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PROFITING FROM SEASONALITY IN STOCKS

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Wouldn't it be cool if certain times of year would give you an advantage of history on your side?

Is seasonality really that big a thing for stocks and, if so, how reliable is it?

Is there a confirming indicator that helps us decipher whether the seasonal trend will work this time?

The answer to these questions is *yes*. To know more read on…

Bottom-line: There are predictable seasonal patterns in stocks and the confirming indicator – the Big Money Index (BMI – which we can use to our advantage as investors.) Here's the evidence:

1) 30 YEARS OF STOCKS. Studying daily market price data for four indexes since January 1, 1990, we calculated monthly returns for:

- The Dow Jones Industrial Average (DJIA)
- The S&P 500 Index (S&P500)
- The NASDAQ Composite Index (COMP)
- The Russell 2000 Index (RUT)

Findings show that some months perform far better than others over the 30-year time frame. The fourth quarter (October, November, and December) delivers observably superior performance.

2) THE BIG MONEY INDEX aggregates all of the unusually large daily buy and sell actions taken by the big professional investment institutions and smooths them on a 25-day moving average to get a strong idea of where big institutional money flows are going. We plot this on "The Big Money Index" (BMI).

Historically, we observe how the BMI could have potentially helped investors navigate choppy markets. Overbought and oversold instances are illustrated depicting their accuracy as extreme reversion indicators. In other words: when the BMI goes overbought, expect lower prices sometime thereafter, and when the BMI goes oversold, get your shopping lists out for some great deals.

3) COMBINING THE POWERS OF STOCK AND BMI SEASONALITY. Next, we put the two indicators together, examining the strong correlation of the BMI with stock market seasonality since 2010.

Why 2010? That year was a "line in the sand" of sorts. Electronic trading really took over about then. ETFs exploded in popularity, as did High Frequency Trading (HFT). The analytical models that power the Big Money Index were created just after 2010. Therefore, the correlation we observe between the BMI and stock market prices is logical. What we find is that the BMI shows a decided lift in the fourth and first quarters of the year, correlating strongly to market prices.

STOCK MARKET SEASONS: AN INTRODUCTION

- *Buy low, sell high…*
- *The trend is your friend…*
- *Bulls make money, bears make money, pigs get slaughtered…*

If only investing were so easy as following a few maxims. The old calendar formula, *"Sell in May then Go away"* seemed to have merit for many decades, so is seasonality a thing for stocks?

In this paper, we find that seasonality still matters.

Seasonality goes beyond summer fever and winter blues. Strange phenomena sometimes only happen in certain seasons. Take for instance the Sailing Stones of Death Valley. Since the early 1900's stones have been observed to have moved in the desert, leaving a clear trail in a dry lakebed there. Wild theories abound to explain this phenomenon, ranging from heavy winds, magnetic fields, and even aliens.

Source: Geologyim.com

These wanderlust stones clearly had somewhere to be, but only during wintertime. Disappointingly, they weren't moved by mischievous aliens. The real reason? Nightfall brought frosting condensation. The ground got coated with ice. Daytime sun melted the ice and thin sheets would break apart. A combination of slippery ice sheets and light winds sent the sailing stones around, leaving their confusing tracks behind.

If winter can move stones in the middle of a desert, can seasons also affect stocks? Afterall, the market is the collective sum of emotions of all investors. Non-robotic investors are humans with emotions and seasonal moods. (Of course, robots and algorithms trading stocks were all programmed by humans, too.)

Let's dig into some data and see if seasons can predictably affect stocks and, if so, what can we learn and apply to our advantage in our investing? If we can predict that stones will slide around in Death Valley's winter, might we use seasons to guide us to bigger profits? Let's find out.

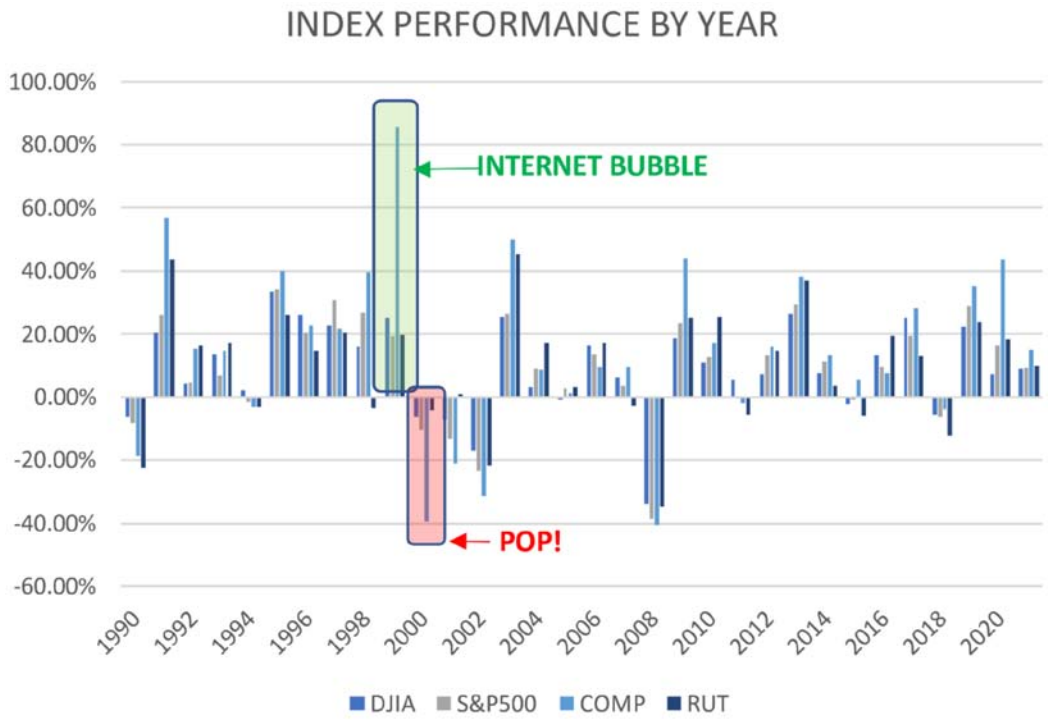
In this paper we will:

1. Examine annual and monthly returns for the four main stock indexes since 1990. In doing so, we will observe notable seasonal patterns and seek to qualify how reliable they are.
2. Take a detailed look at the Big Money Index, with an eye toward seasonal advantages.
3. Combine the two studies. Over the last 10 years, there has been a strong correlation.

Part 1: 30 YEARS OF STOCK PERFORMANCE

To find the seasonality of stocks, we need to look at a large data set. I looked at the four major indexes: the Dow Jones Industrial Average (DJIA), the S&P 500 (S&P500), The NASDAQ Composite (COMP), and the Russell 2000 (RUT). I compiled monthly returns from 1990 to the present. Interesting patterns emerged.

First, we see annual returns of each index for the past 30 years (excluding 2021 as it is not yet complete, as of this writing). Sure, the average annual returns are awesome, but aside from the NASDAQ's +85% year in 1999 (and 40% decline the next year), what jumps out is that most years were *up* years.



