

# Quantifying Technicals

## Macro trends after SPX & DXY death cross

Market Analysis

### DXY death cross: Returns modestly down, hit ratio wanes

On April 16<sup>th</sup> with a closing value of 99.38, the 50-day SMA crossed below a declining 200-day SMA on the US dollar index for the sixteenth time since 1971. The DXY tended to be down 75% of the time 45 trading days later (+/- June 23, 2025) on average by -1.05%, median -0.35%. Unfortunately, the average down ratio for a 5-80 trading day period was just 56%. After an SPX death cross, the average trend for the DXY was more bearish.

### SPX death cross: +/- 20 days of weakness, then supported

On April 14<sup>th</sup> with a closing value of 5405.97, the 50-day SMA crossed below the 200-day SMA on the S&P 500 while the 200d SMA was declining (vs five days prior). In the past the SPX tended to be down 15-20 trading days later (May 9-16, 2025), 67% of the time or 16 of 24 time. Then higher 60 (July 15, 2025) and 80 (Aug 12, 2025) trading days later 71% and 66% of the time (Exhibit 7). A DXY death cross provided some support for the SPX.

### Macro trends after DXY and SPX death cross

After a death cross with declining 200d SMA (vs five days prior) for the SPX and DXY, we measured average trends for the DXY, SPX, bonds, gold and oil. We found:

1. **DXY:** A death cross signal on the SPX is bearish for the DXY (more so than a death cross on DXY). The DXY tended to be lower 15-80 trading days later +/- 78% of the time or 9.4 out of 12 times. Average and median returns were negative and mostly declining. (Exhibit 4-5)
2. **SPX:** After a death cross on the DXY, the SPX tended to rally within 40 trading days, then retested the signal day level, then rallied again (Exhibit 9). It's choppy, but in a way it could favor a bottoming process in Q2 as did the recent NYSE 90% up day (See note: [Macro trends after a NYSE 90% up day 15 April 2025](#)).
3. **Bonds:** After a death cross signal on the SPX, bonds tended to rally 20-80 trading days later 78% of the time (May 13-Aug 8). Bonds were up 10 of 11 times (91% of time) at 20 and 70 trading days after. Average and median gains were positive and trended up (Exhibit 11-12). Provided the 10Y yield is below 4.80% and/or 30Y yield below 5.02%, this seems possible. (See note: [Waving neck pains 13 April 2025](#))
4. **Gold:** Death cross signals from the DXY and SPX have historically been bullish for gold. After an SPX signal, gold prices were up 11 of 12 times 15-25 days later and up 10 of 12 through 45 days later. (Exhibit 13-15)
5. **Oil:** While oil's seasonal trend ahead is supportive, a DXY death cross tended to be bearish while an SPX death cross tended to be bullish. (Exhibit 17-16)

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Technical Strategy  
Global  
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#### Abbreviations:

SMA = Simple moving average  
Death cross = 50d SMA crossing below the 200d SMA. In some sections we filter signals for a declining 200d SMA vs 200d SMA value five days prior.

#### BofA Global Research Reports Links

Title: Subtitle	Primary Author	Date Published
<a href="#">Quantifying Technicals: Macro trends after a NYSE 90% up day</a>	Paul Ciana, CMT	15 April 2025
<a href="#">Equity Technical Advantage: SPX in need of stability/retest to bottom</a>	Paul Ciana, CMT	14 April 2025
<a href="#">Rates Technical Advantage: Waving neck pains</a>	Paul Ciana, CMT	13 April 2025

# DXY Death Cross History

## Average & median returns lower, but hit ratio wanes

On April 16<sup>th</sup> with a closing value of 99.38, the 50-day SMA crossed below the 200-day SMA on the US dollar index. This has happened 36 times since 1971. The art of this signal suggests price is in a downtrend. Declining average and median returns mostly agree. However history shows an average % down ratio of just 52% of time (Exhibit 1).

When the 200-day SMA was declining, a bearish trend slightly improved. The DXY tended to be down 75% of the time 45 trading days later (around June 23, 2025) 12 of 16 times. Average decline of -1.05% and median -0.35%. Unfortunately, the avg down ratio from 5-80 trading days is just 56% (Exhibit 2). We show signals since 1971 in Exhibit 3.

### Exhibit 1: Price trend after the 50d SMA crossed below the 200d SMA

When the 50d SMA crossed below the 200d SMA, in the past the DXY was down 61% of the time 5 days later by -0.2% on average

Ticker: DXY	Start Year: 1972					# Signals: 36		# < 80 days: 0					
days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	61%	58%	44%	56%	56%	50%	50%	50%	58%	53%	44%	44%	50%
Up	14	15	20	16	16	18	18	18	15	17	20	20	18
Down	22	21	16	20	20	18	18	18	21	19	16	16	18
Average	-0.20%	-0.41%	-0.21%	-0.38%	-0.43%	-0.25%	-0.27%	-0.44%	-0.44%	-0.47%	-0.18%	0.30%	0.12%
Median	-0.26%	-0.22%	0.04%	-0.59%	-0.56%	0.15%	-0.11%	0.01%	-0.24%	-0.25%	0.16%	0.42%	0.02%
Min	-2.38%	-4.32%	-4.51%	-5.24%	-5.74%	-6.55%	-7.65%	-7.01%	-6.51%	-8.44%	-10.00%	-6.12%	-11.39%
Max	2.70%	2.51%	4.78%	5.06%	5.42%	5.41%	5.96%	5.33%	5.48%	5.29%	7.43%	8.37%	7.77%

