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Market Update – *Higher for Longer*

by David A. Jaffe, M.D.

One could fairly conclude that investors are never satisfied. Or, perhaps offering more insight, that the optimists (bulls) and the pessimists (bears) can look at the same information and reach widely differing conclusions which buffet market sentiment and direction. Today's setting is fairly simple: the Federal Reserve is currently engaged in an aggressive campaign to fight inflationary pressures that led to a peak year-over-year consumer price rise of 9.1% in June of 2022. The Fed's medicine for what ails the economy in this instance is to limit liquidity, making money expensive (high interest rates) and reversing years of accommodation dubbed Quantitative Easing initiated to temper the Great Recession of 2008.

The ideal outcome is achievement of a "soft landing", slowing the economy and taming inflation but ending short of precipitating a recession. Bulls and bears alike agree it's an elusive goal. It's also agreed that the economy has remained remarkably strong despite the Fed's efforts. Here is where the bulls and bears diverge. The scenario widely held by the bulls has been modest economic slowing (and it has been very modest), easing inflation (the trends confirm this), and a short and shallow recession if one occurs. The expectation for significant economic contraction has also led to a critical expectation: the Fed will begin to lower interest rates by Summer 2024.

The bears echo pronouncements by the Fed that it is going to do "whatever it takes" to get inflation under control quickly and decisively, and that a recession is nearly inevitable. Further, the Fed will keep interest rates at their current "high" levels for longer than many expect (high being an admittedly relative judgement).

As we ended the third quarter of 2023, the bear argument clearly prevailed. The Fed communicated to the investment public its intent to keep interest rates at current levels at least through 2024, leading to a surge in yields on fixed income vehicles including Treasury bonds and money market funds. Virtually risk-free returns approximating 5% present conservative investors with a compelling option to more risky and volatile stock ownership. High interest rates are impacting the economy as expected. One example is the popular fixed 30-year mortgage. Currently costing on average 7.5%, such high interest rates have imposed a drag on the previously robust housing market, with mortgage applications down 27% year-over-year.

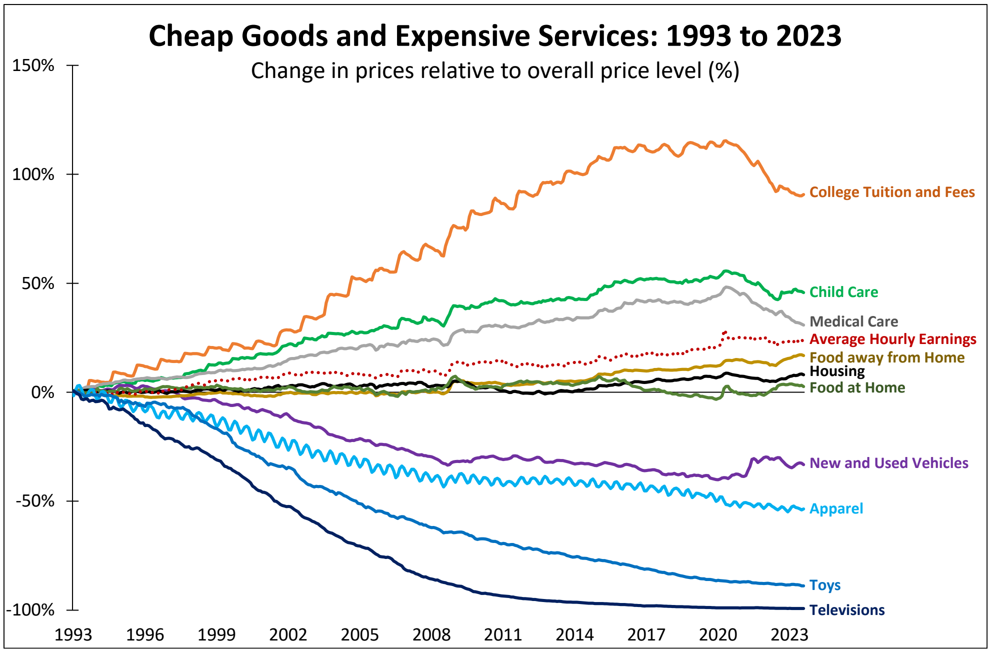
Expectations that the Fed would begin lowering interest rates next summer dropped from almost 90% of money managers earlier this year to approximately 50% today, leading to this market's mantra of "Higher for Longer." Reflecting this sentiment, the yield on the 10-year U.S. Treasury rose from 3.8% at the beginning of the third quarter, to exceed 4.6% in a late quarter surge, the highest level since 2007. The bond market behavior and "Higher for Longer" mindset led to a sell-off in the stock market, leaving the reinvested S&P 500 with a decline of 3.27% for the third quarter. The equal weighted S&P 500, discussed in our recent newsletters, declined 4.90% in the third quarter to reside at a 2023 YTD return of 1.79%, lagging the market-cap weighted S&P 500 (+13.07% YTD) by 11.28%, the widest margin since 1990. In this setting, the PASI composite stock portfolio declined 3.65% in the third quarter but stood up 5.88% for the year.

