

## Choch & BOS - A Market Structure and Trend Reversal Indicator

This indicator is intended to highlight market structure.

Choch - **Change Of Character** (the first sign of a possible change in trend direction)

BOS – **Break Of Structure** (a sign of continuous order flow in the current trend direction)



It has 3 different alerts:

- Choch (Change Of Character)
- BOS (Break Of Structure)
- Choch & BOS

All designed to inform a trader when a particular setup occurs, without the need to sit on the charts for long periods of time waiting for these patterns to play out live.

Choch - **Change Of Character** (the first sign of a possible change in trend direction)



BOS – **Break Of Structure** (a sign of continuous order flow in the current trend direction)



## Choch & BOS – A Trend Reversal Pattern

The CHOCH is the FIRST sign of a possible trend reversal, and if followed up with a BOS it offers a higher confirmation of a trend reversal (opposed to the Choch by itself).



## Choch & BOS

The ultimate 'Smart Money Concepts' Market Structure & Trend Reversal Indicator. This indicator is intended to highlight market structure. It is a custom indicator that has the ability to point out when price has made a 'Change Of Character' or a 'Break Of Structure' (or both) on any chart.

### Indicator Features:

- Displays both bullish and bearish Choch & BOS market structure on any timeframe
- Option to display only bullish or bearish Choch & BOS market structure
- Adjust how many candles to look back for Choch & BOS market structure
- Adjustable 'depth' setting for selection of minor to major swing-points
- Selectable Alert – Choose from Choch & BOS, Choch only, BOS only
- Alerts to Popup, Push & Email

#### Function Notes:

- This indicator is set to only count CLOSED candles that breach previous swing-points (for both the Choch and BOS market structure patterns). It will NOT count candle WICKS that breach a previous swing-point but then close back inside the swing-points current range.
  - Note: The SAME conditions apply for any Alert (Choch and Bos, Any Choch, Any BOS). An alert will only trigger when the current candle CLOSES above/below the CHOCH or BOS swing-point. Therefore, a candle that 'wicks' above/below the previous swing-point but then closes back inside the swing-points range will NOT trigger an alert.
- To turn off the zigzag you have to set the 'colours' tab colour to NONE
- The 'Depth of Zigzag' MINIMUM setting must be 4, if you enter a number less than 4 the MT4 terminal will lockup (crash)
- You can display ONLY Choch's by setting the colour of both BULL and BEAR BOS to NONE
  - You can display BULLISH Choch's only by setting the 'Display Option' to Bullish only, then set Bull BOS colour to NONE
  - You can display BEARISH Choch's only by setting the 'Display Option' to Bearish only, then set Bear BOS colour to NONE
- You can display ONLY BOS's by setting the colour of both BULL and BEAR CHOCH to NONE
  - You can display BULLISH BOS's only by setting the 'Display Option' to Bullish only, then set Bull CHOCH colour to NONE
  - You can display BEARISH BOS's only by setting the 'Display Option' to Bearish only, then set Bear CHOCH colour to NONE
- You can trigger Alerts for Choch's ONLY by setting the 'Alert Option' to 'Any Choch'
- You can trigger Alerts for BOS's ONLY by setting the 'Alert Option' to 'Any BOS'
- You can trigger Alerts for Choch & BOS ONLY by setting the 'Alert Option' to 'Choch and BOS' (BOTH the Choch and the BOS are required in THAT ORDER, and the alert will trigger AFTER the BOS). It's the SAFEST trade entry pattern for a trend reversal (opposed to taking a trade entry on a 'choch' pattern alone)

- Alerts trigger: once only & when the qualifying candle closes
- The trade entry: occurs later, if/when price retraces back into the Choch or BOS current range (& preferably past the 50% [equilibrium] line of that range)
- Wicks matter?
  - Wicks do **NOT** count for any candle that breaches the previous swing-point to make either a Choch or a BOS. The candle **MUST CLOSE** past the previous swing-point to make a valid Choch or BOS.