Source: FactSet, Data: *Appendix 1.* Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

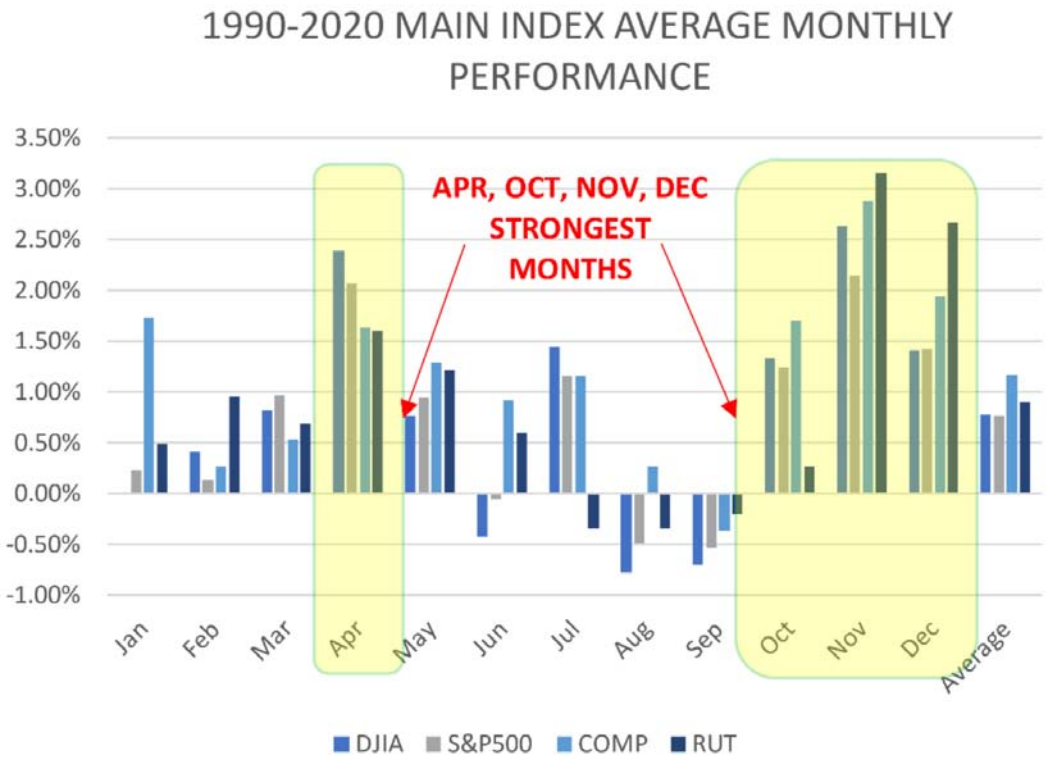
In fact, averaging all 4 indexes, we find 72% of the time stocks finished the year higher than they began:

	DJIA	S&P500	COMP	RUT	AVERAGE
Positive Years	23	22	23	21	22
Negative Years	8	9	8	10	9
Up Years %	74.2%	71.0%	74.2%	67.7%	**71.8%**

Source: FactSet, MAPsignals. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Based on 30 years of data, you have a better-than-7-in-10 chance of a higher stock market every year. So right away we can confidently say: *Buy on New Year's Day*.

Looking at monthly returns from 1990 to December 2020, more things leap off the page:



Source: FactSet, MAPsignals, Data: *Appendix 2*. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

November, December, April, and October (in that order) have been the strongest months for 30 years. Also, stronger Julys offset weaker Junes, while August and September are the weakest months of the year.

Maybe there really is something to selling in May and going away? Or more narrowly, maybe just sell before August and buy back in October? Or maybe don't vacation for long because that's when to buy!

Let's take it one step further: What would happen if we *only* invested at the start of April, October, November, and December? You'd have shockingly good returns for thirty years:

1990-2020	DJIA	S&P500	COMP	RUT
APR,OCT,NOV,DEC	869%	847%	909%	1414%

Source: FactSet. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

But don't go to trading too often, because had you just bought in January of 1990 and held, you would have blown *that* performance away:

1990-2020	DJIA	S&P500	COMP	RUT
APR,OCT,NOV,DEC	869%	847%	909%	1414%
FULL YEAR	1488%	1463%	6223%	2315%
OUTPERFORMANCE	171%	173%	685%	164%

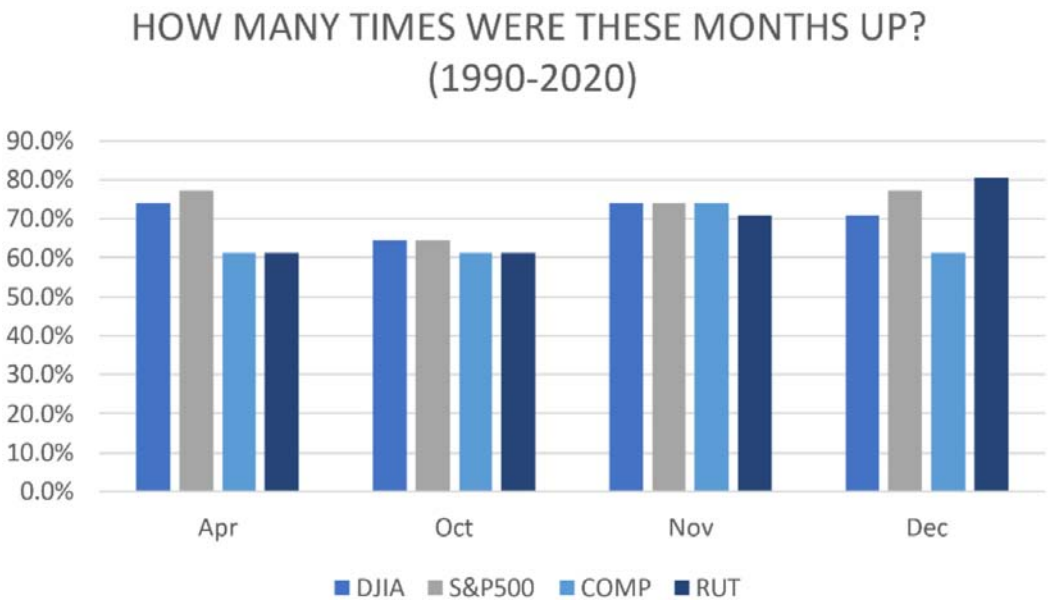
Source: FactSet. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

The NASDAQ, trouncing all other indexes, is particularly eye-popping. The key takeaway here is that:

1. Yes, we see a clear seasonal pattern in the past three decades.
2. Despite that, buy and hold still wins.

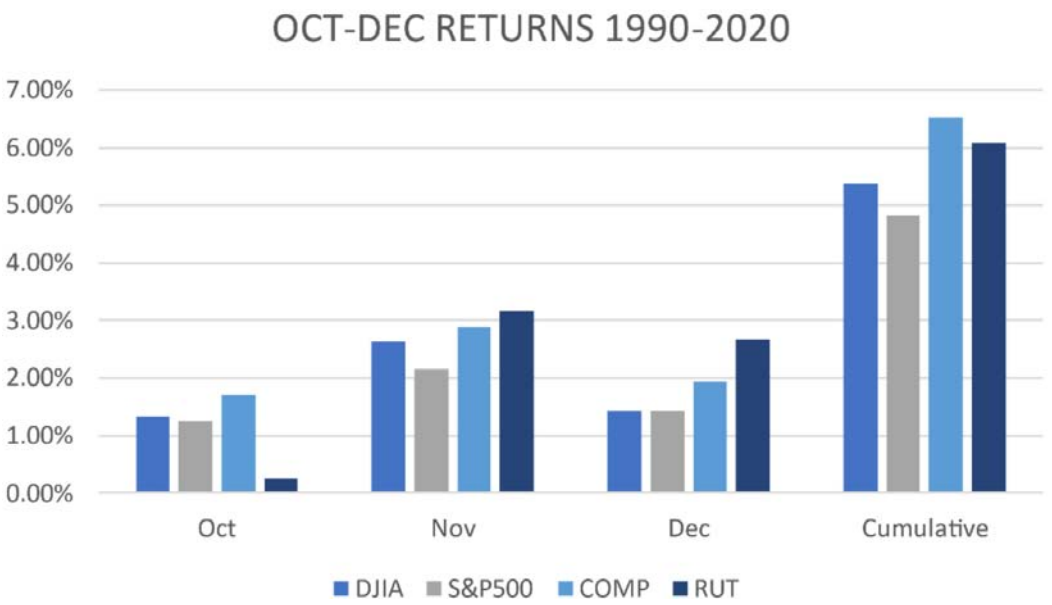
Keep in mind that the exercise above incorporates the worst bear years of the internet crunch and 9/11 (2000 to 2002), the Great Financial Crisis (2008 to 2009), and COVID-19 (2020).

