

# Harbor Disruptive Innovation Fund

Harbor Capital Advisors, Inc.

Manager Since 09/01/2021

<b>Total Net Assets - All Classes</b>	\$99,031,123
<b>Equity Assets:</b>	97.16%
<b>Cash &amp; Other Assets Less Liabilities:</b>	2.84%
<b>Benchmark 1 Name:</b>	S&P 500 Index
<b>Benchmark 2 Name:</b>	Russell 3000® Growth Index

## Portfolio Managers



Spenser Lerner, CFA



Kristof Gleich, CFA

## Investment Philosophy

The Fund invests primarily in equity securities, principally common and preferred stocks of all cap companies. Under normal market conditions, the Fund invests at least 80% of its net assets, plus borrowings for investment purposes, in securities of U.S. domiciled companies. The Fund employs a multi-manager approach to achieve its investment objective. As the Fund's investment advisor, Harbor Capital Advisors, Inc. ("Harbor Capital") assumes responsibility of selecting and overseeing underlying managers for the Fund. Each underlying manager is responsible for submitting a model portfolio to Harbor Capital which the portfolio managers will implement in their discretion. The Fund seeks to invest in companies that are innovative and disruptive. The Fund defines innovation and disruption by those companies that are generating secular growth - that growth is typically tied to accelerating shifts in the global economy. The Fund may invest up to 20% of its total assets in the securities of foreign issuers, including issuers located or doing business in emerging markets.

## CHARACTERISTICS & ALLOCATION

As of 12/31/2022

Portfolio Characteristics			
	Portfolio	Bench 1	Bench 2
Number of Holdings	96	503	1,621
Wtd Avg Market Cap (\$Mil)	159,288.40	417,468.30	588,302.90
Med Cap - # Stocks (\$Mil)	15,352.00	29,552.00	2,140.00
Price/Book Ratio	6.74	5.43	10.30
Adjusted Trailing P/E Ratio	38.80	24.20	25.80
% EPS Growth - Past 3 Yr	29.60	18.70	22.60
Return on Equity (%)	7.04	24.92	32.07
Beta vs. Fund Benchmark	1.13		
Forecasted P/E Ratio	38.00	21.00	24.10

Economic Sectors			
	Portfolio %	Bench 1 %	Bench 2 %
Information Technology	50.14	25.75	41.58
Health Care	22.77	15.84	13.83
Consumer Discretionary	10.74	9.79	13.84
Communication Services	7.05	7.28	6.47
Materials	2.39	2.75	1.62
Utilities	2.17	3.19	0.15
Financials	1.37	11.65	3.34
Industrials	0.53	8.65	8.63
Consumer Staples	0.00	7.18	5.97
Energy	0.00	5.21	2.01
Real Estate	0.00	2.72	1.63

Top 10 Holdings			
	Portfolio %	Bench 1 %	Bench 2 %
Workday Inc. Class A	3.64	0.00	0.18
Lam Research Corporation	3.54	0.18	0.31
Adyen NV	3.38	0.00	0.00
ServiceNow Inc.	3.33	0.24	0.43
Amazon.com Inc.	3.00	2.32	4.09
Okta Inc. Class A	2.91	0.00	0.01
MercadoLibre Inc.	2.83	0.00	0.00
Microchip Technology Incorporated	2.65	0.12	0.17
Cadence Design Systems Inc.	2.63	0.14	0.24
T-Mobile US Inc.	2.43	0.26	0.00
<b>Total</b>	<b>30.34</b>	<b>3.26</b>	<b>5.43</b>

Top 10 Industries			
	Portfolio %	Bench 1 %	Bench 2 %
Software	21.93	8.36	15.67
IT Services	14.46	4.47	6.99
Semiconductors	13.75	5.10	7.01
Biotechnology	11.44	2.49	3.79
Internet & Direct Market	7.11	2.44	4.27
Life Sciences Tools	5.24	1.94	1.36
Health Care Equip	3.90	2.83	2.37
Interactive Media	3.82	3.98	5.28
Wireless Telecom Serv	2.43	0.26	0.00
Containers & Packaging	2.39	0.29	0.23
<b>Total</b>	<b>86.47</b>	<b>32.16</b>	<b>46.97</b>