Source: BofA Global Research, Bloomberg

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### Exhibit 2: Price trend after the 50d SMA crossed below the 200d SMA and the 200d SMA had a negative slope

When the 50d SMA crossed below the 200d SMA and 200d SMA had a negative slope, in the past DXY was down 75% of the time 45 days later by -1.05% on average

Ticker: DXY	Start Year: 1972					# Signals: 16		# < 80 days: 0					
days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	56%	56%	56%	63%	63%	50%	50%	56%	75%	56%	44%	50%	56%
Up	7	7	7	6	6	8	8	7	4	7	9	8	7
Down	9	9	9	10	10	8	8	9	12	9	7	8	9
Average	-0.23%	-0.81%	-0.88%	-1.13%	-1.05%	-0.73%	-0.67%	-0.85%	-1.05%	-0.69%	-0.68%	-0.74%	-0.77%
Median	-0.16%	-0.52%	-1.25%	-1.10%	-0.79%	0.17%	-0.28%	-0.35%	-0.35%	-0.25%	0.09%	-0.65%	-1.22%
Min	-1.99%	-4.32%	-4.51%	-5.24%	-5.74%	-6.55%	-7.65%	-5.60%	-5.73%	-6.24%	-10.00%	-6.12%	-6.92%
Max	0.80%	1.12%	2.56%	2.06%	2.04%	2.88%	3.65%	3.43%	3.35%	3.86%	6.73%	5.41%	7.18%

Source: BofA Global Research, Bloomberg

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### Exhibit 3: DXY death cross signals with declining 200d SMA (vs five days prior)

All death cross signals since 1971 with declining a 200d SMA

Date	5 d	10 d	15 d	20 d	25 d	30 d	35 d	40 d	45 d	50 d	60 d	70 d	80 d
8/27/2024	0.80%	1.12%	0.04%	0.36%	1.11%	2.34%	3.20%	3.43%	3.35%	3.86%	6.73%	5.41%	7.18%
1/16/2024	0.25%	0.04%	0.82%	1.54%	0.63%	0.60%	0.01%	-0.55%	0.03%	0.95%	1.85%	2.15%	1.79%
7/7/2020	-0.64%	-1.84%	-3.34%	-3.68%	-3.42%	-4.88%	-4.07%	-4.80%	-3.81%	-3.86%	-3.14%	-3.17%	-3.07%
1/3/2020	0.53%	0.79%	1.15%	0.99%	2.04%	2.65%	2.18%	0.32%	-0.44%	2.79%	2.26%	2.67%	2.78%
4/1/2016	-0.41%	0.08%	0.52%	-1.64%	-0.78%	-0.01%	0.75%	0.95%	-0.76%	-0.27%	2.01%	1.91%	2.65%
10/16/2012	0.72%	0.66%	1.51%	2.06%	1.90%	1.00%	1.07%	0.66%	-0.18%	0.34%	0.10%	0.20%	0.88%
4/28/2006	-1.13%	-2.59%	-1.44%	-1.11%	-2.31%	-0.30%	0.24%	0.44%	-1.07%	-0.87%	0.61%	-1.50%	-1.10%
7/23/2004	0.78%	-1.01%	-1.54%	-1.29%	0.57%	0.41%	-0.81%	-0.30%	-1.09%	-0.99%	-2.75%	-4.34%	-6.92%
5/24/2002	-1.34%	-1.52%	-1.79%	-4.16%	-5.74%	-6.55%	-7.65%	-5.60%	-5.47%	-3.71%	-4.99%	-6.12%	-4.57%
10/1/2001	0.35%	0.88%	2.56%	1.28%	1.90%	2.88%	3.65%	2.78%	2.35%	2.49%	3.74%	3.21%	5.74%
9/23/1998	-0.29%	-4.32%	-4.51%	-3.42%	-2.80%	-2.55%	-0.74%	-0.67%	-0.26%	-1.19%	-2.18%	-2.01%	-2.04%
6/8/1992	-0.99%	-1.15%	-3.47%	-5.24%	-5.20%	-4.92%	-5.63%	-5.39%	-5.73%	-6.24%	-10.00%	-2.62%	-6.53%
6/18/1980	0.35%	-0.02%	-1.06%	-1.00%	-0.85%	1.24%	0.99%	1.06%	1.56%	0.78%	0.07%	0.91%	0.67%
8/6/1979	-0.02%	0.24%	0.32%	0.13%	-0.25%	0.36%	-0.89%	-1.46%	-0.15%	1.28%	2.04%	1.29%	-1.35%
12/13/1974	-0.61%	-1.63%	-1.79%	-1.82%	-2.80%	-3.23%	-2.54%	-4.06%	-4.84%	-6.14%	-5.08%	-4.20%	-3.07%
2/22/1973	-1.99%	-2.62%	-2.09%	-1.09%	-0.81%	-0.71%	-0.57%	-0.40%	-0.22%	-0.24%	-2.14%	-5.55%	-5.37%

