



The Power of Narratives:

How stories shape investor behaviors

Helping Build Solid
Investment Foundations



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The market is a voting machine, whereupon countless individuals register choices which are the product partly of reason and partly of emotion.

- Benjamin Graham

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The art of storytelling has been the foundation of civilization since the earliest days of human communication. Stories bridge cultural divides, spanning time and distance, and have the power to both entertain and educate. From captivating children to driving technological advancements, storytelling has played a pivotal role in shaping our world.

Stories are constructed based on actualities, or at least the illusion of truth. As stock selectors, our investment decisions are partly influenced by fundamental data - even though it may be flawed, it still stems from the belief that it is credible. However, when communicating these stock prospects, we tend to present them as a narrative, thereby indistinctly merging the lines between hard data and the story we create.

As these narratives are disseminated from individual to individual, the truth becomes obscured. As it moves into the public domain of common knowledge, influencing behavior, it has the potential to be manipulated by those in a position of power (aka the missionary).

In certain circumstances, it can be distorted to a point where it intentionally omits the truth (aka a lie). Jean-Claude Juncker, the former Luxembourg PM, said referring to the Eurozone crisis in 2011, “When it becomes serious, you have to lie.”

Our goal is to explore these narratives in an effort to understand the impact they have on market behavior and discover opportunities to generate alpha underpinned by our fundamental work.

This paper marks the third and final installment discussing the investment process utilized by Foundry Partners’ Fundamental team. You will find that this paper looks and reads differently than our previous ones. Our first paper in 2021 entitled “Fear and Greed: Navigating Behavioral Biases and White Paper Expectation Fallacies” discussed some of the behavioral biases that are at the root of our process and the importance of value investing augmented by a momentum factor in exploiting those behavioral tendencies. The second piece was written in 2022 and entitled “Is Quality Investing Back ‘En Vogue’?”. It delved into the world of quality investing and the impact/opportunity that arise at market extremes (peaks/troughs).

In this final work, we will walk through the art of narrative analysis, explore the tools we use to navigate the narrative machine and provide some examples to illustrate a deeper understanding of the narrative at play.

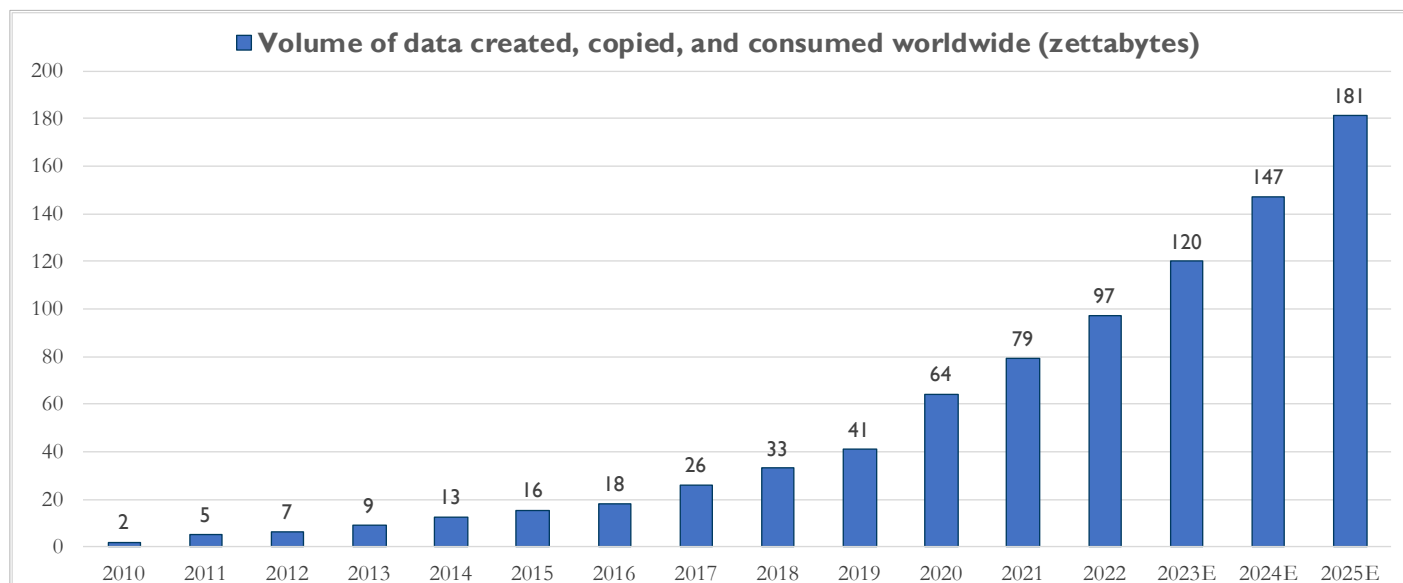
“What the hell is narrative?”¹ The narrative is simply the way we tell each other stories and forms the water in which we navigate market behavior. For most of our existence, we have lacked the tools to measure it nor did we realize that it even existed despite its omnipresence.

