TITAN CAPITAL MANAGEMENT RESEARCH REPORT FOR TCM ALL-WEATHER

Analyst: Sam Fedrow Date: December 16, 2022

FUND/TICKER: ISHARES US TECHNOLOGY ETF (IYW)





EXECUTIVE SUMMARY

Key Statistic	S	
Price	\$	76.95
NAV	\$	76.29
52-Week Range	\$69.	49 - \$117.36
Average Volume		931,300
Assets Under Management		\$8.0 B
Expected Return		21.72%
Standard Deviation		23.44%
Sharpe Ratio		0.88

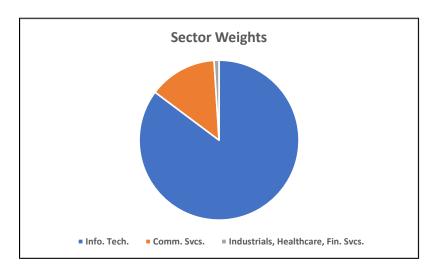
The TCM All-Weather portfolio team recommends a 3% purchase of the iShares US Technology ETF (IYW) to bring the portfolio's tech weighting closer to the benchmark and to diversify further into Communication Services. This fund tracks a diversified index of Information Technology and Communication Services stocks and limits weights for individual securities and issuers. In 2022, we have observed a broad-based pullback in the technology sector, as rising interest rates and the potential of a recession led to multiple

compression for this high-growth area. However, we believe that the sector will begin to outperform the market again as the macro environment stabilizes and aim to decrease our substantial underweight to tech stocks. This BUY rating is driven by 1) promising reorganization in tech businesses after the pandemic; 2) new trends and competition driving innovation and growth; and 3) the fund's strong holdings.

Key uncertainties include 1) how long the interest rate environment may cause multiple compression to persist and 2) supply chain issues.

FUND OVERVIEW

The iShares US Technology ETF (IYW) is an exchange-traded fund that seeks to track the performance of the Russell 1000 Technology RIC 22.5/45 Capped Index. It invests at least 80% of its assets in securities included in this index, which measures the performance of the Information Technology and Communication Services sectors of the US equity market. It contains 146 holdings and is weighted 85.23% towards Information Technology and 13.77% towards Communication Services, with negligible allocations to Industrials, Healthcare, and Financial Services.

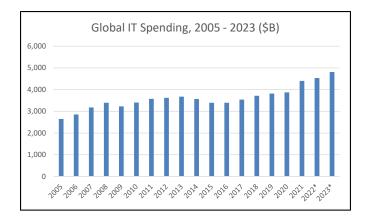


CATALYSTS

Post-Pandemic Reorganization in Tech

For decades before and through the pandemic, tech companies enjoyed seemingly unlimited growth and high-flying revenue. However, this post-pandemic period has brought macroeconomic uncertainty, geopolitical conflict, and more, which has been a major test on the resilience of the tech sector. The TCM All-Weather Portfolio team has seen promising signs of reorganization and increased resilience as this period wears on.

- Tech companies have become more flexible and adaptable: Almost all companies were forced, seemingly overnight, to transition to remote-based work as the pandemic began. Many companies embraced these changes after they worked out the kinks; in many cases, employees were found to be more productive and satisfied with their jobs, which increased the company's output and overall performance. We believe that this newfound flexibility and adaptability will be a strong growth driver for the tech sector in coming years.
- The customer relationship has been reevaluated: The challenges seen this year are not exclusive to tech companies; however, since technology is crucial to all businesses, tech companies have had to move with evolution in their customer base. The average customer has become more conscientious with where their money is being spent and if investment into technology is worth it. Therefore, tech companies have had to hone their sales, marketing, and customer relationship management skills on top of offering strong products that fill their customers' needs. Gartner forecasts worldwide IT spending to grow 5.1% in 2023; as tech companies evolve with their customers, we see strong opportunity for the sector.



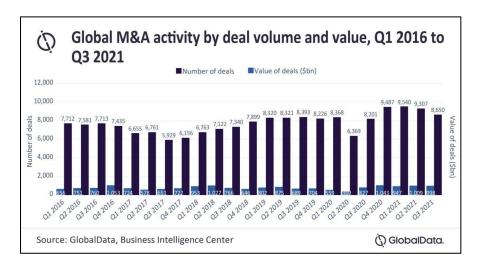
As the Information Technology and Communication Services sectors begin to recover, we believe that IYW has favorable exposure to the upside potential that comes with recovery while maintaining a comfortable level of consistency with regard to returns.

