USIS REVIEW

The University Of Sheffield Investment Society
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EDITOR'S NOTES

Welcome to the fourth edition of the USIS Review.

The Review is one of the three pillars of the University of Sheffield Investment Society which has the potential to link the Twikker Fund and the wider society.

This edition of the USIS Review is brought to you by a range of students from a wide variety of degree backgrounds. The financial world does not exist in isolation and geographical, political, and scientific developments frequently have a huge impact on the way that markets operate. We are proud of how the diversity of our writers allows us to fully engage with this complex interrelation of factors in order to create a review of the world of investment for students at the University of Sheffield.

In our fourth edition of the Review we start by looking at the recent geopolitical conflict within Gaza and its effects on markets. Following on from this, we cover the increasingly relevant topic of CSR and ESG, looking at whether firms have benefited financially from these policies. Ahmad and Louis will then takes us through the topic of sovereign debt and U.S. bonds respectively. To finish the Review off, we turn to technology, looking at its advantages but also how Microsoft and Apple will utilize it to compete against each other for market share.

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LOOMING UNCERTAINTY: GLOBAL OVERSPILLS OF THE GAZA CONFLICT

Understanding geopolitical dynamics is crucial for sound investment decisions. The inability to grasp this relationship can create ripples of uncertainty across the global economy.

The conflict in Gaza, which dates back several decades and extends far beyond the borders of the Middle East, has become a focal point in investment analysis. Its prominence in the global context cannot be understated, as it joins a list of similar global events like the invasion of Ukraine and the Brexit saga, which have created widespread overspills. Sharing this common thread underlines their similarity and paramount importance on the economic canvas of our interconnected world.

The far-reaching externalities impact: investment prospects, supply chains, global oil and energy markets, and above all, institutions which are left to combat the demographic strains.

The conflict serves as a stark reminder that in our interconnected world, economic stability hinges on the turbulent waters of geopolitical uncertainty.

Similarly, to other geopolitical events, this conflict has prompted a plummet in investment prospects. The economic principle of uncertainty can explain this plummet because it is a key driver of market volatility.

Uncertainty drives investment-decisions and, in an environment where predictability is a rare commodity, market participants hesitate to make financial commitments. This hesitancy translates into heightened volatility and causes swings in asset prices. In this case, it has triggered a flow of capital into 'safe haven' assets, which have become sought after as a means to preserve capital and mitigate the associated risks of these times.

Safe-haven assets, range from precious metals to government bonds, and are perceived low-risk and expected to retain or increase in value during periods of market stress. Therefore, be it geopolitical crises, terrorism, or natural disasters they are in high demand.

In the aftermath of the Gaza conflict, this demand was evident, with energy shares globally experiencing a sharp rise.

In the US for instance, the energy sector saw an increase of more than 3%.

Defensive shares, including utility, energy, and consumer staples, have long been regarded as safe havens - due to their stability. The immediate market response to the conflict highlighted the strength of these sectors amidst uncertainty, demonstrating their strength in turbulent times.

The conflict's potential to induce a structural shift towards safe-haven assets reflects the adaptive nature of investment strategies and prospects, in response to global events. Thus, underlining the continuous evolution of financial markets amid geopolitical uncertainties.

In the realm of oil and energy, conflict in the Middle East has historically carried inflationary implications, due to the region's pivotal role in global oil production - which accounts for just under a third of the world's total. Thus, highlighting that the interdependence of the global economy makes the consequences of the conflict unconfined to the region.

Tensions in the Middle East have consistently contributed to market fluctuations, creating an atmosphere of financial volatility that keeps investors and markets on edge. Therefore, the strategic significance of this region as an energy hub further magnifies concerns.

Given the manifested tensions, there have also been fluctuations in oil prices, which have sent shockwaves across nations and financial markets worldwide. For instance, the immediate aftermath of the attacks on Gaza saw the price of Brent crude oil surge by 3.5% to above $88 a barrel, signaling potential long-term consequences. If the conflict persists, this price increase could become permanent, potentially fueling higher inflation rates on a global scale. Thus, the conflict has influenced the intricate dynamics of both, the world's energy and oil markets.

However, the conflict has not only raised concerns about the disruption in the supply of oil, posing risks to global markets, but it has also acted as a catalyst with the potential to reshape the economic landscape of the region. Israel's directives on top of all this, has triggered an exodus toward an area already grappling with massive overcrowding. This forced migration intensified the strain on resources, infrastructure, and humanitarian conditions in southern Gaza, painting a vivid picture of the intricate challenges faced by the region amid geopolitical unrest.

