

# ARK GLOBAL DISRUPTIVE INNOVATION FUND

## Net returns as at 31 May 2023

	1 month	3 months	6 months	1 year	2 years p.a.	3 years p.a.	Since inception* p.a.
Fund growth return	14.52	7.16	13.01	1.89	-33.08	-12.34	-1.80
Fund distribution return	0.00	0.00	0.00	0.00	0.00	0.07	0.05
Total Fund return <sup>‡</sup>	14.52	7.16	13.01	1.89	-33.08	-12.28	-1.75
MSCI All Countries World Index <sup>^</sup>	1.02	7.79	7.05	11.79	6.04	11.00	9.04

*Past performance is not a reliable indicator of future performance. Taxes payable by investors have not been taken into account. The figures shown have been provided for illustrative purposes – they are unaudited and subject to change. The total returns shown are prepared on an exit to exit basis – they include all ongoing fees and expenses and assume reinvestment of all distributions.*

\* Inception date of the ARK Global Disruptive Innovation Fund: August 2018.

‡ Total Fund net returns are post fees, pre tax using redemption prices and assume reinvestment of distributions. Fund growth return is the change in redemption prices over the period. Fund distribution return equals Total Fund minus Fund growth return. Past performance is not an indicator of future performance.

<sup>^</sup> Reference Index shown for illustrative purposes only: MSCI All Countries World Index (with net dividends reinvested) expressed in Australian Dollars (unhedged).

### Portfolio review

The Fund outperformed broad based global equities during the month (net).

Key contributors to absolute performance:

- **Tesla** shares rallied following a positive response to the company's annual shareholder meeting, where co-founder J.B. Straubel was elected to the board of directors. The company reaffirmed its promise to deliver its first Cybertrucks this year, and announced that the company will begin advertising.
- **CRISPR Therapeutics** shares rallied on the back of strong first quarter results. The Swiss biotech reported \$100 million in revenue from its collaboration with Vertex Pharmaceuticals ahead of a potential FDA review for the gene-editing therapy exa-cel.
- **Exact Sciences** delivered a first quarter earnings beat, causing its shares to appreciate. The company posted revenue growth of 24% year-over-year. It also expects to turn free cash flow positive during 2023, ahead of the previous target of 2024.
- **Twilio** shares rallied after activist investor Legion Partners met with the company and is pushing the communications tech company to make board changes and evaluate divestitures. Twilio is a leading provider of customer-focused IP and programmatic communications with developer-friendly APIs, global connectivity, and industry-leading reliability.
- **UiPath** shares rallied on the back of an earnings beat in the first quarter, reporting revenue growth of 18% year-over-year. However, the stock did retreat due to

weaker second quarter guidance. UiPath provides a suite of robotic process automation (RPA) products that automates complex processes under specified compliance and governance standards.

Key detractors from absolute performance:

- Shares of **Teladoc** traded down on relatively little company-specific news. ARK believes Teladoc's focus on data science at scale across multiple care categories (e.g. acute, ambulatory, and chronic settings) will offer the broadest, most entrenched care package in the virtual healthcare market.
- **2U** missed its first quarter earnings and faces some regulatory uncertainty, which caused the stock to depreciate. In ARK's view, 2U's cloud infrastructure offers the best online education platform in the US and perhaps the world. ARK believes that its acquisition of edX, a massive online course provider created by Harvard and MIT, will be game-changing. 2U's ability to help institutions lower costs should put it in a good light as the US reviews the regulatory framework around education.
- **PagerDuty** shares traded down on relatively little company-specific news. PagerDuty is a SaaS company that helps companies manage alerts and ensure high service quality and uptime.
- Despite an earnings beat in the first quarter, **Invitae** shares traded down amid concerns about its high cash burn and its net loss widening. ARK believes Invitae is likely to become the central provider of molecular diagnostics due to its cost competitiveness, end-to-end testing automation,

COGS reductions, high service level, and unmatched platform flexibility.

