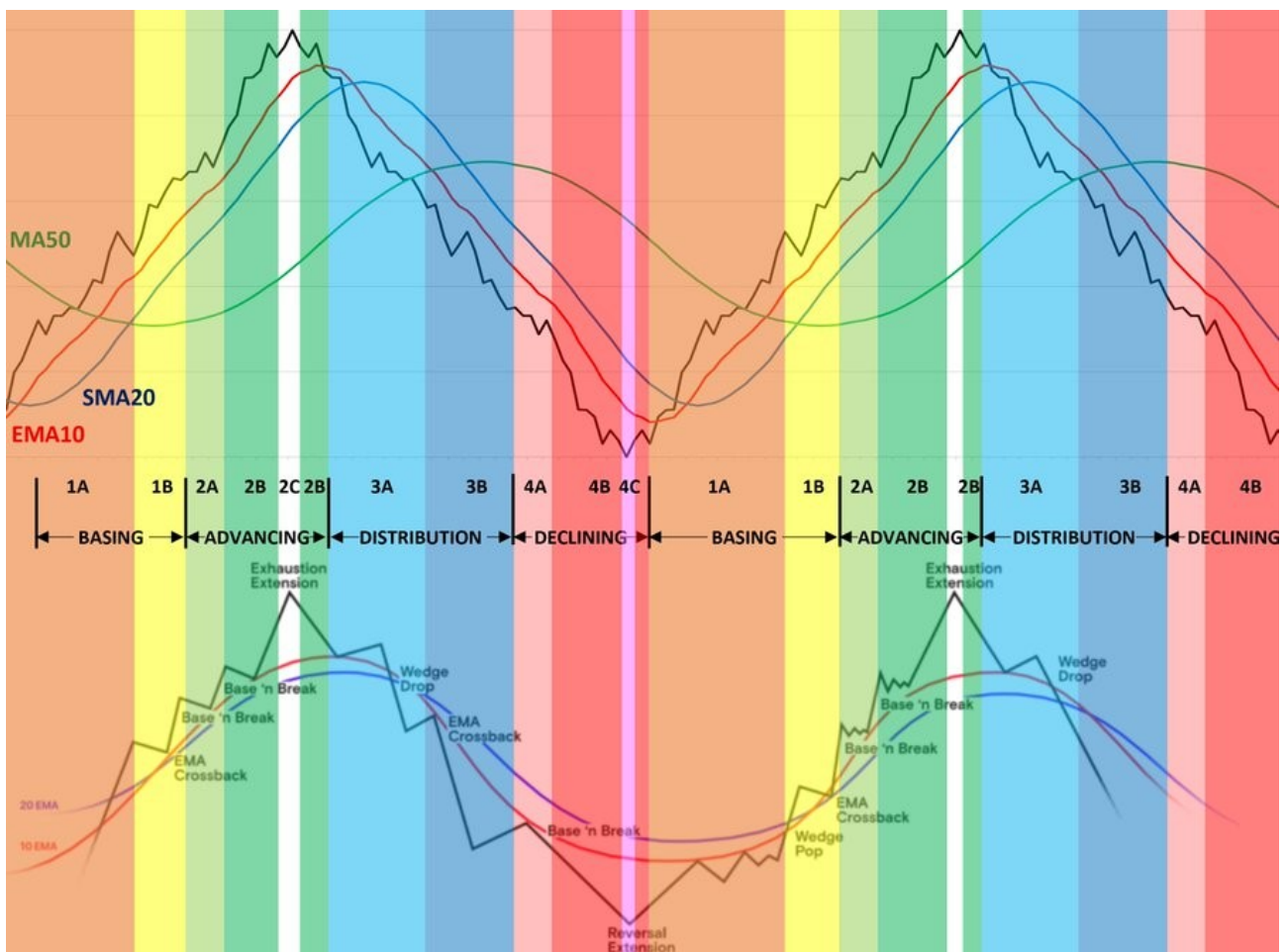


The Stage Analysis is determined using solely the EMA10, SMA20 and SMA50. For a stock to be in Stage 2A/B/C, it must already be above the SMA50. The ATR-to-SMA50 will depend on the rate of price increase within Stage 2: faster price increase = greater multiple. The attached image shows the stages in relation to the 3 moving averages. I have included 2 full cycles and mapped the Stage Analysis to