Coupled with this, the uncertainty has also stirred trade disruptions and supply chain concerns. Given the region's crucial role in global trade, any disruption becomes a matter of international significance. For example, major shipping companies, including Hapag-Lloyd and Maersk announced their plans to avoid the Red Sea and reroute shipments via southern Africa's Cape of Good Hope. Therefore, indicating the amplified concerns of any disruption in the area and its industry-wide externalities which have delayed global trade.

Adding to this complexity is the demographic strain in southern Gaza, which poses institutional challenges for policymakers.

Recent research developments indicate a potential surge in population density, which could surpass even urban hubs like Delhi. With nearly 2 million people residing in the slender 41-kilometer-long, 10-kilometer-wide Gaza strip, approximately two-thirds of which is urban, the population density under normal circumstances is already extreme. While this is a cause for concern because it would result in around 8,000 people per square kilometer, this density is even more concerning because comparatively, it would exceed that of major global metropolises - standing roughly 30% higher than London and almost six times denser than Washington DC. Meaning that in the small territory where, hypothetically, a car traveling at 60 miles per hour could traverse its entire length in less than half an hour - the humanitarian risks and geographical constraints add another layer to the territory's challenges.

The humanitarian risks stemming from the displacement of people and land destruction presents significant challenges for future policymakers. Grappling with addressing humanitarian needs, such as providing shelter, healthcare, and basic services, while also considering the long-term implications for infrastructure and urban development. The pressure of allocating resources effectively and efficiently to address these complex issues, while navigating political and logistical constraints highlights the intergenerational externalities posed by the conflict.

In summary, the Gaza conflict serves as a poignant reminder of the interconnectedness of our world and the delicate balance between geopolitics and economic stability. As uncertainties persist, the conflict becomes not just a regional strife but a global event with profound implications for economies, investments, and, above all, the people caught in the midst of the turmoil.

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THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND FINANCIAL PERFORMANCE

Corporate Social Responsibility (CSR) has always been extremely influential in the operations of organizations and isn't something new, as most people assume. However, since the financial crash of 2008-09, there has been a surge in corporations implementing CSR teams into their hierarchy to ensure they are meeting the triple bottom line (economic, social, and environmental (ESG) expectations. This implementation has impacted financial performance for companies massively, causing an array of views towards CSR and its impacts. This variation in views largely depends on the type of stakeholders it is impacting. Shareholders tend to view most CSR approaches as negatives as it can be costly to implement, while stakeholders like the government stand positively with these approaches as they know they are conforming with set out legislations and guidelines to help with improving ESG. The Business Case for Corporate Citizenship (originally founded by Arthur D Little) is a framework that looks at numerous theories that assess how CSR implementation has actually impacted businesses, providing evidence of both benefits and negatives.

CSR has recently caught a lot of attention for the value it provides for different companies. This has caused numerous studies on CSR to be conducted; within the business case, a massive study was done on reputation management. The idea of reputation management is to assess the strength of the relationship between reputation and the CSR initiative provides and how it impacts financial performance. When companies provide a high level of CSR that is extremely influential and combats any assumption of greenwashing, companies tend to be perceived positively by consumers. This benefit is often a target set out by CSR strategists as it is one of the few ways profits can arise from CSR implementation (data-backed). This is evident by Coca-Cola's goal to reduce their carbon footprint by 25% by the time it is 2030 and to continue selling their drinks in 100% recyclable packaging. Since releasing this announcement of their goal, they are said to have seen a sharp uprise in sales and stock price (Coca-Cola, 2023). This is vital for large conglomerates like Coca-Cola because when firms see little profits or little increase in stock price when CSR implementations are announced, it is common they backtrack or greenwash. The idea of back-tracking or greenwashing may be positive for companies in the short-run; however, in the long run, it is likely, due to the magnitude of the company, a massive drop in reputation could occur. Drops in reputation are linked to be a lot more influential on profits than increases to reputation. So, although conducting CSR for reputation management may not see massive profits for all companies, it is extremely likely that the reverse of not doing anything or being seen to have greenwashed could have larger impacts that cause astronomical negatives. This, as a result, indicates reputation management is essential for companies because including CSR can be seen as both a defensive and profit-minded approach that can show the benefits that CSR strategies can provide. CSR strategies also provide benefits on a more societal level.

