The Beige Book

One of our favorite research resources is the S&P 500 Beige Book published quarterly by Goldman Sachs (GS). We like this publication because it provides a concise overview of the key issues facing company management in the S&P 500. Each quarter the research team at GS summarizes the key themes being discussed on company conference calls. Here are the top three themes being discussed this quarter:

1. **Artificial Intelligence (AI):** 41% of companies have mentioned AI on their conference calls, compared to only 23% a year ago. Most of the discussions revolve around investments being made, and how to monetize products and services and improve productivity. This should only grow in the quarters and years ahead.
2. **The Consumer**: the health of the 'consumer' is a major topic of conversation. In general, consumers remain in a healthy situation and spending has held up well. However, they are starting to see signs of consumers trading down to lower-priced goods, often a precursor to lower overall spending. The U.S. is a consumer-led economy so watching for changes in confidence and spending can give clues to the health of the economy. For now, the consumer remains in a relatively healthy position, however, warning signs are starting to show and are worth monitoring.
3. **Expense Management:** given higher input costs (inflation) in the past few years, corporations have become a lot more focused on controlling costs as a way to preserve their profit margins. In past years, companies were more focused on their ability to raise prices (pricing power), now the emphasis has changed to controlling costs. With profit margins at all-time highs, it is crucial for companies to keep costs down to maintain elevated profit margins.

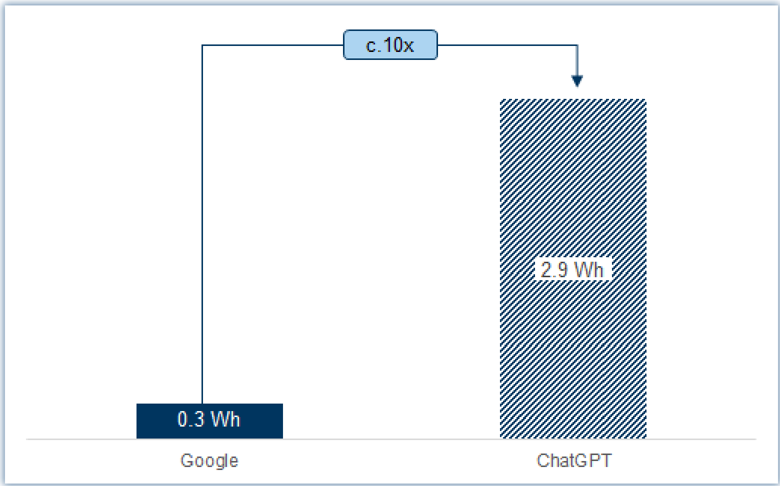
The three main themes being discussed indicate AI may be a secular driver of growth and that consumers and margins are still healthy. However, we are starting to see some shifts in the tone of management regarding both consumers and margins that are worth keeping an eye on. With stock market valuations elevated and profit margins at all-time highs, the market will need these themes and others to continue performing.

The Impact of Artificial Intelligence (AI) on Electricity Demand

At a recent conference, Elon Musk made the claim that rising demand for power-hungry AI chips could soon lead to an electricity shortage. "Next year, you will see that they just can't find enough electricity to run all the chips," the Tesla CEO said. His statement is somewhat hyperbolic, however, there is growing evidence to support his claim that AI requires a huge amount of energy and will only continue to grow. The chart below shows how a simple query on ChatGPT requires 6 to 10 times as much power (electricity) to generate an answer as a query on Google does! This ratio should gradually improve but given the potentially exponential growth of AI, this will be a big challenge for our current electricity producers and the electrical grid.

Exhibit 11 : ChatGPT queries are 6x-10x as power intensive as traditional Google searches

Power consumption per query/search (Wh)

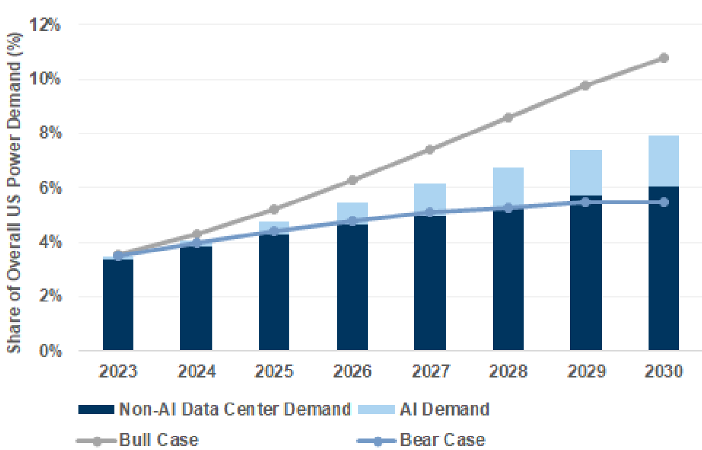


Source: Google, SemiAnalysis

The next chart shows how rapidly data centers (computer and server farms) are growing to meet the demand for AI. It is expected that data centers may account for 8% or more of all electricity demand in the U.S. by 2030.

Exhibit 20 : We expect data centers to comprise ~8% of US power demand by 2030 in our base case, with potential for 11% in our bull case and 5% in our bear case

Data center demand as a share of total US power demand, %



Source: IEA, Goldman Sachs Global Investment Research, EIA

Electricity demand is expected to grow at its fastest rate in decades and will require significant capital investment in infrastructure to meet growing electric generation, distribution, and storage needs. Given the size of the investment needed to meet growing demand, the electrical infrastructure and utility sectors may not be as 'sleepy' as they have traditionally been.

The Grandfather of Behavioral Economics

Daniel Kahneman who was regarded as the founder of behavioral economics recently passed away at the age of 90. He is best known for authoring the 2011 book, "Thinking, Fast, and Slow", however, his efforts in the field of behavioral economics date back to the 1970s and earned him a Nobel prize in 2002. His work focused on understanding the mental biases of people and how they could warp their judgment and lead to poor decision-making. The applications of his work to the investment industry are vast and have had a big influence on our careers, his teachings have no doubt helped us become better investors. One of the most important concepts he developed is loss aversion. This basically asks the question, why do investors receive about twice as much hurt from a loss of $100 as the gaining of $100 brings pleasure? The implication is that investors who are short-term focused, checking their portfolio daily, often become too cautious in their long-term investment strategy in an attempt to avoid the pain of more short-term losses. We have all known investors who suffered a loss, and fear of more losses kept them from investing for the long term. The best recent examples are the Great Financial Crisis of 2007-08 and Covid in 2020, investors that panicked and sold at the bottom of these market sell-offs often failed to get back into the stock market, locking in their losses and failing to participate in the great recoveries that occurred. Kahneman's work has certainly helped us understand and avoid some of the most common errors in judgment investors make.

The summary of Daniel Kahneman's work may be best described in his own words, below are some of his direct quotes:

1. My main work has concerned judgment and decision-making. But I never felt I was studying the stupidity of mankind in the third person. I always felt I was studying my own mistakes.

2. Many people now say they knew a financial crisis was coming, but they didn't really. After a crisis, we tell ourselves we understand why it happened and maintain the illusion that the world is understandable. In fact, we should accept the world is incomprehensible much of the time.

3. Economists have a mystique among social scientists because they know mathematics. They are quite good at explaining what has happened after it has happened, but rarely before.

4. Confidence is not a very good indicator of accuracy.

5. A reliable way of making people believe in falsehoods is frequent repetition because familiarity is not easily distinguished from truth.

Please let us know if you have any questions about this commentary or would like to review your investment strategy.

Steve Giacobbe, CFA, CFP®