



# 技术指标解析 - CCI (Commodity Channel Index) 设计初衷已消失 (定量分析)



SAM, PowerUpGammas



# Commodity Channel Index

- 衡量波动能力的指标
- 计算复杂的拟合指标
- Let's Walk-through



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**EVIDENCE-BASED  
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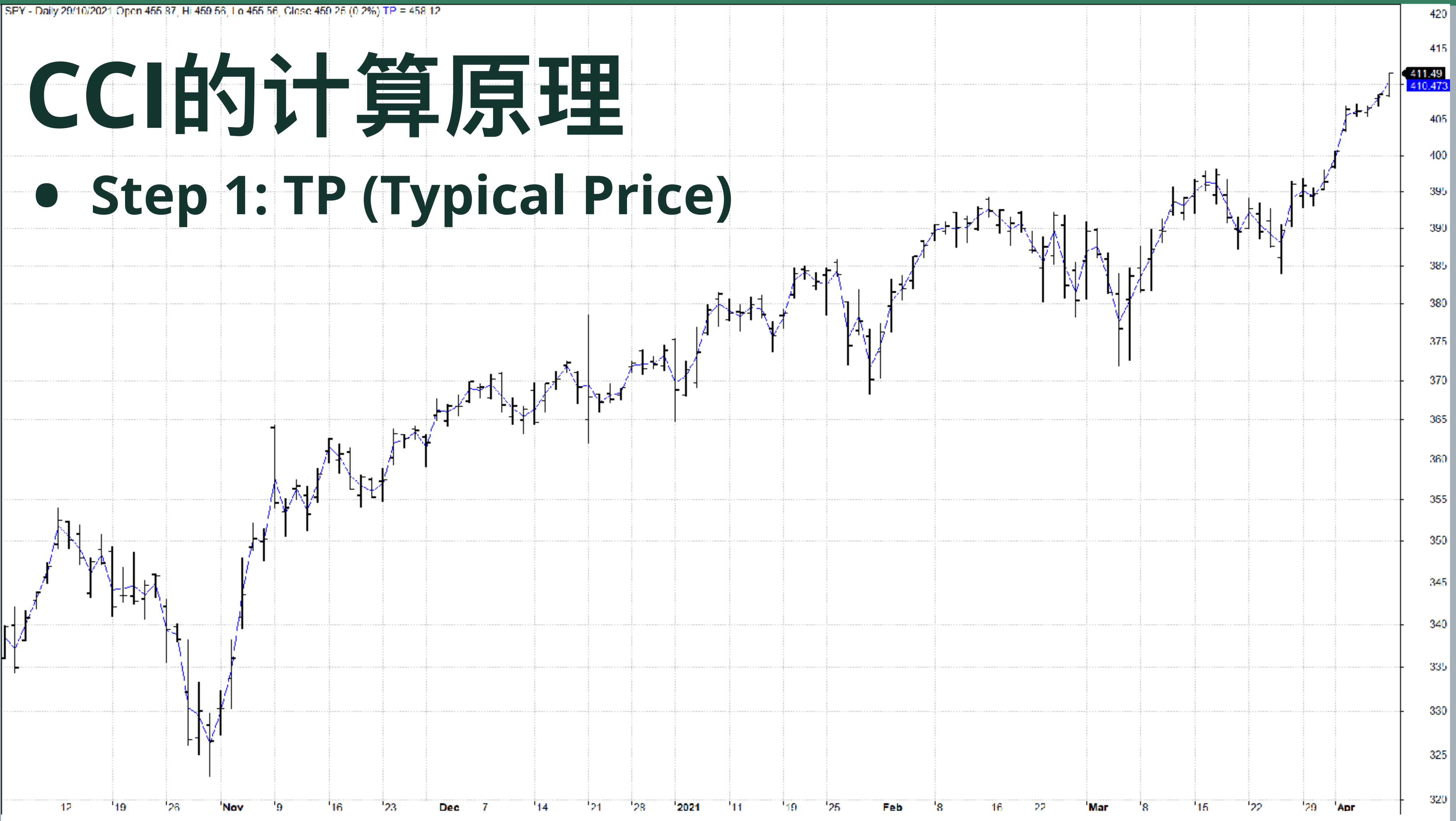
**COMMODITY  
CHANNEL INDEX**