There is a bright silver lining behind the economic clouds. The underperformance of almost all of the S&P 500 components aside from the very narrow segment of the largely AI-related technology businesses has created opportunities in top quality companies now carrying valuations more reasonable than we have seen in several years. We are currently scouring the stock market landscape for opportunities. The historically wide gap between the market cap weighted S&P 500 and the equal weighted S&P 500 will inevitably close, rewarding those willing to eschew today's momentum and seek tomorrow's leaders.

The Super Bowl Ticket Effect and the Fed Threading the Needle

by Nathan Polackwich, CFA

In 1967 you could buy a ticket to the Super Bowl for $10. In inflation-adjusted terms, that equates to about $93 today. Yet Super Bowl tickets this year averaged an incredible $8,837 and the cheapest tickets went for $3,480. On the other hand, the price of a 20" Zenith color television set in 1967 was $469.95. Inflation adjusted, that's $4,234 today. For $470 you can now walk out of a Walmart with a 65" smart television. In general, over the long term goods prices tend to increase at a lower rate than inflation (while increasing in quality) while services (the Super Bowl is entertainment) have generally seen prices rise much more rapidly.



Source: Bureau of Labor Statistics

A counterintuitive insight is that Super Bowl ticket prices have soared largely *because* the prices of goods like television sets have fallen dramatically in real terms. The reason is what's known as the Baumol Effect.[1] You can separate goods and services into those where labor productivity increases significantly over time like manufactured goods, technology, and agriculture vs. those where it doesn't like haircuts, childcare, and Super Bowls. The industries where labor productivity grows, naturally see rising wages (more productive labor generates more income). These gains, however, also force wages higher in industries where productivity isn't growing. If, for instance, highly productive manufacturing laborers earned ten times as much as those working at a daycare, most daycare workers would quit and seek work in a factory. This forces daycare owners (and the owners of other businesses in less productive industries) to raise their employees' wages to more competitive levels.

Now, in industries with high productivity growth like the production of TVs, there tends to be more modest inflation (and often deflation) despite soaring wages. A worker may earn five times as much as he used to, but he can produce five times as many TVs in an hour at much higher quality.

Conversely, although daycare workers have seen their wages rise in concert with manufacturing employees, their productivity hasn't increased at all – they still care for the same number of children as always. But because their wages have risen so much, the cost of childcare soars. This phenomenon is evident across many areas of the economy from

[1] Originated by the economist William Baumol in 1967.

healthcare to plumbing to legal advice to college tuition. Any industry reliant on human labor where productivity gains are difficult to achieve tends to experience soaring prices.

In addition to the Baumol Effect, Super Bowl ticket prices have also benefited from a rising population. There were 3.5 billion people on the planet in 1967, and today there are 8 billion. But the number of Super Bowls each year remains just one (more than twice as many people chasing the same number of tickets).

