Herald Worldwide Technology Fund

Investment Manager’s Report

July 26, 2022

Investment Manager's Report for the six months ended 30 June 2022

Introduction

The objective of the Herald Worldwide Technology Fund ("Fund") is to achieve capital growth while investing globally in information technology, communications and multimedia companies. The Investment Manager believes this area of the economy continues to offer growth greater than the world economy as a whole and presents attractive investment opportunities. In addition, the Investment Manager offers focused specialist management, with a 25-year history and an experienced team. The Fund was launched in April 1998 with an initial asset value per Class A share of £10.00. At the end of the period the net asset value per Class A share was £90.72. On the 10 June 2010, a Class B share was launched with an initial net asset value per share of £10.00. At the end of the period the net asset value per Class B share was £60.28.

Total return for six months to 30 June 2022

Herald Worldwide Technology Fund NAV (Class A)	-17.4%
Herald Worldwide Technology Fund NAV (Class B)	-17.5%
Global	
Dow Jones World Technology	-22.8%
United States	
Russell 1000® (Large Cap) Technology	-21.8%
Russell 2000® (Small Cap) Technology	-26.1%
S&P 500	-11.0%
Russell 2000® Small Cap	-14.9%
United Kingdom	
iShares Core FTSE 100 UCITS ETF	-0.8%
Numis Smaller Companies plus AIM (ex Investment companies)	-22.7%
Europe	
DAX	-17.4%
Deutsche Bourse TECDAX	-24.5%
CAC 40	-13.0%
Asia Pacific	
NIKKEI 225	-7.7%
KOSDAQ IT Composite Index	-35.1%
Taiwan Electronics Index	-19.7%

All percentage returns are in GBP.

Source: Herald Investment Management Limited (HIML) and Bloomberg.® Russell Investment Group The Fund is not managed by reference to any benchmark and the indices above are shown for comparative purposes only.

Past performance is not a reliable indicator of future returns.

Summary

Financial markets have been tumultuous in the first half of 2022. Highly elevated inflation levels, rising interest rates, renewed Covid lockdowns in China and Russia's invasion of Ukraine have combined to create unprecedented macro-economic and geopolitical challenges.

The market sell-off in the first half of 2022 has been harsh. Both the S&P 500 and the Dow Jones World Technology Indices have had their worst six-month performance since the financial crisis in 2008. The S&P 500 also has had its worst first half performance since 1970.

Though the Fund has also suffered from the fall in equity markets, our cautious stance of the last 24 months provided some protection. During H1-2022, the Fund outperformed the Dow Jones World Technology Index meaningfully. Although in hindsight we were a little early in becoming cautious, and thus underperformed the global technology indices in the tail end of the bull market, the recent relative performance has more than compensated for this

Much of the tech sell-off was initially attributed to the rapid rise in the discount rate and the mathematical impact on valuation. In recent weeks, the steady trickle of negative datapoints from economies and individual companies has been fuelling concerns that a recession may be unavoidable. Within the sector, we have begun to see signs of slowing demand, most notably in handsets and PCs and the associated supply chains such as semiconductors. Other than a few individual companies, there has not yet been meaningful downward revisions to expectations. The market, however, has started pricing in some expectations of slowdowns, and p/e ratios for the technology sector have now fallen sharply. Due to supply chain disruptions and the large backlogs that many companies have, it may take another 1-2 quarters for managements to reduce forward expectations and for markets to stabilise. In such environments we have seen repeatedly, that the "baby tends to be thrown out with the bath water" and some great companies tend to get oversold.

We find valuations far more compelling than we have done in the much of the last two years. For example, on Bloomberg estimates the average P/E of the portfolio at the end of 2020 was 28.8x and had fallen to 16.6x at the end of the period, which is only a modest premium to the wider indices. We expect the next 6-12 months to remain a period of uncertainty for the broader global economy and markets as central bankers and policy makers adjust fiscal and monetary policy to address the diverse economic and geopolitical challenges. However, we believe the technology sector targeted by this fund has defensive characteristics which means that earnings should continue to grow albeit at a slower pace than recent years, but faster than the wider market.