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SPY - Daily 20/10/2021 Open 455.87, Hi 459.58, Lo 455.56, Close 459.25 (0.2%) TP = 458.12

# CCI的计算原理

- Step 1: TP (Typical Price)

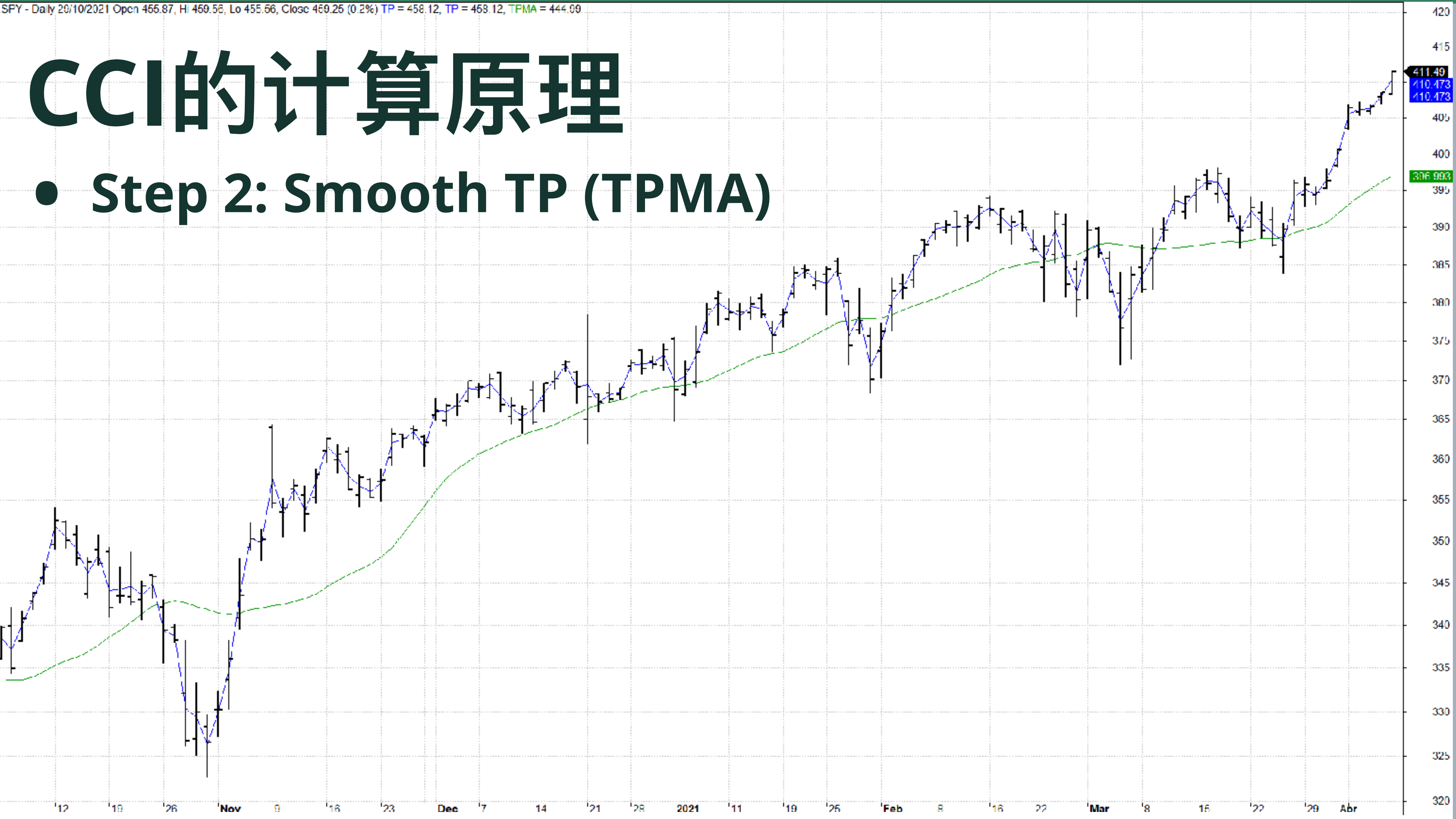




SPY - Daily 29/10/2021 Open 455.87, Hi 459.56, Lo 455.56, Close 459.25 (0.2%) TP = 458.12, TP = 458.12, TPMA = 444.09