We should also look at the quality of each month's average reading. The next chart shows how often each month was positive or negative from 1990 to 2020. I show April, October, November, and December because all four indexes had more than 60% of the months register positive readings. That means they are high quality readings. Look how strong November and December are:



Source: FactSet, MAPsignals, Data: *Appendix 3*. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Simply put, Quarter 4 is the most reliable time of year to be long stocks. If volatile summers spook you out of stocks, this says you'll regret it.



Source: FactSet, Data: *Appendix 5*. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Next, we look at the Big Money Index.

Part 2: THE BIG MONEY INDEX

What makes stocks go up or down? A news story could be a catalyst. For example, if a drug company gets FDA approval on a blockbuster drug, that could send its stock soaring – or if it missed that approval, the stock might plummet fast. But while a news story can push around a stock's price, what really makes a stock move is the buying and selling pressure. In the absence of that, a story is just a story.

Money flows makes the stock world go round. For my research firm MAPsignals, we look at stocks through a unique lens: Big Money. We believe that unusually large flows in and out of stocks are the major force that moves markets. Retail investors like you and me don't have much sway unless we all move together. When that happens, the sad truth is that the stock market "herd" usually acts at the worst times – either buying during peak euphoria or selling out, often near the bottom because we can't take any more pain.

Big professional investors (institutional money managers, hedge funds, pension funds, asset managers, Registered Investment Advisors, and the like) have power. And many use quantitative models – or *machines*. To hammer home how instrumental these funds are to the market listen to this:

> *JP Morgan estimates 80% of the stock market is on autopilot. That means machines account for a vast majority of stock trading.[1] Crazier still, a few years earlier JP estimated that just 10% of the market was regular stock picking.[2]*

The fact is inescapable: Big Money moves markets. That's why MAPsignals focuses on unusually large trading volumes in stocks and ETFs. To find out when it happens, we start with 6,500 U.S. stocks. We pull 120 data points on each and then boil those down to 29 factors. Each stock gets scored for both fundamental and technical strength. All 6,500 are ranked strongest to weakest each day. Separately, a special formula is computed on each stock. It looks for when big money accounts can easily trade stock without impacting its price - meaning it must be liquid enough to handle large trades. There are roughly 1,400 of those each day. When one of those trades in an unusual way, we get an "Unusual Trade" alert. And if it's at the upper end of a 3-month price range we get a buy signal. A 3-month low gets a sell signal.

These buy and sell signals are what MAPsignals is all about. We get about 100 every day. That means 1.5% of all stocks make unusual buy or sell signals each day.

These are important because:

1. Having spent 14 years on Wall Street handling the world's largest trades for a couple of major investment banks, I saw first-hand the profound impact these Big Money trades can have.
2. Big Money usually must trade in ways that try to keep their moves secret, but if you know what to look for you can find them.

[1] https://www.cnbc.com/2019/06/28/80percent-of-the-stock-market-is-now-on-autopilot.html
[2] https://www.cnbc.com/2017/06/13/death-of-the-human-investor-just-10-percent-of-trading-is-regular-stock-picking-jpmorgan-estimates.html

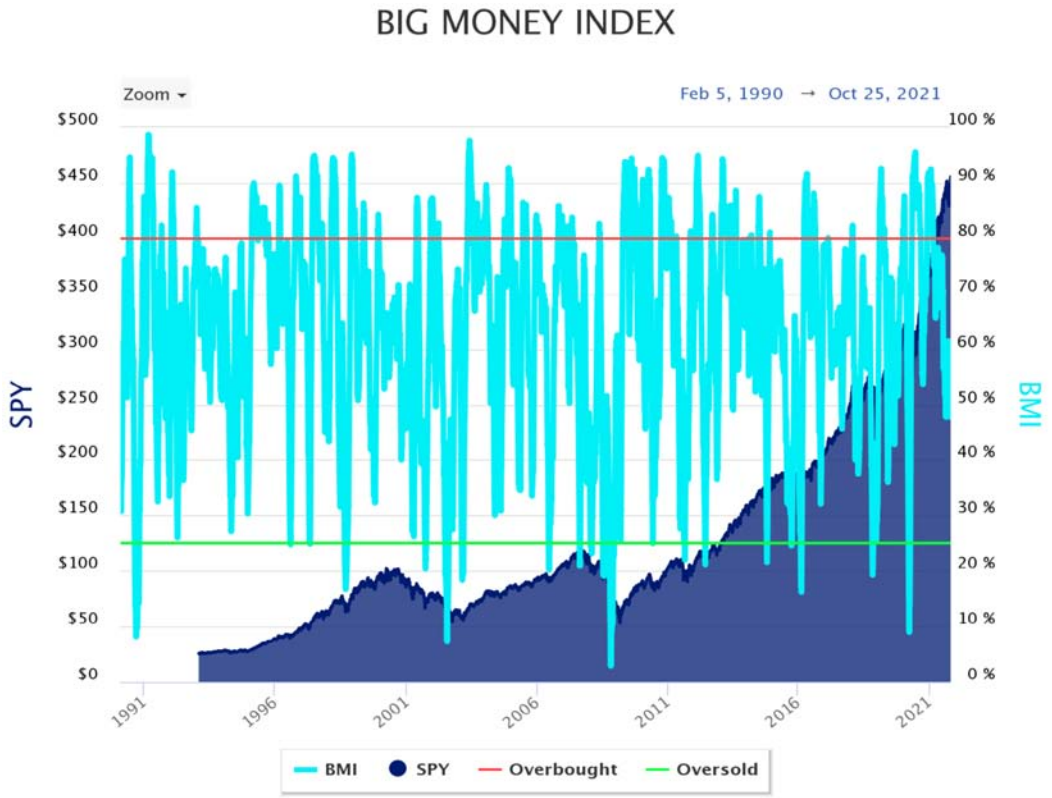
3. When Big Money is buying stocks with the best scores, they have the potential to become what I call "Outliers."

4. Outlier stocks account for most of the gains in a portfolio. Professor Hendrik Bessembinder proved this in his paper: "Do Stocks Outperform Treasury Bills?"[3] He studied 26,000 stocks from 1926 until his paper was published, in 2017. He found only 4% of stocks accounted for 100% of the gains of stocks over Treasuries for those 90+ years. He found that 1% of stocks accounted for 50% of the gains. These are Outlier stocks.