Corporations have also been searching for incentives and strategies to implement societal improvements. One way companies have done this is attempting to help improve employee recruitment, motivation, and retention. Improving

life for the staff is essential for all companies as it reduces employee turnover and can help increase efficiencies by increasing motivation and job satisfaction. This is essential to analyze when it comes to the effectiveness of implementing CSR strategies as firms operate through employees, so having to look into ways to improve how they work while also improving reputations by reinforcing a positive workplace can be a core goal for many firms. A recent study on the energy powerhouse Centrica (2023) showed 1,000 hours of employee community time helped lead to a 67% job satisfaction rate and over a 50% rise in advocacy rates. This study alludes to the idea that allowing employees to help out with the local community helps improve their overall well-being. On the other hand, many studies have argued this point and think that not all situations benefit as much as Centrica did. This is largely because of the case of 'Moral Arguments' by Nijhof and Jeurissen (2010) which implies the rationale for completing an action like allowing employees to help out with the local community may not be done for the correct reason and could potentially have been done to improve reputation and increase efficiency. It is also understood from research by Bhattacharya (2008) that companies often lack employee awareness and involvement. This suggests that they don't know what factors are demanded by employees to help improve their satisfaction. In the case of RGIS, the initiative to improve working space for employees by increasing workspace but also increasing hybrid working backfired. This is said to be down to the fact that employees 'felt it was clear their moral alignment was in it for profits and not to actually help their employees through the good of their heart'. This caused their employee recommendation rate to fall to 46% (as of 2022). This lack of motivation and satisfaction caused a -64.72% fall in share price. This highlights how some initiative to improve employee's motivation can be largely beneficial but, in some cases, it won't always lead to the same benefits as employees see through the strategy and consequently rebel to the workplace causing large decreases in profits. It is clear though, this depends on the company and it must be assessed to ensure that helping out the community in different ways articulates a strategy that makes sense and is going to improve the social impact, rather than reflecting bad on the company.

CSR approaches to improve ESG sectors of firms often require large amounts of investment as it is a new focus of firms over recent years. However, the evidence backs investing in CSR strategies performs extremely well and often increases investor demand for firms' equity because the new view of CSR becoming an integral part of business is on the rise along with the expectations of all firms no matter the size to have a natural focus on CSR. Large firms like PepsiCo have focused on all areas of ESG and have been able to reap the benefits. Pep+ is PepsiCo's new strategy for having a positive impact on both the world and people; they have taken part in initiatives like ensuring their crop sources benefit the agriculture industry, evaluating their product portfolio to ensure healthier options are available, and to reduce overall carbon emissions from the production and logistics behind moving products from one area to another (1.3 billion miles in 2022) (PepsiCo, 2023). The benefits PepsiCo and many other firms get from CSR initiatives are impactful to the market. This is because 86% of institutional investors are said to believe they are persuaded by these initiatives and often value this a lot more than production efficiency (Boffo, 2020). Essentially this data shows how essential CSR performance is for companies and its profitability and investments. On the other hand, gaining benefits from CSR is a lot harder on smaller companies and has shown investment into strategies to improve ESG doesn't always help share price or the demand for the firms compare to the sheer volume invested. This is down to firms gaining the capacity to invest sums of money into more efficient practices can require a strategy and CSR team. This is a challenge as they often have access to fewer resources meaning having this additional pressure can be time-consuming in the recruitment process. This essentially means that new and small companies have to give a lot more up just to take on this responsibility. The ROI for these firms is said to be approximately a 7.5% increase in employee engagement and a 6% increase in equity demand (Allen, 2021). Although, there is a slight rise in the investment demand and improvement to efficiency, larger firms see a much larger benefit often meaning small caps don't go out to have massive CSR teams due to the lack of incentives.

Overall, engaging in CSR initiatives is extremely impactful for businesses and can lead to numerous benefits for firms. Benefits like improvement to reputation and investors being more inclined to purchase equity of firms is a key driver for why firms invest larger sums of money into these initiatives. However, the moral argument by Nijhof and Jeurissen (2010) and the fact that smaller firms struggle to benefit as much from the ROI does insinuate there are some constraints. I think more data is required to have an overall opinion on how CSR impacts firms and their financial performance. However, one thing I know is clear is that the benefit to the planet will improve how people perceive them which can only be beneficial. Campaigns and subsidies to smaller firms to help with their CSR initiatives would likely be extremely beneficial for both the firm and the economy. CSR approaches must be adopted by everyone to see foreseeable impacts therefore, investing to aid smaller firms would mitigate numerous negative risks allowing them to play their part too. Finally, a regulatory body on greenwashing and data manipulation would be revolutionary as a lot of large firms would have to provide clear evidence meaning CSR reports are more accurate and concise helping aid investments into firms be more accurate and fairer.

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ADDRESSING THE SOVEREIGN DEBT CRISIS

The spectre of national debt looms large over the global economy, casting a shadow of insecurity and volatility. The rapid accumulation of debt has emerged as a pressing concern for many countries, threatening to undermine economic growth, trigger financial turmoil, and exacerbate social unrest. The ever-rising debt consequently leads to higher chances of sovereign defaults, which will have cross-border impacts. An evident indicator of this growing concern is reflected in the Debt-to-GDP ratio, which for more than half the countries is north of 60%. As emphatical research indicates, a Debt-to-GDP ratio north of 50% - reflected in Figure 1.0 - has negative impacts on the economy, slowing economic growth and limiting fiscal flexibility fueled by heightened interest rates.