## CCI的计算原理

- Step 2: Smooth TP (TPMA)

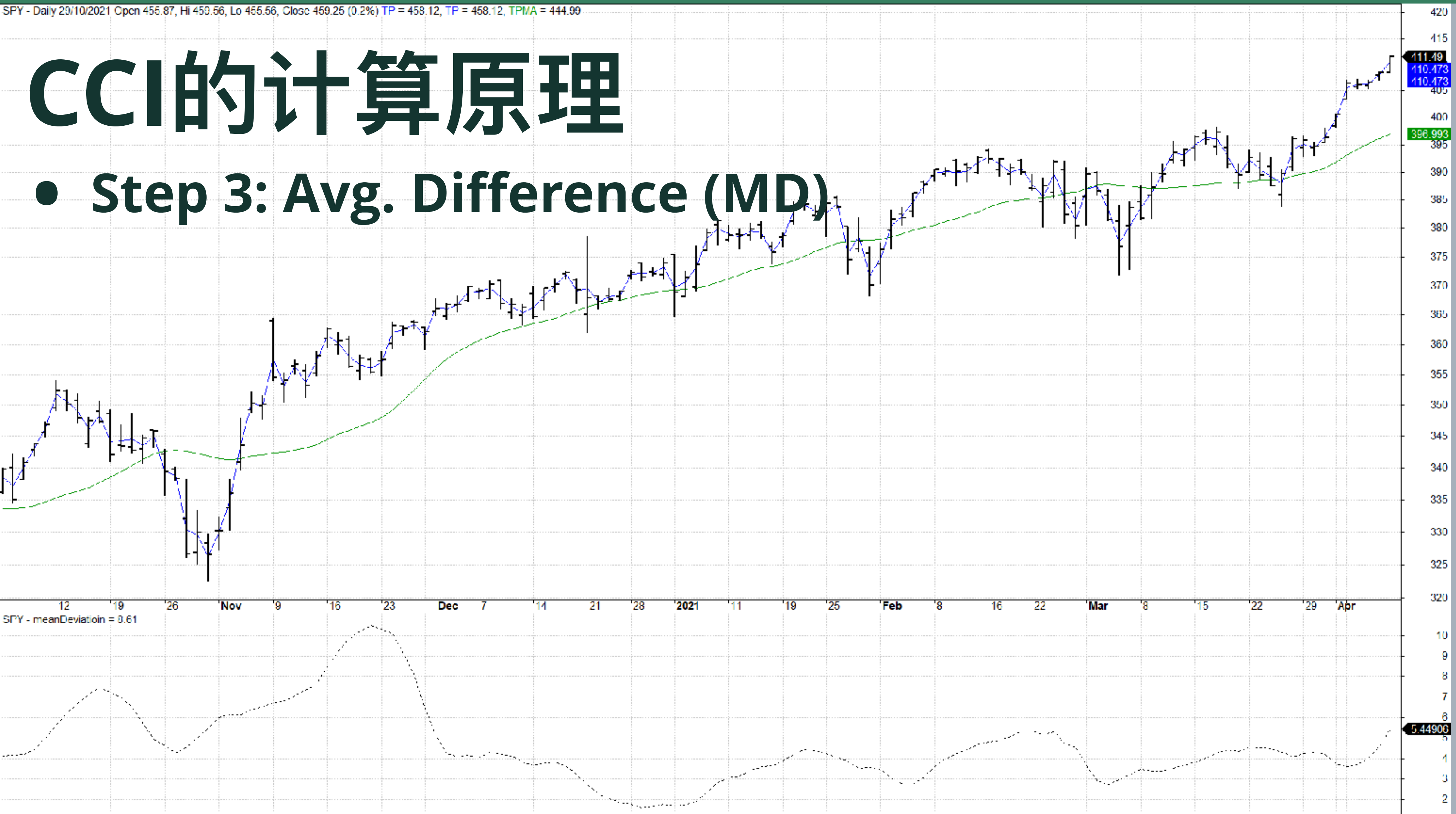




SPY - Daily 29/10/2021 Cpcn 456.87, Hi 459.56, Lo 455.56, Close 459.25 (0.2%) TP = 458.12, TP = 458.12, TPMA = 444.99