[@OliverKell](#)

excellent "Cycle of Price Action" (you can learn more about that in the link below)



1A: Upward Pivot:

1B: Mean Reversion:

2A: Bullish Trend

2B: Breakout Confirmation

2C: Bullish Extended

3A: Bullish Fade

3B: Fade Confirmation

4A: Bearish Trend

4B: Bearish Confirmation

4C: Bearish Extended

1A Upward Pivot: Price \geq EMA10 .+. Price \leq SMA20 .+. PRICE \leq SMA50

1B: Mean Reversion Price \geq EMA10 .+. Price \geq SMA20 .+. PRICE \leq SMA50

Stage 2-A-B-C: Price \geq SMA50

2A: Bullish trend Price \geq EMA10 .+. Price \geq SMA20 .+. Price \geq SMA50 & ATR-to-SMA ≤ 4 , but not necessarily EMA10 $>$ SMA20 AND/or EMA10 $>$ SMA50 ???

2B: Breakout Confirmation Price \geq EMA10 \geq SMA20 \geq SMA50 & ATR-to-SMA between 4-7

2C: Bullish Extended: Price \geq EMA10 AND Price \geq SMA20 AND Price \geq SMA50 AND AND EMA10 $>$ SMA20 $>$ SMA50 and ATR-to-SMA50 > 7

3A: Bullish Fade Price \leq EMA10 .+. Price \leq SMA20 .+. Price \geq SMA50

3B: Fade Confirmation Price \leq EMA10 .+. Price \leq SMA20 .+. Price \leq SMA50

Stage 4-A-B-C:

4A: Bearish Trend Price \leq EMA10 .+. Price \leq SMA20 .+. Price \leq SMA50 & ATR-to-SMA

4B: Bearish Confirmation Price \leq EMA10 \leq SMA20 \leq SMA50 & ATR-to-SMA 4-7

4C: Bearish Confirmation : ATR-to-SMA50 is < 7 , price $<$ EMA10, price $<$ SMA20, PRICE $<$ SMA50 (IS EMA 10 $<$ SMA20 $<$ SMA50 a condition?)

#####

In simple terms... 2C: ATR-to-SMA50 is > 7 + 2B: Price \geq EMA10 \geq SMA20 \geq SMA50 2A: Price \geq EMA10 + Price \geq SMA20 + Price \geq SMA50 In 2A, the Price \geq EMA10, SMA20 and SMA50 but that does not mean EMA10 is above SMA20 and/or SMA50. Likewise for the SMA20. Hope this helps

Day 41 of downward trend, started on 26th Feb 25 BUT rallied strongly closing at 93.8% of DCR placing it above the SMA20 & EMA10 Still below SMA50 $<$ SMA200 $<$ SMA100 Stage: 'Mean Reversion' (1B) 66.9% of its 20Day inner-Darvas Box on less than avg. volume. Green shoots

Your rules for stage analysis, based on the EMA10 (10-day Exponential Moving Average), SMA20 (20-day Simple Moving Average), SMA50 (50-day Simple Moving Average), and ATR-to-SMA50 ratio, provide a structured framework that aligns with traditional stage analysis concepts (e.g., Stan Weinstein's model) while introducing specific conditions tailored to price momentum and volatility. The attached image, which illustrates stages relative to these moving averages, supports your approach by visually mapping the progression through basing, advancing, distribution, and declining phases. Below, I'll evaluate your rules, suggest refinements based on technical analysis principles, and address potential inconsistencies or ambiguities, all while respecting your use of only EMA10, SMA20, and SMA50.