When the BMI rises, that means big institutional money is moving into the market. When it falls, money is coming out. What's cool is that it tends to be a leading indicator over time, meaning that markets could be sideways, or even trending down. But if the BMI is rising, history says we should expect higher prices soon. After all, doesn't it make sense that the largest, smartest, and most successful professional investors would be acting before the regular public, like you or me, acts on a stock's underlying fundamentals?

That's the basis of Big Money and the BMI.

Now if we look at 30 years of the BMI, it looks more like an EKG than any sort of useful indicator. That's because the BMI is absolute. The lowest it can go is zero and the highest is 100%:



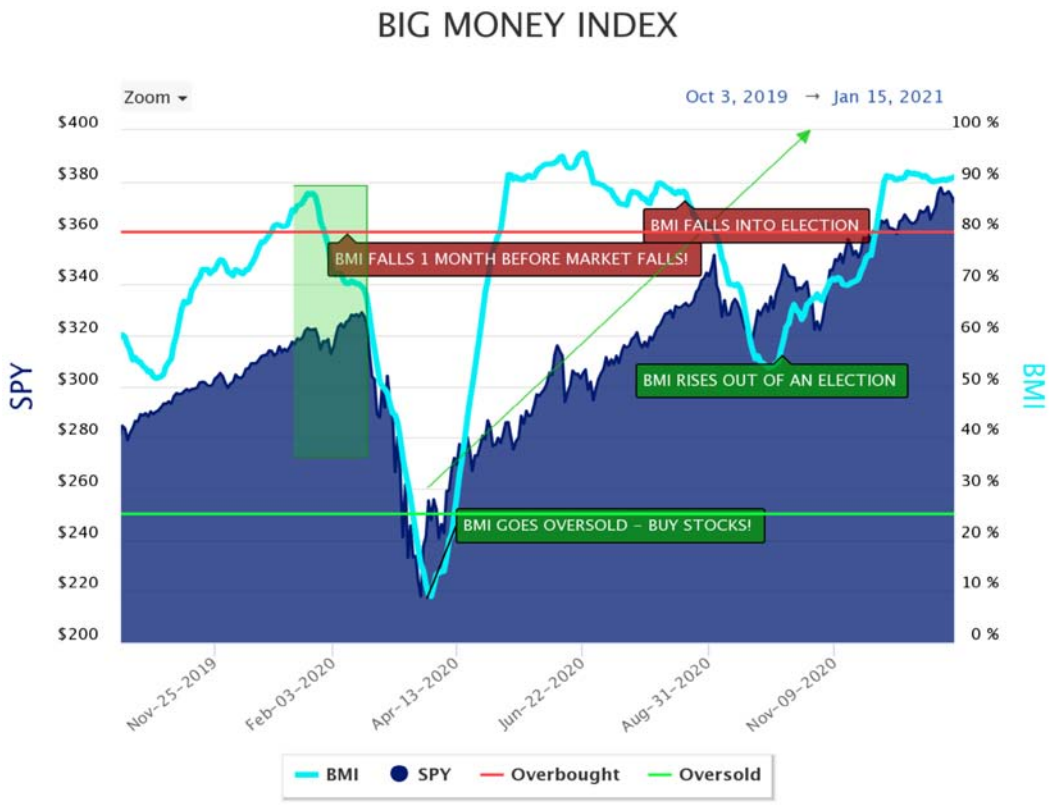
Source: MAPsignals.com. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

[3] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2900447#:~:text=Specifically%2C%2073.8%25%20of%20stocks%20in,Treasury%20bills%20over%20their%20lifetimes.

Zooming in on specific memorable time periods, we see how the Big Money can lead markets. These pro investors have a way of oftentimes knowing *before* markets peak or trough.

Let's look at one here (more included in *Appendix 6* for the curious).

Here, we see conditions leading up to, during, and after the COVID-19 pandemic. Here we see how the BMI can be a leading indicator. Notice the Big Money Index went overbought in January of 2020. It started falling but the index kept rising until February. By that point, the BMI had fallen from 90% to roughly 60%. That indicated money was rushing out of the market. The market then tanked for the most violent sell-off we had witnessed in a long time. The BMI went oversold and indicated a market trough. That's how I publicly predicted a market low of Friday, March 20, 2020. The S&P 500 low was the following Monday March 23.

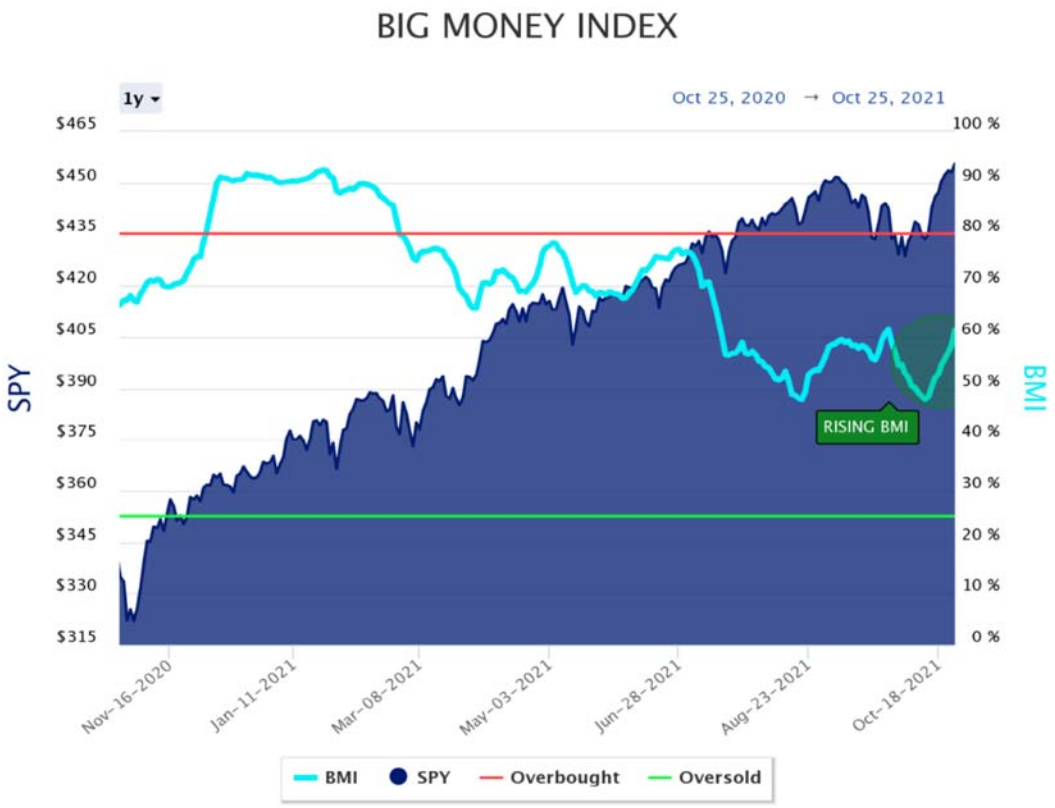


Source: MAPsignals.com. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

We also see the presidential election phenomenon in that chart. Every election since 1990 saw a falling BMI before election and a rising BMI afterwards. Professional investors don't seem to like unpredictable risks in advance of close election outcomes. September and October saw a falling BMI.

Institutional investors lightened their risk ahead of the election. When election day passed, the BMI started rising and did not look back for months until February of 2021.