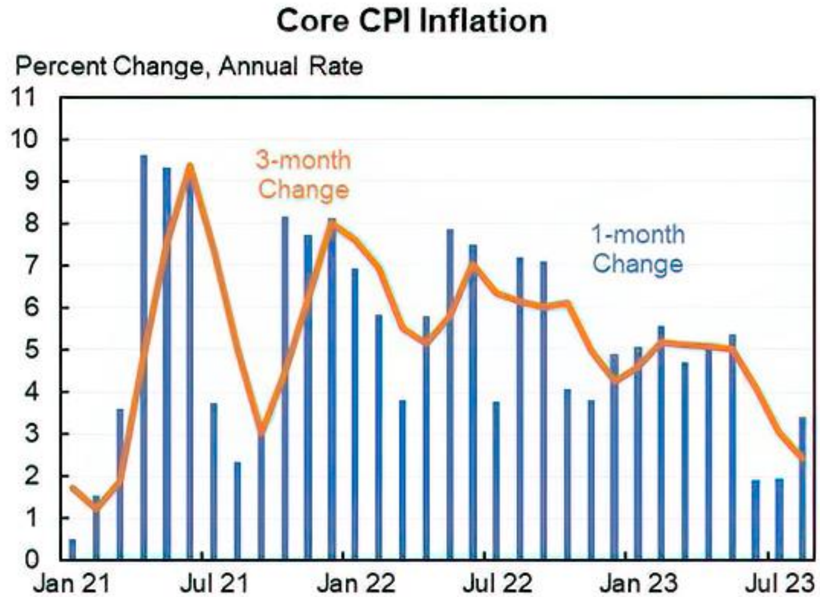
I often think about other places where the Baumol Effect plus a rising population – let's call it the Super Bowl Ticket Effect – might come into play. As the population grows and gets wealthier, for instance, the supply of Picasso paintings stays the same. Back in the 1970s Picassos typically sold for around $1 million and sometimes less. These days, they often go for more than $100 million. By comparison, a dollar in 1975 only had about 5.7x more purchasing power than a dollar today. Even if inflation is relatively modest going forward, it's not inconceivable that Picassos might sell for $10 billion 50 years from now.

Another area where you see the Super Bowl Ticket Effect is prime real estate – these include desirable cities like Austin and Denver or beachfront property in places like Vero Beach. Home prices have skyrocketed in these places, which makes sense when you consider that more people with much greater wealth are largely chasing the same number of properties. The amount of buildable land within a reasonable distance of Austin or close to the beach in Florida doesn't change much over time.

There's a tendency to see assets and industries impacted by the Baumol Effect and think that overall inflation in the U.S. has been much higher than it actually was. Prices certainly rose substantially over the last half century but not nearly as much as you would think if you were just looking at beachfront real estate or Super Bowl tickets. And this was especially true until, unfortunately, COVID arrived on the scene.

Since COVID, inflation has accelerated dramatically even in many industries where you'd expect productivity improvements to keep a lid on prices. For instance, a dozen eggs cost $1.40 in 2019. Since then, the average price has surged to $3.52. The average price of a new car was $37,000 in 2019. Now it's $48,000. Post COVID inflation mostly reflects supply chain disruptions due to the pandemic and sustained strong household demand for goods and services thanks to trillions of dollars in Federal Government stimulus (also in response to the economic disruption caused by the pandemic). In effect, supply was hampered while demand remained robust.

The big question for the Federal Reserve is whether we're now in a new, more inflationary paradigm or if we will soon return to an environment with relatively modest inflation like pre-COVID. The good news is that price increases have already slowed substantially, as the chart below shows.



Source: Bureau of Labor Statistics via Macrobond; author's calculations.

Moreover, the supply chain disruptions caused by COVID have mostly been resolved and the trillions in excess savings amassed by U.S. households thanks to government stimulus have been depleted from $2.1 trillion in 2021 to just $190 billion as of June 2023. With interest rates at 15-year highs further stifling the demand for big-ticket items like homes and autos, my view is that inflationary pressures are likely to continue to abate moving forward.