The narrative, or the way in which a story is told, can have a significant influence on society. It can shape people's perceptions and beliefs about certain issues, individuals, or groups, and can also influence their behaviors and decisions.

- ChatGPT when asked “How does the narrative influence society?”

Technological advancements in processing speed and the ease of which data is disseminated (largely due to the smartphone) enabled the development of tools to capture and analyze the language in the data. The words and sentences contained in this data along with the way they are structured have meaning and the potential to influence market behavior. Below is a graph of the exponential growth in data created, copied and consumed worldwide in zettabytes².

Exhibit 1: Data Volume



Source: Statista

In the investment world, narratives are constantly on display in social media, Twitter, podcasts, investment blogs (i.e. Reddit, Seeking Alpha, etc.), and 24-hour news feeds. This noise can be deafening and overwhelming as one tries to connect the dots. However, like John Maynard Keynes severely outdated beauty contest analogy³, what we think about the “news” is irrelevant. What we want to know is what everyone thinks about what everyone thinks about the “news”.

The narrative landscape is game theory at the highest level, akin to playing poker. Poker is part science, odds your cards are the best, and part art, reading your opponents and their actions to gain insights on the cards they may hold. Understanding the narrative is similar. The science is how it groups articles that are similar in topic and language. The art is reading the data and understanding how the market players will react to the narrative.

¹The American novelist, David Foster Wallace, opened a commencement speech with the following: There are these two young fish swimming along and they happen to meet an older fish swimming the other way, who nods at them and says “Morning, boys. How’s the water?” And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes “What the hell is water?”

²To put this in perspective, the average smartphone has ~100 gigabytes of storage. One zettabyte is the equivalent of 10 billion smartphones.

³An analogy written in his 1936 book *The General Theory of Employment, Interest, and Money*.

Ben Hunt and his team at Epsilon Theory⁴ have been at the forefront of this analysis for nearly a decade. They piqued our curiosity in narrative analysis and the potential it holds. They also introduced us to NetBase Quid⁵, a natural language processing program (NLP) that allows us to upload articles to analyze and visualize the narrative in a map like image (known as a neural network map). Through this visualization, we can then look for behavioral biases that have led to potential mispricing in the market.

Keynes had it mostly right, the narrative can remain irrational longer than you can remain solvent⁶. The hardest part of analyzing the narrative is patience. The key is that we have to analyze the press releases, the news, and the commentary and then react.

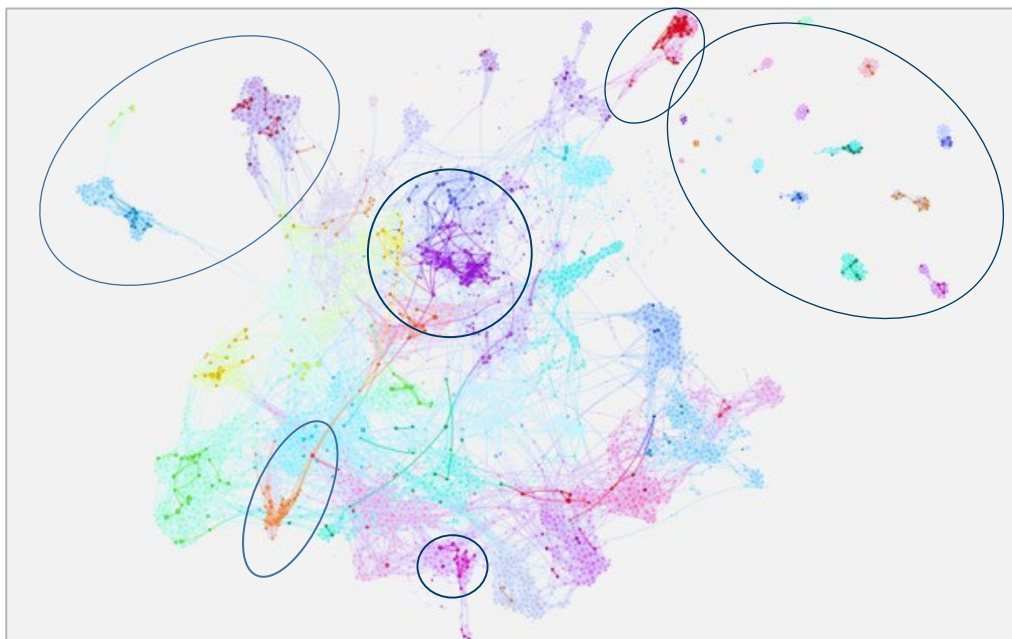
To highlight the science and the art of the narrative, we walk through a few examples of Quid in action within our quarterly commentary over the past two years.

In our second quarter of 2020 quarterly write up, we included the following commentary and map below from Quid:

The structure of articles discussing inflation runs through the map, but the articles are disconnected... In part this is because there is no evidence of inflation... However, the fact that it is one of the key topics in the narrative would suggest that the FED is starting to shift back to its normal operating function of looking at targets of unemployment and inflation. We will be watching how the inflation narrative develops over the coming months...