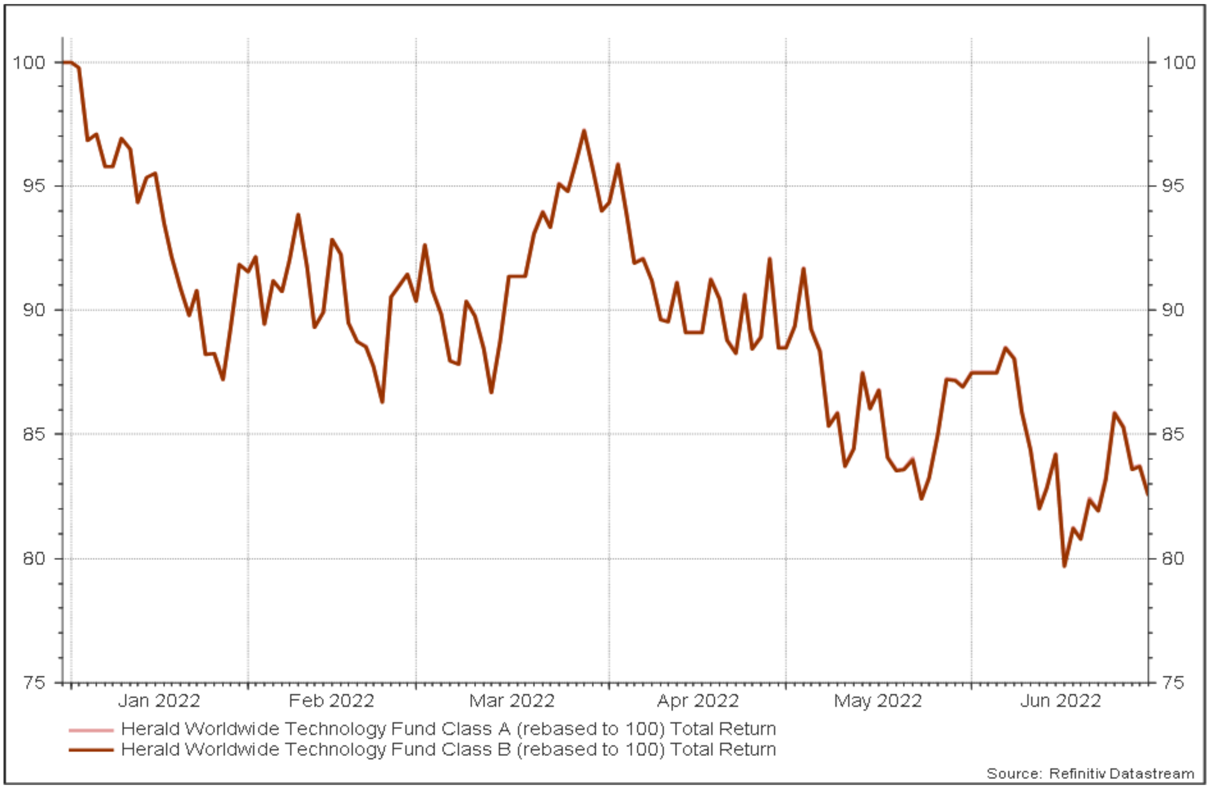
We are confident in the holdings of the Fund. Since the beginning of the year, we have sold some positions and added to others. In total, the Fund has had seven companies subject to takeover bids in the portfolio during the period. We have reinvested part of the proceeds which were received from the completion of some of these take-overs. We are excited about the prospect of adding new positions to the Fund, and are tiptoeing gingerly as we are cognizant of the diverse factors driving the markets.

Between 2019 and end of 2021, there were over 1200 IPOs in the technology sector in addition to dozens of Special Purpose Acquisition Corporations (SPACs) and other listings. In H1-2022, even though capital markets activity was muted compared to 2021, there were nevertheless 120 IPOs in the technology sector. We have spent much of the last six months digging deeper and getting to know some of these younger companies. Most are trading far below their initial valuations. Although, we believe the vast majority will not satisfy our fundamental criteria for investing, we are optimistic that there will be some highly attractive opportunities amid the 1300+ new companies in the sector.