Below is today... notice it rising in October 2021?



Source: MAPsignals.com. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Next, let's put market and BMI seasonality together.

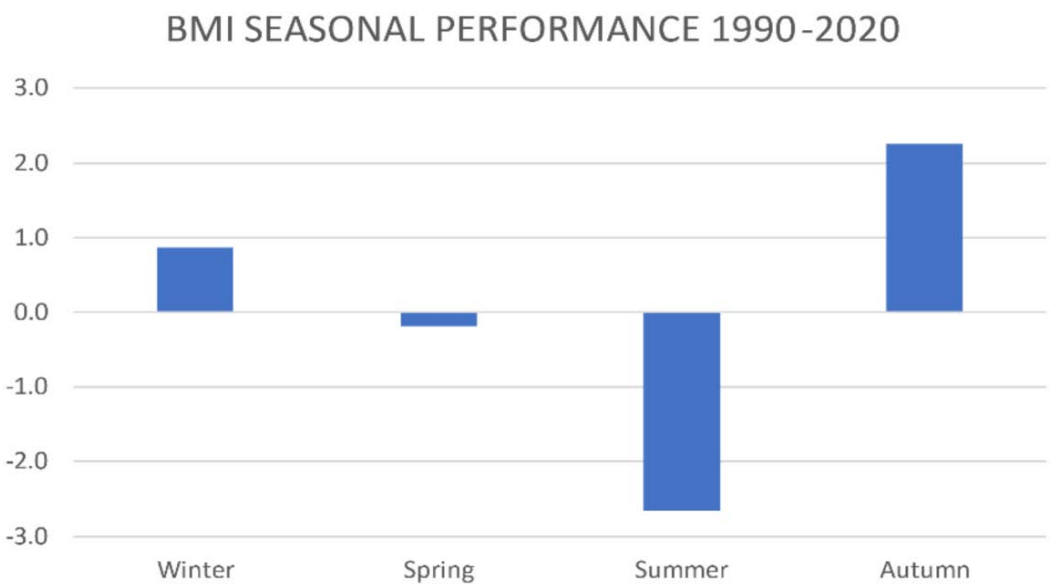
Part 3: COMBINING THE POWERS OF STOCK AND BMI SEASONALITY

Now we know the BMI's value in helping us determine markets that are:

- Overbought
- Oversold
- Soon-to-be up-trending
- Soon-to-be down-trending

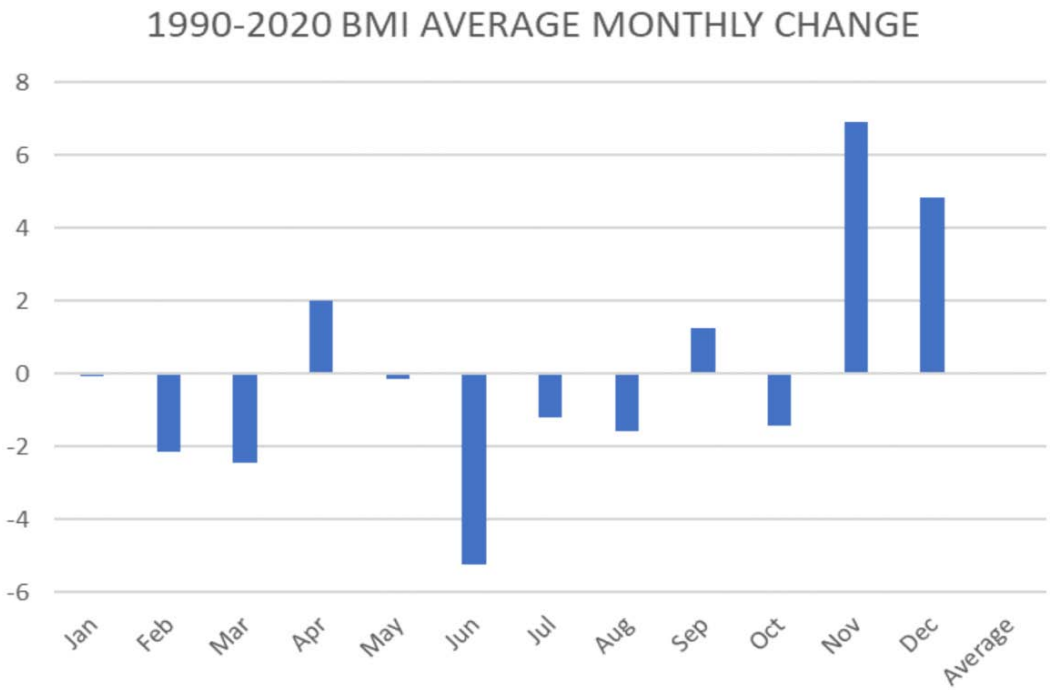
Now we can analyze the seasonal trending of the BMI, like we analyzed market returns.

Look how the BMI is strongest in Autumn leading up to the strong autumn and winter returns:



Source: FactSet, MAPsignals, Data: *Appendix 4*. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Now let's look at monthly BMI trends over 30 years:



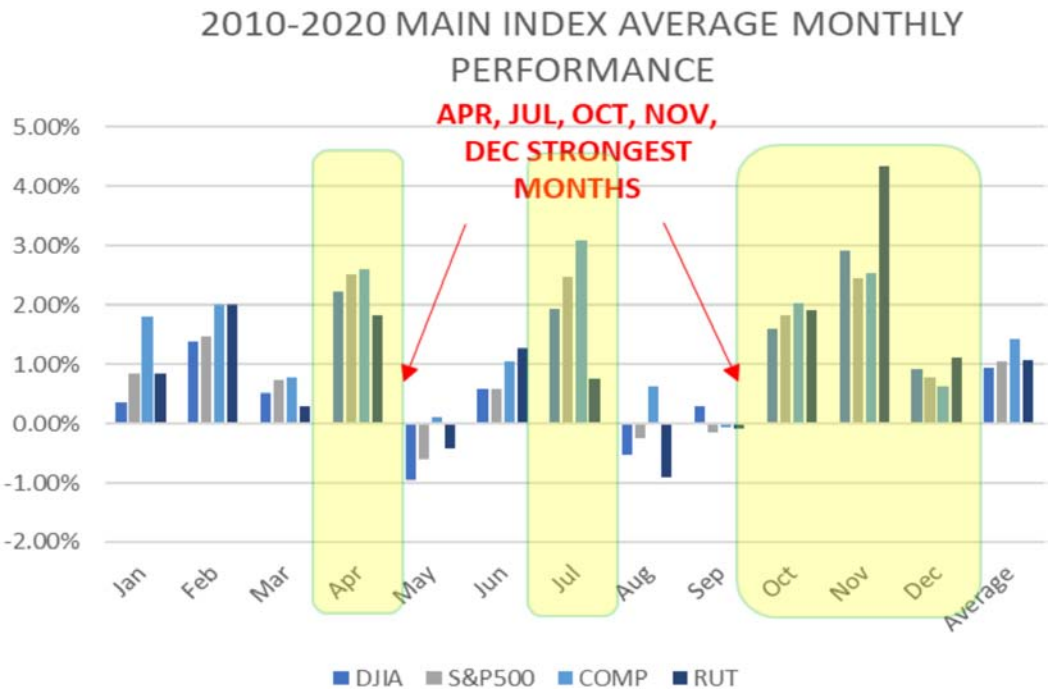
Source: MAPsignals, Data: *Appendix 7*. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Notice November and December see the strongest readings.