New Trends and Competition

The pandemic brought new trends and competition that spurred major growth in the tech sector. As remote work became necessary for businesses to continue their operations, companies like Zoom took the opportunity to create tools to facilitate remote work. Companies like Microsoft, Apple, and Amazon bolstered their cloud offerings as teams were not in the same physical locations, and cybersecurity companies began to fulfill new

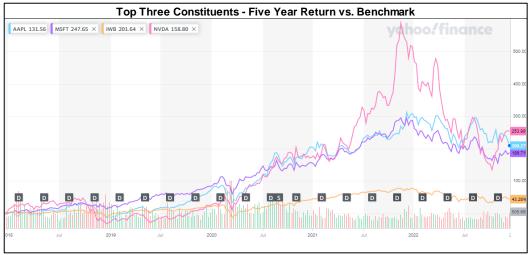
needs to secure these cloud environments. We have observed promising trends in artificial intelligence, collaborative software, and cloud software that will drive innovation and fuel growth in the sector.

Technology is a broad sector, and new entrants have the potential to disrupt the market. These new competitors force incumbent market leaders to constantly evolve and expand their offerings, promoting organic growth in the sector. Inorganic growth is also commonplace; the tech M&A landscape has propped up the broader M&A market as strategic tech acquirers aim to expand their market share and product and service offerings by making acquisitions. Competition and M&A opportunities will ensure that the tech sector is never stagnant, supporting its growth prospects.



Strong Holdings

A significant number of IYW's 146 holdings are established market leaders that have a history of strong margins and free cash flow generation. Apple (#1 holding) has outperformed the broader tech sector in 2022, showing resilience in the face of macroeconomic headwinds. Microsoft (#2 holding) has a strong balance sheet and places emphasis on returning cash to shareholders. Other strong holdings include NVIDIA, Alphabet, Meta, and Broadcom. Though some of these companies have seen pullbacks this year, we believe that there is upside to capture as they rebound and that IYW's other holdings offer the consistency valued by the All-Weather Portfolio.



INDUSTRY OVERVIEW

The United States accounts for one third of the global information technology market; of \$5 trillion globally, the US tech sector makes up \$1.9 trillion of US value-added GDP – more than ten percent of the national economy. There are nearly 600,000 technology (software and IT services) companies operating in the US, which attract highly educated and skilled segments of the US workforce. Between Q1 2020 and Q1 2022, the tech industry grew by 47%, compared to 18% growth for overall GDP. The 8.9 million jobs in the US tech sector account for almost 6% of the country's workforce. As a related sector, the Communication Services market is estimated to be worth nearly \$350 billion in the US of \$1.7 trillion globally.

Going forward, businesses and consumers will continue increasing their tech spend. Gartner projects \$4.6 trillion in IT spending globally in 2023, a 5.1% increase over 2022 numbers. Emerging technologies, such as internet of things, robotics, and mixed reality are forecasted to see similarly increased demand. All signs indicate continued growth as technology continues to engrain itself within business and everyday life. In addition, spending on advanced technology like 5G infrastructure, along with consumer preferences for new-generation smartphones, will propel Communications Services towards a compound annual growth rate of 5.40% over the next five years.

ANALYSIS

Trailing Returns (Month-End) & Volatility

IYW was compared to six other technology ETFs. It ranks 5th in trailing returns and 4th in percentile rank among its peers. In most periods analyzed, the trailing returns of IYW and its higher-ranked peers are relatively close together; its higher-ranked peers may report greater returns in some periods, but their returns are less consistent over each period when compared to IYW. IYW ranks favorably in its peer group in terms of volatility. It has a material advantage in Sharpe ratio, but the standard deviation ranking is fairly tight across the peer group.

ANNUALIZED	1-Mon.	3-Mon.	YTD	1-Yr.	3-Yr.	5-Yr.	10-Yr.	15-Yr.	Rank
IYW	6.58	-2.66	-28.89	-27.89	13.94	15.60	17.54	12.61	5
IGM	5.96	-2.44	-30.28	-29.51	9.52	13.04	17.19	12.27	6
FTEC	5.31	-0.18	-23.53	-21.59	14.81	16.67			2
FXL	5.71	-0.31	-26.03	-25.30	11.49	13.70	17.10	11.10	4
IGV	1.60	-3.34	-31.62	-34.46	5.65	11.96	16.33	12.19	7
IXN	8.10	1.76	-23.47	-20.91	14.30	14.82	17.14	11.56	3
RYT	7.59	3.80	-18.37	-14.88	12.02	13.96	18.54	12.64	1
Index/Category	5.70	-3.05	-32.56	-32.60	7.73	10.14	15.58	10.85	·