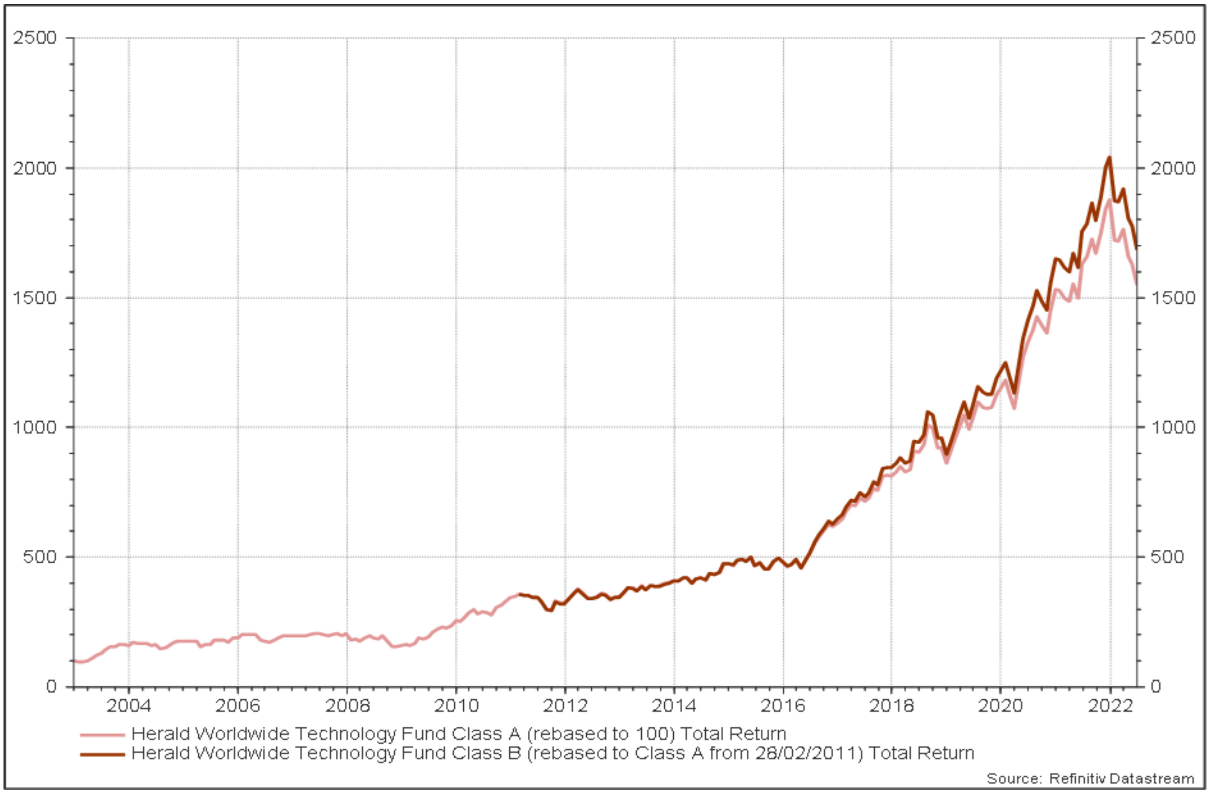
Our strategy remains consistent with the past. The sector is sufficiently diverse and dynamic that throughout our 25+ years of investment in the sector we have always found attractively positioned, reasonably valued, well managed companies to invest in. We are encouraged that the market is becoming aware that "growth at any cost" business models are not sustainable.

In summary, despite our caution, we remain enthusiastic about opportunities to invest in the sector which possesses both growth and defensive characteristics. We do not think the toolset applied by the leading growth investors of the last decade for investing in technology companies will be as successful in the next 1-2 years; but we do believe our deep domain knowledge and fundamental, bottom-up valuation-sensitive approach to growth investing will continue to deliver results even in a difficult macro-economic environment.