Source: BofA Global Research, Bloomberg

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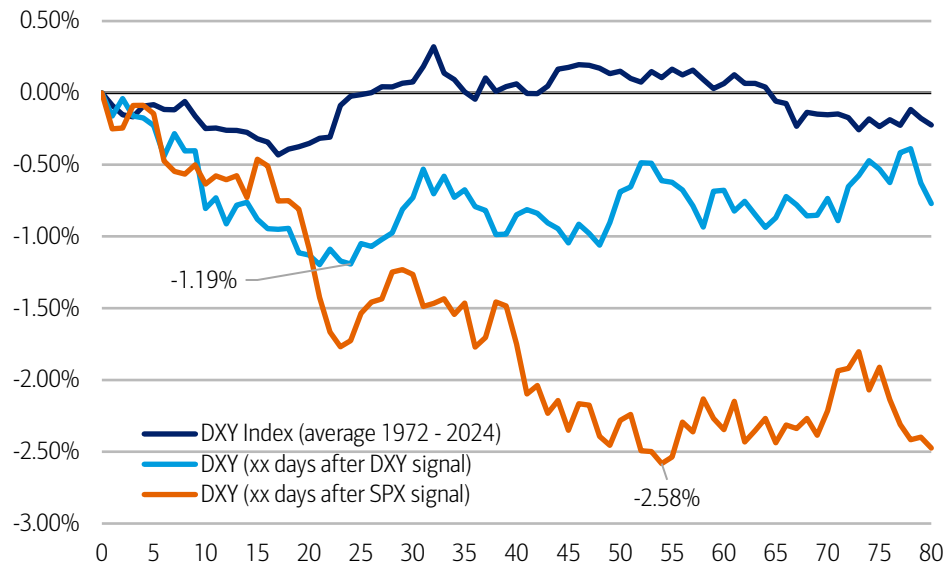


## DXY bearish after an SPX death cross

Seasonally flat, post DXY death cross lower, post SPX death cross even lower

### Exhibit 4: DXY trend analysis beginning April 16<sup>th</sup>

The average trend for the DXY from April 16<sup>th</sup> has been mostly flat. After a death cross signal with a declining 200d SMA, the average trend was weaker than all periods with the initial weakness occurring in the first 25 trading days. The DXY after a SPX death cross was even weaker. The average trend was down about 2.58% in 55 and 80 trading days after.



Source: BofA Global Research, Bloomberg

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### Exhibit 5: DXY analysis after an SPX death cross with declining 200d SMA

In the past, the DXY trended lower after an SPX death cross signal as much as 10 of 12 times 30-50 trading days later. The average % down ratio was +/- 78% of the time or 9.4 out of 12 times

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	50%	58%	67%	83%	75%	83%	83%	83%	83%	83%	67%	75%	75%
Up	6	4	4	2	2	2	2	2	2	2	4	3	3
Down	6	7	8	10	9	10	10	10	10	10	8	9	9
Average	-0.14%	-0.64%	-0.46%	-1.09%	-1.54%	-1.27%	-1.46%	-1.75%	-2.35%	-2.28%	-2.35%	-2.21%	-2.47%
Median	0.00%	-0.49%	-0.20%	-1.09%	-1.70%	-1.35%	-1.18%	-1.25%	-2.43%	-2.94%	-2.71%	-2.83%	-3.15%
Min	-2.85%	-3.53%	-3.74%	-4.24%	-5.53%	-5.39%	-6.10%	-6.30%	-5.97%	-6.33%	-7.31%	-9.26%	-8.40%
Max	1.98%	0.72%	1.96%	3.90%	3.35%	4.91%	6.27%	3.91%	3.34%	3.26%	3.77%	5.90%	5.51%

Source: BofA Global Research, Bloomberg

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# S&P 500 Death Cross History

## Up to 20 trading days of weakness, then supported

On April 14<sup>th</sup> with a closing value of 5405.97, the 50-day SMA crossed below the 200-day SMA on the S&P 500. This has happened 50 times since 1928. While the art of this signal suggests price is in a downtrend, history shows an average % down ratio of just 46%.

However, when the 200-day SMA was declining (vs 5 days prior) when the 50-day SMA crossed below it, the SPX tended to be lower 15-20 trading days (May 9-16, 2025) 67% of the time or 16 of 24 times. Then it based and started to move higher 60 (July 15, 2025) and 80 (Aug 12, 2025) trading days later 71% and 66% of the time (or down 29% and 33% of the time in Exhibit 7). This suggests we should consider buying a dip/retest of lows in April as discussed in the [Equity Technical Advantage 14-Apr-2025 \(see note\)](#). We show returns after each of the 24 signals in Exhibit 8.