## CCI的计算原理

- Step 3: Avg. Difference (MD)



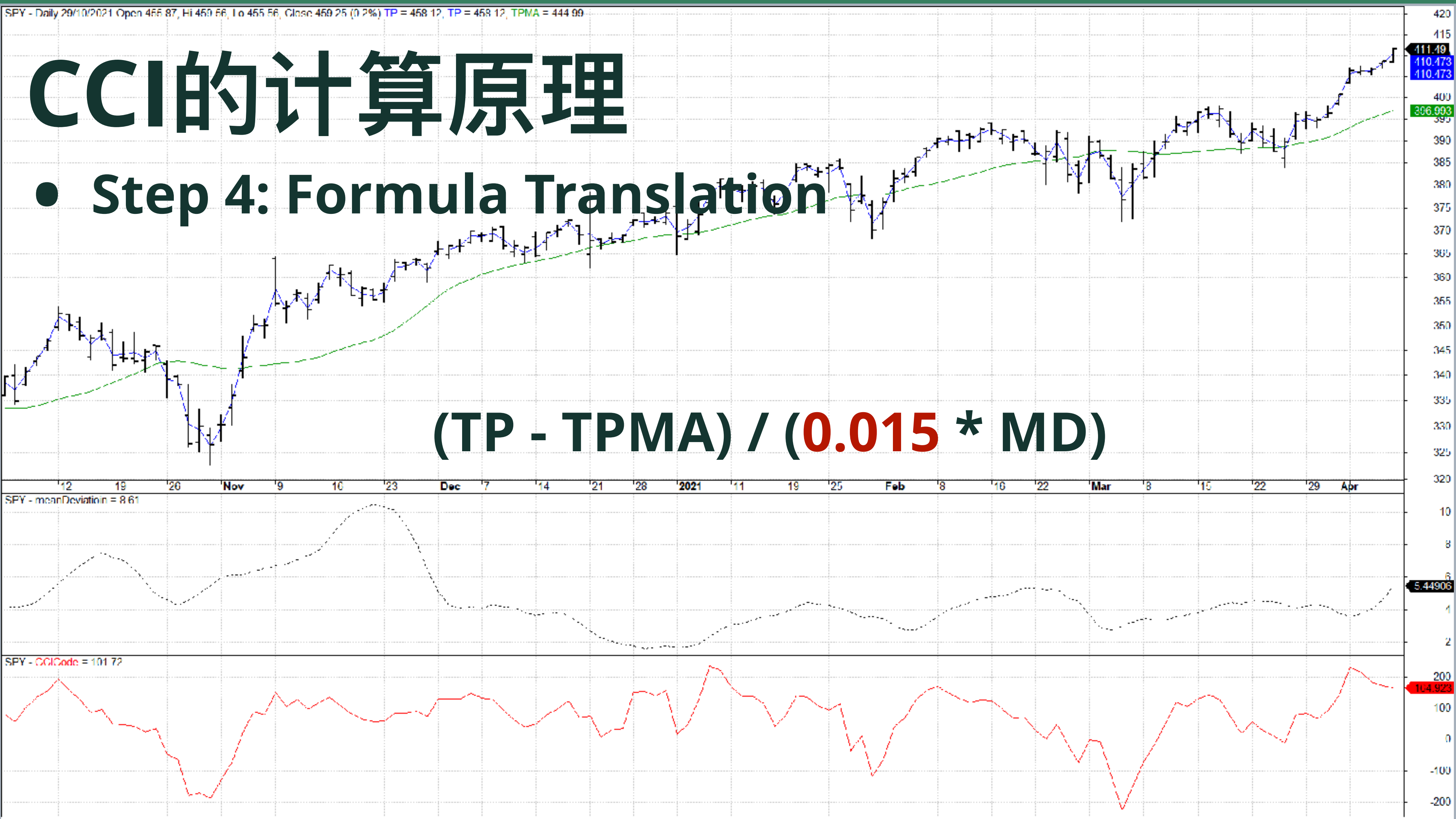
420  
415  
411.49  
410.473  
410.473  
405  
400  
398.993  
395  
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385  
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10  
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5.44906  
4  
3  
2