Total Return: 31/12/2021- 30/06/2022



Total Return: 31/12/2022* - 30/06/2022



- The date the existing fund manager took over the management of the portfolio.

North America

The total return for the US portfolio was -16.9%. We are disappointed with the negative return. We are nevertheless pleased that the performance is meaningfully ahead of the Russell 1000 (Large Cap) Technology Index total return of -21.8%. The US portfolio comprises the majority of the Fund (82.9%).

The strong performers in sterling terms were Mandiant, Tower Semiconductor, and SolarEdge Technologies, which appreciated 38.7%, 30.5%, and 28.4% respectively. All three were also the largest contributors to positive returns. The key negative contributors to returns were Advanced Micro Devices (AMD) (-40.7%), Amazon (-29.0%), and Pegasystems (-52.2%).

The North American part of the portfolio has been benefiting from a substantial number of takeover bids in the last 18 months. In H1-2022, there have been bids for Mandiant and Silicon Motion Technologies. Another investment in the US portfolio which is subject to take-out bid from 20122 is Tower Semiconductor. These three companies are trading at discounts to the take-over prices; therefore, we are retaining the positions in the Fund.

Pegasystems, the main disappointment in the portfolio, is a leader in low-code software platforms, focused on workflow automation in large companies, with an impressive customer list. Pegasystems has been engaged in a protracted lawsuit and in May, the courts issued an unfavourable ruling, potentially subjecting the company to an unprecedent fine of $2B. This is obviously very disappointing, and the magnitude of the potential fine was surprising. Pegaystems' management intends to appeal the case. We will continue to monitor the situation and adjust the holding accordingly.

AMD remains one of the top five holdings in the Fund and the fourth largest contributors to returns in the last 3 years. We reduced the holding in H2-2021 as we were concerned about valuation getting stretched. The company has been delivering consistently strong results. For example, EPS expectations for 2022 are 120% higher than had been expected at the end of 2020, while the shares have fallen 12% (USD) in the same period. Although we recognise there is risk of downward revision to the forward expectations, we believe the company's valuation is very compelling and it remains in a strong position to continue to deliver sustainable revenue growth with solid margins.

During H1, we sold the Fund's positions in Leidos, Bottomline Technologies, and Mimecast. Leidos had performed strongly following the sharp rise in the share prices of defence related companies and the valuation was getting difficult to justify. Bottomline Technologies, Mimecast, and Xilinx had been subject to takeover offers, with all three deals closing in H1-2022. We reinvested the proceeds from these sales into some existing holdings and added other new positions. The Fund's largest new position are Zoom and SolarEdge Technologies, a leader in micro-invertors for solar installations. They are companies which we have been following for several years. The market sell-off allowed us to invest at an attractive valuation.

The P/E of the North American portfolio on Bloomberg forecasts was 19x on 30th June 2022 compared with 27x on 30th June 2021, 31x and 25x at the end of 2020 and 2019, respectively. The contraction in P/E has been mostly due to the deratings of the Fund's holdings as opposed to any substantial changes in them. We expect some downgrades to earnings in the next 2-3 quarters, especially if the Russia/Ukraine war is not resolved and energy availability in Europe remains constrained. Although the Fund's direct exposure to consumer demand is limited, high overall inflation levels will also cause downgrades to real earnings, if not nominal levels. Despite these concerns, we find that the current valuations of many high-quality companies far more attractive than they have been in the last two years.

Europe

The European portfolio comprises 2.1% of the Fund. The total return for the European portfolio was a disappointing, -33.4%. There are only two European holdings in the Fund namely, SAP, (weighting of 1.4%) which declined 26.7% and Nordic Semiconductor (weighting of 0.7%) declined 34.2%. in the first half of 2022.

SAP's sustainable competitive position and fundamental valuation is underappreciated by the market at current levels. A part of the sell-off is due to concerns about the outlook for the European economy. SAP derives over 45% of its revenues from the EMEA region, and 15.6% from Germany. We like the outlook for SAP as it retains a strong competitive position in its core enterprise software markets, with scope for sustainable long-term growth, and a supportive valuation. Its high exposure to EMEA and Germany are weighing on the shares.