Market Capitalization		
		Portfolio %
Large	Above 25.0B	64.48
	10.0B - 25.0B	16.19
Mid	5.0B - 10.0B	7.15
	1.0B - 5.0B	8.84
Small	0.0 - 1.0B	3.33



### Average Annual Returns

Share Class	Ticker	CUSIP	3 Months	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Inception	Inception Date	Net Expense Ratio %	Gross Expense Ratio %
<b>Institutional</b>	HAMGX	411511876	-1.90%	-44.40%	-44.40%	-4.20%	3.75%	8.89%	4.49%	11/01/00	0.88	0.88
<b>Administrative Investor</b>	HRMGX	411511793	-1.97%	-44.43%	-44.43%	-4.40%	3.50%	8.62%	9.42%	11/01/02	1.13	1.13
<b>Retirement</b>	HIMGX	411511785	-1.89%	-44.48%	-44.48%	-4.51%	3.40%	8.51%	9.29%	11/01/02	1.24	1.24
	HNMGX	411512510	-1.88%	-44.33%	-44.33%	-4.12%	3.82%	8.95%	4.52%	03/01/16	0.80	0.80
S&P 500 Index			7.56%	-18.11%	-18.11%	7.66%	9.42%	12.56%	6.60%	11/01/00		
Russell 3000® Growth Index			2.31%	-28.97%	-28.97%	7.32%	10.45%	13.75%	6.01%	11/01/00		

## MANAGER COMMENTARY

As of 12/31/2022

**“While markets remain transfixed by the economic overhang of high inflation and higher rates, we may be moving toward a narrowing of expectations and outcomes, which would be positive for equities.”**

Harbor Capital Advisors, Inc

### Market in Review

U.S. equities closed out 2022 much the way they began the year—with a series of lower highs and lower lows—amid high volatility. Inflation fears and the U.S. Federal Reserve’s (“Fed”) reaction was the central storyline throughout the year, as policy transitioned from highly accommodating to rapidly tightening across the globe.

As has been the case for the year, sectors not normally associated with growth stocks, such as Materials, Utilities, Financials, and Industrials, did well. Traditional growth areas, such as Information Technology and Communication Services, were positive but lagged other areas. Health Care, which spans growth and value, did well. While markets remain transfixed by the economic overhang of high inflation and higher rates, we may be moving toward a narrowing of expectations and outcomes, which would be positive for equities.

Retirement Class shares commenced operations on March 1, 2016. The performance attributed to the Retirement Class shares prior to that date is that of the Institutional Class shares. Performance prior to March 1, 2016 has not been adjusted to reflect the lower expenses of Retirement Class shares. During this period, Retirement Class shares would have had returns similar to, but somewhat higher than, Institutional Class shares due to the fact that Retirement Class shares represent interests in the same portfolio as Institutional Class shares but are subject to lower expenses.

Expense ratio information is as of the Fund's current prospectus, as supplemented. Gross expenses are the Fund's total annual operating expense.

Performance data shown represents past performance and is no guarantee of future results. Past performance is net of management fees and expenses and reflects reinvested dividends and distributions. Past performance reflects the beneficial effect of any expense waivers or reimbursements, without which returns would have been lower. Investment returns and principal value will fluctuate and when redeemed may be worth more or less than their original cost. Returns for periods less than one year are not annualized. Current performance may be higher or lower and is available through the most recent month end at harborcapital.com or by calling 800-422-1050.



### Portfolio Performance

During the fourth quarter of 2022, the Harbor Disruptive Innovation Fund (Institutional Class, “Fund”) returned –1.90%, underperforming its benchmark, the Russell 3000® Growth Index, which returned 2.31%, and the S&P 500® Index, which returned 7.56%.

The overweight to the Health Care sector during the quarter added to relative performance, while stock selection in Information Technology, Consumer Discretionary, and Health Care detracted. From a stylistic perspective, the bulk of underperformance is attributed to factor headwinds, such as the impact from overweights to beta, growth, and volatility, alongside an underweight to earnings yield.

### Contributors & Detractors

Microchip Technology, a semiconductor company, was the top relative contributor during the quarter. Shares of Microchip traded higher because of strong earnings and the cyclical momentum around semiconductor stocks during the early part of the quarter.

Lam Research, also operating in the semiconductor space, was a significant contributor to performance. The company reported strong earnings, alongside positive guidance with respect to revenue growth and margins.