Figure 1.0: Shows Debt-to-GDP ratio (%) and GDP growth rate correlation (Cristina, Westphal, 2012)

Thus, it is imperative to effectively tackle this multifaceted challenge. To achieve this, there is a need for a comprehensive approach encompassing bilateral and multilateral debt restructuring measures.

At the heart of the national debt crisis lies a complex web of factors, including sluggish economic growth, excessive government spending, and volatile exchange rate fluctuations. These forces have conspired to drive up debt-to-GDP ratios, a measure of a country's debt burden relative to the size of its economy. This growing debt burden has far-reaching consequences, posing a significant risk to financial stability. This rising debt level requires the government to raise taxes, consequently negatively impacting savings and consumption, leading to adverse impacts in investment and GDP respectively. Secondly, the resulted rise in interest rates makes servicing debt more expensive, potentially triggering a loss of investor confidence and a subsequent currency devaluation. This downward spiral can plunge economies into a state of financial distress. The financial distress embodies a circular debt trap – where debt taken to pay off debt – making the economy’s fiscal space unsustainable.

The current mechanisms to cater to these growing risks are vague at best, but primarily nonexistent. The only multilateral document that remotely attempts to address this is the UN Resolution titled “Basic Principles on Sovereign Debt Restructuring Processes” (A/RES/69/319). The resolution is a vague set of guidelines that are “recommended” to parties that wish to engage in debt restructuring.

To avert these dire consequences, a multilayered approach to debt restructuring is imperative. Bilateral debt relief measures, such as forgiving a portion of a country's debt or reducing interest rates, can provide much-needed breathing room to struggling economies. Debt rescheduling, involving

extending the maturity of debt or lengthening repayment periods, can offer additional flexibility in managing debt obligations. Debt swaps, where old debt is exchanged for new debt with more favorable terms, can further alleviate the debt burden.

More importantly, to address these challenges, the development of a robust multilateral framework for debt restructuring is essential. Such a framework should ideally encompass the following key elements:

i. Transparent and Inclusive Mechanism: The framework should establish a transparent and inclusive process for debt restructuring negotiations, involving all stakeholders, including creditor nations, debtor countries, international organizations, and civil society representatives.

ii. Common Principles and Guidelines: The framework should establish common principles and guidelines for debt restructuring, ensuring fairness, equity, and predictability in the process. These guidelines should address issues such as debt forgiveness, debt rescheduling, and debt swaps.

iii. Adequate Financial Resources: The framework should facilitate the mobilization of adequate financial resources to support debt relief efforts. This could involve contributions from creditor nations, international organizations, and innovative financing mechanisms.

iv. Technical Assistance and Capacity Building: The framework should provide technical assistance and capacity building to debtor countries to strengthen their debt management practices and improve their debt sustainability.

By establishing a comprehensive and well-functioning multilateral framework for debt restructuring, the international community can take a significant step towards alleviating the debt burdens of developing countries, promoting economic growth, and fostering sustainable development. Such a framework would not only address the immediate challenges posed by the debt crisis but also lay the foundation for a more stable and equitable global financial system.

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BONDING WITH UNCERTAINTY: THE U.S. BOND MARKET

Traditionally, bond yields offer a reflection of the underlying real rate of interest and inflation in an economy; however, a recent surge in US Treasury bond yields could be argued to threaten the validity of this view. 2022 was arguably the worst year for US Treasury bond investors in modern times, with yields on 5 and 10 Year Bonds increasing by around 20 basis points.

This immense upward pressure in yields comes as a result of a combination of global economic and geopolitical factors. The economics team from Investment Manager Payden & Rygel put forward the idea that the US bond market typically existed in two states, with the Fed either in cutting or hiking mode; however, it now potentially may have taken on a third state, of being “on hold,” yet to digest a series of domestic as well as global factors at play.

With inflation in the US currently sitting at around 3.2%, after a recovery from last year’s high of 9.1%, it seems as though inflation is somewhat under control and returning to normality. While strong employment figures in the second half of 2023 and rising inflation in foreign nations such as Japan contribute to fears that inflation may not be quelled as yet, forecasting for the next decade has inflation to remain below the 3% mark. However, as mentioned, US inflation figures must digest foreign affairs as well as domestic, and with so much occurring on the global stage, it is uncertain whether inflation is truly settled. Bond yields reflect this uncertainty, and therefore it cannot be said whether they have truly reached their peak.

