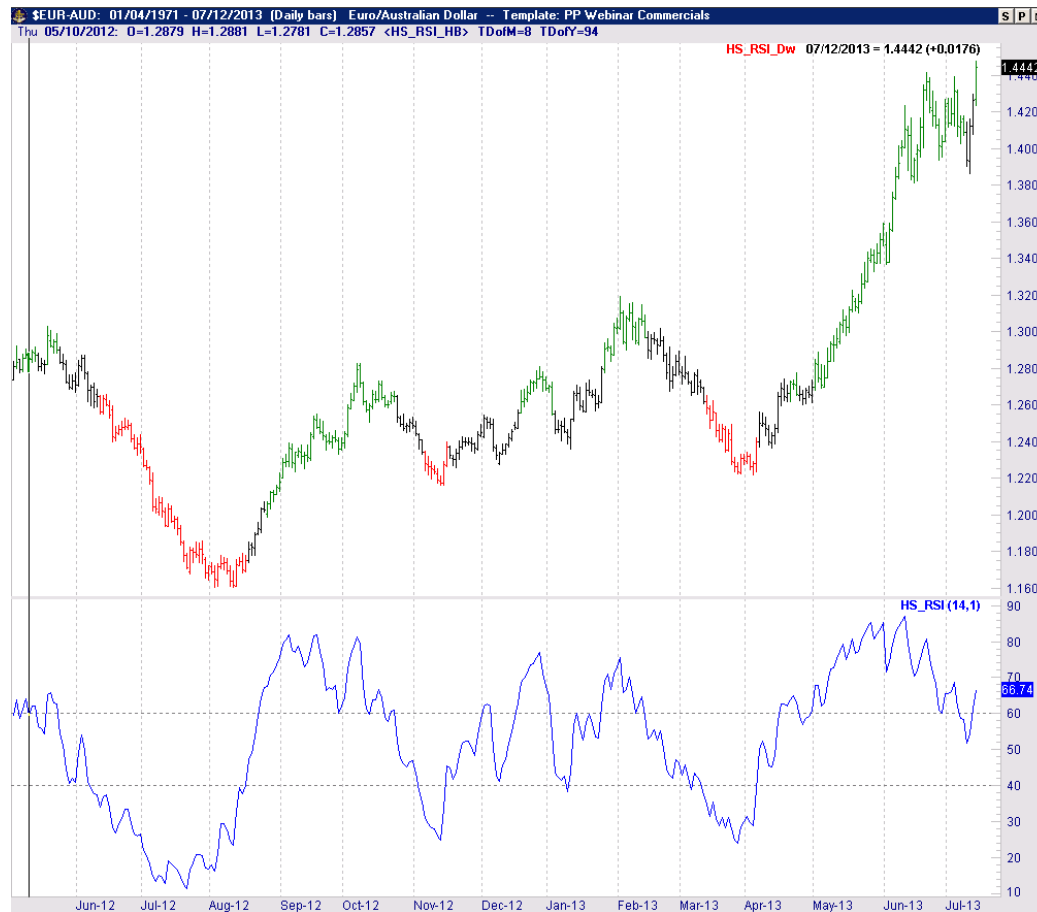
## Mean-Reversion vs Trend Following

Mean Reversion	Trend Following
- „contrarian“	- „trend follower“
- go against the market direction	- go with the market direction
- take advantage of volatility	- large gains – large trends required
- smaller gains per trade	- bigger gains per trade
- smaller accounts required	- larger accounts required
- higher percentage of wins	- lower percentage of wins
- less exposed to drawdowns	- highly exposed to drawdowns