PERCENTILE	1-Mon.	3-Mon.	YTD	1-Yr.	3-Yr.	5-Yr.	10-Yr.	15-Yr.	Rank
IYW	41	52	42	40	22	16	24	23	4
IGM	46	50	48	47	40	30	31	29	6
FTEC	55	31	17	18	17	12			2
FXL	50	33	29	31	29	23	34	52	5
IGV	78	54	52	59	67	37	40	33	7
IXN	29	21	16	15	21	18	32	41	3
RYT	35	15	7	6	25	22	16	25	1

VOLATILITY	Sharpe	Std. Dev.	Rank	Rank
IYW	0.71	22.33	1	3
IGM	0.60	22.53	5	5
FTEC	0.75	22.30	3	1
FXL	0.60	23.93	7	7
IGV	0.56	22.41	6	6
IXN	0.69	21.73	1	2
RYT	0.64	22.26	4	4
Index/Category	0.73	22.65		

OTHER	Yield	Expense Ratio	Duration / Beta	Credit Rtg. or P/E
IYW	0.90%	0.39%	1.14	22.37
IGM	0.86%	0.40%	1.15	22.26
FTEC	1.01%	0.08%	1.13	21.66
FXL	0.85%	0.61%	1.19	15.54
IGV	0.38%	0.40%	1.04	28.02
IXN	1.34%	0.40%	1.14	21.28
RYT	1.18%	0.40%	1.17	18.65
Index/Category	1.06%	n/a	1.15	21.90

Total Return & Consistency

IYW ranks 2nd in return consistency and 7th in overall percentile rank. Since 2012, it has led its peer group in total returns for two years, beaten by a fund that ranks poorly for consistency (IGV) and a fund who captures less upside in good years (RYT). Though IYW ranks poorly in overall percentile rank, it has never been the greatest laggard of its peer group and has led its peer group twice since 2012. The All-Weather team favors the consistency that IYW offers during this uncertain period, as the Information Technology and Communication Services sectors may recover unevenly.

CONSISTENCY	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 YTD	Rank
IYW	11.68	26.56	19.46	3.69	13.72	36.61	-0.92	46.64	47.46	35.44	-31.79	2
IGM	14.60	33.96	14.82	9.50	12.94	37.20	2.26	41.80	45.11	25.72	-33.09	5
FTEC			18.34	4.98	13.92	36.83	-0.37	48.93	45.87	30.49	-26.26	1
FXL	8.57	38.20	16.36	-3.33	15.39	35.82	2.72	38.65	54.19	18.19	-28.21	7
IGV	16.77	30.68	13.42	12.12	5.80	42.15	12.45	34.33	52.87	12.30	-34.78	6
IXN	15.90	25.15	15.26	3.93	13.92	41.23	-5.44	47.87	43.62	29.59	-26.19	4
RYT	11.70	40.72	19.19	2.89	19.11	32.97	-0.61	42.07	30.22	28.53	-21.47	3
Index/Category	13.30	28.44	19.00	4.01	14.06	37.14	-1.29	46.66	48.04	34.42	-28.08	

PERCENTILE	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 YTD	Rank
IYW	61	7 9	17	76	32	46	44	21	56	10	46	7
IGM	35	52	27	24	36	40	20	33	70	24	52	2
FTEC			17	61	29	41	35	15	64	15	19	1
FXL	73	35	20	93	22	48	18	42	42	40	28	5
IGV	27	65	35	2	72	22	3	63	46	61		3
IXN	30	84	24	71	31	26	67	19	75	18	19	6
RYT	56	32	17	76	11	66	39	31	90	19	8	4

Asset Correlations (Equity)

IYW is moderately correlated with the equity portion of the All-Weather Portfolio. It sees greater correlation with diversified ETFs such as ACWI and GQEPX. However, it sees significantly lower correlation with positions such as FPI, EXR, and LAND that are focused on different sectors.