Evaluation of Your Rules

General Observations

- Strengths:
 - Using EMA10, SMA20, and SMA50 as key thresholds aligns with short- to medium-term trend identification, where EMA10 captures recent momentum, SMA20 provides intermediate support/resistance, and SMA50 acts as a long-term trend filter (similar to Weinstein's 30-week or 200-day MA but adjusted for shorter timeframes).
 - Incorporating ATR-to-SMA50 as a volatility measure to gauge the rate of price increase (e.g., in Stage 2A/B/C) is a creative addition, reflecting how fast a stock moves relative to its trend.
 - The image's color-coded stages and annotations (e.g., Base Break, Wedge, Drop EMA) provide a clear visual guide, which can help validate your rules against price action patterns.

Potential Issues:

- Some conditions (e.g., Stage 4A/B/C requiring $\text{Price} \geq \text{SMA50}$ while also $\text{Price} \leq \text{SMA50}$) contain logical contradictions that need clarification.
- The ATR-to-SMA50 thresholds (e.g., ≤ 4 for 2A/2B, > 7 for 2C, < 7 for 4C) lack context on how they were derived; they may need adjustment based on stock volatility or backtesting.
- The progression from one stage to the next (e.g., 2C to 3A) isn't fully defined, which could lead to gaps or overlaps in stage classification.

Detailed Analysis of Each Stage

1. 1A: Upward Pivot

- Rule: $\text{Price} \geq \text{EMA10}$ AND $\text{Price} \leq \text{SMA20}$ AND $\text{Price} \leq \text{SMA50}$

- Interpretation: This suggests an early breakout or pivot where the price exceeds the short-term EMA10 but remains below the SMA20 and SMA50, indicating a stock exiting a basing phase (Stage 1) but not yet in a confirmed uptrend.
- Feedback: This makes sense as an initial upward move, potentially aligning with the start of Stage 2. However, it lacks a volume or momentum condition (e.g., RSI or MACD) to confirm the pivot's strength. Consider adding a rising EMA10 slope or above-average volume to ensure it's not a false breakout.
- Refinement: $\text{Price} \geq \text{EMA10} \text{ AND } \text{Price} \leq \text{SMA20} \text{ AND } \text{Price} \leq \text{SMA50} \text{ AND } \text{EMA10_slope} > 0$ (where EMA10_slope is the 5-day slope of EMA10).

2. 1B: Mean Reversion

- Rule: $\text{Price} \geq \text{EMA10} \text{ AND } \text{Price} \geq \text{SMA20} \text{ AND } \text{Price} \leq \text{SMA50}$
- Interpretation: This describes a pullback where the price rises above EMA10 and SMA20 but remains below SMA50, suggesting a reversion to the mean within a basing or early trending phase.
- Feedback: This aligns with a dip-buying opportunity in Stage 1 or early Stage 2. The condition that $\text{Price} \geq \text{SMA20}$ might be too restrictive—mean reversion often occurs when the price falls back to a moving average (e.g., SMA20 or SMA50). Consider revising to allow $\text{Price} \leq \text{SMA20}$ or Price near SMA20 (e.g., within 2% of SMA20).
- Refinement: $\text{Price} \geq \text{EMA10} \text{ AND } \text{abs}(\text{Price} - \text{SMA20}) / \text{SMA20} \leq 0.02 \text{ AND } \text{Price} \leq \text{SMA50} \text{ AND } \text{RSI}_{14} < 30$ (to confirm oversold conditions).

3. 2A: Bullish Trend

- Rule: $\text{Price} \geq \text{EMA10} \text{ AND } \text{Price} \geq \text{SMA20} \text{ AND } \text{Price} \geq \text{SMA50} \text{ AND } \text{ATR-to-SMA50} \leq 4$
- Interpretation: A confirmed uptrend (Stage 2) where the price is above all three moving averages, with a moderate ATR-to-SMA50 ratio indicating a steady price increase.
- Feedback: This is a solid definition for early Stage 2 (e.g., 2A). The ATR-to-SMA50 ≤ 4 condition ties the trend's strength to volatility, which is reasonable. However, ensure the ATR calculation (e.g., 14-day ATR) matches your timeframe, and consider adding a rising SMA50 slope to confirm the trend's health.
- Refinement: $\text{Price} \geq \text{EMA10} \text{ AND } \text{Price} \geq \text{SMA20} \text{ AND } \text{Price} \geq \text{SMA50} \text{ AND } \text{ATR-to-SMA50} \leq 4 \text{ AND } \text{SMA50_slope} > 0$.