- Cerus delivered mixed first quarter results, likely due to investor concerns over cash burn. Cerus is a biomedical products company that supplies hardware and consumables under its flagship brand INTERCEPT with the goal of enhancing blood transfusion safety.

## Market outlook

Broad-based global equity indexes (as measured by the MSCI World) depreciated slightly. Artificial Intelligence (AI) dominated the market's focus following NVIDIA's first-quarter report that blew away expectations. The explosion in demand for AI hardware is pointing toward potentially significant revenue growth for software companies. During the next five to ten years, according to ARK's current estimates, software will generate eight dollars in revenue for every dollar of demand for AI hardware, as companies are purchasing AI hardware to deliver AI-powered products and services. In what could be "winner take most" opportunities, those focused on activating AI with strong proprietary data and distribution advantages should be best positioned to capitalize on AI use cases and reap the dramatic productivity gains associated with the promise of generative AI.

Relative to the MSCI World Index, the Technology, Communication Services, and Consumer Discretionary sectors outperformed in May, while the Energy, Materials, and Consumer Staples sectors lagged. Some of the largest beneficiaries of the rotation to cyclical, Energy and Financial Services, could be disrupted significantly during the next five years. In ARK's view, autonomous electric vehicles and digital wallets, including blockchain technologies, cryptocurrencies, and decentralized financial services (DeFi), will disrupt and disintermediate both Energy and Financial Services.

Since March 2021, the yield curve (as measured by the difference between yields on the 10-year Treasury bond and the 2-year Treasury note) has flattened 235 basis points, from 159 to -76 basis points, suggesting that if the Federal Reserve does not pull back its rate increases, both real growth and inflation could continue to surprise on the low side of expectations. US consumer sentiment (as of May 2023, measured by the University of Michigan) remains at levels slightly above those last seen during the 2008-2009 Global Financial Crisis and the early 1980s when the economy suffered two recessions and inflation and interest rates hit double digits, but is still well below levels seen during COVID. Meanwhile, according to Federal Reserve Economic Data (FRED), the consumer saving rate has collapsed from 33% to 4.1%, near levels last seen during the 2008-2009 Global Financial Crisis, suggesting that consumers do not have the means for significant real consumption growth. Additionally, the plummeting willingness of banks to lend is a worrying sign, as it often

precedes an impending recession. The demand for commercial and industrial loans has reached levels seen before previous recessions. Adding to the concerns, credit card balances have reached a record level, nearing USD \$1 trillion, making it the third largest category of non-housing debt. With interest rates on credit cards surging to 21%, the burden of credit card debt has intensified. Meanwhile, interest rate futures are pricing in a slowdown or recession, as recent economic data and comments from the U.S. Federal Reserve indicate a slower pace of interest rate cuts. Investors now expect just two more rate hikes before interest rates start to decline, and if the slowdown turns into a hard landing, the interest rate decline could steepen.

In ARK's view, deflation is a more significant risk than inflation, with commodity prices and leading economic indicators falling. The prices of gold, copper, and lumber, three commodities that led or flagged the rise in broad-based inflation, are down 4%, 25%, and 71% from their post-COVID closing price peaks. The combination of geopolitical forces and inventory hoarding pushed US consumer price inflation, a lagging indicator of inflation, to 4.9% on a year-over-year basis, a rate that ARK believes deflationary forces, good, bad, and cyclical, will continue to unwind.

Innovation is the source of good deflation, as learning curves cut costs and increase productivity. Yet, ARK believes many companies have catered to the short-term-oriented, risk-averse shareholders and have satisfied demands for profits/dividends "now". As a result, many have leveraged their balance sheets to buy back stock, bolster earnings, and increase dividends. In so doing, many have curtailed investments in innovation and could be ill-prepared for the impact of disintermediation associated with disruptive innovation. Saddled with aging products and services, they could be forced to cut prices to clear unwanted inventories and service debt, causing bad deflation.