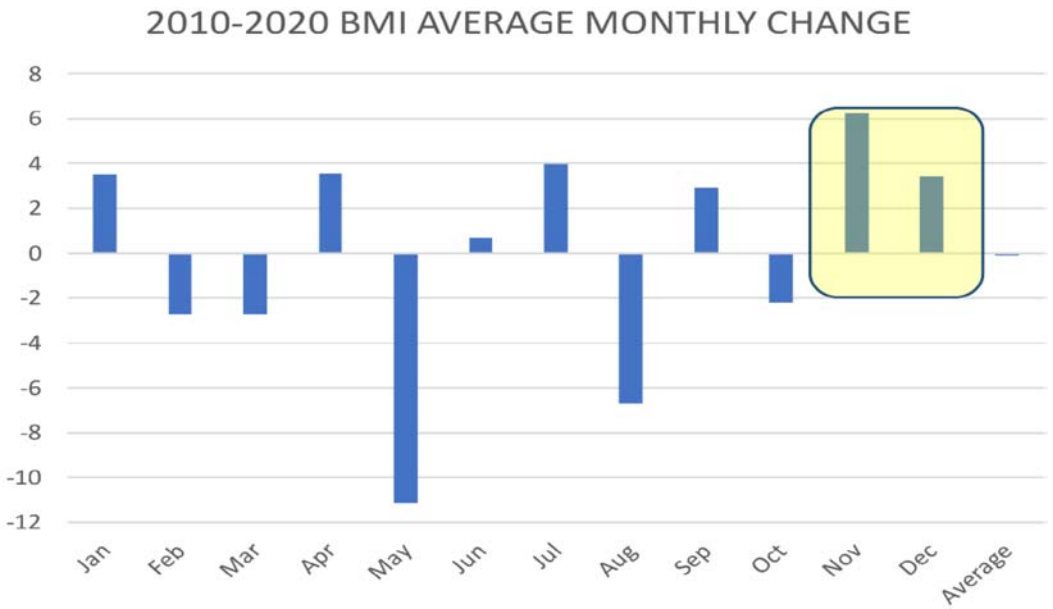
Since 1990, we observe a weak BMI in summertime, and a strong BMI in the fourth quarter.

Remember that the analytical models that power the BMI and MAPsignals were created just after 2010. That time marked a clear divergence for the market: Machines took over. After 2010, the popularity of ETFs exploded. Alongside that, High Frequency Trading overtook most daily volumes of U.S. stock trading.

Looking at the same studies applied to 2010-2020 we also see a strong correlation. Notice the big lift of the BMI in November, December, and January.

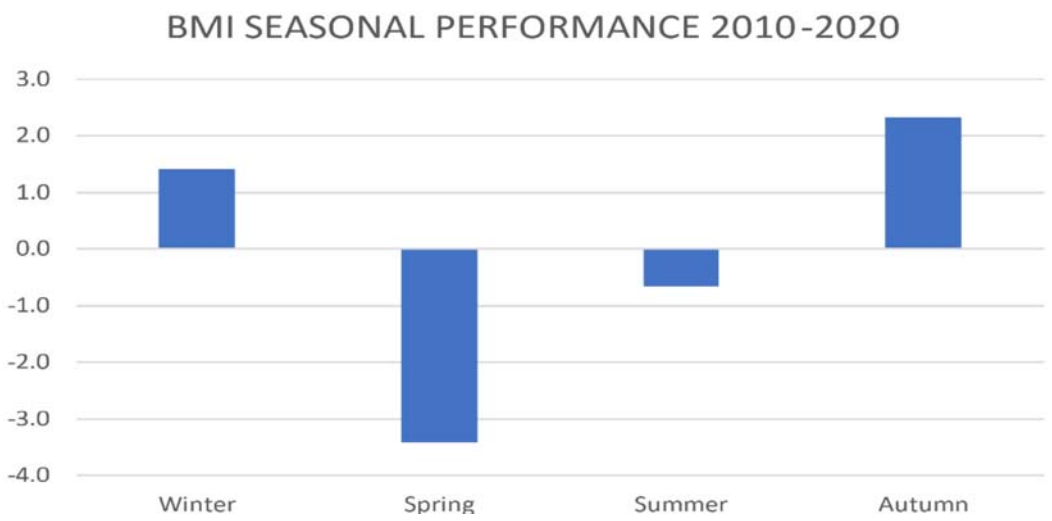


Source: FactSet, MAPsignals, Data: *Appendix 8.* Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.



Source: MAPsignals, Data: *Appendix 8.* Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

We also see seasonal strong performance of the BMI for autumn and winter:



Source: MAPsignals, Data: *Appendix 9*. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

CONCLUSION

We now know that the stock market has strong predictable behavior in certain times of year. We know the BMI does too and is a powerful leading and sometimes predictive indicator.

So, how might we use these things to frame what's next for stocks?

It's quite simple actually: October, November, and December are the strongest months of the year for stocks. 2021 has seen a very nice October thus far after a frustrating September. Thirty years of data suggests we should expect a nice November and December, too.

The BMI also supports the narrative of a strong fourth quarter for the market.

The BMI, despite having a typically lagging October, is ramping from its October 12th low of 47.8% to a reading of 61.4% as of October 26th. This says to me that money is rushing into stocks at the onset of a seasonally strong time of year.

With a rising BMI and 70+% of Octobers, Novembers, and Decembers showing positive performance for 30 years across all four indexes, this is *very* bullish for stocks near-term.

The wind is at our backs historically speaking for stocks in the closing quarter of the year. The fourth quarter should be strong. Thirty years of stocks say so. Years of the BMI say so. The two together are quite a powerful combo. The BMI is rising in the face of rising stock prices.

Our action plan is to use big sell days to identify bargains on fundamentally superior stocks.

Baseball championship winner Sparky Anderson said:

"Good seasons start with good beginnings."

APPENDICES

Appendix 1

INDEX PERFORMANCE BY YEAR				
YEAR	DJIA	S&P500	COMP	RUT
1990	-6.28%	-8.19%	-18.61%	-22.22%
1991	20.32%	26.31%	56.84%	43.68%
1992	4.17%	4.46%	15.45%	16.36%
1993	13.72%	7.06%	14.75%	17.00%
1994	2.14%	-1.54%	-3.20%	-3.18%
1995	33.45%	34.11%	39.92%	26.21%
1996	26.01%	20.26%	22.71%	14.76%
1997	22.64%	31.01%	21.64%	20.52%
1998	16.10%	26.67%	39.63%	-3.45%
1999	25.22%	19.53%	85.59%	19.62%
2000	-6.18%	-10.14%	-39.29%	-4.20%
2001	-7.10%	-13.04%	-21.05%	1.03%
2002	-16.76%	-23.37%	-31.53%	-21.58%
2003	25.32%	26.38%	50.01%	45.37%
2004	3.15%	8.99%	8.59%	17.00%
2005	-0.61%	3.00%	1.37%	3.32%
2006	16.29%	13.62%	9.52%	17.00%
2007	6.43%	3.53%	9.81%	-2.75%
2008	-33.84%	-38.49%	-40.54%	-34.80%
2009	18.82%	23.45%	43.89%	25.22%
2010	11.02%	12.78%	16.91%	25.31%
2011	5.53%	0.00%	-1.80%	-5.45%
2012	7.26%	13.41%	15.91%	14.63%
2013	26.50%	29.60%	38.32%	37.00%
2014	7.52%	11.39%	13.40%	3.53%
2015	-2.23%	-0.73%	5.73%	-5.71%
2016	13.42%	9.54%	7.50%	19.48%
2017	25.08%	19.42%	28.24%	13.14%
2018	-5.63%	-6.24%	-3.88%	-12.18%
2019	22.34%	28.88%	35.23%	23.72%
2020	7.25%	16.26%	43.64%	18.36%
Average	**9.07%**	**9.29%**	**14.99%**	**9.90%**