## Combining both world with the RSI indicator

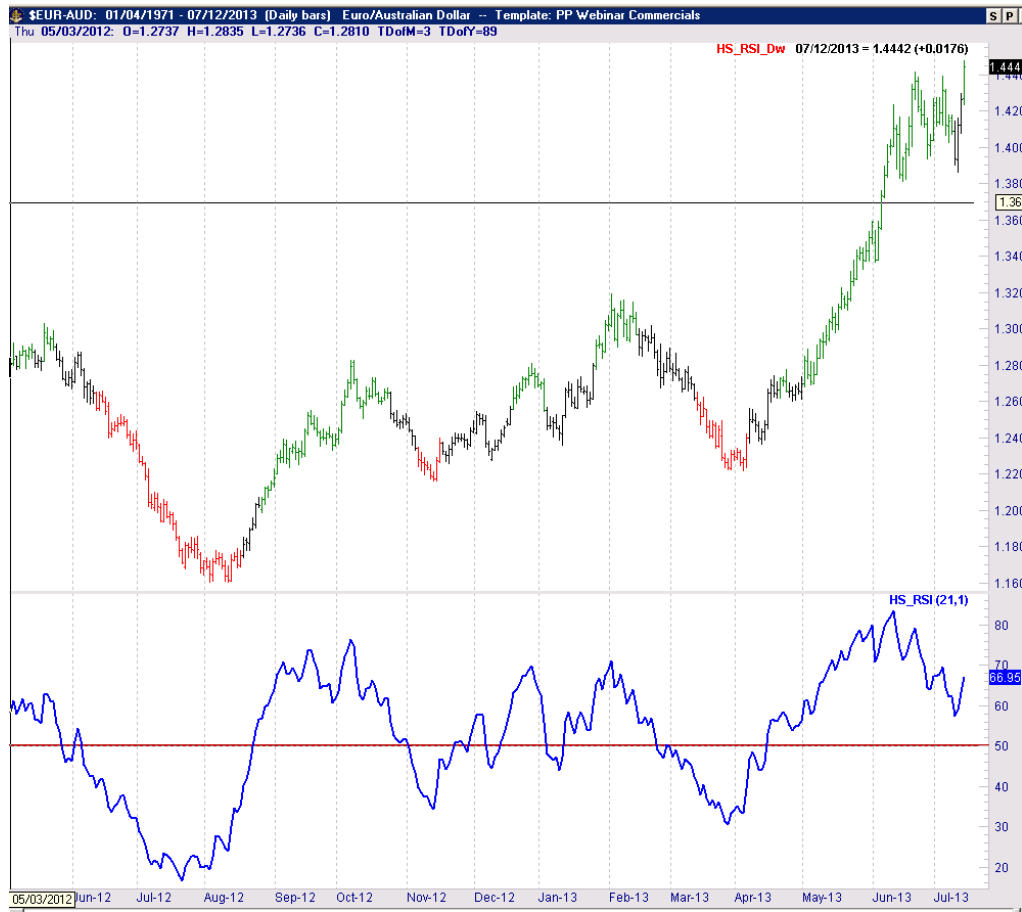
- RSI: Relative Strength Indicator
- very popular indicator
- Innovator: **Welles Wilder** in his 1978 book „New Concepts in Technical Trading Systems”
- classified as a **momentum** indicator, mostly used as overbought/oversold indicator
- measures **velocity and magnitude** of a directional price movement
- RSI is the **ratio** of higher closing prices to lower closing prices
- **Calculation:**
  - Up: Close today > close yesterday → Dw: 0
  - Dw: Close today < close yesterday → Up: 0
  - If Close today = close yesterday → Dw: 0 and Up: 0
  - EMAUp: XMovingAverage (Up), i.e. 14 periods
  - EMADw: XMovingAverage (dw), i.e. 14 periods
  - $RS = EMAUp/EMADw$
  - $RSI = 100 - (100 / [1+RS])$
- Depending on some modification the RSI can be used as a trend following and momentum indicator

# Standard RSI (14): OB/OS-indicator





# RSI (21): Trendfilter (up: RSI > 50 / dw: RSI < 50)



# RSI (3): short-term mean reversion



## EURUSD Strategy

### Summary - All Trades

#### Overall

Total Net Profit:	\$4,111	Profit Factor (\$Wins/\$Losses):	<b>2.80</b>
Total Trades:	174	Winning Percentage:	67.2%
Average Trade:	\$24	Payout Ratio (AvgWin/AvgLoss):	1.36
Max Closed-out Drawdown:	-\$330	CPC Index (PF x Win% x PR):	2.56
Max Intraday Drawdown:	-\$709	Expectancy (AvgTrade/AvgLoss):	58.81%
Account Size Required:	\$709	Return Pct:	<b>580.0%</b>
Open Equity:	\$0	Kelly Pct (AvgTrade/AvgWin):	43.19%
Percent in the Market:	5.9%	Optimal f:	0.82
Avg # of Bars in Trade:	2.94	Z-Score (W/L Predictability):	0.5
Avg # of Trades per Year:	5.4	Current Streak:	1 Losses

#### Monthly Profit Analysis

Average Monthly Profit:	\$11	Monthly Sharpe Ratio:	0.15
Std Dev of Monthly Profits:	\$61	Annualized Sharpe Ratio:	0.51
		Calmar Ratio:	0.18

EnterLong:  
RSI (2) < 15 and  
RSI (21) > 50  
ExitLong:  
RSI (2) > 50  
StopLoss: 100 Pips