In addition, the supply of debt in the US economy is also affecting bond yields. The government’s current two trillion dollar deficit, while aiding spending capabilities of the Biden administration to stimulate sustainable growth, is also pushing bond yields upwards as investors look to absorb the Treasury’s ongoing issuance. The question is when will we see a slow in this debt growth? Recent dysfunction in the House of Representatives has rendered lawmakers unable to rally around plans to enact meaningful spending cuts or tax increases, and the ongoing conflicts in Ukraine and Israel, funded partially by the US, are a further drain on US funds. Therefore, with no end in sight of cuts in spending, the deficit looks to grow even larger, resulting in another question mark over how bond yields will react.

So what are the more global effects and how are they influencing bond yields?

Structural changes are taking place in China's economy, with a rebalancing from savings to consumption and an emphasis on state-led growth. As a result, fewer of its financial reserves are to be recycled into international markets. China has traditionally been one of the biggest buyers of US Treasury bonds. However, with their shift in focus to more state-led growth, we have seen a sell-off in Chinese-owned US Treasuries from a position of around $1 trillion in September 2021 to $820 billion now. As a result, US Bond Yields have been pushed higher, and the dollar has weakened against the Yuan.

As aforementioned, the effects of ongoing global conflicts on US Treasuries have been profound. US government spending on overseas conflicts has increased the national deficit, contributing to the surge in yields. However, with the United States' long-term status as a superpower on the global stage, US Treasury Bonds have traditionally been considered a safe-haven asset during times of global hardship or economic distress. With the Israel-Gaza conflict escalating day-by-day and no end in sight for the war in Ukraine, can we expect to see US Treasuries regain their safe-haven status? If they were to, this could see a recovery for yields to more sustainable levels.

What does all this mean for US Treasury investors? Well, it could be argued that now is the most attractive entry point for investment in the bond market in a long time. If inflation rates and interest rates were to continue on their receding path, then now would be an ideal time to lock in those high yields. Similarly, optimists may forecast a resurgence in US Treasuries' status as safe-haven assets if political unrest in certain areas is to continue much longer. However, this would not be without risk. There remains a strong underlying level of uncertainty in the market. Paul Pasteur, global fixed-income portfolio manager at Payden & Rygel said, "While yields are attractive, it's good to think about these drivers. Monetary policies and concerns around supply and demand are less likely to exert upwards pressure on yields, but growth could continue to push yields higher if it remains resilient." If US employment figures were to continue to come back stronger than expected, the combination with higher inflation rates in other foreign economies could see yields on the rise once more.

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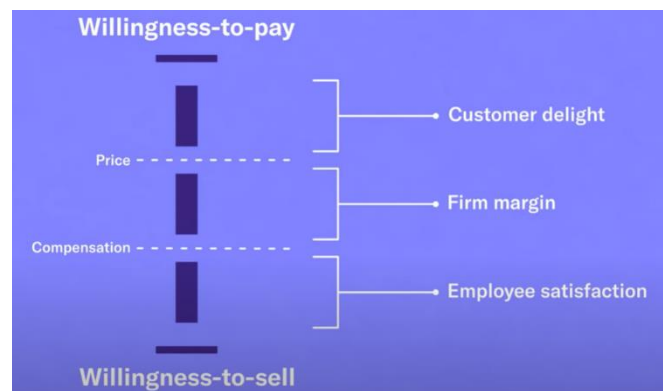
COMPETITIVE ADVANTAGES: TECHNOLOGY ADVANCEMENTS FOR MAKING INVESTMENT DECISIONS

The release of ChatGPT in November 2022 and its subsequent meteoric rise to 100 million users in the next two months started a hype cycle around artificial intelligence (AI), resulting in 5 major tech stocks pushing the S&P500 up in the first half of 2023. As hype cycles tend to create bubbles with overly high optimism and valuations at the beginning before a sharp fall, as presently with generative AI, it is important to filter out companies with genuine long-standing competitive advantages who would most likely be able to weather the fall and continue providing scalable value for long-term investments.

Value is defined by Oberholzer-Gee as the difference between customers' willingness-to-pay and employees'/suppliers' willingness-to-sell. The profit from the value generated is the difference between the price and cost.