### Exhibit 6: SPX price trend after the 50d SMA crossed below the 200d SMA

When the 50d SMA crossed below the 200d SMA, in the past SPX was down 52% of the time 20 days later by -0.5% on average. The average % down ratio was just 46% of the time.

Ticker: SPX	Start Year: 1928				# Signals: 50		# < 80 days: 1						
days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	47%	44%	50%	52%	42%	40%	50%	42%	46%	50%	38%	50%	46%
Up	26	28	25	24	29	30	25	29	27	25	31	25	27
Down	23	22	25	26	21	20	25	21	23	25	19	25	23
Average	-0.05%	0.24%	-0.76%	-0.53%	0.43%	0.79%	0.62%	0.85%	1.03%	1.18%	2.25%	2.65%	2.62%
Median	0.34%	0.66%	-0.07%	-0.65%	0.98%	0.55%	0.33%	1.33%	0.36%	-0.08%	2.19%	0.17%	1.06%
Min	-6.34%	-11.50%	-15.48%	-11.83%	-18.19%	-19.56%	-18.05%	-14.86%	-27.73%	-26.97%	-19.99%	-19.59%	-19.59%
Max	8.09%	8.67%	8.95%	23.72%	32.87%	32.16%	37.38%	38.61%	45.93%	51.77%	55.23%	66.57%	55.14%

Source: BofA Global Research, Bloomberg

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### Exhibit 7: SPX price trend after the 50d SMA crossed below the 200d SMA and the 200d SMA was declining (vs 5 days prior)

The SPX tended to be lower 15-20 trading days later and then higher 60 and 80 trading days later.

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	54%	50%	67%	67%	54%	46%	58%	42%	46%	50%	29%	46%	33%
Up	11	12	8	8	11	13	10	14	13	12	17	13	16
Down	13	12	16	16	13	11	14	10	11	12	7	11	8
Average	0.24%	0.36%	-1.42%	-1.61%	-0.49%	0.70%	-0.37%	0.96%	1.53%	1.97%	2.66%	2.57%	3.46%
Median	-0.11%	0.19%	-1.17%	-2.63%	-0.46%	0.25%	-0.83%	1.68%	0.87%	0.32%	2.48%	1.93%	3.91%
Min	-4.80%	-11.50%	-7.64%	-9.54%	-10.37%	-7.23%	-10.87%	-7.87%	-9.23%	-6.89%	-9.54%	-9.31%	-13.65%
Max	8.09%	8.67%	8.01%	8.63%	8.81%	8.86%	11.49%	14.49%	17.30%	19.44%	16.05%	18.23%	20.85%

Source: BofA Global Research, Bloomberg

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**Exhibit 8: SPX death cross signals with declining 200d SMA (vs five days prior)**

There have been 24 signals since 1971 with the 25<sup>th</sup> signal occurring on April 16<sup>th</sup> 2025.