Software company Atlassian was the largest detractor from relative performance during the quarter. Shares of Atlassian were down sharply after the business reported quarterly earnings results in November. Guidance provided around slower cloud-revenue growth drove the market’s negative reaction.

Wolfspeed, another semiconductor company, also detracted from relative performance, as the stock declined on a disappointing earnings report.

### Buys & Sells

Progressive Corporation was purchased during the quarter. Progressive is an insurance company that the Fund’s investment team believes can bring compelling products to market and increase market share through its innovative use of data. The company is also a beneficiary of higher interest rates.

During the quarter, the Fund sold its position in Paramount on concerns about the company’s ability to grow its streaming business and the value of its content.

### Outlook

Interest rate policy stole the spotlight in 2022—and although central government policy is far from settled—the range of outcomes may be coming into focus. Industries and companies that benefited from cheap money and low rates must now stand on the success of their business models and competitive distinction. At the same time, businesses must evaluate the post-pandemic world to determine what lockdown-influenced behavior was temporary—and what may persist. This narrowing of economic and rate expectations could be a positive backdrop for equities in 2023, but one where companies and their stock prices separate from one another.



## Best &amp; Worst Performers

Best Performers	Average Weight %	Return %
Akouos Inc.	0.26	94.23
Replimune Group Inc.	0.51	57.50
DexCom Inc.	0.88	40.60
Avidity Biosciences Inc	0.56	35.88
Shopify Inc. Class A	0.83	28.84

Worst Performers	Average Weight %	Return %
Tesla Inc	2.03	-53.56
Chart Industries Inc.	0.33	-50.39
Allogene Therapeutics Inc.	0.37	-41.76
Atlassian Corp Class A	2.20	-38.90
Catalent Inc	0.28	-37.80

## Contributors &amp; Detractors

Greatest Contributors	Return %	Contribution to Return %
Microchip Technology Incorporated	15.63	0.63
Lam Research Corporation	15.25	0.61
Akouos Inc.	94.23	0.47
Okta Inc. Class A	20.15	0.46
Bicycle Therapeutics Plc Sponsored ADR	27.26	0.32
<b>Total</b>		<b>2.49</b>

Greatest Detractors	Return %	Contribution to Return %
Tesla Inc	-53.56	-1.51
Atlassian Corp Class A	-38.90	-1.13
Amazon.com Inc.	-25.66	-0.93
Wolfspeed Inc	-33.20	-0.45
Chart Industries Inc.	-50.39	-0.44
<b>Total</b>		<b>-4.46</b>

Performance data shown represents past performance and is no guarantee of future results. Past performance is net of management fees and expenses and reflects reinvested dividends and distributions. Past performance reflects the beneficial effect of any expense waivers or reimbursements, without which returns would have been lower. Investment returns and principal value will fluctuate and when redeemed may be worth more or less than their original cost. Returns for periods less than one year are not annualized. Current performance may be higher or lower and is available through the most recent month end at [harborcapital.com](http://harborcapital.com) or by calling 800-422-1050.



**Quarterly Attribution:**

Harbor Disruptive Innovation Fund vs S&P 500 Index

**Performance**

	Portfolio	Benchmark	Active
Return Ex Currency	-2.35	7.56	-9.91
Currency Contribution	0.50	0.00	0.50
<b>Total Return</b>	<b>-1.85</b>	<b>7.56</b>	<b>-9.41</b>