## CCI的计算原理

- Step 4: Formula Translation

$$(TP - TPMA) / (0.015 * MD)$$





# CCI到底在算什么

- No Idea, But Price Strength Measurement
- $(TP - TPMA) / (0.015 * MD)$  神奇参数的目的

## Commodity channel index

From Wikipedia, the free encyclopedia

The **commodity channel index (CCI)** is an [oscillator](#) originally introduced by Donald Lambert in 1980.<sup>[1]</sup>

Since its introduction, the indicator has grown in popularity and is now a very common tool for traders in identifying cyclical trends not only in commodities but also equities and currencies. The CCI can be adjusted to the timeframe of the market traded on by changing the averaging period.

### Contents [hide]

- 1 Calculation
- 2 Interpretation
- 3 References
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### Calculation [edit]

CCI measures a security's variation from the statistical mean.<sup>[2]</sup>

The CCI is calculated as the difference between the [typical price](#) of a commodity and its [simple moving average](#), divided by the [mean absolute deviation](#) of the typical price. The index is usually scaled by an inverse factor of 0.015 to provide more readable numbers:

$$CCI = \frac{1}{0.015} \frac{p_t - SMA(p_t)}{MD(p_t)}$$

where  $p_t$  is the Typical Price =  $\frac{p_{high} + p_{low} + p_{close}}{3}$ , SMA is the simple moving average, and MD is the mean absolute deviation.

For scaling purposes, Lambert set the constant at 0.015 to ensure that approximately 70 to 80 percent of CCI values would fall between -100 and +100. The CCI fluctuates above and below zero. The percentage of CCI values that fall between +100 and -100 will depend on the number of periods used. A shorter CCI will be more volatile with a smaller percentage of values between +100 and -100. Conversely, the more periods used to calculate the CCI, the higher the percentage of values between +100 and -100.

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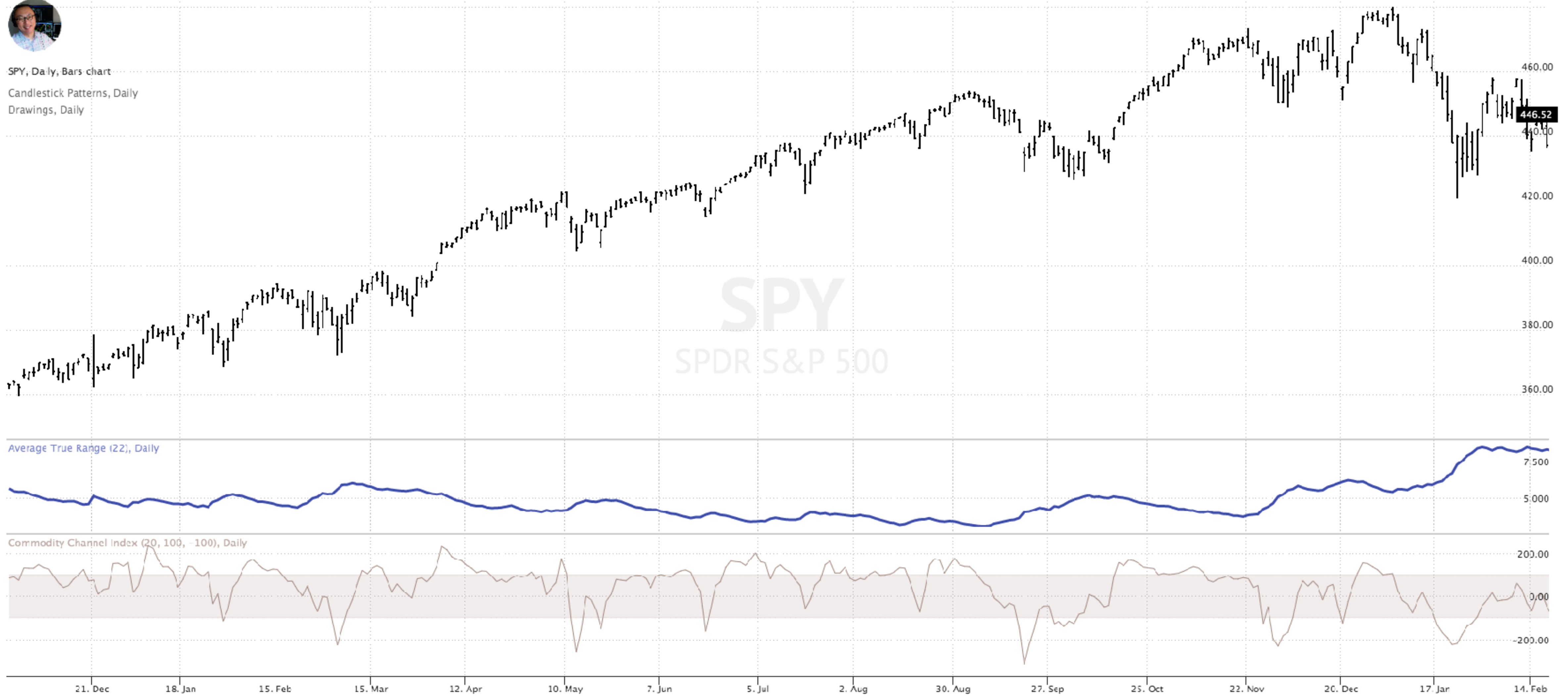
# COMMODITY CHANNEL INDEX