Nordic Semiconductor ASA is a company which we have been following for many years and have held in the Herald Investment Trust. Nordic is well placed to continue its robust growth in the semiconductor market. We initiated a small position in the shares in H1-2022 and look to increase the position opportunistically.

UK

The UK portfolio comprises 4.2% of the Fund and disappointingly declined 26.1% in the period. Both of the Fund's UK holdings, Herald Investment Trust and Avast have a weighting of 2.1%.

Avast shares declined 13.7% in the period. Avast is subject to a takeover offer by NortonLifelock which is anticipated to close at the end of the 2022. The shares are trading at a discount of 24% to the offer price as the takeover is being investigated by the UK Competition and Markets Authority (CMA). We find it reassuring that the CMA is adopting a broad definition of the security market, thereby increasing the likelihood of the deal closing. The closure of the deal would lead to a substantial appreciation of the share price, especially as a large part of the offer is in cash.

The underperformance of Herald Investment Trust was largely driven by the sharp selloff in the small cap sector which is deemed to be more sensitive to macroeconomic slowdowns. Its net asset value per share declined by 25%, but the discount also widened. We find the valuation of the Trust to be now more attractive than any time in the last 18 months.

Asia

The Asian portfolio comprises 4.2% of the Fund and the total return was -18.6%. The Asian holdings comprise of four companies, Alibaba, Samsung Electronics, Taiwan Semiconductor Manufacturing Company (TSMC), and Kulicke & Soffa Industries.

Alibaba was a contributor to positive returns as the shares appreciated 6.7% in the period. Despite some recent favourable changes in Chinese regulation regarding variable interest entities (VIEs) and US listings, we remain concerned about investing in domestic Chinese companies due to corporate governance issues and the lack of protection for shareholders. Our only Chinese holding is Alibaba, a leader in ecommerce and cloud computing in China as well as many foreign markets.

Samsung Electronics (-24.8%), TSMC (-23.5%), and Kulicke & Soffa Industries (-20.6%) were negative contributors to returns in the period. Although all three have been suffering due to a combination of cyclical and recessionary concerns, they have strong competitive positions in their respective markets, strong balance sheets, and attractive valuations.

Market Background

In contrast to the first half of 2021, which was buoyed by the optimism of the covid vaccines and consistent indicators of sharp economic recovery in the US and Europe, the first of half of 2022 has been dominated by concerns of rampant inflation and rising interest rates, worries about the manifold impacts of the Russian invasion of Ukraine, and already strained supply-chains, stressed even further by new rounds of Covid restrictions in China.

Although the market has been adjusting to rising rates by increasing bond yields and compressing equity valuations, we are not convinced that the combination of lower earnings and inflationary pressures are fully priced in. At the same time, it is important to recognise that we are experiencing a truly extreme combination of events and the market, at times, does discount future events efficiently.

Both profitable and unprofitable growth companies have de-rated in recent months. Going forward, we expect cash flows, margin profiles, and sustainability factors to increasingly drive differentiation among the performance of companies. We have always tried to discern the real costs of running businesses, for example, considering full cost of employee stock awards and actual costs of acquisition-driven growth. We expect greater scrutiny of these costs by the market and greater awareness of the unsustainability of companies which have relied on dismissing these costs as irrelevant.

We consider sustainability in the broad sense of the word, encompassing the culture and management of a company, its competitive position, its financial position, the economics of its business and the resilience of its broad ecosystem of suppliers, partners, and customers.

Figure 1 shows the five key challenges which companies and governments face both short-term and longer term and solutions for addressing them. The key challenges are inflation, demographics, environment, geopolitics, and costs. The factors are of course interrelated. Innovation, automation, optimisation, and the application of technology to make it all work will be necessary tools to address these issues. We are, therefore, confident that a sustainable, innovation-driven, valuation-sensitive growth portfolio will generate attractive returns going forward.