Source: FactSet. Graphs are for illustrative and discussion purposes only.
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Appendix 2

AVERAGE MONTHLY PERFORMANCE					
SEASON	MONTH	DJIA	S&P500	COMP	RUT
Winter	Jan	0.00%	0.23%	1.73%	0.49%
Winter	Feb	0.41%	0.14%	0.26%	0.95%
Spring	Mar	0.83%	0.97%	0.54%	0.69%
Spring	Apr	2.39%	2.07%	1.64%	1.60%
Spring	May	0.77%	0.94%	1.28%	1.21%
Summer	Jun	-0.42%	-0.05%	0.92%	0.60%
Summer	Jul	1.45%	1.16%	1.16%	-0.34%
Summer	Aug	-0.79%	-0.49%	0.26%	-0.35%
Autumn	Sep	-0.70%	-0.54%	-0.37%	-0.20%
Autumn	Oct	1.33%	1.25%	1.70%	0.27%
Autumn	Nov	2.63%	2.15%	2.88%	3.16%
Winter	Dec	1.42%	1.43%	1.94%	2.66%
	Average	**0.78%**	**0.77%**	**1.16%**	**0.89%**

Appendix 3

COUNT OF +/- MONTHS					
MONTH	+/-	DJIA	S&P500	COMP	RUT
Jan	+	58.1%	58.1%	64.5%	48.4%
	-	41.9%	41.9%	35.5%	51.6%
Feb	+	67.7%	61.3%	51.6%	54.8%
	-	32.3%	38.7%	48.4%	45.2%
Mar	+	64.5%	61.3%	61.3%	67.7%
	-	35.5%	38.7%	38.7%	32.3%
Apr	+	74.2%	77.4%	61.3%	61.3%
	-	25.8%	22.6%	38.7%	38.7%
May	+	64.5%	71.0%	67.7%	67.7%
	-	35.5%	29.0%	32.3%	32.3%
Jun	+	45.2%	58.1%	51.6%	64.5%
	-	54.8%	41.9%	48.4%	35.5%
Jul	+	74.2%	58.1%	61.3%	54.8%
	-	25.8%	41.9%	38.7%	45.2%
Aug	+	54.8%	54.8%	58.1%	54.8%
	-	45.2%	45.2%	41.9%	45.2%
Sep	+	48.4%	51.6%	58.1%	58.1%
	-	51.6%	48.4%	41.9%	41.9%
Oct	+	64.5%	64.5%	61.3%	61.3%
	-	35.5%	35.5%	38.7%	38.7%
Nov	+	74.2%	74.2%	74.2%	71.0%
	-	25.8%	25.8%	25.8%	29.0%
Dec	+	71.0%	77.4%	61.3%	80.6%
	-	29.0%	22.6%	38.7%	19.4%

HOW MANY TIMES WERE THESE MONTHS UP?					
MONTH	+/-	DJIA	S&P500	COMP	RUT
Apr	+	74.2%	77.4%	61.3%	61.3%
Oct	+	64.5%	64.5%	61.3%	61.3%
Nov	+	74.2%	74.2%	74.2%	71.0%
Dec	+	71.0%	77.4%	61.3%	80.6%

Source: FactSet. Graphs are for illustrative and discussion purposes only.
Please read important disclosures at the end of this commentary.

Appendix 4

1990-2020 INDEX SEASONAL PERFORMANCE					
SEASON	DJIA	S&P500	COMP	RUT	BMI
Winter	0.6%	0.6%	1.3%	1.4%	0.9
Spring	1.3%	1.3%	1.2%	1.2%	-0.2
Summer	0.1%	0.2%	0.8%	0.0%	-2.7
Autumn	1.1%	1.0%	1.4%	1.1%	2.2

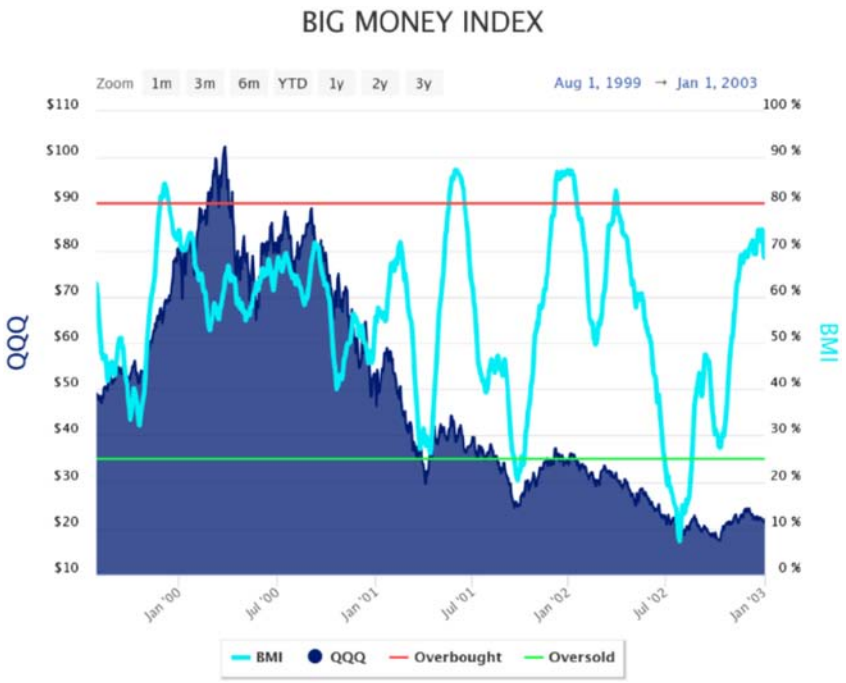
Appendix 5

OCT-DEC RETURNS 1990-2020				
MONTH	DJIA	S&P500	COMP	RUT
Oct	1.33%	1.25%	1.70%	0.27%
Nov	2.63%	2.15%	2.88%	3.16%
Dec	1.42%	1.43%	1.94%	2.66%
Cumulative	**5.38%**	**4.83%**	**6.53%**	**6.09%**

Source: FactSet. Graphs are for illustrative and discussion purposes only.
Please read important disclosures at the end of this commentary.