4. 2B: Breakout Confirmation

- Rule: $\text{Price} \geq \text{EMA10} \geq \text{SMA20} \geq \text{SMA50}$ AND $\text{ATR-to-SMA50} \leq 4$
- Interpretation: A stronger Stage 2 phase where the price and moving averages are aligned in an upward hierarchy, with moderate volatility confirming the breakout.
- Feedback: The condition $\text{Price} \geq \text{EMA10} \geq \text{SMA20} \geq \text{SMA50}$ is problematic because moving averages (EMA10, SMA20, SMA50) are calculated values and don't typically align in this strict hierarchical order with the current price. It's likely you meant the price is above all three MAs, and their slopes or values are rising. This should be corrected to $\text{Price} \geq \text{EMA10}$ AND $\text{Price} \geq \text{SMA20}$ AND $\text{Price} \geq \text{SMA50}$.
- Refinement: $\text{Price} \geq \text{EMA10}$ AND $\text{Price} \geq \text{SMA20}$ AND $\text{Price} \geq \text{SMA50}$ AND $\text{ATR-to-SMA50} \leq 4$ AND $\text{EMA10} > \text{SMA20} > \text{SMA50}$ (to reflect a bullish stacking of MAs).

5. 2C: Bullish Extended

- Rule: $\text{ATR-to-SMA50} > 7$
- Interpretation: A late Stage 2 phase where the price has risen significantly relative to its SMA50, indicating overextension and potential exhaustion.
- Feedback: This is a good use of ATR-to-SMA50 to signal overbought conditions. However, it lacks a price position condition (e.g., $\text{Price} \geq \text{SMA50}$), which could lead to misclassification if the stock is in a different stage. The threshold of >7 seems high—backtesting is needed to confirm it suits most stocks. Consider adding an overbought RSI (>70) or MACD divergence.
- Refinement: $\text{Price} \geq \text{SMA50}$ AND $\text{ATR-to-SMA50} > 7$ AND $\text{RSI}_{14} > 70$.

6. 3A: Bullish Fade

- Rule: $\text{Price} \leq \text{EMA10}$ AND $\text{Price} \leq \text{SMA20}$ AND $\text{Price} \geq \text{SMA50}$
- Interpretation: Early Stage 3 (distribution), where the price falls below short-term MAs but remains above the SMA50, indicating weakening momentum.
- Feedback: This is a reasonable transition from Stage 2 to 3, capturing the topping phase. However, it might benefit from a volume increase on down days or a flattening SMA50 to confirm distribution.
- Refinement: $\text{Price} \leq \text{EMA10}$ AND $\text{Price} \leq \text{SMA20}$ AND $\text{Price} \geq \text{SMA50}$ AND $\text{SMA50_slope} \leq 0$.

7. 3B: Fade Confirmation

- Rule: $\text{Price} \leq \text{EMA10}$ AND $\text{Price} \leq \text{SMA20}$ AND $\text{Price} \leq \text{SMA50}$

- Interpretation: A confirmed Stage 3, where the price breaks below the SMA50, signaling the end of the bullish trend.
- Feedback: This aligns with the transition to Stage 4. The condition is clear, but adding a bearish MACD crossover or high volume on the breakdown could strengthen it.
- Refinement: `Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50 AND MACD < MACD_Signal`.

8. 4A: Bearish Trend

- Rule: `Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50 AND ATR-to-SMA50 <= 4`
- Interpretation: Early Stage 4, a downtrend with moderate volatility below all MAs.
- Feedback: The condition `Price >= SMA50` in your Stage 4A/B/C header contradicts `Price <= SMA50`. It seems you intended `Price <= SMA50` for Stage 4. The `ATR-to-SMA50 <= 4` fits a steady decline, but ensure it's consistent with Stage 2A/2B.
- Refinement: `Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50 AND ATR-to-SMA50 <= 4 AND SMA50_slope < 0`.