## AUDUSD Strategy

### Summary - All Trades

#### Overall

Total Net Profit:	\$32,080	Profit Factor (\$Wins/\$Losses):	<b>1.54</b>
Total Trades:	206	Winning Percentage:	64.6%
Average Trade:	\$156	Payout Ratio (AvgWin/AvgLoss):	0.85
Max Closed-out Drawdown:	<b>-\$5,840</b>	CPC Index (PF x Win% x PR):	0.84
Max Intraday Drawdown:	<b>-\$6,680</b>	Expectancy (AvgTrade/AvgLoss):	19.16%
Account Size Required:	\$6,680	Return Pct:	<b>480.2%</b>
Open Equity:	\$0	Kelly Pct (AvgTrade/AvgWin):	22.66%
Percent in the Market:	6.4%	Optimal f:	0.25
Avg # of Bars in Trade:	2.15	Z-Score (w/L Predictability):	-0.4
Avg # of Trades per Year:	8.0	Current Streak:	4 Wins

#### Monthly Profit Analysis

Average Monthly Profit:	\$104	Monthly Sharpe Ratio:	0.12
Std Dev of Monthly Profits:	\$730	Annualized Sharpe Ratio:	0.42
		Calmar Ratio:	0.19

EnterLong:

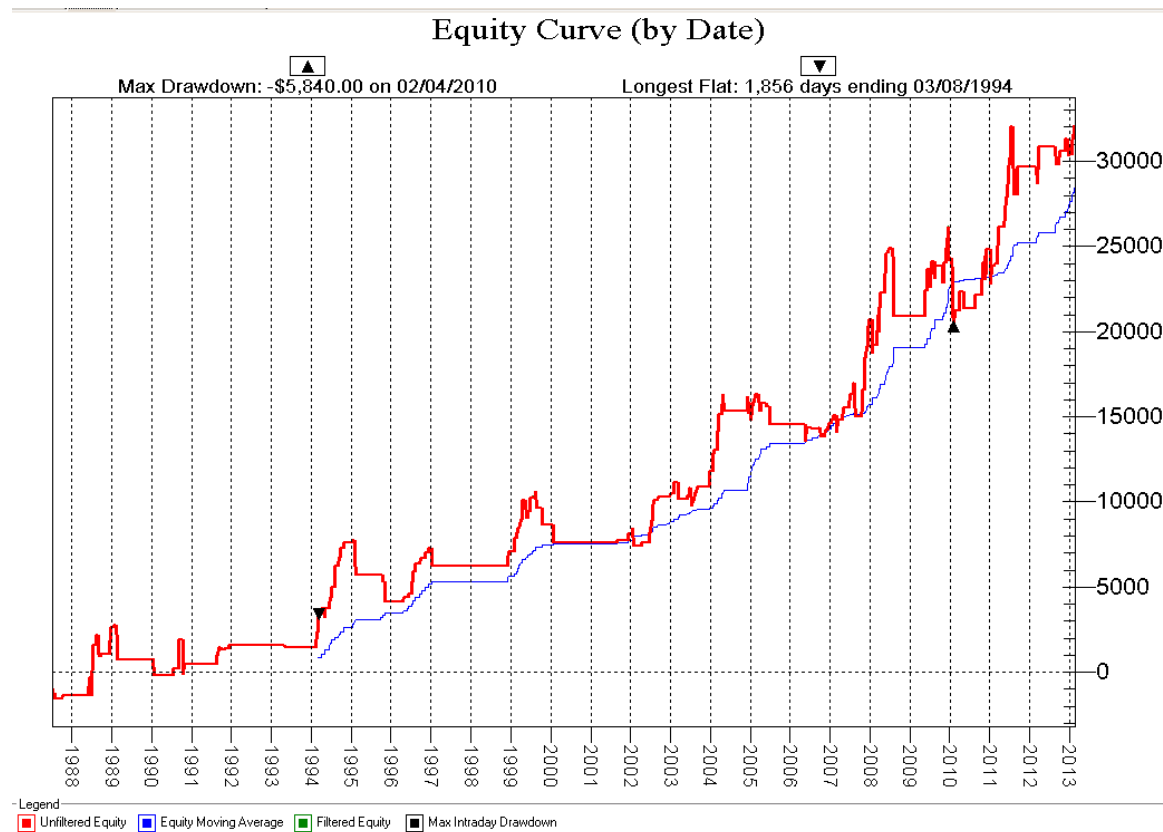
RSI (2) < 10 and  
Close > MA (200)

ExitLong:

RSI (2) > 50

StopLoss: 100 Pips

# Equity Curve AUDUSD



## Capturing big moves with wkRSI

- smoothed Input:  $(\text{High} + \text{Low} + \text{Close}) / 3$
- RSI (16)
- $\text{wkRSI} = \text{Moving Average}(\text{RSI}(16), 3)$
- $\text{wkRSI} < 40 \rightarrow$  bear market
- $\text{wkRSI} > 60 \rightarrow$  bull market
- How to use it?
  - trendfilter for daily trades
  - longer term trading system with ETF
- works also on the stock market



# Big Moves I (USDCHF weekly)



# Big Moves II (EURUSD weekly)





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