Twitter Thread by Quant Guy

Quant Guy
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Thread on Average True Range (ATR)

- J. Welles Wilder created the ATR back in 1978

- ATR measures the volatility of the instrument

- Direction cannot be ascertained by using ATR

- Min/Max : 0 to 100

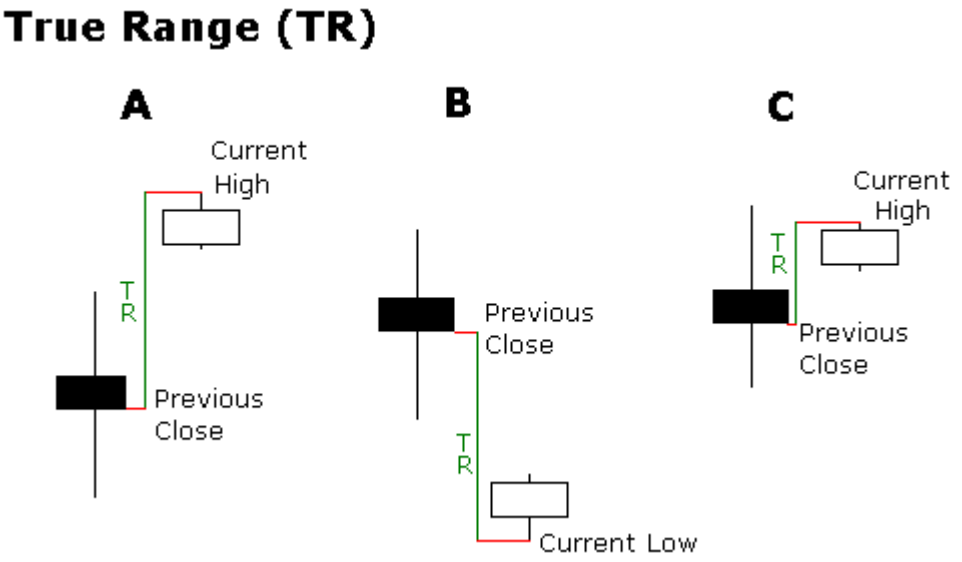
- Handy tool to measure volatility caused by Gap up/downs

(1/n)

The formula for ATR is

Average of True Range = avg(max[(high - low), abs(high - previous close), abs (low - previous close)], length)

(2/n)



Usage 1 : Volatility Regime Filter

Periods of High and Low volatility can be identified by a slow and fast ATR crossovers.

In high vol regimes, the fast ATR is above the slow ATR and vice versa for low vol

ATR crossover cannot be used to go long or short!!

(3/n)

Usage 2 : Mean Reversion

Extreme price movements are followed by reverting to the mean (equilibrium price). ATR bands can be plotted on chart to identify such extremities and take high probability mean reversion trades

Complementing indicators are stochastics, RSI

(4/n)