Each dot (node) within Exhibit 2 represents an article that was written between March 31, 2020 and June 30, 2020 on the stock market or the economy. The highlighted dots in the circled areas represent the articles discussing inflation.

Exhibit 2: Quid Map Analyzing Articles on the Market & Economy (Highlighted Dots Discuss Inflation)



Source: Foundry Partners and NetBase Quid (as of Q2 2020)

As a fringe topic, Inflation started to become a concern for us during the second quarter of 2020. We addressed many of the issues driving inflation in the following podcast:

<https://foundrypartnersllc.com/august-20-2021-foundry-partners-appears-on-smeal-lifelong-learning-podcast/>.

By the end of 2020 inflation became a central theme in the markets.

⁴The name comes from the fundamental regression equation of modern portfolio management: $y = \alpha + \beta + e$ where the return of a security (y) is equal to its idiosyncratic factors (α) plus its co-movement with relevant market indices (β) plus everything else (ϵ).

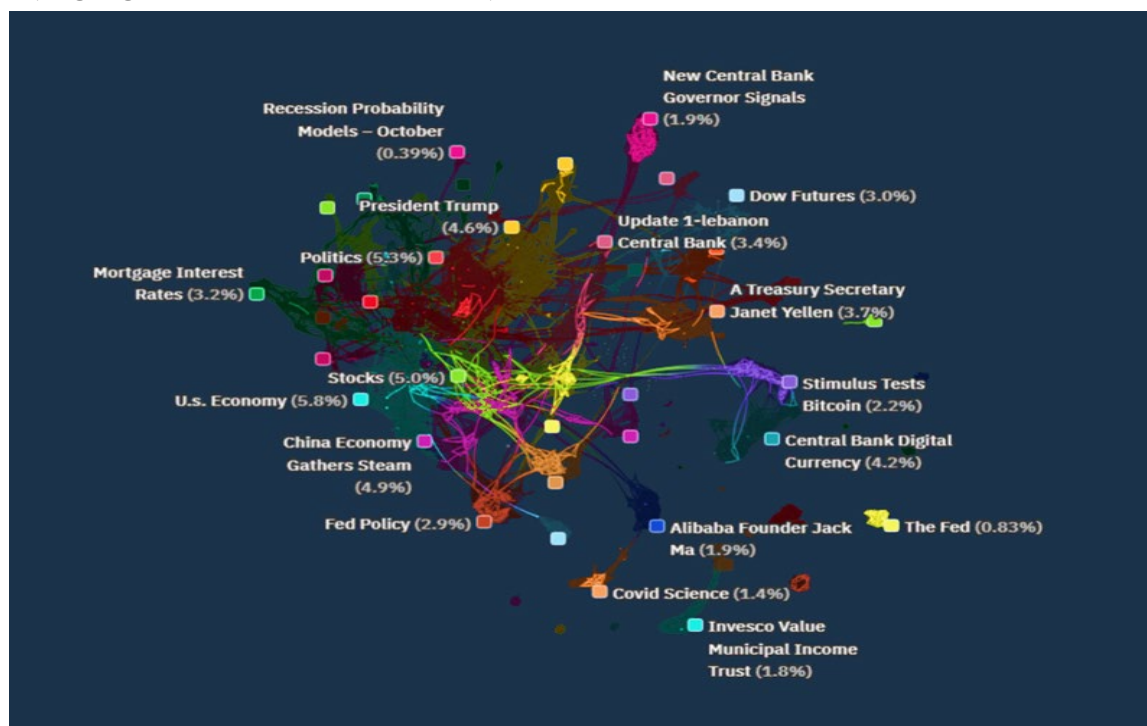
⁵Quid is an NLP platform where we can upload news articles in data format and visualize relationships between language and sentiment within those articles.

⁶John Maynard Keynes famous quote “the markets can remain irrational longer than you can remain solvent.”

In our fourth quarter of 2020 quarterly commentary, we posted a narrative map (see below) showing how central the topic had become and wrote:

As we enter 2021 it is clear that the world has changed. We believe, however, that these changes; the reversal of globalization, continued rising tides of nationalism, and the specter of inflation, has led to the start of a resurgence in value investing.