Therefore, a competitive advantage must sustainably increase customer satisfaction and/or employee/supplier satisfaction to be able to increase the company's margins. A competitive advantage must also exhibit characteristics of the VRIN framework – valuable, rare, inimitable, and non-substitutable. An outstanding example is Microsoft Fabric, which aims to be a one-stop-shop for all kinds of data analytics needs for organizations, from data movement to business intelligence. Combining various tools such as OneLake for cloud storage, Synapse for data pipelines, Power BI for business intelligence, support for Spark for custom analytics solutions, and Copilot as an AI assistant for natural language processing to create code and for generative analytics suggestions; this

tool is –

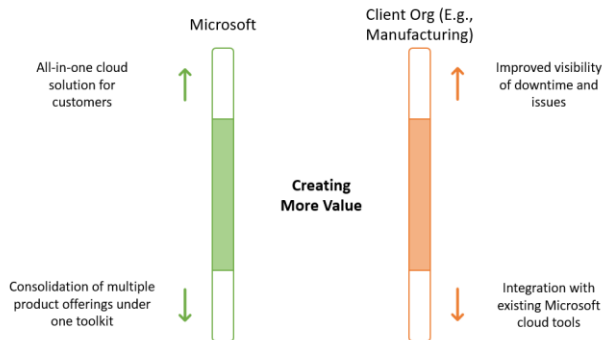
i. Useful for nearly all medium and large enterprises as analytics becomes increasingly important to make key business decisions. Microsoft Fabric offers pay-as-you-go capacity licenses, which makes it highly scalable.

ii. With Microsoft Azure, this offers more functionality as compared to Microsoft's biggest competitors in the cloud computing sector – Amazon and Google.

iii. Only big tech companies other than Microsoft can offer similar solutions currently, such as IBM Watson Studio part of IBM Cloud.

iv. With massive growth in the use of Microsoft Teams by organizations with 280 active million users in 2023, Fabric is a natural choice for organizations already using Microsoft devices and tools considering integration and training.

Fabric has the potential to increase both overall value and subsequently profits for both Microsoft and its client organizations as a simplified productivity tool.



Thus, recognizing solid competitive advantages held by companies for generating value is a necessity for making grounded investment decisions in the current hype culture, in addition to quantitative valuation and financial performance.

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MICROSOFT VS APPLE: THE TRILLION DOLLAR DUEL FOR MARKET SUPREMACY

It's 11.20 Eastern Time on October 18th, 2019. Apple Inc. (AAPL) was valued at $1.065 tn, surpassing its main rival, Microsoft Corporation (MSFT) for the top spot in the tech war. A broad tech-sector sell-off hit Microsoft hard whilst iPhone 11 sales surpassed analyst's estimates boosting its rival. Despite Microsoft's short-lived overtake in November 2021, it seems to have been on the backfoot, until now.

Overview

As the narrative of the tech size dominance in the market continues, the sector is up more than 39% Year-to-Date (YTD), triple the S&P 500's roughly 13%. The Technology Select Sector SPDR Fund (XLK) tracks the S&P 500 Technology sector and is up 49.15% YTD, after hitting a record-high $186.35 per share on November 22nd 2023. The bullish sector has been fueled by the concept of artificial intelligence (AI) monetization, most notably since November last year when the large-language model (LLM) ChatGPT was released. Both Apple and Microsoft surpassed Earnings-per-Share (EPS) expectations- a key metric of company profitability- in Q4 2023. However, a reported fall of 1% in overall iPhone, Mac and iPad sales, compared to the previous year, had a significant effect leaving apple $0.07 above consensus. Whereas Microsoft beat EPS expectations by a robust $0.34. Apple's reliance on its consumer products, reported to comprise over 75% of Q4 2023 revenue, has raised concern for investors. Demand for such goods continues to fall and is expected to get worse towards year end due to high living costs caused by inflation, primarily affecting B2C companies and the consumer-cyclical sector.

Inflationary pressures

With growing fears of a recession in the US next year, investments are moving towards B2B-model firms. Consumer-focused tech sales have also been affected by recent supply issues and inflation. There has been a shortage of semiconductor raw materials, making cloud-service products even more preferred. Apple's fortunes are tied to its most important offering, the iPhone. The device plays a critical role in expanding the iOS ecosystem. However, Apple's excessive dependence on iPhone is a risk to growth. Although iPhone sales have been benefiting from higher average selling price (ASP), premium pricing has been blamed for Apple's stalled market share growth in countries like China and India. Moreover, the smartphone segment is highly competitive with attractive devices from Samsung, Xiaomi, Oppo, and Vivo that are intensifying competition for the company. Competition has also negatively impacted iPad's growth with Amazon, HTC, Microsoft, Hewlett-Packard and others flooding the tablet market. iPad demand has been under pressure due to increasing availability of large-screen smartphones, in addition to stiff competition from Google Chromebooks and Microsoft Surface. For Microsoft, commercial bookings increased 17%, in line with expectations, primarily driven by strong execution across core annuity sales motions with continued growth in the number of $10m+ contracts for both Azure and Microsoft 365. Commercial remaining performance obligation

increased 18% to $212 billion. Roughly 45% will be recognized in revenues in the next 12 months, up 15% year-over-year (YoY). The remaining portion, which will be recognized beyond the next 12 months, increased 20%.