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TrendSpider Apr 7, 2022 5:50AM EDT



SPY, Daily, Bars chart  
Candlestick Patterns, Daily  
Drawings, Daily







# -100~+100当前市场覆盖范围

- 考察过去三年的表现
- Dow30 Constituents
- S&P500 Constituents



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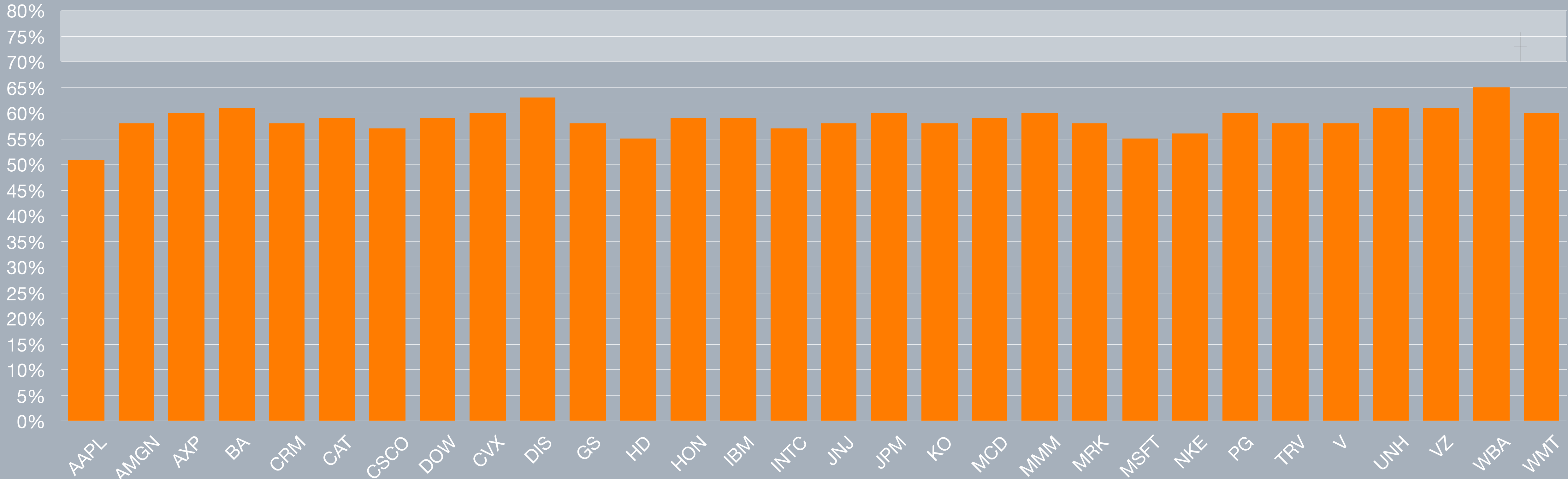