Exhibit 3: Quid Map Analyzing Articles on the Market & Economy (Highlighted Areas Discuss Inflation)



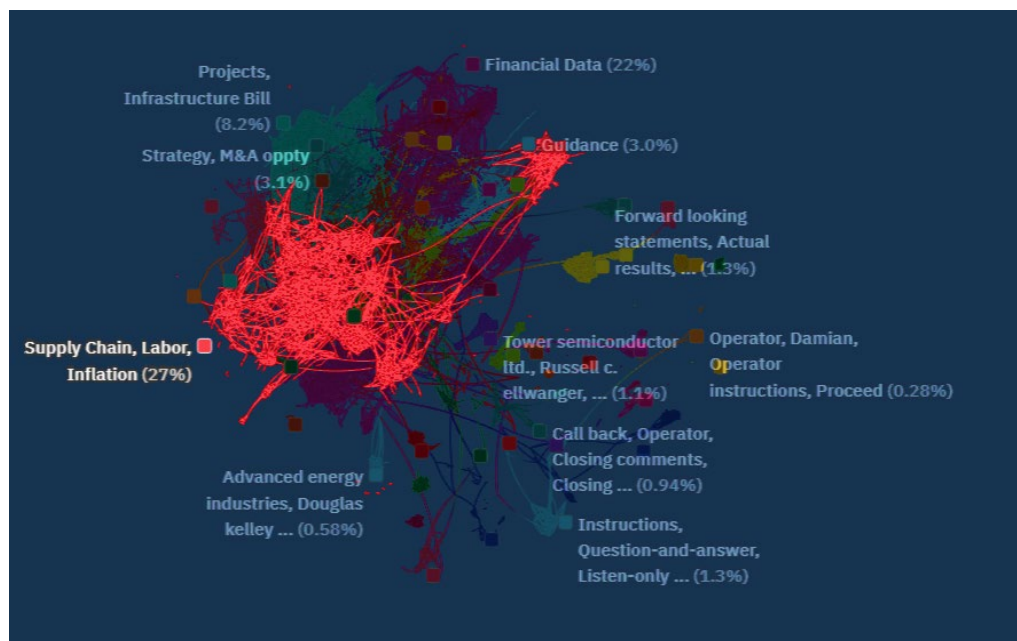
Source: Foundry Partners and NetBase Quid (as of Q4 2020)

In early 2021 we started to see the extent to which global inflation was entrenched and that supply chain issues were a part of the problem. We knew this was a widespread dilemma impacting businesses and profit margins across every industry after analyzing second quarter 2021 earnings call transcripts. We included the following map (See Exhibit 4 on page 5) in our third quarter 2021 commentary and wrote:

Below we took the second quarter earnings calls of all our consumer discretionary, industrial, and information technology stocks. In the network map below, we highlighted the Supply Chain, Labor, and Inflation cluster to emphasize the time spent discussing these issues on the quarterly calls. It was the largest cluster at 27%!

We walked away from this analysis realizing that inflationary pressures remain due to increasing labor costs, higher freight charges, container shortages, and port delays... SG&A costs are on the rise and in certain cases managers spent significantly more time ensuring stores and shifts were covered from a personnel standpoint... Labor shortages and port delays may take more time to work through and will likely lead to continued price increases.

Exhibit 4: Quid Map Analyzing Earnings Transcripts Within Our Consumer, Industrials and IT Stocks



Source: Foundry Partners and NetBase Quid (as of Q3 2021)

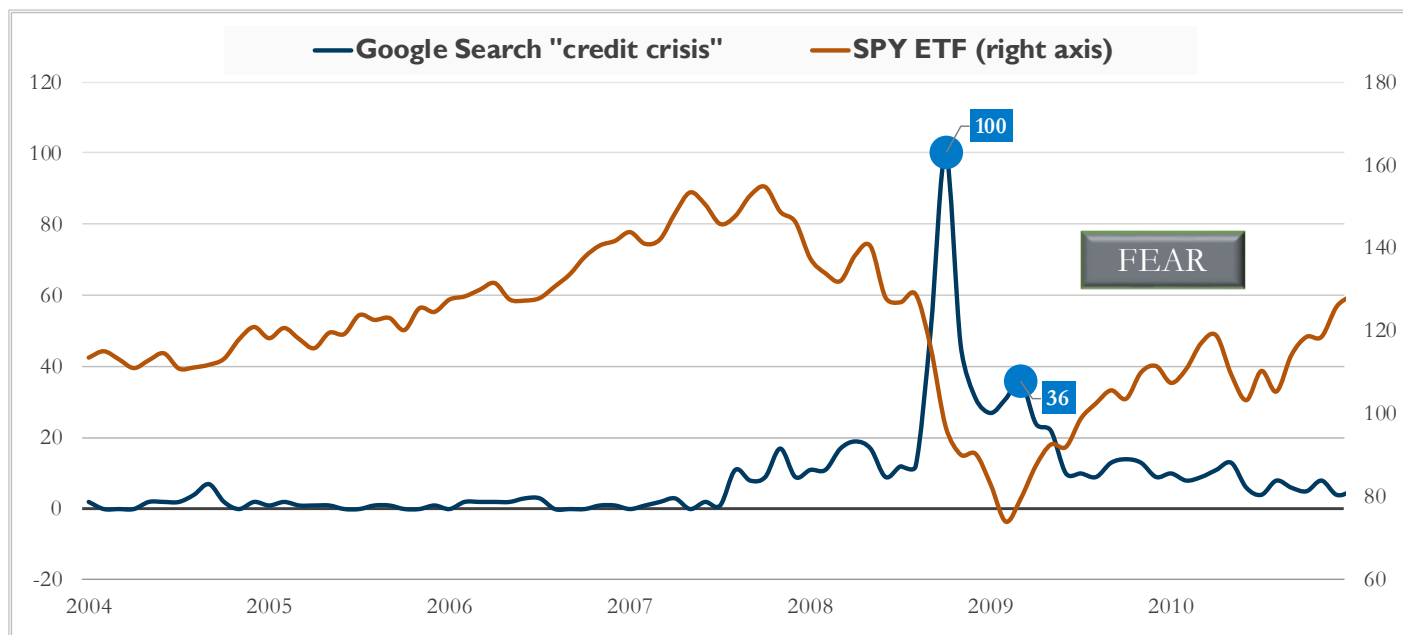
Our conclusion was that inflation was not “transitory” as Fed Chair, Jerome Powell, and his team stated. This key insight turned out to be impactful as we adjusted our portfolio to capture the inflation (and looming rate rises) that was already embedded in the economy. And here is the key: All the CEOs and CFOs knew inflation was hurting their margins – and this gave them the cover to raise prices, ultimately pushing inflation higher. The narrative of inflation in early 2021 played out over 18 months through 2022.