In Search of Safe Havens in Difficult Times

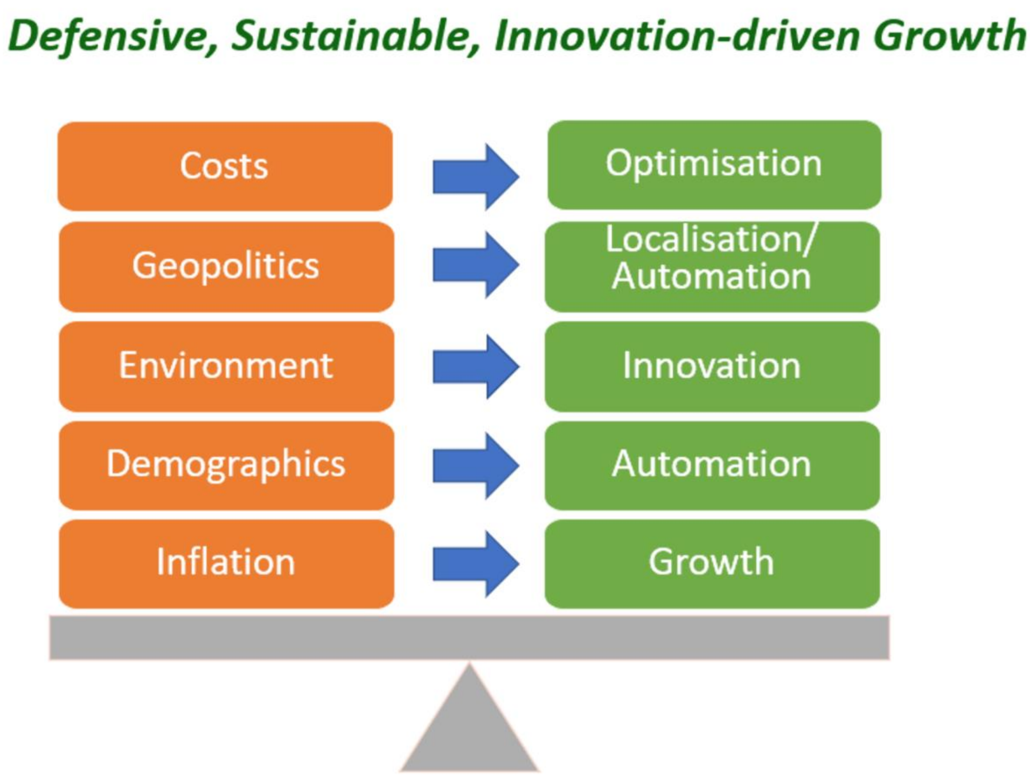


Figure 1

Sector Outlook

On July 1, 2022, Gartner published their revised outlook for overall IT spend for the year. The outlook is hardly changed compared to their projections in December 2021. Gartner expects overall IT spend to grow 5.9% in 2022, compared to their initial forecast of 6%, six months ago. Gartner forecast overall IT spending to grow at a CAGR of 7% (in constant currencies) between 2021-2026. Despite this seeming resilience in IT spending outlook, we believe fundamentals across many sectors have softened and real growth expectations will be moderating.

The team at HIML spent much of H1-2022 having in-person meetings with management teams of companies in our portfolios as well as many newly IPO public companies and other companies which we consider potentially interesting investment opportunities.

For example, earlier this year, in March, during our site visits to companies on the west coast of the US we met with over one hundred companies. Most management teams were still overly optimistic about the outlook for demand, the war in Ukraine was almost dismissed as a non-issue, and the main challenge was hiring and retaining employees. By June, when we again met with 100+ companies in the US, the mood had clearly changed. Management teams were more sensitive to risks posed to the economy and their businesses by rising interest rates, inflation, and high energy prices.

We believe we are going through a period with some similarities to the post dotcom era in the early 2000's. Management teams need to adjust to the change in the economic and geopolitical outlook, but at the same time, they need to retain key staff.

We are already seeing announcements of hiring freezes and lay-offs. Preserving cash when capital is no longer free, is a necessity, especially for the substantial number of unprofitable companies in the sector, particularly the venture capital backed private companies . Changing the actual culture of an organisation from a predominant focus on revenue growth, to one which requires a disciplined approach to investments and expense management is not easy. Many of the managers in the industry do not have enough relevant experiences.