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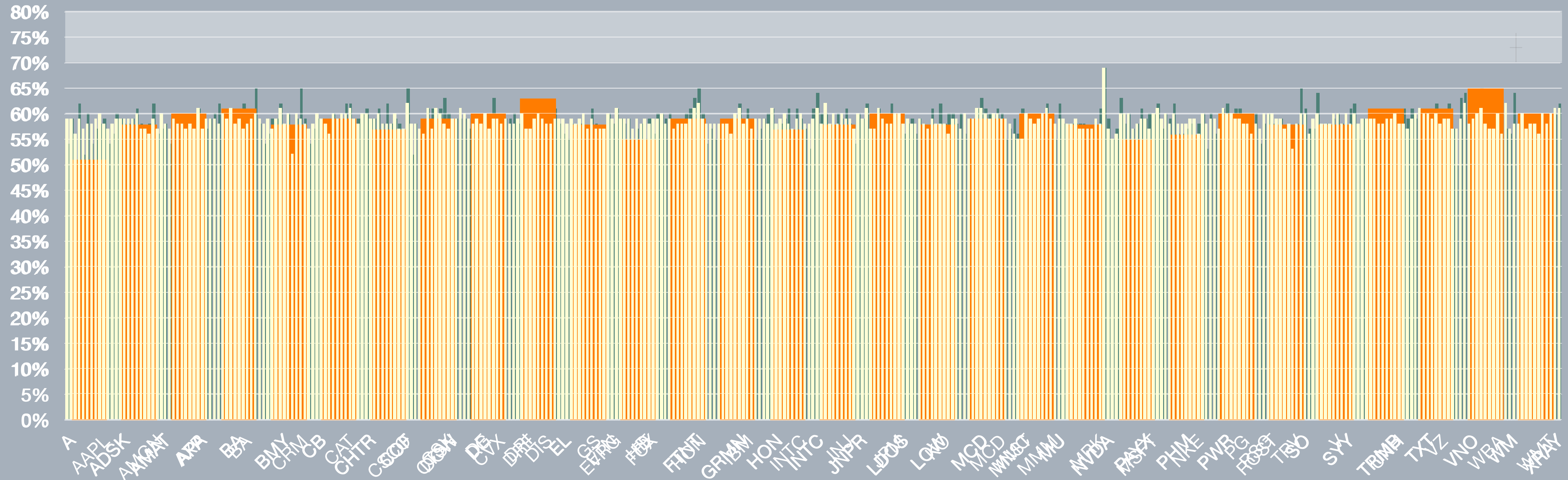
## -100~+100市场覆盖 (Dow30)