Date	5 d	10 d	15 d	20 d	25 d	30 d	35 d	40 d	45 d	50 d	60 d	70 d	80 d
3/30/2020	1.40%	8.02%	4.10%	8.63%	8.81%	8.86%	10.69%	14.49%	17.30%	19.44%	14.95%	18.23%	20.85%
12/10/2018	-3.54%	-11.50%	-4.96%	-2.02%	-0.82%	0.17%	2.49%	2.56%	4.01%	5.71%	3.92%	6.00%	9.23%
1/11/2016	-2.23%	-1.05%	-1.08%	-3.79%	0.16%	0.32%	3.21%	3.35%	5.24%	5.71%	5.97%	8.36%	6.39%
8/28/2015	-3.46%	-1.82%	-1.11%	-5.54%	-0.09%	0.74%	2.08%	3.80%	5.90%	4.56%	4.91%	3.14%	3.56%
8/12/2011	-4.80%	-0.17%	-0.41%	-1.41%	2.12%	-1.35%	-6.99%	1.41%	3.87%	4.17%	7.92%	-1.45%	4.60%
7/6/2010	6.34%	5.25%	8.01%	8.61%	8.66%	6.08%	2.29%	2.05%	6.66%	9.02%	10.75%	13.26%	14.10%
11/1/2000	-0.84%	-2.23%	-7.21%	-7.77%	-5.62%	-5.82%	-10.87%	-7.37%	-9.23%	-6.89%	-3.40%	-7.48%	-13.65%
4/20/1994	1.60%	2.11%	0.40%	3.23%	3.36%	4.03%	3.71%	3.66%	0.19%	0.95%	2.96%	4.22%	4.27%
9/7/1990	-2.05%	-3.81%	-5.51%	-3.75%	-6.44%	-2.71%	-6.89%	-2.76%	-1.79%	-2.53%	2.00%	2.08%	-0.74%
11/6/1987	-1.47%	-3.01%	-7.64%	-6.39%	-3.09%	-0.18%	-1.02%	4.17%	-1.83%	-1.57%	0.22%	5.90%	6.56%
4/22/1980	2.32%	2.69%	2.74%	3.97%	8.01%	8.50%	11.49%	11.69%	12.09%	11.19%	16.05%	16.24%	19.14%
3/2/1977	-0.29%	1.76%	-0.19%	-1.86%	-2.50%	0.61%	-0.64%	-2.21%	-0.28%	-1.67%	-3.42%	-1.94%	0.79%
6/23/1969	1.53%	1.44%	-2.09%	-3.29%	-6.77%	-2.43%	-3.74%	-1.21%	-1.82%	-2.13%	-1.39%	-3.16%	0.02%
2/28/1968	-0.91%	-0.06%	-1.23%	-0.47%	3.69%	6.92%	6.21%	7.62%	9.10%	8.94%	7.56%	12.09%	10.03%
2/16/1960	1.83%	1.61%	-1.27%	0.56%	1.83%	1.68%	3.20%	2.83%	1.56%	-0.31%	0.22%	1.77%	5.75%
9/26/1957	1.33%	-3.86%	-5.41%	-4.76%	-5.13%	-7.23%	-6.70%	-6.00%	-2.45%	-4.96%	-6.43%	-5.31%	-2.33%
5/12/1953	-0.16%	-0.41%	-2.29%	-4.97%	-3.66%	-2.66%	-2.04%	-1.26%	-2.29%	-2.08%	0.24%	-1.84%	-5.10%
1/22/1948	1.58%	-1.54%	-4.03%	-3.24%	-2.46%	-2.67%	-2.53%	1.92%	3.07%	5.79%	6.96%	7.80%	12.81%
11/19/1941	-1.40%	0.43%	-5.73%	-9.54%	-10.37%	-2.71%	-5.50%	-4.15%	-4.04%	-5.50%	-9.54%	-9.31%	-12.90%
2/25/1941	-1.11%	0.90%	1.40%	0.30%	0.40%	-0.91%	-3.48%	-5.17%	-6.45%	-4.74%	-3.90%	-4.43%	-0.50%
2/21/1941	1.63%	1.42%	2.23%	1.73%	1.83%	3.82%	-1.44%	-4.08%	-3.55%	-4.40%	-3.76%	-3.02%	1.32%
5/21/1937	-0.06%	-0.86%	-6.80%	-5.82%	-7.33%	-0.12%	0.80%	4.04%	4.62%	3.98%	4.80%	-1.42%	-10.76%
6/1/1934	8.09%	8.67%	3.97%	4.48%	5.19%	3.56%	-3.14%	-7.87%	-7.41%	-2.26%	0.11%	-7.30%	-2.48%
11/22/1929	0.56%	4.72%	0.14%	-5.44%	-1.64%	0.42%	-0.14%	1.43%	4.27%	6.87%	6.26%	9.14%	12.06%

Source: BofA Global Research, Bloomberg

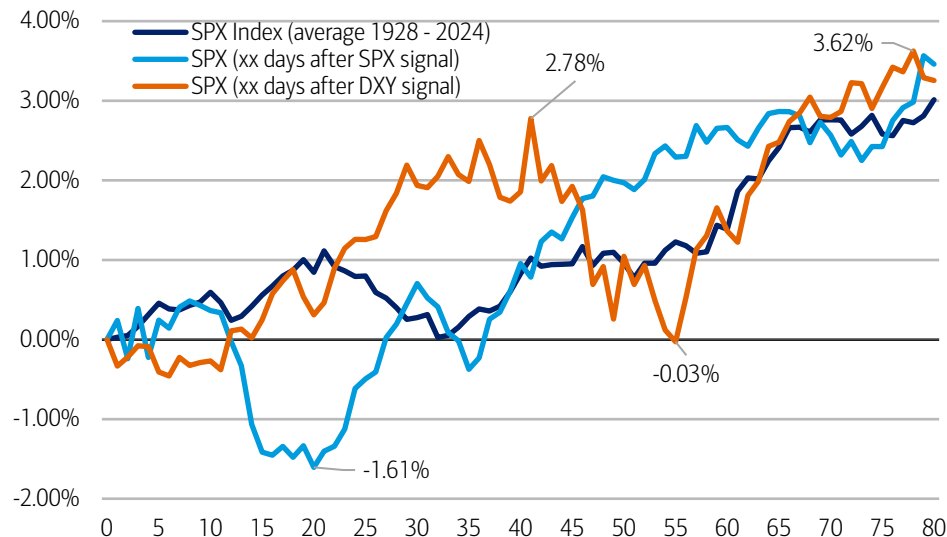
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## SPX a bit more bullish after DXY death cross

Seasonally choppy then up, 20 days of weakness post SPX death cross, DXY death cross somewhat more supportive of SPX. SPX bottom in 20-40 days?