Ticker	Name	IYW	ACWI	GQEPX	SCHD	VDIGX	COWZ	EXR	CCI	UNP	RSG	FHLC	MLPX	LAND	FPI
IYW	iShares US Technology ETF	1.00	0.91	0.83	0.77	0.80	0.74	0.41	0.49	0.76	0.59	0.76	0.55	0.52	0.35
ACWI	iShares MSCI ACWI ETF	0.91	1.00	0.85	0.92	0.92	0.89	0.36	0.48	0.80	0.65	0.83	0.73	0.48	0.43
GQEPX	GQG Partners US Select Quality Eq Inv	0.83	0.85	1.00	0.82	0.87	0.78	0.40	0.47	0.71	0.57	0.79	0.63	0.46	0.39
SCHD	Schwab US Dividend Equity ETF	0.77	0.92	0.82	1.00	0.93	0.94	0.30	0.44	0.74	0.60	0.80	0.76	0.41	0.41
VDIGX	Vanguard Dividend Growth Inv	0.80	0.92	0.87	0.93	1.00	0.85	0.46	0.57	0.80	0.74	0.82	0.69	0.47	0.39
COWZ	Pacer US Cash Cows 100 ETF	0.74	0.89	0.78	0.94	0.85	1.00	0.19	0.36	0.70	0.54	0.75	0.80	0.43	0.46
EXR	Extra Space Storage Inc	0.41	0.36	0.40	0.30	0.46	0.19	1.00	0.53	0.39	0.56	0.31	0.12	0.40	0.23
CCI	Crown Castle Inc	0.49	0.48	0.47	0.44	0.57	0.36	0.53	1.00	0.47	0.63	0.52	0.29	0.50	0.36
UNP	Union Pacific Corporation	0.76	0.80	0.71	0.74	0.80	0.70	0.39	0.47	1.00	0.70	0.68	0.55	0.39	0.24
RSG	Republic Services, Inc.	0.59	0.65	0.57	0.60	0.74	0.54	0.56	0.63	0.70	1.00	0.56	0.49	0.32	0.15
FHLC	Fidelity MSCI Health Care ETF	0.76	0.83	0.79	0.80	0.82	0.75	0.31	0.52	0.68	0.56	1.00	0.58	0.40	0.42
MLPX	Global XMLP&Energy Infrastructure ETF	0.55	0.73	0.63	0.76	0.69	0.80	0.12	0.29	0.55	0.49	0.58	1.00	0.36	0.38
LAND	Gladstone Land Corporation	0.52	0.48	0.46	0.41	0.47	0.43	0.40	0.50	0.39	0.32	0.40	0.36	1.00	0.42
FPI	Farmland Partners Inc.	0.35	0.43	0.39	0.41	0.39	0.46	0.23	0.36	0.24	0.15	0.42	0.38	0.42	1.00

Asset Correlations (Commodities)

IYW is highly correlated with FIW, VAW, and MOO. Otherwise, the fund is moderately correlated or sees low correlation with the other positions in the commodity segment of the portfolio.

Ticker	Name	IYW	PDBC	RING	GUNR	VAW	MOO	FIW	LIT
IYW	iShares US Technology ETF	1.00	0.37	0.39	0.66	0.78	0.75	0.85	0.71
PDBC	Invesco Optm Yd Dvrs Cdty Stra No K1 ETF	0.37	1.00	0.13	0.77	0.57	0.74	0.44	0.40
RING	iShares MSCI Global Gold Miners ETF	0.39	0.13	1.00	0.49	0.54	0.44	0.39	0.30
GUNR	FlexShares Mstar Glbl Upstrm Nat Res ETF	0.66	0.77	0.49	1.00	0.88	0.92	0.73	0.56
VAW	Vanguard Materials ETF	0.78	0.57	0.54	0.88	1.00	0.92	0.88	0.59
MOO	VanEck Agribusiness ETF	0.75	0.74	0.44	0.92	0.92	1.00	0.85	0.56
FIW	First Trust Water ETF	0.85	0.44	0.39	0.73	0.88	0.85	1.00	0.64
LIT	Global X Lithium&Battery Tech ETF	0.71	0.40	0.30	0.56	0.59	0.56	0.64	1.00

INVESTMENT RISKS

Interest Rate Environment

The technology sector as a whole has seen a broad-based pullback in stock price and valuation since the beginning of 2022, and the constituents of this fund are not immune to the macro environment. The S&P 500 Information Technology sector has dropped -25.32% year to date, and the Communication Services sector has dropped 40.13% year to date. Through the pandemic, near-zero interest rates were maintained to prop up the economy, and tech companies thrived as their high valuations depended on cash flows extending further into the future than other sectors. Interest rates cannot remain near-zero forever, and as they increase in 2022, tech companies no longer enjoy the associated benefits. The Fed's short-term borrowing rate is the highest that it has been since 2008 to control record inflation. If the Fed continues to hike rates, tech companies may see continued challenges as their cost of capital increases. However, common market sentiment is that while hikes will continue, the Fed will slow their pace as they move towards their targets. Though this decline has been severe, most constituents of IYW have weathered the storm, and we believe that they will maintain their consistency and begin to capture upside as we move through 2023.