## -100~+100市场覆盖 (S&P500)

- Overlay Dow30
- Expand S&P500 Back to Jan. 2010



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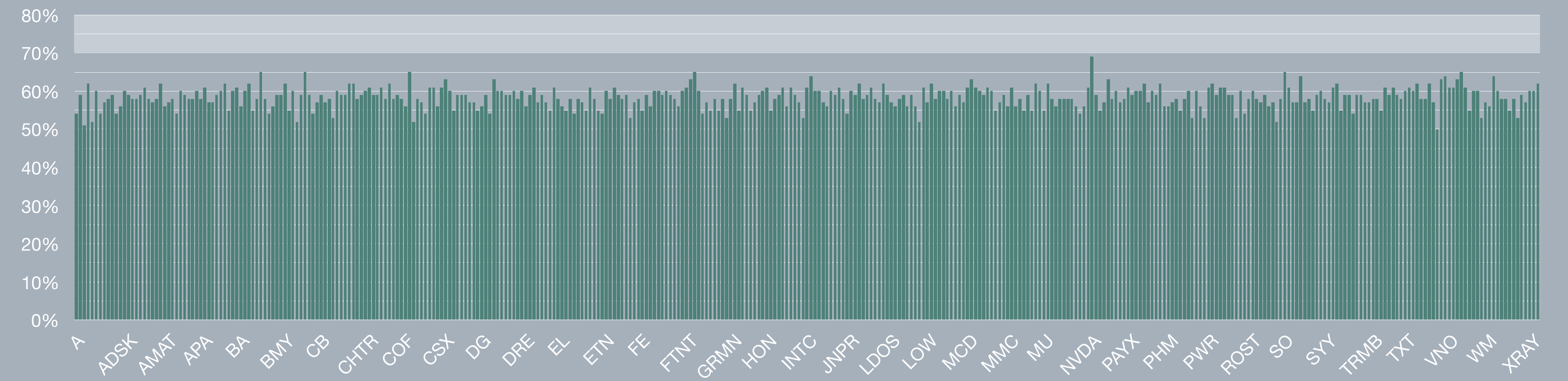
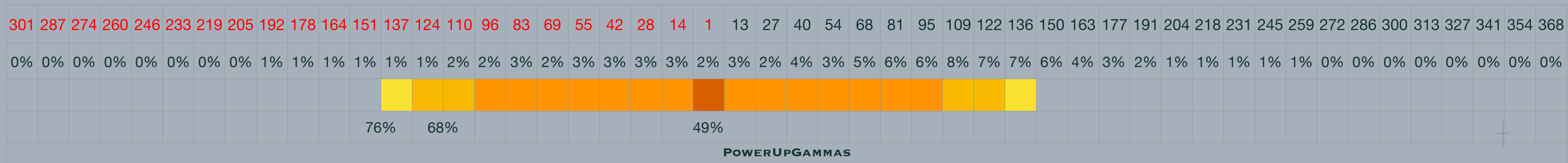


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# COMMODITY CHANNEL INDEX

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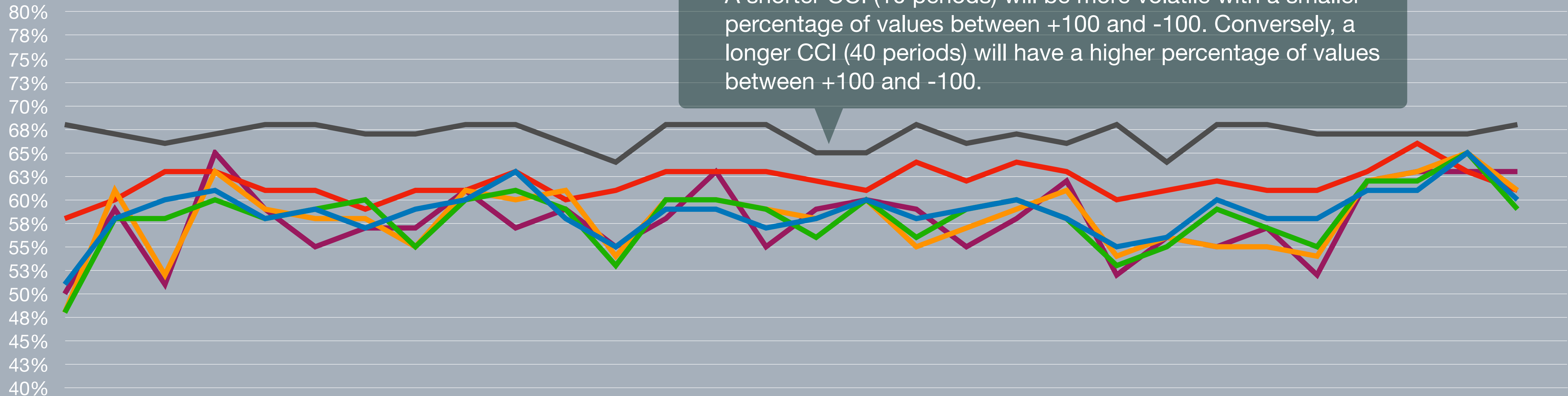
## -100~+100市场覆盖 (S&P500)





## Play-Around Parameter

- 扩大回望周期，更少数据点处在-100, +100之内
- 缩小回望周期，更多数据点处在-100, +100之内





# What's the Point...

- 指标设计初衷已经违背 >>> 现有市场演变
- 如何修正?  $(TP - TPMA) / (0.015 * MD)$
- 不能用? 能用? 从错误的开始继续
- Welcome to **GTL (Gammas Technical Lab)**

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