The analysis of data in the Quid neural network goes beyond looking at clusters. The words that are used in the articles, earnings releases, and Fed statements are all important. This deep level of understanding gives us a sense of the narrative and allows us to capitalize on subtle changes that may impact market behavior. Remember, don’t play the cards, play the people! We are looking for behaviors that are disconnected from the fundamentals to determine if there is an opportunity for alpha.

Quid is not the only tool in our belt when it comes to narrative analysis. We can also simplify the process of capturing sentiment by looking at Google Trends⁷ - the equivalent of a cabbie or local golf enthusiast giving you his best stock idea. This tool can lead down multiple rabbit holes and interpretation of the data is ultimately dependent upon the end user. Nonetheless, it can provide a more reliable measure of extremes in sentiment - both fear and greed.

In Exhibit 5 (page 6), we graph two instances of extremes where greed (peaks) or fear (troughs) gripped market participants. The first was during the credit crisis. As Exhibit 5 illustrates, the search for the phrase “credit crisis” peaked in late 2008, roughly a couple of months before the market capitulated on March 6th, 2009.

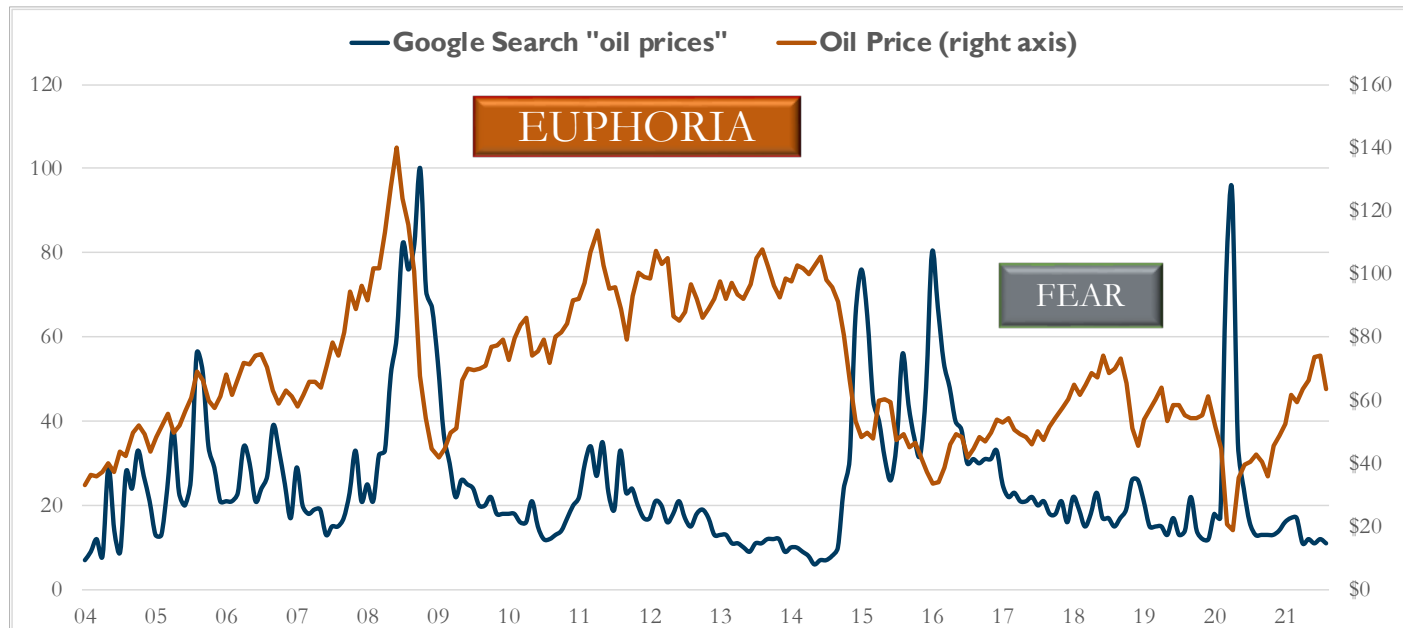
⁷Google Trends measures “search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term.”