### Exhibit 9: SPX trend analysis beginning April 14<sup>th</sup>

The average trend for the SPX from April 14<sup>th</sup> saw a bounce into mid-May, retest of mid-April lows, then higher ending 80 trading days later up about 3.00%. After a death cross signal with a declining 200d SMA, the average trend was weaker through 20 trading days, then ended the 80-trading day window up 3.47%. The SPX after a DXY death cross tended to rally through 40 trading days, retesting the mid-April lows and then end up about 3.25%.



Source: BofA Global Research, Bloomberg

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### Exhibit 10: SPX after a death cross signal on the DXY with declining 200d SMA (vs five days prior)

The % down ratio tends to start leaning in favor of the S&P 500 after 25 trading days and average and median returns improve, too.

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	50%	56%	50%	38%	31%	31%	38%	31%	31%	31%	38%	31%	25%
Up	8	7	8	10	11	11	10	11	11	11	10	11	12
Down	8	9	8	6	5	5	6	5	5	5	6	5	4
Average	-0.41%	-0.27%	0.25%	0.31%	1.26%	1.94%	1.99%	1.86%	1.92%	1.05%	1.36%	2.79%	3.26%
Median	0.08%	-0.34%	0.07%	1.13%	1.91%	3.20%	3.67%	3.24%	1.49%	3.16%	1.38%	3.88%	4.83%
Min	-4.71%	-9.38%	-5.47%	-8.78%	-11.23%	-12.88%	-18.47%	-30.65%	-18.28%	-24.61%	-22.44%	-19.32%	-22.04%
Max	2.95%	5.52%	5.72%	6.65%	7.45%	12.54%	14.60%	15.84%	19.41%	18.09%	22.02%	22.02%	22.23%

Source: BofA Global Research, Bloomberg

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## Macro trends post SPX & DXY death cross

In this section we compare seasonal trends from the date of the most recent death cross signal with declining 200d SMA (dark blue line) versus average trend after the death cross signal with declining 200d SMA for the underlying asset (light blue line) versus the average trend after the signal for an alternate asset (orange line). We also look at what gold, oil and bonds tend to do after a DXY and SPX death cross signal.

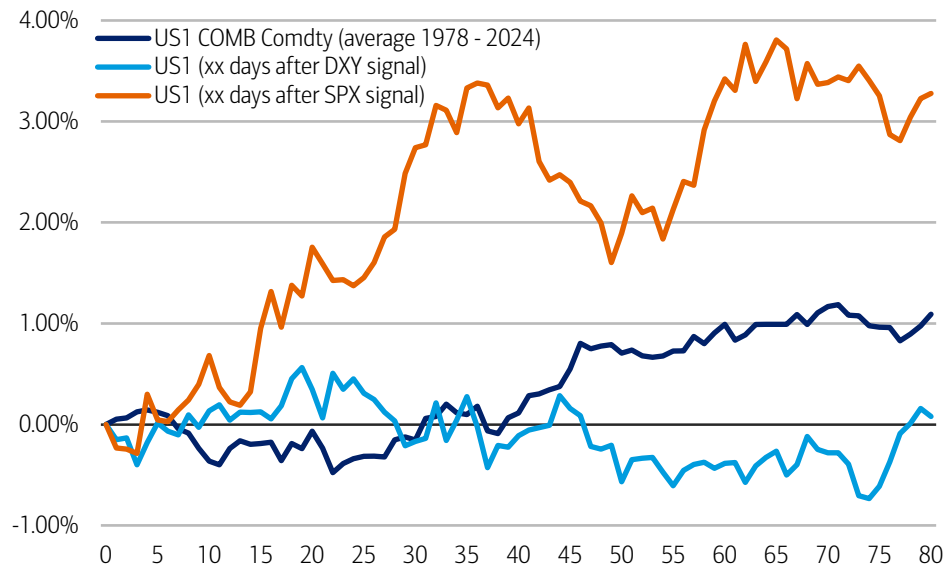
### Bonds

**Seasonals imply buy by Memorial Day for a summer rally. Choppy post DXY**

**death cross. An SPX death cross has been quite bullish for bonds.**

#### Exhibit 11: Bonds (US1) trend analysis beginning April 14<sup>th</sup>

Average trend for US1 is modestly lower through mid-May then bullish through summer. The trend after a DXY death cross is choppy/rangebound. The trend after an SPX death cross is bullish through 80 trading days.



Source: BofA Global Research, Bloomberg

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#### Exhibit 12: Bonds after a death cross signal on the SPX with declining 200d SMA (vs five days prior)

Bonds tended to rally 30-80 trading days later as much as 10 of 11 times at 20 and 70 trading days after. The average down ratio from 20-80 trading days was just 22%, or up 78% of the time with average and median gains positive and mostly trending up.