But even if inflation doesn't decrease markedly going forward, the Fed will find it difficult to sustain interest rates at current levels. Why? Because if rates remain this high, the Federal budget deficit could potentially spiral out of control. The national debt is currently at $33 trillion. Of that roughly $26 trillion is held by the public while the rest is with other parts of the U.S. government like the Social Security Trust fund. From the Fed's perspective, the $26 trillion in publicly held debt is what matters because the government pays interest expense on the debt it issues, and that cash goes directly into the U.S. economy with potentially inflationary consequences.

In 2022, there was about $23 trillion in publicly held U.S. debt (average over the entire year). The mean interest rate on that debt was 2.07%. So, the government spent $476 billion in interest. Right now, publicly held debt is around $26 trillion. Worse, as interest rates have risen and the government has rolled over maturing debt, the average interest rate is all the way up to 2.92%. That equates to about $760 billion in annual interest costs.

From 2023-2025, 30%, 12%, and 9%, respectively, of this $26 trillion in debt will mature. If rates stay where they are, the average interest expense on U.S. Government debt is therefore likely to rise substantially, perhaps to 4% and beyond. We also continue to run significant budget deficits, which are projected to be around $1.5 trillion this year and $1.8 trillion next year.

So let's imagine a scenario where publicly held government debt is $30 trillion with an average interest rate of 4.5%. In that case, the government would be paying out $1.35 trillion in interest expense alone. To put that number into perspective, the U.S. government only collects about $5 trillion a year in tax revenue and spends about $6 trillion *even when we exclude interest costs*. Add in the interest costs and the budget deficit could easily grow to $2.35 trillion and beyond, an amount that simply isn't sustainable in a $27 trillion economy.

Now when I say the U.S. government can't maintain current debt levels with interest rates this high, I don't mean to imply that there's any risk of default. The U.S. government's outstanding debt is issued in a currency – the U.S. dollar – it can print at will. Accordingly, the risk of exploding budget deficits is not default but high inflation.

Thus, we're presented with the paradox of current Federal Reserve policy. Its goal is to prevent inflation by raising interest rates and slowing economic growth. But if it keeps interest rates too high for too long, the Federal Budget deficit will soar ever higher, which itself could be inflationary as the government prints more and more dollars to pay its debts. The Fed really has to thread the needle here. They must contain current inflation but then quickly pivot to cutting interest rates to keep the budget deficit in check.

Regardless of how successful the Fed is, stocks remain one of the best inflation hedges around, as companies' revenue (and typically profits) by definition rise with higher prices. Concerning the prospect of higher rates, the financial strength of PASI stocks is robust with debt to total capital averaging just 6.4% vs. 11.4% for the mean S&P 500 company. Moreover, PASI stocks have almost two times as much cash flow as they have debt maturing over the next few years while the average S&P 500 company has just barely enough.

Thermo Fisher: The Lighthouse in Biotech's Stormy Seas

by Jeremy Goldberg, CFA, CFP®

For centuries, lighthouses have been emblematic of guidance and safety. The first known lighthouse and one of the Seven Wonders of the Ancient World, the Pharos of Alexandria, was constructed in the 3rd century BC. Towering at an estimated height of 328 feet, it was a marvel of engineering and served as a beacon for sailors navigating the treacherous waters of the Mediterranean. Its flame, amplified by polished bronze mirrors, could be seen from miles away, guiding ships safely to the bustling port of Alexandria. Just as the Pharos stood as a testament to human ingenuity and the desire to safeguard lives, Thermo Fisher Scientific (TMO) shines brightly in the often stormy and unpredictable seas of the biotech industry. To truly appreciate this modern-day lighthouse, we journey back to its foundation: Thermo Electron and Fisher Scientific.