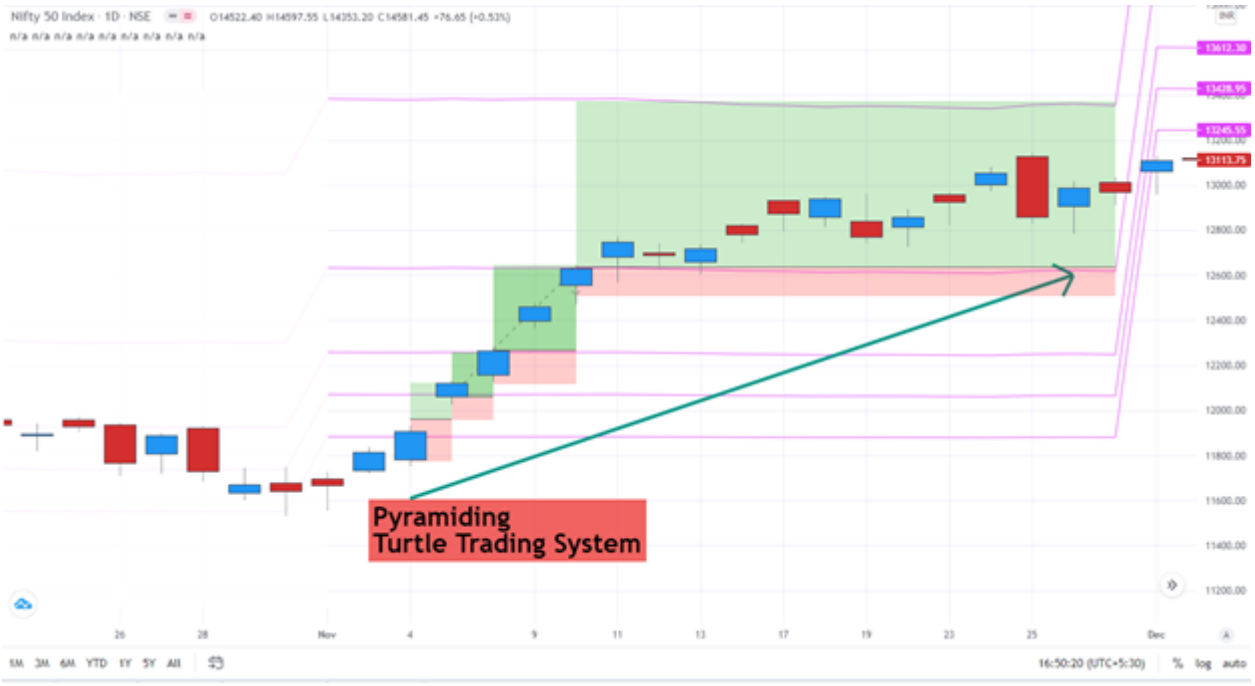
Usage 3: Pyramiding Strategy

Legendary trader Richard Dennis borrowed $1,600 and made $350 million in 6 years

The concept around his Turtles trading strategy revolves around Pyramiding, Position Sizing and Risk Mngmnt calculated with ATR

Below is a example of pyramiding

(5/n)



Usage 4: Trailing Stop Loss

A trailing stop loss is a clever way of protecting profits and prevent profit trades from converting to losses

However, a fixed % TSL doesn't address the volatility of the underlying. ATR based TSL does just that (SuperTrend indicator)

(6/n)

Usage 5: Position / Risk Mngmnt

Perhaps the most important use of the ATR is to derive the correct position size based on risk appetite

Suppose I want to trade Coal India (Low Beta) and ADANI PORTS(High Beta), HDFCBANK (Low Beta), ICICIBANK (Avg Beta) with 5Lacs capital

(7/n)

RIsk per trade 2% (Max loss 10000), the ideal position size is:

Pos.Size = (Capital x Risk%) / ATR

Below is the max allowed position size allowed for the 4 stocks
In futures, I cannot take trade in ADANIPORTS OR ICICIBANK as vol too high for my risk

(8/n)

					Portfolio Size				
					Max Risk			500000	
								2.00%	
Name	Sector	Stocks	Lot Size	Closing Price	ATR (14D)	Stock Volatility	Volatility Rank	MaxQuant (CASH)	MaxQuant (FUT)
Adani Ports And Special E	NIFTY 500	ADANIPORTS	2500	731.05	50.7	0.069	47	100	0.0
Coal India Limited	NIFTY METAL	COALINDIA	2200	127.95	3.4	0.026	11	2900	1.0
Hdfc Bank Limited	NIFTYBANK	HDFCBANK	250	1400.35	45.5	0.032	27	200	1.0
Icici Bank Limited	NIFTYBANK	ICICIBANK	1375	560.6	19.6	0.035	33	500	0.0

I can increase the capital or risk to trade in larger number of stocks but that's another story ■

This position sizing concept is used by hedge funds and professional traders.

(9/n)

					Portfolio Size			1000000	
					Max Risk			2.00%	
Name	Sector	Stocks	Lot Size	Closing Price	ATR (14D)	Stock Volatility	Volatility Rank	MaxQuant (CASH)	MaxQuant (FUT)
Adani Ports And Special E	NIFTY 500	ADANIPORTS	2500	731.05	50.7	0.069	47	300	0.0
Coal India Limited	NIFTY METAL	COALINDIA	2200	127.95	3.4	0.026	11	5900	3.0
Hdfc Bank Limited	NIFTYBANK	HDFCBANK	250	1400.35	45.5	0.032	27	400	2.0
Icici Bank Limited	NIFTYBANK	ICICIBANK	1375	560.6	19.6	0.035	33	1000	1.0

Well... Thats all I wanted to share about the King of Indicators... ATR!!

Its a truly versatile indicator and I believe it can change a trader's fortune for the better if used wisely!!

Please retweet and like the thread ■
Also share your experiences using this indicator!