Sector Attribution	Average Weight			Total Return			Contribution to Return		Attribution Analysis		
	Port. Avg. Wgt.	Bench. Avg. Wgt.	Variation in Avg. Wgt.	Port. Total Return	Bench. Total Return	Variation in Total Return	Port. Contribution To Return	Bench. Contribution To Return	Allocation Effect	Selection Effect	Total Effect
Real Estate	0.00	2.68	-2.68	0.00	3.82	-3.82	0.00	0.10	0.12	0.00	0.12
Utilities	1.24	3.03	-1.79	7.15	8.64	-1.49	0.08	0.24	0.03	-0.01	0.02
Materials	2.35	2.64	-0.29	6.21	15.05	-8.84	0.15	0.37	-0.02	-0.19	-0.20
Consumer Staples	0.00	6.98	-6.98	0.00	12.72	-12.72	0.00	0.84	-0.35	0.00	-0.35
Health Care	22.22	15.36	6.86	7.87	12.80	-4.93	1.61	1.86	0.37	-1.05	-0.68
Financials	0.43	11.43	-11.00	-35.27	13.61	-48.88	-0.10	1.53	-0.60	-0.11	-0.71
Energy	0.00	5.19	-5.19	0.00	22.81	-22.81	0.00	1.08	-0.72	0.00	-0.72
Communication Services	8.07	7.54	0.53	-9.21	-1.38	-7.83	-0.79	-0.07	-0.12	-0.66	-0.79
Industrials	0.33	8.36	-8.03	-50.39	19.22	-69.61	-0.44	1.48	-0.87	-0.46	-1.33
Consumer Discretionary	11.62	10.61	1.01	-20.96	-10.18	-10.78	-2.60	-1.11	-0.19	-1.49	-1.68
Information Technology	50.59	26.18	24.41	0.38	4.74	-4.36	0.21	1.25	-0.67	-2.08	-2.75
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>-1.85</b>	<b>7.56</b>	<b>-9.41</b>	<b>-1.85</b>	<b>7.56</b>	<b>-3.36</b>	<b>-6.05</b>	<b>-9.41</b>

**Quarterly Attribution:**

Harbor Disruptive Innovation Fund vs Russell 3000® Growth Index

**Performance**

	Portfolio	Benchmark	Active
Return Ex Currency	-2.35	2.31	-4.66
Currency Contribution	0.50	0.00	0.50
<b>Total Return</b>	<b>-1.85</b>	<b>2.31</b>	<b>-4.16</b>

Sector Attribution	Average Weight			Total Return			Contribution to Return		Attribution Analysis		
	Port. Avg. Wgt.	Bench. Avg. Wgt.	Variation in Avg. Wgt.	Port. Total Return	Bench. Total Return	Variation in Total Return	Port. Contribution To Return	Bench. Contribution To Return	Allocation Effect	Selection Effect	Total Effect
Utilities	1.24	0.16	1.08	7.15	5.50	1.65	0.08	0.01	-0.02	0.11	0.09
Health Care	22.22	13.42	8.80	7.87	11.19	-3.32	1.61	1.38	0.77	-0.70	0.07
Materials	2.35	1.62	0.73	6.21	8.76	-2.55	0.15	0.14	0.04	-0.05	-0.01
Real Estate	0.00	1.61	-1.61	0.00	3.97	-3.97	0.00	0.06	-0.02	0.00	-0.02
Consumer Discretionary	11.62	15.08	-3.46	-20.96	-14.83	-6.13	-2.60	-2.33	0.64	-0.84	-0.21
Energy	0.00	2.07	-2.07	0.00	13.70	-13.70	0.00	0.26	-0.22	0.00	-0.22
Financials	0.43	3.34	-2.91	-35.27	8.47	-43.74	-0.10	0.27	-0.16	-0.08	-0.24
Communication Services	8.07	6.82	1.25	-9.21	-6.27	-2.94	-0.79	-0.39	-0.16	-0.27	-0.42
Consumer Staples	0.00	5.75	-5.75	0.00	10.06	-10.06	0.00	0.55	-0.43	0.00	-0.43
Information Technology	50.59	41.77	8.82	0.38	3.35	-2.97	0.21	1.29	0.09	-1.36	-1.27
Industrials	0.33	8.36	-8.03	-50.39	14.32	-64.71	-0.44	1.08	-0.91	-0.45	-1.36
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>-1.85</b>	<b>2.31</b>	<b>-4.16</b>	<b>-1.85</b>	<b>2.31</b>	<b>-0.52</b>	<b>-3.64</b>	<b>-4.16</b>

Past performance is not a guarantee of future results.

### Risks

There is no guarantee that the investment objective of the Fund will be achieved. Stock markets are volatile and equity values can decline significantly in response to adverse issuer, political, regulatory, market and economic conditions. Since the Fund may hold foreign securities, it may be subject to greater risks than funds invested only in the U.S. Investing in REITs will subject the Fund to additional risk. Investing in international and emerging markets poses special risks, including potentially greater price volatility due to social, political and economic factors, as well as currency exchange rate fluctuations. These risks are more severe for securities of issuers in emerging market regions.