If ARK is correct in their assessment that growth, inflation, or both will surprise on the low side of expectations, scarce double-digit growth opportunities should be rewarded accordingly. The adoption of new technologies typically accelerates as concerned businesses and consumers change their behavior much more rapidly than otherwise would be the case, giving new leadership an opportunity to surface in the equity market. ARK believes the coronavirus crisis and Russia's invasion of Ukraine have transformed the world significantly and permanently, suggesting that many innovation-driven strategies and stocks could be productive holdings during the next five to ten years.

In ARK's view, the wall of worry built on the back of high multiple stocks bodes well for equities in the innovation space. The strongest bull markets do climb a wall of worry, a fact that those making comparisons to the tech and

telecom bubble seem to forget. No wall of worry existed or tested the equity market in 1999. This time around, the wall of worry has scaled to enormous heights.

While the 2022 bear market obscured many disruptive breakthroughs, innovation continued apace thanks to artificial intelligence (AI), genomics, and space exploration, among others. ChatGPT, a version of GPT-3 tuned for conversation dialogue, already scores above the national average on SAT questions, highlighting the power of AI. In the UK, a research hospital used an advanced version of gene editing called base editing to cure a 12-year-old girl with leukemia who had failed dozens of therapies. SpaceX launched 61 Falcon9 rockets, reusing the last one within 21 days, compared to 356 days for the first one. In ARK's view, companies sacrificing short-term profitability to invest heavily in innovative technologies will enjoy exponential and highly profitable long-term growth opportunities.

### Top 10 holdings (underlying Fund\*)

Security Name	% of Fund
Tesla Inc	9.7
Roku Inc	7.4
Zoom Video Communications Inc	7.3
Block Inc	5.8
Coinbase Global Inc	5.7
UiPath Inc	4.9
CRISPR Therapeutics AG	4.2
DraftKings Inc	4.2
Twilio Inc	4.2
Exact Sciences Corp	3.9

\* The Fund invests in the Nikko AM ARK Disruptive Innovation Fund (Underlying Fund), a sub-fund of the Nikko AM Global Umbrella Fund. The Underlying Fund is an open-ended investment company (Company) established under Luxembourg law as a 'société d'investissement à capital variable' (SICAV).

### Region exposure (underlying Fund\*)

United States	89.95%
Switzerland	4.22%
Canada	3.89%
Belgium	0.69%
Sweden	0.43%
Taiwan	0.11%

### Portfolio composition (underlying Fund\*)

Element	Exposure (%)
Cloud Computing	17.7
Digital Media	13.5
E-Commerce	8.8
Gene Therapy	8.0
Instrumentation	7.5
Big Data & Machine Learning	7.4
Blockchain & P2P	5.8
Internet of Things	5.4
Mobile	5.3
Beyond DNA	3.8
Molecular Diagnostics	3.4
Energy Storage	3.2
Social Platforms	2.3
Bioinformatics	2.0
Autonomous Vehicles	1.2
3D Printing	1.1
Development of Infrastructure	1.0
Targeted Therapeutics	1.0
Robotics	0.9
Next Generation Oncology	0.7

### Features

<b>Investment objective</b>	The Fund aims to achieve a target average total return (before fees, expenses and taxes) of 10% to 15% per annum over a rolling five year period.	
<b>Recommended investment time frame</b>	7+ years	
<b>Fund inception</b>	August 2018	
<b>Fund size</b>	A\$59.9mn as at 31 May 2023	
<b>APIR code</b>	NIK1854AU	
<b>Estimated management cost</b>	1.35% p.a.	
<b>Buy/sell spread</b>	+/- 0.20%	
<b>Platform availability</b>	Asgard BT Panarama Hub24 Macquarie Wrap Mason Stevens Netwealth	OneVue Praemium uXchange Wealth02

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## Applications and contacts

Investment into the ARK Global Disruptive Innovation Fund can be made by Australian resident investors only.

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