#### **A note on 'subjective' Swing-point Settings:**

This indicator utilizes a 'Depth of Zigzag' setting to allow you to choose the strength/size of market structure swing-points on any timeframe (because this can be a very subjective issue when it comes to individual traders).

If this setting was not included and just left at a 'default' sensitivity it would deny traders the opportunity to choose these levels for themselves. It was my opinion that individual traders should be able to adjust these all important swing-points to suit their own beliefs on market structure.

However please note that just like everything else in trading, nothing is ever 100% correct every time and this indicator is exactly the same.

You see the problem is that what might appear obvious to your naked eye is not necessarily easy to express mathematically or in indicator code (it's actually really hard!) and I think this is the main reason why I have never seen a full suite of MT4 'Smart Money' indicators before.

This indicator's 'Depth of Zigzag' setting is where you can make your own decisions on important market structure swing-points. Changing this parameter will affect the indicators algorithm and make the indicator turn at (stronger or weaker) high and low swing-points.

The question then becomes: which of these are valid, according to the naked eye?

Not everybody will agree on the same answer. This is the very reason why I considered it important to allow this setting to be adjusted by the user...

## Input Tab:

Variable	Value
=== Choch Settings ===	
Bull Choch Color	Lime
Bear Choch Color	Red
Choch Line Style	Dot
=== BOS Settings ===	
Bull BOS Color	LawnGreen
Bear BOS Color	Tomato
BOS Line Style	Solid
=== Display Settings ===	
Display Option	Display Both
Lookback Candle	500
Depth of Zigzag (Minimum: 4 - Maximum: 36)	4
=== Alert Settings ===	
Alert Option	Choch and BOS
Popup Alert	false
Push Alert	false
Email Alert	false

- **=== Choch Settings ===**
- **Bull Choch color** - Select the color of your choice
- **Bear Choch color** - Select the color of your choice
- **Choch Line Style** - Select the style of the Choch lines (solid, dot, etc)
- **=== BOS Settings ===**
- **Bull BOS color** - Select the color of your choice
- **Bear BOS color** - Select the color of your choice
- **BOS Line Style** - Select the style of the BOS lines (solid, dot, etc)
- **=== Display Settings ===**
- **Display Option** – Allows you to display:
  - Both Bullish and Bearish Choch & BOS
  - Bullish Choch & BOS only
  - Bearish Choch & BOS only
  - Hide all Choch & BOS

- **Look-back Candle** - Set the amount of candles that the indicator will look back to highlight Choch & BOS market structure (from the current candle and back in time)
- **Depth of Zigzag** (Minimum: 4, Maximum: 36) – This setting determines the minimum number of bars without a second maximum or minimum deviation of the bar. (Changing this setting parameters will change the length of the swings). IE: A smaller number will highlight minor swing-points, and a higher number will highlight more major swing-points...

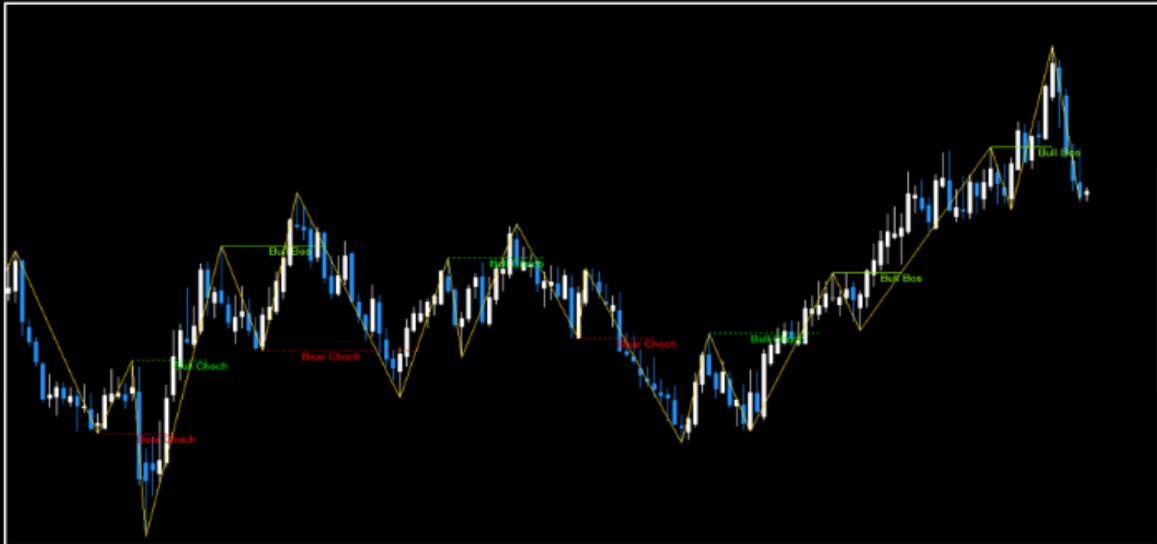
**Note:** A setting less than the specified minimum of 4 will cause the indicator to lock up. So please refrain from entering a number lower than 4.