Exhibit 5: Google Search “credit crisis” vs SPY ETF Price

In Exhibit 6 we illustrate both extremes of greed and fear over a 15 year time frame as it pertained to the oil markets. In the mid-2000s, the “peak oil” theory combined with the growth coming from emerging economies (predominantly the BRICs – Brazil, Russia, India and China) drove oil prices to \$150. A decade later the globe was filled with a glut of supply as new fracking technology and higher oil prices spurred the finding and development of new wells.

Oil prices fell precipitously in 2016 from averaging a \$100 to close to \$30. The government mandated shutdowns during COVID drove prices down even further. In all three instances, the level of search interest on Google for the term “oil prices” spiked and indicated that the oil markets had reach extreme levels.

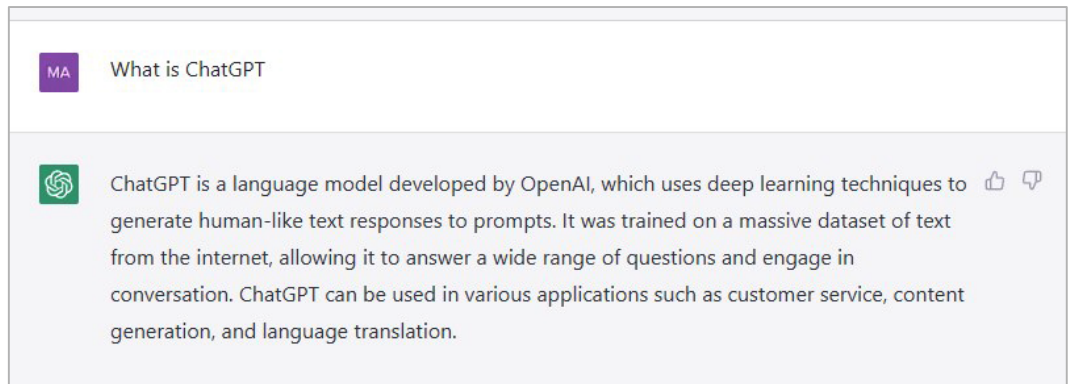
Note: Oil priced in dollars per barrel

Exhibit 6: Google Search “oil prices” vs Price of a Barrel of Oil

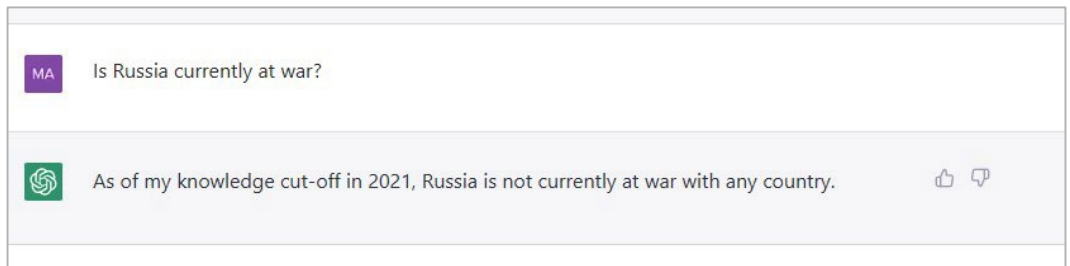
Source (both Exhibits):
Google Trends, Foundry Partners LLC

Google Trends and other similar applications that attempt to gauge sentiment are valuable tools when used appropriately. They can also lead to wrong conclusions if used as a standalone barometer of markets. Like any tool in our tool belt, we utilize Google Trends to augment our fundamental work – not as a substitute.

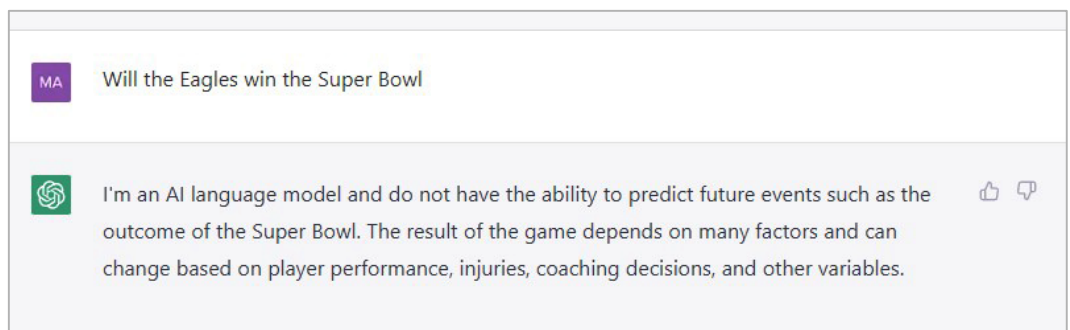
Which leads us to ChatGPT. Developed by OpenAI, the fourth version of this elegant, yet simple, artificial intelligent chatbot was released free to the public late last year. What is it exactly? We will let ChatGPT answer that:



The ability for ChatGPT to develop human like responses is quite powerful. The data it was trained upon extends to the end of 2021, so it is not abreast of any current events, such as:



Nor can it predict the future (not yet, at least – As of Jan. 31, 2023).