Founded in 1956, Thermo Electron revolutionized the analytical instruments sector with innovations in environmental monitoring and mass spectrometry, playing a key role in modern drug discovery and air quality monitoring. Precision medicine and targeted drug therapies would not be possible today without Thermo’s high-resolution mass spectrometers. Fisher Scientific, established in 1902, evolved from selling medical kits to leading the laboratory supplies industry. Their standardized chemical reagents and advanced electron microscopes are instrumental in today’s research, enabling breakthroughs in areas like nanotechnology and molecular biology. For instance, their electron microscopes have allowed scientists to observe viruses at a molecular level, aiding in the development of specific antiviral treatments. Both companies, with their distinct contributions, have profoundly shaped the landscape of today’s advanced scientific research.

Decades of complementary products and services led Thermo to acquire Fisher in May 2006. The merger combined Fisher's century-long legacy in scientific solutions with Thermo's leadership in analytical instrumentation and created the only provider of integrated, end-to-end technical solutions. Their combined capabilities promised to address the broader life science industry's challenges, from accelerating drug discovery to helping clients navigate the complex regulatory landscape of bringing new drugs to market. Financially, the merger was projected to generate 20% compound annual growth in earnings per share (EPS), $200 million in synergies over three years, and over $1 billion in combined cash flow.

Nearly two decades later, the strategic rationale for this merger remains clear, and it underpins our thesis on TMO.

The biotech industry is characterized by its speculative nature, with many companies perennially in the red, all the while hoping for a revolutionary breakthrough. In stark contrast, TMO has been profitable since its inception. Notably, beyond the remarkable EPS growth *exceeding* 20% in the initial years post-merger, the company has maintained an annualized EPS growth of nearly 17% since 2006. Looking forward, the company is expected to generate $8 billion of free cash flow in the coming year!

While TMO doesn't operate as a traditional biotech company – it doesn't develop drugs or therapies – the biotech industry heavily depends on TMO's instruments, reagents, and services for research and development (R&D). As biotech firms thrive, TMO reaps the benefits. And although its stock price may occasionally mirror the fluctuations of its biotech counterparts, TMO’s fundamental strengths remain unshaken. This year, traditional biotech companies are facing billions of dollars of revenue risk from Medicare drug-price negotiation provisions in the Inflation Reduction Act. Further, rising interest rates, setbacks in drug developments, and a shift towards more defensive companies are weighing on the industry. As of 9/30/2023 and including reinvested dividends, the broader Biotech sector has declined by 58% from its all-time high, while TMO's stock is 24% off its all-time high.[2] We believe such a drawdown presents an excellent long-term opportunity.

TMO makes money by selling lab equipment, supplies, and services utilized by pharmaceutical firms and academic institutions for drug research and production. It operates in diverse industries such as genomics, proteomics, cell biology, drug discovery, and clinical diagnostics. The company supports clients during the entire R&D process, from the initial research to manufacturing and through quality control. With 55% of sales from North America, 24% from Europe, 18% from Asia Pacific, and the remainder from the rest of the world, TMO's revenues are globally diversified. Impressively, 80% of total revenues are recurring (regular and predictable, much like a subscription service)!

TMO operates across four primary segments. **Life Sciences**, contributing over half of the company's total profits, offers a broad range of products used for medical research, drug development, and disease detection. This segment dwarfs its competitors: revenue is nearly equal to the next three largest life science suppliers combined, its products reach nearly twice as many customers, and its salesforce in this segment is four times its largest peer.[3] **Lab Products and Services**, accounting for about a quarter of total profits, provides general laboratory equipment and consumables, as well as outsourced support for biopharmaceutical companies. A recent development in this segment is TMO's contract with Novo Nordisk to fill the injection pens for Wegovy, their weight-loss preparation of semaglutide.[4] Growth in this segment has been notably fueled by the acquisition of PPD in 2021, a clinical trials outsourcer. **Analytical Instruments**, making up 14% of profits, includes tools for substance analysis and powerful electron microscopes. This segment has seen consistent growth, especially in chromatography, mass spectrometry, and electron microscopy. Lastly, **Specialty Diagnostics**, with 9% of profits, offers a diverse range of tools and services, from clinical assessments to organ transplant diagnostics. The segment has reported steady growth, driven by the Healthcare Market, Clinical Diagnostics, and ImmunoDiagnostics.