### Benchmarks

The Standard & Poor's 500 Index is an unmanaged index generally representative of the U.S. market for large capitalization equities. The Russell 3000® Growth Index measures the performance of the broad growth segment of the US equity universe. It includes Russell 3000 Index companies with higher price-to-book ratios and higher forecasted growth values. It is market-capitalization weighted. These unmanaged indices do not reflect fees and expenses and are not available for direct investment. The Russell 3000® Growth Index and Russell® are trademarks of Frank Russell Company.

### Disclosures

All holdings-related data is provided by FactSet. Because FactSet relies on external sources for its data, that data may differ slightly from actual values maintained by Harbor Funds.

Due to the security valuation procedures of the Fund and intra-day trading activity not included in the FactSet calculations, the actual returns may vary. From time to time the cash return in the portfolio may appear distorted based on the way FactSet's attribution calculation methodology addresses delayed settlements.

Earnings per share (EPS) is the portion of a company's profit allocated to each outstanding share. EPS Growth Rate is calculated by subtracting the initial EPS from the final EPS and dividing the change in EPS by the initial EPS. The Adjusted Trailing P/E (Price/ Ratio is the closing stock price divided by the sum of the last 12 months actual EPS. The Forecast P/E Ratio is the closing stock price divided by the sum of the next4quarters estimated EPS. All P/E, ROE and P/B statistics are calculated as weighted medians.

Return on Equity (ROE) is the measure of a company's net income divided by its shareholders' equity.

Price-to-Book (P/B) Ratio compares a company's market value to its book value. The market value of a company is its share price multiplied by the number of outstanding shares. The book value is the net assets of a company.

Views expressed herein are drawn from commentary provided to Harbor by the subadvisor and may not be reflective of their current opinions or future actions, are subject to change without prior notice, and should not be considered investment advice.

This information should not be considered as a recommendation to purchase or sell a particular security. The weightings, holdings, industries, sectors, countries, and returns mentioned may change at any time and may not represent current or future investments.

As a result of changing market conditions, total net asset levels, expenses and other statistics may change at any time and may differ from those shown.

The total amount shown for sector, industries, or country holdings may be greater than 100% because of the inclusion of derivatives and the collateral securities supporting those instruments.

Sector allocations are determined using the Global Industry Classification Standard (GICS), which is a service of Morgan Stanley Capital International (MSCI) and Standard & Poor's (S&P).

**Investors should carefully consider the investment objectives, risks, charges and expenses of a fund before investing. To obtain a summary prospectus or prospectus for this and other information, visit [harborcapital.com](http://harborcapital.com) or call 800-422-1050. Read it carefully before investing.**

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### Attribution Disclosures

Linked Performance by Sectors data is produced from FactSet using data supplied by State Street Bank and Trust Company.

Active Currency Contribution is the Currency Contribution of the portfolio minus the Currency Contribution of the benchmark.

Allocation Effect is the portion of portfolio excess return that is attributable to taking different group bets from the benchmark. (If either the portfolio or the benchmark has no position in a given group, allocation effect is the lone effect.) A group's allocation effect equals the average percent capitalization of the portfolio's group minus the average percent cap of the benchmark's group times the total return of the benchmark group minus the total return of the benchmark.

Average Weight is the dollar value (price times the shares held) of the security or group, divided by the total dollar value of the entire portfolio displayed as a percentage. It is calculated as the simple arithmetic average of daily values.

Contribution to Return is the contribution of a security or group to the overall portfolio return. It is calculated as the security weight multiplied by the daily security return linked daily across the reporting period.

Currency Contribution is Total Return in USD subtracting out the Local Returns.

Local Returns are the Total Return of the portfolio or benchmark using the local currency.

Selection Effect is the portion of portfolio excess return attributable to choosing different securities within groups from the benchmark. A group's security selection effect equals the average weight of the benchmark's group times the total return of the portfolio's group minus the total return of the benchmark's group.

Total Effect is the sum of Allocation Effect and Selection Effect. The total effect represents the opportunity cost of what was done in a group relative to the overall portfolio. It is not just the difference between percent contribution in the portfolio and benchmark. At the overall portfolio level, the two numbers are equal. At the group level, they can be different.

Total Return is the price change of a security or group including dividends accrued over the report period (or the in-portfolio return) which includes only the time period that each security was in the portfolio.

### Definitions

Beta is a measure of systematic risk, or the sensitivity of a fund to movements in the benchmark. A beta of 1 implies that the expected movement of a fund's return would match that of the benchmark used to measure beta.