Nonetheless, the ability for it to help users edit and craft the written word in a matter of seconds is remarkable. In fact, the first two paragraphs of this report were re-written by ChatGPT. Technology such as this along with video editing tools (such as deep fakes) will no doubt have implications in future narratives and something that will require more vigilance by market participants.

The art of storytelling has been the foundation of civilization since the earliest days of human communication. Stories bridge cultural divides, spanning time and distance, and have the power to both entertain and educate. From captivating children to driving technological advancements, storytelling has played a pivotal role in shaping our world. ~~Stories or rather the art of storytelling have been the bedrock of civilization ever since humans developed the ability to communicate. Stories connect cultures through time and geographical space, they have the magic to entertain and distract (especially children) and they have driven the advancement of new technology throughout the ages.~~

Stories are constructed on the basis of actualities or at least the illusion of truth. As stock selectors, our investment decisions are partly influenced by fundamental data - even though it may be flawed, it still stems from the belief that it is credible. However, when communicating these stock prospects, we tend to present them as a narrative, thereby indistinctly merging the lines between hard data and the story we create. ~~All stories are built upon the foundation of some form of truth or at least the perception of a truth. As stock pickers our investments are based partially on fundamental data (the data might be inaccurate, but nonetheless it is rooted in a belief that the data is accurate) but when communicated these stock ideas are shared in the form of a story, blurring the lines between data and what we call narrative.~~

The tales we share with one another play a crucial role in our daily existence and lie at the heart of human nature. Stories serve as a powerful tool of communication, enabling us to convey ideas, provide guidance, reflect on past experiences, bring joy, provide a respite, and offer solace. Before a child goes to bed at night, they enjoy hearing a captivating story, one that sparks their imagination and transports them to a world of fantasy.

However, the real challenge lies not in the story itself, but in the power of humans to transform these tales into influential narratives that shape behavior and trigger market disruptions. Like the reporter said to Jimmy Stewart in the 1962 western *The Man Who Shot Liberty Valance* – “when the legend becomes fact, print the legend”⁸.

As portfolio managers, our role is to navigate these pitfalls and identify investment opportunities (or potential risks) based on our rigorous analysis process.

In our last piece entitled “Is Quality Back ‘En Vogue’” we opened with the changing investment landscape (higher inflation / interest rates) and compared this current period with the changes occurring at the start of the 1970s:

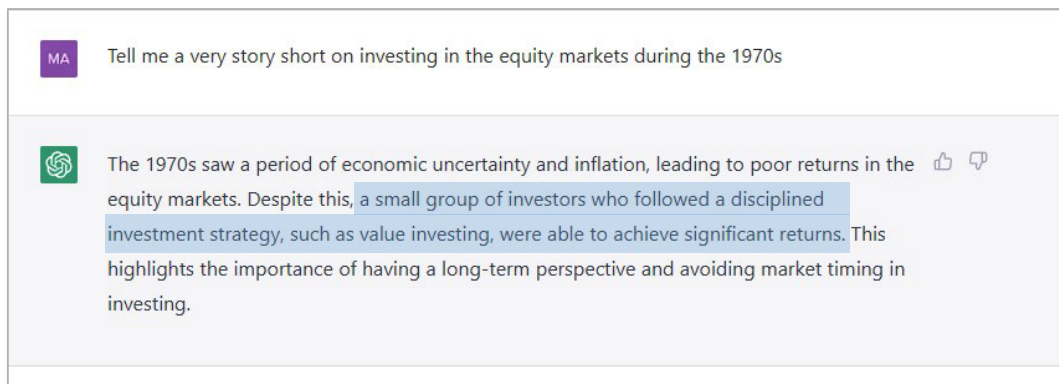
Much like then as today, we find ourselves at a turning point in the economic environment after more than a decade of expansion (albeit below trend) that is affecting markets and geopolitics on a global scale. This shift in landscape is also impacting investment behavior and the factors driving performance.

⁸Jimmy Stewart plays a rising politician in the early 1900s who is set to be nominated for Vice President. After attending the funeral of a poor rancher that he decides to tell a room full of reporters the truth with regards to an incident that occurred in the western front that marked his claim to fame several decades before.

