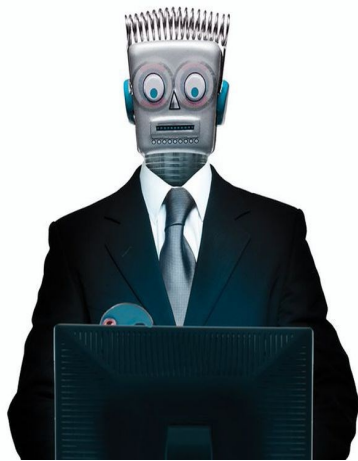


ASK OPENAI (CHATGPT)



There has been a lot of hype regarding Artificial Intelligence (AI) over the last few months. While some are concerned about the potential long-term consequences (e.g. the computers taking over the world), others see AI as a tool to solve difficult problems. Supporters of AI see opportunities ranging anywhere from efficiently handling monotonous tasks to helping find cures for disease or solutions to global warming. Of course, students have figured out it can even help them write their term papers.

We thought that it would be an interesting exercise to have AI help write this newsletter. Given the robust debate surrounding the current condition of our domestic economy and financial markets, We asked OpenAI (ChatGPT) what it thinks about a number of economic data points and how they are collectively related to a potential U.S. recession. As many of you know, one of our largest holdings and one of the companies in the center of AI (Artificial Intelligence) is Nvidia. The company's chips power a good portion of today's AI initiatives and are one of the foremost drivers behind sources like ChatGPT.

Before taking the next step however, we thought it important to start with a definition of OpenAI or ChatGPT. OpenAI is the company that created ChatGPT. ChatGPT is an artificial intelligence computer program that can answer questions, either simple or complex. As such, we presented ChatGPT with a question (shown below) comprised of the following economic data in order to see the response it generated.

Data Points:

- Core domestic inflation, although declining, is still a concern.
- Total government debt continues to climb reaching roughly \$32 trillion.
- The country is currently experiencing marginal real wage growth (Real wage growth is “net” of inflation). According to The Conference Board, GDP growth is expected to be 1% in 2023, slowing to 0% in 2024.
- The U.S. Treasury yield curve is currently inverted (e.g. long-term rates lower than short-term rates), suggesting slower growth ahead.

Question – What are the chances of a recession given a higher rate of inflation, a high level of debt, minimal real wage growth and an inverted yield curve?

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Answer – The combination of a higher rate of inflation, a high level of debt, minimal real wage growth, 1% GDP growth, and an inverted yield curve suggests a potentially weak economic environment that could increase the chances of a recession. However, accurately quantifying the probability of a recession requires a comprehensive analysis and consideration of other factors as well.

Here are some points to consider:

1. **Inflation:** Higher inflation can lead to reduced consumer purchasing power and increased costs for businesses. It can dampen consumer spending and investment, which can weigh on economic growth and potentially contribute to a recession.
2. **Debt levels:** A high level of debt, whether it's government, corporate, or household debt, can create vulnerabilities in an economy. If debt becomes unsustainable or if there are difficulties in servicing the debt, it can lead to financial instability and potentially trigger a recession.
3. **Real wage growth:** Minimal real wage growth means that workers' incomes are not increasing much after accounting for inflation. This can limit consumer spending, which is a major driver of economic growth. Stagnant or declining real wages can create challenges for households and impact overall economic activity.
4. **GDP growth:** A low GDP growth rate of 1% indicates a sluggish economy. Slow economic growth can be indicative of weakened business activity, reduced investment, and subdued consumer spending, all of which can contribute to a higher likelihood of a recession.
5. **Inverted yield curve:** An inverted yield curve, where longer-term interest rates are lower than shorter-term interest rates, has historically been associated with economic downturns. It suggests that investors have a pessimistic outlook on the future, potentially indicating weaker economic growth and lower inflation.

ECONOMIC DATA?
NAH, I JUST
TRUST MY
GUT.



THAT EXPLAINS
THE DIARRHEA.



While these factors can be warning signs, it's important to note that economic conditions are complex and interrelated. Other factors such as global economic trends, monetary policy decisions, fiscal policies, geopolitical events, and overall market sentiment also influence the likelihood of a recession.

