BLAIR
CAPITAL MANAGEMENT

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Third Quarter 2024 Analysis

Large cap growth stocks continued to propel the equity markets higher during the second quarter. The market's breadth, or how broad the advance has been, remains quite narrow as the broader market averages see mediocre gains. Bond market returns are flat to down on the year, even with elevated interest rates compared to recent years.

Amidst the frenzy regarding artificial intelligence, there is a derivative that is little discussed and that is the enormous increase in electricity demand resulting from the expansion of data centers required to support AI. The International Energy Agency (IEA) projects global electricity demand to increase by nearly 25% by 2040, largely driven by data centers. It goes on to say that data center electricity requirements are projected to rise from 1% of total electricity demand to 8% by 2030.

Goldman Sachs says AI is likely to drive a 160% increase in data center power demand by 2030. Bank of America says power consumption by U.S. data centers will double in the next 3-5 years. The CEO of Amazon, Andy Jassy, says "there is not enough energy right now" to power the new generation of servers. Domestic electricity demand has been essentially flat

for the past 15 years, but electric utilities are facing the largest jump in demand in a generation. In addition to data centers to run AI computing, America's electric grid is being strained by new factories and the electrification of everything from AI, to EVs, to onshoring of our manufacturing base.

The government is providing roughly $2 trillion of stimulus spending to bring overseas manufacturing back to the U.S. There are massive investments in domestic manufacturing plants, computers, electronics and electrical power transmission. This is part of the largest infrastructure investment program in U.S. history and most of the money will be spent over the next decade. The U.S. power grid is on the verge of the biggest overhaul in a generation. The Department of Energy is providing stimulus money to invest in 58 properties across 44 states, all dedicated to beefing up America's electric grid. Nearly 70% of U.S. power transmission infrastructure is over 25 years old.

Amazon confirmed in January that it will spend $10 billion to build a massive data center facility in Mississippi while Microsoft will spend $10 billion on new data centers in 2024 and 2025 in collaboration with OpenAI. Large language models, LLMs, get 'smarter' with computational horsepower, so the demand seems almost unlimited. The IEA concludes that the average ChatGPT AI inquiry consumes nearly 10x the energy as a typical Google search request.

All this presents a problem for energy production as overall energy demand is increasing. According to the U.S. Energy Information Administration, EIA, for 2023, about 60% of domestic electricity generation was from fossil fuels- natural gas, coal, petroleum, and other gases. About 19% was from nuclear energy and around 21% was from renewable energy sources.

Where is the additional energy going to come from to meet this unprecedented increase in demand? Any increase in coal facilities will not be sanctioned. Wind and solar are unable to bridge the gap. Nuclear power can be a critical source of increased power generation but requires longer lead times. Natural gas is the only immediate option, and the U.S. happens to be by far the largest producer of natural gas in the world, representing nearly a quarter of global natural gas production. Due to increased levels of production as well as mild winters, the price of natural gas is at 30+ year lows, around $2.50MM/btu, per million British thermal units. However, the equivalent prices for natural gas in Asia are around $12.00/MMBtu, and around $10.50/MMBtu in Europe. We have an abundant source of domestic energy at the

lowest price in the world. Natural gas is much cleaner than coal and more dependable than wind or solar. China and India have plans to more than double their share of natural gas in their energy mix by 2030. Natural gas seems primed to be the primary beneficiary for years to come. While the cleanest burning fossil fuel, natural gas still emits carbon dioxide when burned. Natural gas is the cleanest burning fossil fuel to bridge the gap to a carbon emission free future. But for a zero-carbon future nuclear energy is the only energy source that is both carbon free and 100% reliable, capable of gigawatt scale production 24/7/365.

Although the equity market rally remains quite concentrated, I am not seeing signs of euphoria or signs of a market top. Investors are looking for more safety, not more risk. They are buying more bonds than stocks and cash levels are the highest in history. This is not what we see at market tops. According to the Investment Company Institute, ICI, so far this year, investors put $20.5 billion into U.S. stock mutual funds, but $207 billion into bond mutual funds and ETFs. More money has gone into bond funds each month this year than into stock funds. This may seem logical as bonds are offering higher yields than in recent years, but the returns from bond funds have been poor for three years as increases in interest rates hurt bond prices and overall returns. If investors were overly optimistic about equities, they would not be buying more bonds than equities and increasing cash balances. Investors remain cautious. Eventually, these high levels of cash and bonds will fall, and investors will throw caution to the wind and chase higher returns, equities, leading to the final stages of the boom. We are not there yet. Election years are generally good for equity markets as there have only been two negative yearly returns since 1940.

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Third Quarter 2024 Analysis Disclosures