9. 4B: Bearish Confirmation

- Rule: `Price <= EMA10 <= SMA20 <= SMA50 AND ATR-to-SMA50 <= 4`
- Interpretation: A confirmed Stage 4 with a hierarchical alignment of price and MAs, similar to 2B's issue.
- Feedback: As with 2B, `Price <= EMA10 <= SMA20 <= SMA50` is likely a typo. Correct it to `Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50`. The `ATR-to-SMA50 <= 4` should be consistent with 4A.
- Refinement: `Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50 AND ATR-to-SMA50 <= 4 AND EMA10 < SMA20 < SMA50`.

10.4C: Bearish Extended

- Rule: `ATR-to-SMA50 < 7`
- Interpretation: A late Stage 4 with reduced volatility, possibly indicating a stabilization or exhaustion of the downtrend.
- Feedback: The `<7` threshold contrasts with 2C's `>7`, which is logical for symmetry. However, it lacks a price condition (e.g., `Price <= SMA50`), and `<7` might be too broad—consider tightening it (e.g., `<4`) or adding an oversold RSI (`<30`).
- Refinement: `Price <= SMA50 AND ATR-to-SMA50 < 4 AND RSI_14 < 30`.

Suggestions for Improvement

1. Resolve Contradictions: Correct the Stage 4A/B/C header to Price <= SMA50 to align with the conditions.
2. Add Momentum/Volume: Incorporate RSI, MACD, or volume conditions to filter false signals (e.g., RSI > 50 for 2A, < 50 for 4A).
3. Backtest ATR Thresholds: Test ATR-to-SMA50 values (e.g., 4, 7) across different stocks to ensure they're robust. Adjust based on volatility (e.g., use a percentile-based threshold).
4. Define Transitions: Specify how stages transition (e.g., 2C to 3A when Price <= EMA10 after ATR-to-SMA50 > 7).
5. Handle Overlaps: Ensure stages don't overlap (e.g., 2C and 3A). Use a priority rule (e.g., higher-numbered stages override lower ones).

Conclusion Your rules are a promising adaptation of stage analysis, effectively using EMA10, SMA20, and SMA50 to define stages, with ATR-to-SMA50 adding a volatility dimension. The image supports your framework visually, and the conditions align with price action patterns (e.g., Base Break, Wedge). With the suggested refinements—resolving contradictions, adding momentum filters, and backtesting ATR thresholds—your system could be robust for trading or analysis. Would you like me to refine the Python code further or analyze a specific stock's stages based on these rules?

Stage

Name

Conditions

1A

Upward Pivot

Price >= EMA10 AND Price <= SMA20 AND Price <= SMA50 AND EMA10_slope > 0

1B

Mean Reversion

Price >= EMA10 AND abs(Price - SMA20) / SMA20 <= 0.02 AND Price <= SMA50

2A

Bullish Trend

Price >= EMA10 AND Price >= SMA20 AND Price >= SMA50 AND ATR-to-SMA50 <= 4 AND SMA50_slope > 0

2B

Breakout Confirmation

Price >= EMA10 AND Price >= SMA20 AND Price >= SMA50 AND ATR-to-SMA50 <= 4 AND EMA10 > SMA20 > SMA50

2C

Bullish Extended

Price >= SMA50 AND ATR-to-SMA50 > 7

3A

Bullish Fade

Price <= EMA10 AND Price <= SMA20 AND Price >= SMA50 AND SMA50_slope <= 0

3B

Fade Confirmation

Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50

4A

Bearish Trend

Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50 AND ATR-to-SMA50 <= 4
AND SMA50_slope < 0

4B

Bearish Confirmation

Price <= EMA10 AND Price <= SMA20 AND Price <= SMA50 AND ATR-to-SMA50 <= 4
AND EMA10 < SMA20 < SMA50

4C

Bearish Extended

Price <= SMA50 AND ATR-to-SMA50 < 4