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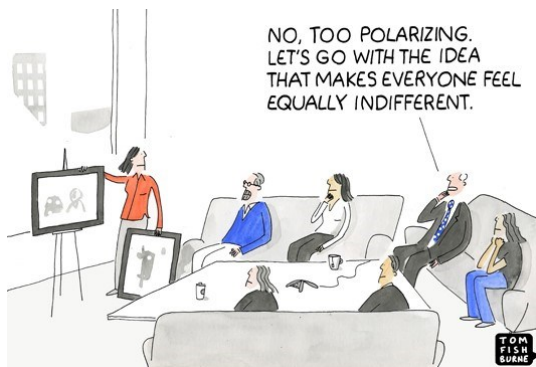
To assess the chances of a recession, economists and policymakers conduct detailed analysis, considering a wide range of indicators and economic variables. However, accurately predicting recessions remains challenging, and the likelihood of a recession depends on the specific circumstances and the interplay of various factors.

Consulting with professional economists, financial analysts, and reputable sources of economic analysis can provide a more informed perspective on the current economic situation and the potential risks of a recession.

As you can see from the AI written article above, it is amazing what it can do. That said, it is important to understand that its output is solely dependent upon the 'human' inputs it has been given. It also highlights the importance of human interaction, interpretation and decision-making.

Just as the AI article suggest, current economic indicators have often been a sign of an approaching slow down in the economy. We continue to have discussions internally regarding this and other economic data we read. Longer-term, the market is seeing AI as a driver of future economic growth over the coming decade. Whether the economy sinks into recession or avoids one, AI does offer promise in the longer-term just as the internet drove significant economic growth and opportunities in stocks that were best able to take advantage of this technology.

The Polarized Market



While the market, as measured by the indexes has done well, it really has been a have/have-not market. Stocks associated with AI have done really well with large gains in NVIDIA, Microsoft, and Meta. Meanwhile most stocks have not done so well until very recently. This lack of breadth has been concerning as only a handful of stocks have been the driver of the overall market and are now relatively expensive. Meanwhile, some sectors are down for the year and look relatively cheap if we can avoid a recession.

Bank stocks have been especially hit hard this year. Many commercial banks had positioned their bond portfolios based on the direction of monetary policy given by the Fed in 2021. At the time, The Fed indicated that they would not be increasing rates consistently until 2024. Instead, they decided to raise short-term rates by 525 basis point in a relatively short period of time. This put undo pres-

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sure on many of the commercial banks to make a difficult choice, to either match the rates that their customers could get in short-term Treasuries or to lose deposits en masse. Either way, bank stocks lost significant value over the past few months. It may be true that these stocks are currently undervalued and represent good investment opportunities at this time. However, the Fed has indicated that there will be additional rate increases and if a recession does hit, there could be an increase in loan defaults putting further pressure on bank earnings.

Whatever happens in the short-run, the banks that take advantage of AI to improve bank processes and evaluating risks in making loans may benefit over the long-term.

Given the diversified nature of our clients' portfolios, we may have sectors that temporarily underperform. Our focus is long-term oriented however. Our intent is to buy and hold quality securities in order to help our clients achieve their goals and objectives.



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GSI TENETS

GS INVESTMENTS

GS Investments, Inc. is an investment management company specializing in individual and institutional asset management. Privately owned and operated, GS Investments, Inc. is run by its owners, Glenn H. Steinke, C.F.A., John G. Steinke, M.B.A. and Greg Cunningham.

GLENN STEINKE, CFA brings over 50 years of investment management experience to the business. Previous capacities include Vice President and Senior Investment Officer with a major pension fund (\$1.8 billion under management) and Senior Vice President with a major Minneapolis-based financial institution (\$3 billion under management). Glenn is a graduate of the University of Minnesota.

JOHN STEINKE MBA offers a broad financial services background with 29 years of portfolio management experience and 7 years of banking experience including capacities as a Vice President of a \$50 million bank and as a private banking office for a large, Minneapolis-based financial institution. John received his BA from Concordia College (Moorhead) and his MBA from the University of Minnesota.

GREG CUNNINGHAM Prior to joining GS Investments, Greg spent 18 years at Minneapolis-based Ameriprise Financial, a national leader in financial planning with over 2 million retail clients and \$300 billion in assets. Here he worked with the Chief Investment Officer in support of the international and domestic hedge funds and with the President and General Manager of RiverSource mutual funds. Greg is a graduate of Gustavus Adolphus College in St. Peter, MN.

SHERI RITCHIE brings over 30 years of financial services experience to the business. Previous capacities include client service and support positions with Dean Witter and Kemper brokerage firms and a Minneapolis-based investment management firm. Sheri is a graduate of the University of St. Thomas.

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GS Investments, Inc. utilizes a balanced approach for the majority of its accounts although each account is tailored to the individual needs of each client. Taxable or tax-exempt bonds are used along with a common stock component. The division between bonds and stocks is determined by the personal objectives of each client. A need for income and a willingness to assume risk are also determinants of an account's bond/stock mix.

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