Services

This is where Microsoft's potential lies having a strong position within the up-and-coming AI movement as well as Productivity and Business Processes - which includes the Office and Dynamics CRM businesses- revenues continuing to increase due to strong adoption of Office 365 Commercial solutions contributing 32.9% to total revenues. Microsoft has expected earnings growth of 12.2% next year compared to Apple's 5.9%. Microsoft's strong pricing power- the ability to set higher prices without impacting demand- is continuing to drive its PC software market where Microsoft holds 73% of the market share for desktop operating systems (OS). More than 73% of the Fortune 1000 use three or more of Microsoft's data solutions. Improved Surface devices could encourage enterprises to stick with Windows as they move toward cloud computing. Microsoft's large installed base of Office users has been a driver. More than 126K organizations, including 3M, Equinor, Lumen Technologies, Nationwide, PG&E, Toyota, have used Copilot in Power Platform to date. EY, for example, has enabled Copilot for all 170,000+ Power Platform users at the company. It's inevitable that the internet is facing a structural shift regarding how people ask questions online. Since the partnership began in 2016, Microsoft's investment within ChatGPT has only grown. Having first injected $1bn in 2019, followed by a further $10bn in January 2023, the tech giant is now believed to have over $13bn invested. Most importantly, OpenAI, the owners of ChatGPT, have allowed Microsoft to implement their services into their subscription-based products. The chatbot is now available through the Bing search engine, the Edge internet browser, the Windows OS, and even the 365-document suite, which includes Word, PowerPoint and Excel. In the recent fiscal Q1 2024 (ended September 30th), Microsoft's Azure OpenAI Service segment had 18,000 business customers, an increase of 63% from just three months earlier. Azure's increased availability in more than 60 announced regions globally, is expected to have strengthened their competitive position in the cloud computing market, dominated by Amazon's Amazon Web Services (AWS). Azure AI is helping organizations transform, bringing intelligence and insights to the hands of their employees and customers to solve their most pressing challenges. This has given Microsoft a direct route to AI monetization, something few other tech firms have conquered. Microsoft Cloud revenues were $31.8 billion, up 24% YoY, driven by the improvement in Azure as well as Office 365, partially offset by the impact of scaling the company's AI infrastructure to meet growing demand. Office Consumer products and cloud services revenues increased 3%. Microsoft 365 Consumer subscribers grew to 76.7 million in the reported quarter, up 18% YoY. Apple's Services and Wearables businesses are expected to drive top-line growth in fiscal 2024 and beyond. Although Apple's business primarily runs around its flagship iPhone, the Services portfolio has emerged as the company's new money-maker. Services revenues grew 16.3% YoY to $22.31 billion and accounted for 24.9% of sales. The figure also beat the consensus mark by 4.53%. Apple's endeavors to broaden its ecosystem, through partnerships with the likes of Samsung and Amazon. Apple currently has more than 1bn paid subscribers across its Services portfolio, nearly double what it had three years ago. The App Store continues to draw the attention of prominent developers from around the world, helping the company offer appealing new apps that drive App Store traffic. Further, growing number of AI-infused apps will attract more subscribers on App Store. Apple Pay, designed on the basis of a contactless payment (NFC) technology, has been expanded to several markets. Apple Pay allowed entry to more than 150 stadiums, ballparks, arenas, and entertainment venues around the world with contactless tickets. Moreover, users can ride public transport in Shanghai, Beijing, Tokyo, Moscow, London and New York. The growing adoption of contactless payment primarily due to coronavirus pandemic bodes well for Apple Pay.