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	55%	36%	36%	9%	36%	18%	18%	27%	27%	27%	27%	9%	18%
Up	5	5	6	10	7	9	9	8	8	8	8	10	9
Down	6	4	4	1	4	2	2	3	3	3	3	1	2
Average	0.04%	0.68%	0.95%	1.76%	1.45%	2.74%	3.33%	2.98%	2.40%	1.89%	3.42%	3.38%	3.28%
Median	-0.09%	0.00%	0.84%	1.47%	1.29%	2.15%	2.20%	2.14%	2.92%	2.09%	3.47%	4.09%	3.48%
Min	-2.02%	-1.93%	-2.04%	-3.17%	-5.08%	-0.55%	-1.17%	-0.70%	-2.07%	-2.17%	-0.72%	-2.47%	-2.34%
Max	2.38%	5.91%	4.55%	6.42%	5.48%	6.77%	7.96%	9.63%	7.39%	5.66%	7.77%	8.10%	8.35%

Source: BofA Global Research, Bloomberg

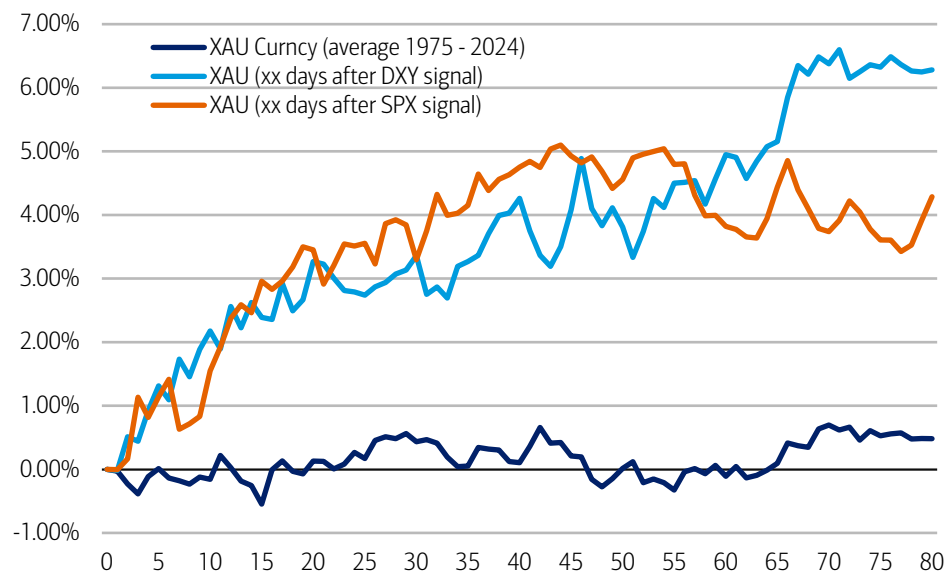
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## Gold

### Seasonally flat, however bullish bias after a DXY or SPX death cross

#### Exhibit 13: Gold trend analysis beginning April 14<sup>th</sup>

Gold's average trend from April 14th is mostly flat. After a DXY death cross it was higher by as much as 6.6% in 72 trading days. After a SPX death cross, the trend was also higher as much as 5% in 45 trading days.



Source: BofA Global Research, Bloomberg

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#### Exhibit 14: Gold after DXY death cross with declining 200d SMA (vs five days prior)

After a DXY death cross, gold prices tended to trend higher (down ratios mostly below 30%)

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	14%	21%	21%	29%	36%	29%	29%	29%	29%	43%	29%	36%	36%
Up	12	11	11	10	9	10	10	10	10	8	10	9	9
Down	2	3	3	4	5	4	4	4	4	6	4	5	5
Average	1.31%	2.18%	2.39%	3.27%	2.74%	3.36%	3.27%	4.26%	4.08%	3.81%	4.95%	6.38%	6.28%
Median	0.99%	1.09%	1.31%	2.18%	2.12%	2.39%	3.64%	2.32%	3.59%	2.66%	4.47%	4.92%	5.42%
Min	-2.31%	-3.58%	-5.70%	-4.35%	-4.47%	-7.45%	-11.88%	-11.55%	-6.08%	-6.57%	-5.44%	-4.54%	-6.23%
Max	5.52%	9.34%	11.37%	13.94%	18.31%	28.45%	28.71%	41.01%	31.09%	33.26%	28.94%	31.46%	33.13%

Source: BofA Global Research, Bloomberg

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#### Exhibit 15: Gold after SPX death cross with declining 200d SMA (vs five days prior)

After a SPX death cross, gold prices tended to trend higher (% down ratios below 25% through 50 trading days later)

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	17%	17%	8%	8%	8%	17%	17%	17%	17%	25%	42%	50%	42%
Up	10	10	11	11	11	10	10	10	10	9	7	6	7
Down	2	2	1	1	1	2	2	2	2	3	5	6	5
Average	1.14%	1.55%	2.96%	3.45%	3.55%	3.30%	4.15%	4.75%	4.93%	4.56%	3.82%	3.74%	4.29%
Median	0.69%	1.37%	3.04%	2.71%	3.61%	2.85%	3.47%	4.18%	4.40%	3.33%	1.64%	1.70%	1.31%
Min	-1.04%	-2.29%	-2.63%	-0.53%	-1.02%	-5.29%	-7.30%	-6.43%	-3.84%	-6.19%	-5.03%	-5.64%	-6.33%
Max	5.86%	5.56%	7.51%	8.33%	10.00%	14.66%	16.07%	17.59%	21.76%	27.81%	22.19%	20.10%	22.00%