We concluded with the following based upon this new investing landscape:

We are now in the initial stages of an investing environment where both value and quality will matter, particularly coming out of a euphoric period like the one just ended.

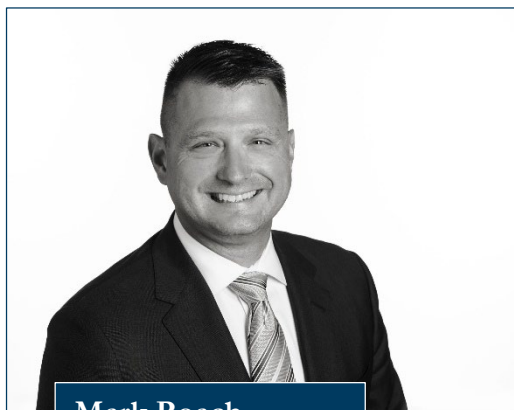
With this in mind, we would like to conclude this thought piece by sharing a final, brief story generated by ChatGPT, depicting what it was like to invest in the 1970s. Maybe ChatGPT is on to something!



To summarize the end of our story:

1. The narrative is the art of storytelling and has the potential to influence market behavior. We can capture this intangible phenomenon by using Natural Language Processing software that analyzes the language underlying the vast amount of digital data.
2. Understanding the narrative is part science and part art. The science is the grouping of words and sentences into common themes and visualizing the sentiment of those themes. The art is understanding how the market players will react to those themes. Other tools like trend analyzers can augment this analysis by capturing inflection points at extremes.
3. The art of storytelling is evolving, with new technologies like ChatGPT and deep fakes blurring the lines even more between reality and imagination. It is imperative to have a process to navigate these waters.

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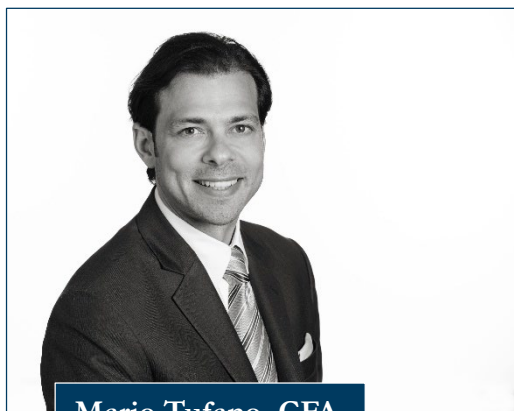
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Mark Roach is the Lead Portfolio Manager on the Fundamental Small Cap Value team for Foundry Partners. Mark started in the industry in 1995 and has been with Foundry Partners since the company's transaction with Dreman Value Management (DVM) in June of 2016. He was with DVM from late 2006-June 20, 2016 in a similar capacity. Prior to joining DVM, Mr. Roach was a Portfolio Manager at Vaughan Nelson Investment Management, managing a small cap product from 2002 through 2006. Mr. Roach has significant experience in working with institutions, pensions and endowments and is well known in the consulting and high net worth community. Mr. Roach served as a security analyst from 1994 to 2001 for various institutions including Fifth Third Bank, Lynch, Jones & Ryan and USAA.

Mr. Roach graduated from Baldwin Wallace College with a B.A. in Business, and earned a MBA from the University of Chicago's Booth School of Business. In addition, Mr. Roach is a former board member on the Rice University Wright Fund.



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Mario Tufano is a Portfolio Manager on the Fundamental Small Cap Value team for Foundry Partners. Mario started in the industry in 2002 and has been with Foundry Partners since the company's transaction with Dreman Value Management (DVM) in June of 2016. He joined DVM in 2007 as a Senior Securities Analyst and was promoted to Associate Portfolio Manager in 2010. He is responsible for research of new investment ideas as well as current portfolio holdings for the firm's Small and Mid Cap Value products. Prior to joining the firm, he was an Associate Director and Equity Analyst at UBS Investment Bank covering the Consumer Staples and Discretionary sectors.

Mr. Tufano graduated from Pennsylvania State University with a B.S. in Finance. He is a CFA charterholder and is a member of the New York Society of Security Analysts (NYSSA).

About Foundry Partners:

Foundry Partners, LLC, is a boutique asset management company that specializes in active management. Established in September of 2012, the company officially began managing assets in February 2013. The firm originated after its founders, former Fifth Third Asset Management Employees, acquired the growth and value products/assets from Fifth Third Asset Management, Inc. As part of Foundry's long term plan to grow both organically and strategic acquisition, Foundry Partners added to its Cleveland office with the acquisition of the Small and Mid-Cap Value team (and assets) from Dreman Value Management. This was followed by acquiring growth manager, Arbor Capital Management in Minneapolis. As part of each transaction, the accompanying portfolio management teams transitioned over to Foundry Partners.

The firm was formed out of a desire to create a unique and independent atmosphere. With an average of over 25 years of investment experience per manager, our autonomous investment teams are able to offer a diverse product set while bringing the stability and confidence needed to navigate a variety of market environments.

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