Challenges to the sector

Stiff competition is the primary factor for both companies. Microsoft has increased competition from all quarters. Although Google's focus has in the past been on search and online advertising, while Microsoft's has been on selling its software, the two companies are now competing over AI. Bard marks Google's response to ChatGPT and Apple is planning to join in, reportedly developing its own LLM - "Apple GPT." Microsoft Azure faces direct competition in the cloud market from AWS and its dominant position in the PC market continues to be challenged. The company is dependent on this market for the largest chunk of its revenue. There is competition from Apple, Android and Chrome at multiple price points. 2024 Expectations As of the end of November 2023, Microsoft and Apple are separated by just over $130bn. Apple's newest models, including the iPhone 15, are capable of processing large AI workloads. The firm will likely expand its services sector in the coming years currently accounting for 7.7% of revenue in fiscal 2023. Both firms have increased cash and short-term investments. In fiscal Q1 2024, Microsoft had total cash, cash equivalents and short-term investments balance of $143.9 billion, compared with $111.3 billion as of June 30th, 2023, while long-term debt (including current portion) was $67.7 billion. The strong cash balance provides the flexibility required to pursue any growth strategy, whether through acquisitions or otherwise. Apple's focus on augmented reality/virtual reality (AR/VR) technologies presents growth opportunity in the long haul. The launch of Apple Vision Pro, a spatial computer that blends digital content with the physical world, is a positive step. To ramp up its efforts, Apple has acquired several smaller firms with expertise in AR hardware, 3D gaming and VR software. These include SensoMotoric, Flyby Media, Emotient, TupleJump, Turi, Metaio, PrimeSense and Lattice DataInc. Apple expects fiscal Q1 2024 revenues to be like that of the previous year's quarter figure. For the Services segment, Apple expects average revenues to grow at a similar strong double-digit rate as it did during the September quarter. Gross margin is expected between 45% and 46% in fiscal Q1 2024. Operating expenses are expected between $14.4 billion and $14.6 billion. The stock is currently trading at 28.41X Price-to-Earnings (P/E) Forward 12-month earnings, which compares to 19.09X for the S&P 500 index. Microsoft shares are up 57.9% YTD and 57.5% in the trailing 12-month period. The S&P 500 index is up 19.7% in the YTD period and 15.8% YoY. The stock is currently trading at 32.14X P/E forward 12-month earnings. In fiscal Q1 2024, Microsoft Cloud revenues were $31.8 billion, up 24% YoY. Azure reported top-line growth rate of 29%. Microsoft now expects Azure to grow between 26% in fiscal Q2 2024. Azure AI is helping organizations adapt, bringing analytics and

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Despite Microsoft's seemingly stronger position, reclaiming the tech crown won't be straightforward. Apple, and competitors, promise growth next year to mount a challenge. ChatGPT It's 11:20 Eastern Time on October 18th, 2019. Apple Inc. (AAPL) was valued at $1.065 trillion, surpassing its main rival, Microsoft Corporation (MSFT), for the top spot in the tech war. A broad tech-sector sell-off hit Microsoft hard, while iPhone 11 sales surpassed analysts' estimates, boosting its rival. Despite Microsoft's short-lived overtake in November 2021, it seems to have been on the backfoot until now. Overview As the narrative of the tech size dominance in the market continues, the sector is up more than 39% Year-to-Date (YTD), triple the S&P 500's roughly 13%. The Technology Select Sector SPDR Fund (XLK) tracks the S&P 500 Technology sector and is up 49.15% YTD, after hitting a record high of $186.35 per share on November 22nd, 2023. The bullish sector has been fueled by the concept of artificial intelligence (AI) monetization, most notably since November last year when the large-language model (LLM) ChatGPT was released. Both Apple and Microsoft surpassed Earnings-per-Share (EPS) expectations, a key metric of company profitability, in Q4 2023. However, a reported fall of 1% in overall iPhone, Mac, and iPad sales, compared to the previous year, had a significant effect leaving Apple $0.07 above consensus. Whereas, Microsoft beat EPS expectations by a robust $0.34. Apple's reliance on its consumer products, reported to comprise over 75% of Q4 2023 revenue, has raised concern for investors. Demand for such goods continues to fall and is expected to get worse towards year-end due to high living costs caused by inflation, primarily affecting B2C companies and the consumer-cyclical sector. Inflationary Pressures With growing fears of a recession in the US next year, investments are moving towards B2B-model firms. Consumer-focused tech sales have also been affected by recent supply issues and inflation. There has been a shortage of semiconductor raw materials, making cloud-service products even more preferred. Apple's fortunes are tied to its most important offering, the iPhone. The device plays a critical role in expanding the iOS ecosystem. However, Apple's excessive dependence on the iPhone is a risk to growth. Although iPhone sales have been benefiting from a higher average selling price (ASP), premium pricing has been blamed for Apple's stalled market share growth in countries like China and India. Moreover, the smartphone segment is highly competitive with attractive devices from Samsung, Xiaomi, Oppo, and Vivo intensifying competition for the company. Competition has also negatively impacted iPad's growth with Amazon, HTC, Microsoft, Hewlett-Packard, and others flooding the tablet market. iPad demand has been under pressure due to the increasing availability of large-screen smartphones, in addition to stiff competition from Google Chromebooks and Microsoft Surface. For Microsoft, commercial bookings increased 17%, in line with expectations, primarily driven by strong execution across core annuity sales motions with continued growth in the number of $10 million+ contracts for both Azure and Microsoft 365. Commercial remaining performance obligation increased 18% to $212 billion. Roughly 45% will be recognized in revenues in the next 12 months, up 15% year-over-year (YoY). The remaining portion, which will be recognized beyond the next 12 months, increased 20%. 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2024 Expectations

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The review is a quarterly student run publication and is read by a range of students and staff from different disciplines. It covers developments in banking and finance, investments andstrategy, technology, economics, and global affairs and has contributors from a range of backgrounds.

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