Supply Chain Headwinds

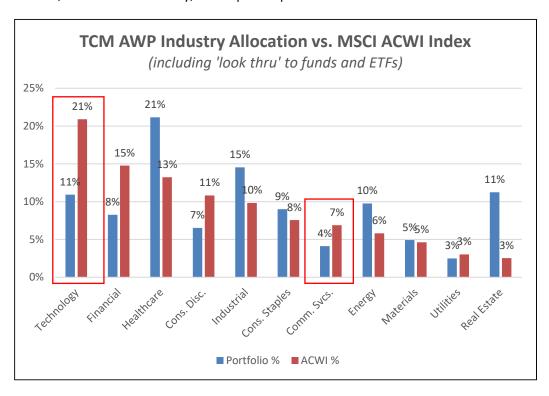
Supply chain headwinds have touched all industries, and technology is a prominent example. Microchips that are vital in the production of many products have faced a massive shortage for the past two years, and ever-increasing demand for products using this technology has forced delayed purchases and pressure on production.

Many tech companies have had to retailor their strategies to remain competitive. However, CEOs of tech companies are confident that chip shortage issues will begin to fade gradually over the next few quarters. Microchips have seen the most prominent supply headwinds in the tech sector, and we are confident that the IYW holdings involved in the area will benefit from reduced constraints and continue to perform well.



PORTFOLIO IMPACT AND SUMMARY

A 3% purchase of the iShares US Technology ETF (IYW) will bring the portfolio's Information Technology weighting closer to the benchmark, while further diversifying into the Communication Services sector; its high-quality holdings will mitigate some risk present in the sector and provide the consistency that the TCM All-Weather Portfolio aims to achieve. We rate IYW as a BUY due to the promising reorganization in the tech sector, new trends and competition in tech driving innovation and growth, and its constituents' proven ability to weather headwinds, maintain consistency, and capture upside.

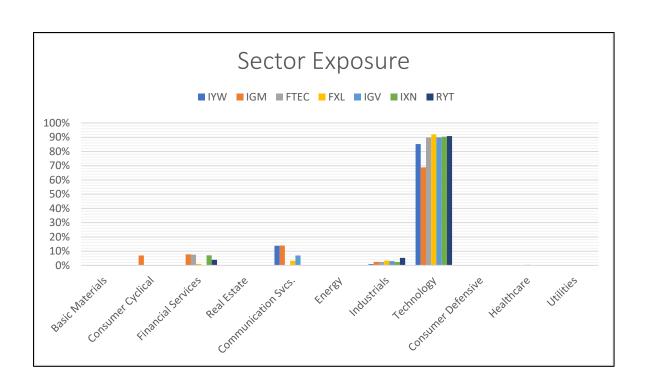


APPENDIX

UP/DOWN	Up	Down	Up	Down	Rank	Rank
CAPTURE	Capture	Capture	Capture	Capture	Kank	Kank
IYW	138	109	128	107	2	2
IGM	133	113	121	115	6	6
FTEC	140	107	130	106	1	1
FXL	136	114	123	110	5	5
IGV	121	102	102	106	7	7
IXN	135	108	130	109	3	2
RYT	135	111	125	110	4	4
Index/Category	122	112	109	108		

	IYW	<u>IGM</u>	FTEC	<u>FXL</u>	<u>IGV</u>	<u>IXN</u>	<u>RYT</u>	Index/Category
Basic Materials	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Consumer Cyclical	0.0%	6.9%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
Financial Services	0.1%	7.8%	7.5%	1.0%	0.0%	7.0%	3.9%	0.0%
Real Estate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Communication Svcs.	13.8%	13.9%	0.1%	3.2%	6.9%	0.0%	0.0%	0.0%
Energy	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrials	0.9%	2.5%	2.5%	3.4%	3.1%	2.4%	5.2%	0.1%
Technology	85.2%	68.9%	89.8%	92.0%	90.0%	90.4%	90.9%	99.9%
Consumer Defensive	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Healthcare	0.1%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%
Utilities	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%





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