It has been a worry that the labour market has been tight for a number of years, and compensation packages and share based payments in particular, have grown alarmingly. We are reassured that already there are signs that the evident overheating is abating. Going forward, we hope there will be a greater focus on profitability and returns to shareholders and not just returns to employees.

In the UK we are sensitive to the weakness of the sterling and the euro relative to the dollar, and the yen has been weak too. For US quoted companies, the strong dollar has been a greater headwind to revenues and earnings than had been expected at the beginning of the year. The European economies will be more impacted by the Ukrainian war and its side effects, such as the alarming rise in the price of gas, and the challenges for the ECB to cope with inflation are even greater than for the Federal Reserve and the Bank of England.

We believe founder-led companies and companies with deep management benches and strong customer partnerships will be better positioned to do well in a changing macroeconomic environment.

Semiconductors

Gartner's latest semiconductor forecasts expect semiconductor revenues to grow 7.4% in 2022 to reach $676 billion, compared to their April 2022 projection of 13.6% growth for 2022. This follows 26.3% growth in 2021. Revenues in 2023 are now expected to decline 2.5% whereas at the end of April, they were still expecting 3.6% growth in 2023. Gartner predicts the overall semiconductor market will grow at a 5.6% compound annual growth rate (CAGR) between 2021- 2026. A 5-6% CAGR is in-line with historical levels.

There are many highly attractive companies in the semiconductor sector, well positioned for sustainable long-term growth with pricing power. At the same time, since the end of last year, we had been sensitive to the exuberance in parts of the semiconductor subsector and concerned that double-ordering and the inevitable reduction in growth post Covid constraints will drive down valuations. We took profits in some of the holdings in the Fund and reduced the Fund's overall exposure to the sector since the end of 2021.

Inventory levels at companies which provide Electronic Manufacturing Services (EMS) have been rising sharply. EMS companies manufacture electronics products, ranging from PC to smartphones, printers, TVs, telecom equipment, medical equipment for leading global brands and therefore provide a perspective across disparate products. According to Jefferies, at the end of Q1-22, days of inventories (DOI) at EMS companies were at 20-year highs, exceeding dotcom levels. We see the current sell-off and reset in expectations as healthy. We are looking to add to the Fund's semiconductor holdings opportunistically.

Software and Cloud

The largest sell-offs in the markets have been among the cloud software companies. Bessemer estimate that in November 2021, at its peak, the market capitalization of publicly listed cloud companies had reached $2.7Trn. The Bessemer Cloud Index is a good proxy for the cloud software companies. The Index peaked last November and started falling thereafter. In H1-2022, it fell 44% in USD and since its peak, it has fallen close to 55%.

We have been and continue to be large fans of the cloud business models and opportunities created by the new architecting of IT infrastructures globally. However cloud software is also one segment of the market were the "growth at any cost" business models were prevalent.

At the end of 2020, the median of the stocks in Bessemer Cloud Index was trading at a valuation of 15.6 x forward revenues, while those in the top quartile were trading on valuations of 22.5 x forward revenues. Currently, these multiples have shrunk significantly, such that the top quartile are trading on 8.0x forward revenues while the median is trading on 5.1x forward revenues. We are not fans of revenue multiples as a measure of valuation, but the metric is valuable for giving a sense of some extremes.

Most of the companies in this index meet many of our investment criteria, i.e., positioned for sustainable, long-term growth, with pricing power and strong management teams. However, out of the seventy-five companies in this high growth cloud Index, the Fund only held Qualys in 2021. We considered the valuations of many of the others, too high. Since the beginning of the year, we have added Zoom and Freshworks to the Fund.

The cloud subsector is not entirely immune to economic slowdowns. At the very least, sales cycles for many companies will elongate and so achieving growth targets will be more difficult. We are looking forward to continuing to increase the Fund's exposure to high quality, high growth companies in this subsector, as expectations become more conservative, and valuations embed less aggressive growth outlooks.

Regulation and the Megacaps

Regulation continues to be an important factor in the sector.

