

WisdomTree European thematic Monthly update

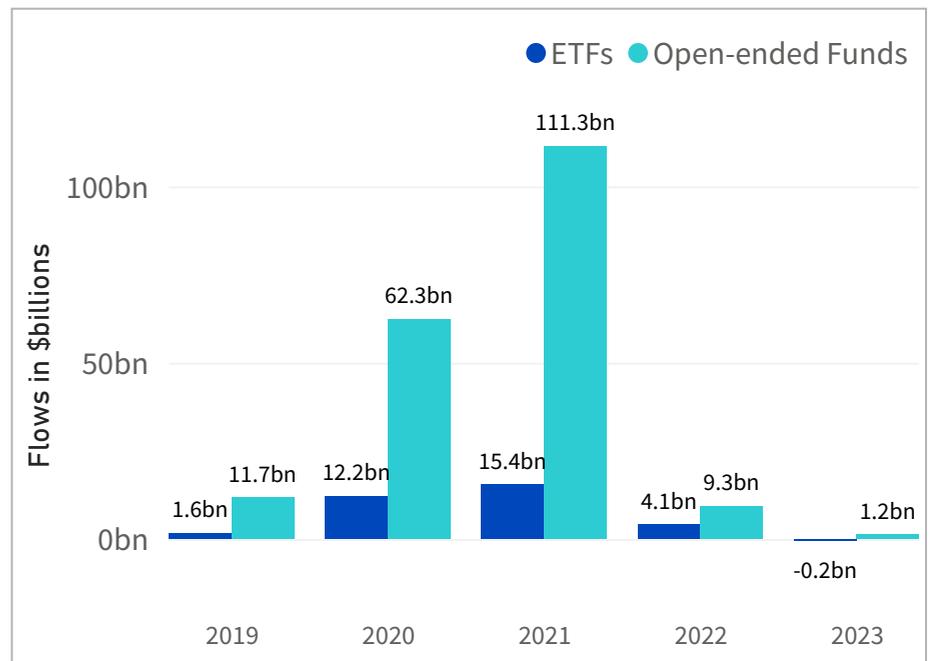
February 2023

Thematic universe overview

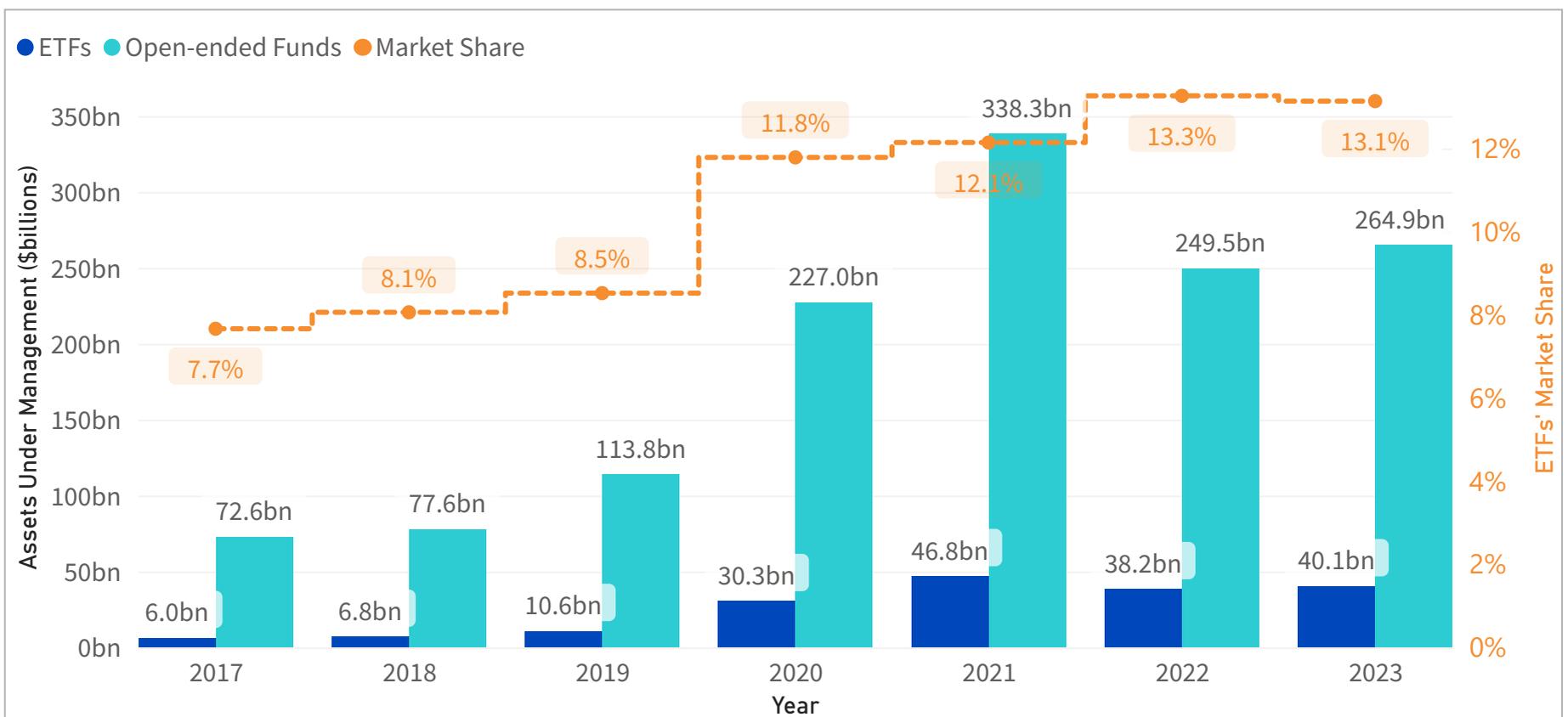
+ AUM in thematic Exchange Traded Funds (“ETFs”) and open-ended funds stands at \$305 billion as of the end of February 2023. ETFs’ market share remains quite stable at 13.1% with a total AUM of \$40.1 billion. In the first two months of 2023, good performance across many themes has led to a rebound of the overall assets under management, resulting in a total increase of \$17.3 billion year-to-date.