Appendix 6

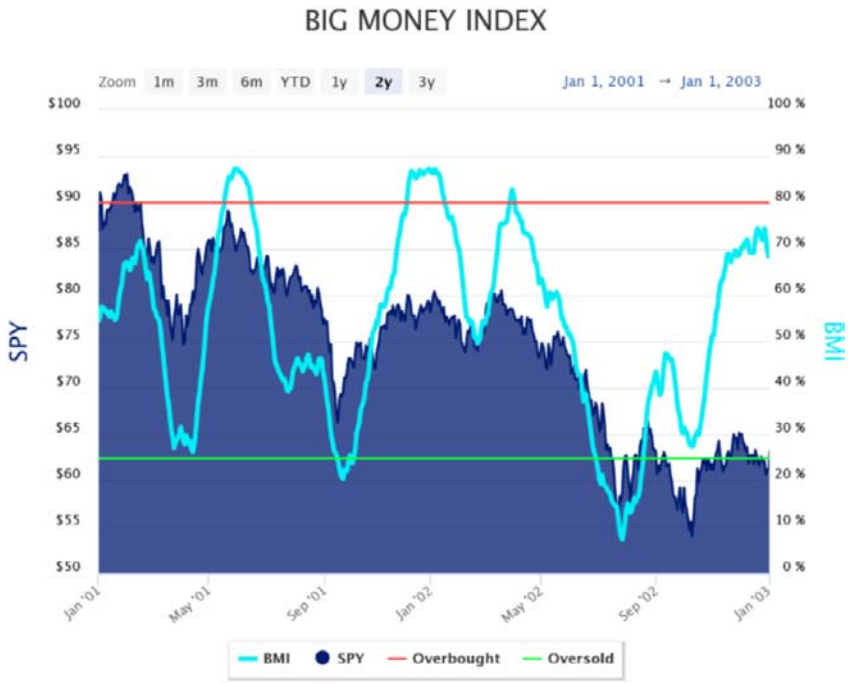
The infamous Internet bubble saw tech stocks ramp massively until their inevitable peak in early 2000. Here we see the NASDAQ tracking ETF QQQ. Notice the electric blue line. It ramps up to overbought (above the red line of 80%) then starts falling significantly in January continuing for months. That means money was coming out of tech stocks. The index kept grinding higher until it cratered *after* the BMI fell months earlier:



Source: MAPsignals.com. Graphs are for illustrative and discussion purposes only.
Please read important disclosures at the end of this commentary.

Also notice above how when the BMI goes oversold (below the green line of 25%), it lines up with troughs of the market. That's when selling is unsustainable.

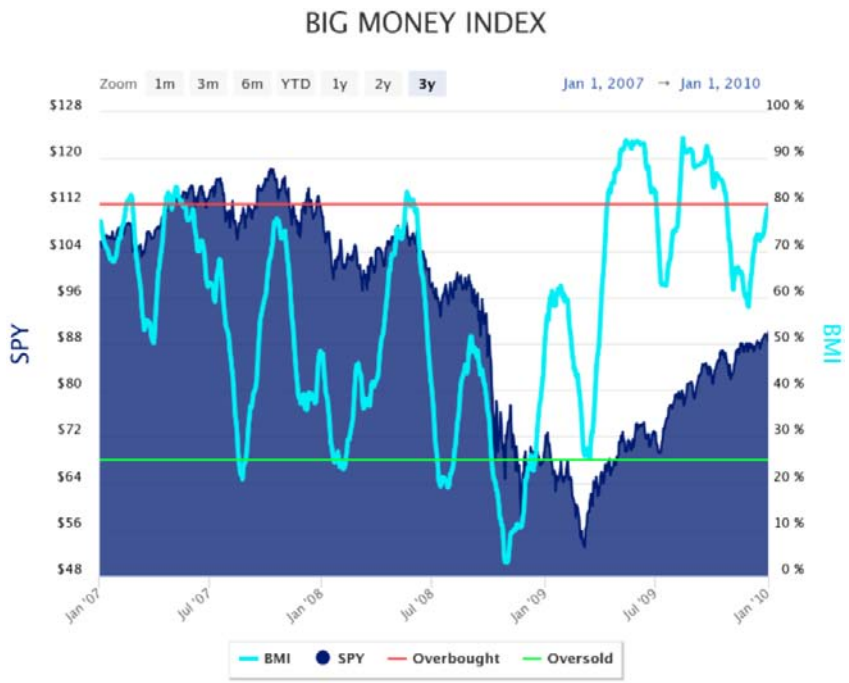
Next, we see 2001, which endured 9/11 and several high-profile corporate collapses, like **WorldCom** and **Enron**:



Source: MAPsignals.com. Graphs are for illustrative and discussion purposes only.
Please read important disclosures at the end of this commentary.

Again, we see a BMI going overbought then falling rapidly. The market peaked coincidentally. This period tracked well with the index. Oversold areas coincided with troughs of SPY, the S&P 500 Index tracking ETF. Overbought areas lined up with near-term peaks, too. That's where you can start to see the importance of big money flows.

Next let's look at the Great Financial Crisis (2007-09). You'll notice how the BMI falls into oversold territory five times in this 3-year period. Each time it marks unsustainable selling and like a vacuum allowing air to rush in, money flows back into markets propelling a rally. These oversold periods also tend to mark troughs in the market. Notably the ultimate March 2009 low lines up with an oversold reading of the BMI.



Source: MAPsignals.com. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Appendix 7

1990-2020 BMI AVERAGE MONTHLY CHANGE				
MONTH	AVG CHANGE (POINTS)	POSITIVE	NEGATIVE	NO CHANGE
Jan	-0.1	45%	52%	3%
Feb	-2.2	39%	58%	3%
Mar	-2.4	35%	65%	0%
Apr	2.0	45%	55%	0%
May	-0.2	52%	48%	0%
Jun	-5.2	35%	65%	0%
Jul	-1.2	42%	55%	3%
Aug	-1.6	42%	58%	0%
Sep	1.3	45%	55%	0%
Oct	-1.4	48%	52%	0%
Nov	6.9	58%	42%	0%
Dec	4.8	68%	32%	0%
Average	0.8	46.2%	53.0%	0.8%

Source: MAPsignals.com. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Appendix 8

2010-2020 MAIN INDEX AVERAGE MONTHLY PERFORMANCE						
SEASON	MONTH	DJIA	S&P500	COMP	RUT	BMI
Winter	Jan	0.36%	0.85%	1.80%	0.84%	3.5
Winter	Feb	1.37%	1.47%	2.00%	2.00%	-2.7
Spring	Mar	0.51%	0.74%	0.77%	0.29%	-2.7
Spring	Apr	2.23%	2.51%	2.60%	1.84%	3.6
Spring	May	-0.95%	-0.60%	0.12%	-0.43%	-11.1
Summer	Jun	0.57%	0.59%	1.05%	1.27%	0.7
Summer	Jul	1.95%	2.47%	3.10%	0.76%	4.0
Summer	Aug	-0.54%	-0.25%	0.63%	-0.91%	-6.7
Autumn	Sep	0.30%	-0.16%	-0.06%	-0.09%	2.9
Autumn	Oct	1.60%	1.83%	2.03%	1.91%	-2.2
Autumn	Nov	2.91%	2.46%	2.54%	4.34%	6.2
Winter	Dec	0.92%	0.77%	0.63%	1.11%	3.5
	Average	**0.94%**	**1.06%**	**1.43%**	**1.08%**	**-0.1**

Source: FactSet, MAPsignals.com. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

Appendix 9

2010-2020 INDEX SEASONAL PERFORMANCE					
SEASON	DJIA	S&P500	COMP	RUT	BMI
Winter	0.9%	1.0%	1.5%	1.3%	1.4
Spring	0.6%	0.9%	1.2%	0.6%	-3.4
Summer	0.7%	0.9%	1.6%	0.4%	-0.7
Autumn	1.6%	1.4%	1.5%	2.1%	2.3

Source: FactSet, MAPsignals.com. Graphs are for illustrative and discussion purposes only. Please read important disclosures at the end of this commentary.

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