On the 5th of July 2022, the European Parliament passed the Digital Markets Act (DMA) and the Digital Services Act (DSA). These legislations are the result of over two years of investigations and negotiations by EU members. The next stages are for the European Council to pass the laws and for the individual countries to adopt them. It is expected that these stages will progress in a timely manner over the next year.

The laws will become enforceable from January 1, 2024, and they will place restrictions on the behaviour of large tech companies. The DMA defines Google, Amazon, Apple, Facebook, and Microsoft as Gatekeepers. The Gatekeepers are deemed to be the companies which control access to platforms that are used by third-party businesses. The DMA will regulate these businesses by preventing them from curtailing access to their platforms or prioritising their own products and services over those of competitors and aims to ensure a fairer business environment for consumers.

The DSA sets clear obligations for digital service providers, such as social media or marketplaces, to tackle the spread of illegal content, online disinformation, and other societal risks. The act aims to give EU citizens better control over how their data is being used by online platforms and large technology companies. The act aims to ensure that what is illegal offline is also illegal online. The act also places more obligations on algorithmic transparency.

There are many other on-going legislative measures in other jurisdictions, including but not limited to the US, UK, and South Korea.

The second and third order effects of many of these initiatives are often unknown. Two recent examples are:

(1) GDPR which was aimed at reigning in the large companies resulted in over-burdening smaller companies and

(2) Apple's increased focus on privacy which caused an estimated $10B revenue shortfall for Facebook/Meta but indirectly benefitted TikTok, whose operations and agenda are substantially more opaque.

Apart from legislation involving the large cloud companies, a myriad of government initiatives continues to be in place to improve the resilience of the semiconductor supply chain by expanding manufacturing in Europe and the US and controlling know-how and Intellectual Property (IP) going to China.

Concluding Remarks

In summary, we are cognizant that the range of potential outcomes for the economy and equity markets over the next 12 – 18 months remains wide.

We believe that our disciplined investment philosophy of the last 25+ years remains sound for navigating through the uncertainties in the markets. We continue to focus on companies that will benefit from secular growth. A combination of fundamental analysis and a valuation-sensitive, growth framework remains a compelling way to assess the attractiveness and sustainability of companies. It helps us to identify some of the younger companies that are about to disrupt an industry or create a new market, but also some of the established companies which are leveraging their know-how and customer/supplier relationships to develop new products and augment their existing portfolios.

Following the sharp decline in valuations of many growth companies, we are more enthusiastic about investing in the sector than we have been in the last eighteen months. Many of the companies in the sector are key enablers of productivity across diverse end-markets and thus well-positioned for long-term sustainable growth even in inflationary environments. The sector is sufficiently diverse and dynamic that throughout our 25+ years of investment in it, we have always found attractively positioned, reasonably valued, well managed companies to invest in.

We are particularly enthusiastic about spending more time researching and meeting with the management teams of the 1300+ technology companies which have gone public in the last 2.5 years, whose valuations have contracted, and whose businesses are still not well understood by the markets. We are confident that among them, we will find companies that will be attractive long-term investments.

Important Information

Please note that past performance is not a reliable indicator of future returns. You should determine for yourself what weight, if any, to place on such past performance. Markets and currency movements may cause the value of shares, and the income from them, to fall as well as rise, and you may get back less than you invested when you decide to sell your shares.

This is a marketing communication. Please refer to the Herald Worldwide Technology Fund prospectus and to the Key Investor Information Document (KIID) before making any final investment decisions. A copy of the English version of the prospectus of the Fund and the KIID relating to the Fund may be obtained online from www.heralduk.com or alternatively received via email upon request by contacting TATeam@MJHudson.com.

A summary of investor rights associated with an investment in the Fund is available online in English at www.bridgeconsulting.ie/management-company-services/ or it may be received upon request via email by contacting TATeam@MJHudson.com.

The figures in this report are not audited.

This report has been issued on behalf of Herald Worldwide Technology Fund, and has been approved by Herald Investment Management Limited, its investment manager.

Herald Investment Management Limited is authorised and regulated by the Financial Conduct Authority.

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