- **=== Alerts ===**
- **Alert Option** – Allows you to select:
  - Alert on Choch & BOS
  - Alert on any Choch
  - Alert on any BOS
  - No alerts
- **Popup Alert** - Alert will trigger the popup window and an alert sound
- **Push Alert** - Alert will trigger a message sent to your cell phone (if you have the 'push' notification activated in your MT4 Options)
- **Email Alert** - Alert will trigger a message sent to your email address (if you have the 'email' notification activated in your MT4 Options)

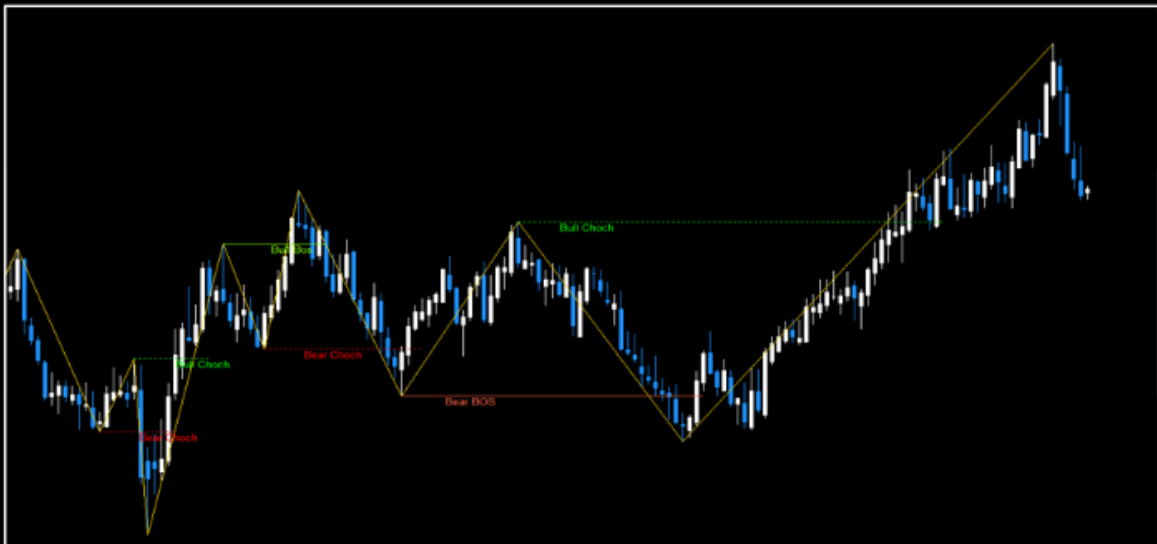
## Display Options:

Here are a few examples of different 'Depth of Zigzag' settings (on the same chart) to highlight the difference:

Depth of Zigzag = 4

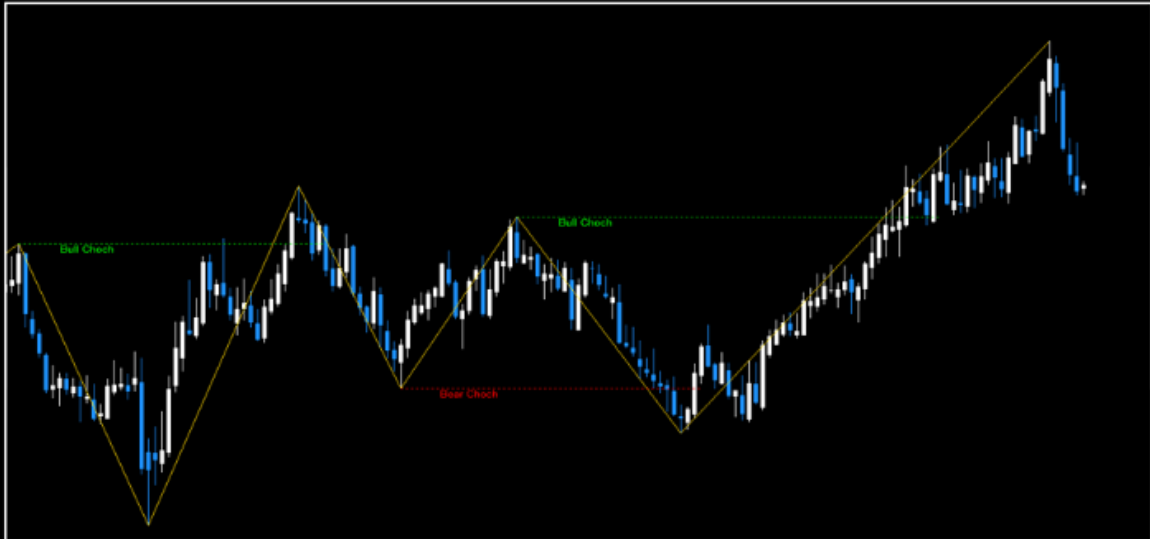


Depth of Zigzag = 12





Depth of Zigzag = 24



Depth of Zigzag = 36



You can trigger Alerts for **Choch**'s ONLY by setting the 'Alert Option' to 'Any Choch' (Note that wicks do NOT count & the alert will only trigger when the 'qualifying' candle CLOSES)



You can trigger Alerts for **BOS**'s ONLY by setting the 'Alert Option' to 'Any BOS' (Note that wicks do NOT count & the alert will only trigger when the 'qualifying' candle CLOSES)



You can trigger Alerts for **Choch & BOS** ONLY by setting the 'Alert Option' to 'Choch and BOS'. It's the SAFEST trade entry pattern for a trend reversal (opposed to taking a trade entry on a 'choch' pattern alone).

**Note:** BOTH the Choch and the BOS are required in THAT ORDER, and the alert will trigger AFTER the BOS occurs.

**Bullish Choch & BOS Alert:**



- The Choch & BOS Alert triggers when the qualifying candle CLOSES above the previous swing-high
- You then mark-up the 'current range' and WAIT for price to retrace back into that range (preferably into the 'discount' region – IE: past the 50% level) into a FVG or order block
- The trade entry in this case was when price hit the previous bullish order block...

### Bearish Choch & BOS Alert:



- The Choch & BOS Alert triggers when the qualifying candle CLOSES below the previous swing-low
- You then mark-up the 'current range' and WAIT for price to retrace back into that range (preferably into the 'premium' region – IE: past the 50% level) into a FVG or order block
- The trade entry in this case was when price hit the previous bearish order block...

Are you always trying to catch the top/bottom REVERSAL of a trend and you keep getting taken out? Stop doing that!

This indicator will help you from continuously falling into that trap, because if you WAIT for both the Choch AND the BOS to occur BEFORE you take a trade you stand a much better chance of that trade being successful.

The Choch & BOS alert helps keep you OUT of bad trades!