The company's persistent growth is rooted in its strategic acquisitions, having invested over $50 billion since 2010 to solidify its position as a one-stop-shop for life science instruments and consumables (one-time use or limited lifespan items like test tubes, reagents, and disposable gloves that require regular replacement). This approach has allowed TMO to capture market share while deepening its relationships with large pharmaceutical clients. Moreover, with 75% of its sales now from consumables, TMO has become more resilient to economic shifts. This blend of strategic acquisitions and a focus on consumables underscores TMO's forward-thinking approach and industry dominance.

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[2] The Biotech industry performance is measured by the SPDR S&P 500 Biotech ETF (XBI). XBI's all-time high was on 2/9/2021 and TMO's all-time high was on 12/31/2021.
[3] Morningstar.
[4] Reuters article: https://www.reuters.com/business/healthcare-pharmaceuticals/novo-hires-thermo-fisher-2nd-manufacturer-wegovy-weight-loss-drug-source-2023-08-23/

The company's earnings are projected to grow at a 12% annualized rate over the next five years, bolstered by 7-9% organic revenue growth and margin expansion. Priced at $481, the shares currently trade at 22.4x 2023 estimates and 20.4x 2024 estimates, levels we believe offer significant value. Its strong balance sheet and recurring cash flows further cement its dominant position within the industry. Much as ancient mariners sought guidance from the Pharos of Alexandria for safe passage, investors can view TMO as their lighthouse, providing direction and financial stability in the ever-evolving world of biotech.

Important Reminder: *BNY Mellon Document E-Delivery*

As outlined in detail by Jordan Bieber in our summer newsletter, BNY Mellon is moving rapidly toward E-Delivery for client documents. Here is a recap of the timeline:

October 2023*: BNY September statements included a message* informing clients about the introduction of new fees associated with receiving physical paper documents. *Summary below; please see the Messages section of your September statement for additional details.*

<u>Paper subscription fee*</u>**:** $2.00 per month, per account (assessed quarterly)
<u>Paper tax document fee</u>**:** $10.00 per year, per account (assessed annually)
**Inclusive of all paper documents: statements, confirms, notifications, and tax documents*.

November - December 2023*:* Clients with an email address on file at BNY Mellon who currently receive physical paper documents such as statements, confirms, notifications, or tax documents, will have their accounts "pend-enrolled" for E-Delivery. This DOES NOT automatically enroll you in E-Delivery. You *should receive* an automated email from BNY containing a link to BNY's investor portal to log in and complete the enrollment.

Once enrolled, rather than receiving these documents through traditional mail, you will receive an email notification when new documents are available to view online.

January 2024*:* Applicable fees begin to accrue based on your E-Delivery status for each account. If you are fully enrolled in E-Delivery, there will be no applicable subscription fees.

March 2024*:* First paper subscription fee or paper tax document fees will be assessed.

We are here to help you seamlessly transition to paperless document delivery, providing guidance and ongoing support for any questions or concerns you may have. If you have not yet signed up for online access and/or E-delivery, and would like to do so, please contact our office.

Disclosure

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The **PASI stock portfolio** includes the reinvestment of dividends, and is reduced by brokerage commissions but is gross of Professional Advisory Services, Inc. fee, which is described in Part II of form ADV, available upon request. Our fee is a maximum of 1% annually and decreases based on assets under management. As an example of fee impact, over a ten-year period, $100,000 invested in stocks growing at 8% per year would increase at the end of ten years to $205,419 net of 1% fee versus $220,804 gross return.

The **S&P 500 Index** is an unmanaged index of the common stock prices of approximately 500 widely held US stocks, which includes reinvestment of dividends but does not reflect brokerage commissions. This index is weighted by float-adjusted market capitalization of underlying constituents.

The **S&P 500 Equal Weight Index,** like the S&P 500 Index, is an unmanaged index of the common stock prices of approximately 500 widely held US stocks, which includes reinvestment of dividends but does not reflect brokerage commissions. Each company is equally weighted as of the respective rebalance reference date, rather than weighted by float-adjusted market capitalization.