Source: BofA Global Research, Bloomberg

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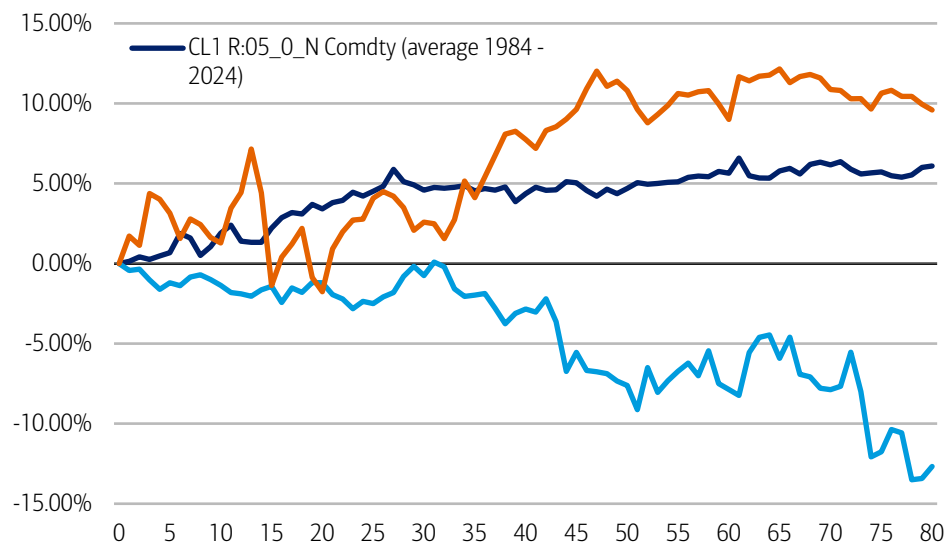


## Oil

### Seasonally bullish, bearish after DXY death cross, bullish after SPX death cross

#### Exhibit 16: Gold trend analysis beginning April 14<sup>th</sup>

The average trend for oil prices over the next 80 trading days from April 14<sup>th</sup> has been higher by about 6.10%. After a death cross on the DXY, oil prices fell on average by about 13%. After a death cross on the SPX, oil prices were initially volatile but resolved higher by about 9.60%.



Source: BofA Global Research, Bloomberg

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#### Exhibit 17: Oil after a DXY death cross with declining 200d SMA

While the average trend in oil after a DXY death cross is lower, the % down ratio does not confirm.

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	67%	50%	58%	58%	50%	58%	58%	58%	58%	58%	50%	42%	50%
Up	4	6	5	5	6	5	5	5	5	5	6	7	6
Down	8	6	7	7	6	7	7	7	7	7	6	5	6
Average	-1.20%	-1.36%	-1.42%	-1.20%	-2.50%	-0.75%	-1.97%	-2.84%	-5.55%	-7.61%	-7.87%	-7.88%	-12.68%
Median	-1.60%	-2.08%	-2.28%	-2.73%	-1.73%	-2.61%	-2.52%	-2.55%	-4.43%	-1.24%	0.30%	2.82%	-0.81%
Min	-8.75%	-11.52%	-17.10%	-22.97%	-24.05%	-18.71%	-23.39%	-29.00%	-60.70%	-83.59%	-112.45%	-115.47%	-143.19%
Max	7.66%	9.26%	17.28%	22.17%	19.39%	22.80%	27.45%	29.33%	30.06%	28.41%	23.65%	24.07%	15.41%

Source: BofA Global Research, Bloomberg

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#### Exhibit 18: Oil after an SPX death cross with declining 200d SMA

Oil prices showed some tendency to be supported / rally after an SPX death cross as much as 8 of 10 times 45 trading days later.

days after	5 days	10 days	15 days	20 days	25 days	30 days	35 days	40 days	45 days	50 days	60 days	70 days	80 days
% Down Ratio	40%	40%	40%	50%	30%	30%	40%	40%	20%	40%	40%	40%	40%
Up	6	6	6	5	7	7	6	6	8	6	6	6	6
Down	4	4	4	5	3	3	4	4	2	4	4	4	4
Average	3.14%	1.29%	-1.37%	-1.76%	4.08%	2.59%	4.11%	7.76%	9.63%	10.80%	9.00%	10.87%	9.59%
Median	1.10%	0.11%	2.51%	0.43%	2.41%	4.08%	3.82%	1.60%	5.07%	6.07%	8.66%	13.47%	11.93%
Min	-6.04%	-18.16%	-55.18%	-48.74%	-15.63%	-17.69%	-23.91%	-20.05%	-18.48%	-11.63%	-14.86%	-18.69%	-22.41%
Max	26.09%	16.50%	27.40%	23.48%	27.86%	24.94%	46.43%	49.05%	61.85%	67.86%	63.76%	67.91%	71.51%

Source: BofA Global Research, Bloomberg

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