+ Overall flows have remained positive in 2023, with \$0.9 billion across ETFs and open-ended funds. However, despite the good performance early in the year, we do not yet observe a rebound of interest to 2021 or 2020 levels.

Recent yearly flows in Europe



Europe-domiciled thematic AUM evolution and ETFs’ market share



Source: WisdomTree, Morningstar, Bloomberg. All data as of 28/02/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

Thematic universe overview (continued)

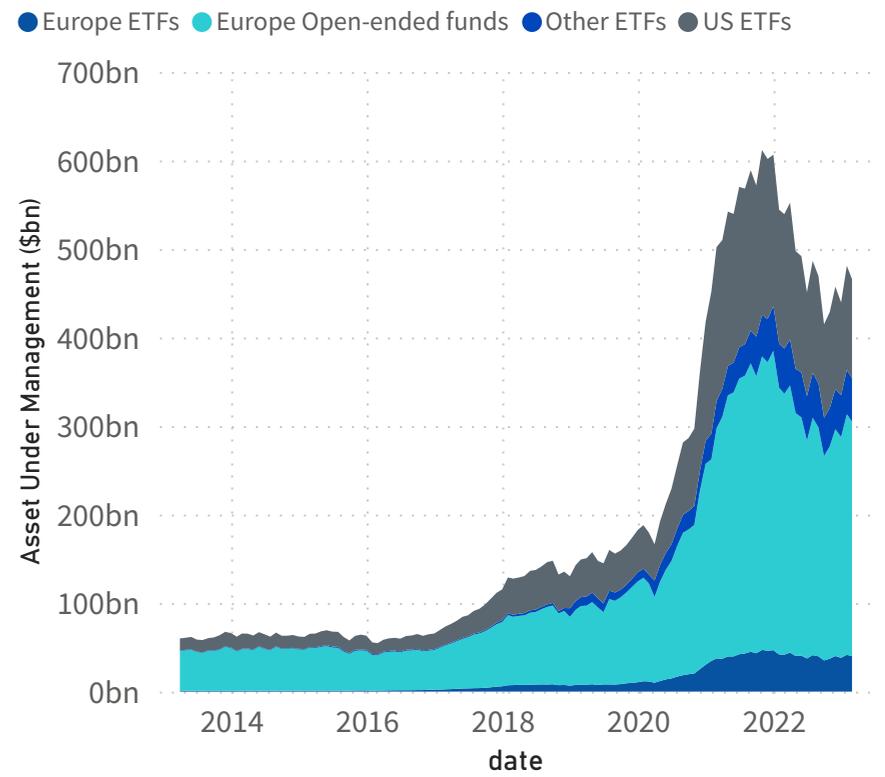
+ Globally, AUM in thematic strategies continued to rebound in 2023, from \$440 billion in December to \$466 billion at the end of February, helped by strong thematic performance in January and despite some correction in February. AUM are still down \$141 billion from their peak on 31 December 2021.

+ Year to date, US ETFs have seen the largest increase in AUM with a growth of 6.8%. This is followed by growth in open ended mutual funds with 6.2% and European ETFs with 5%.

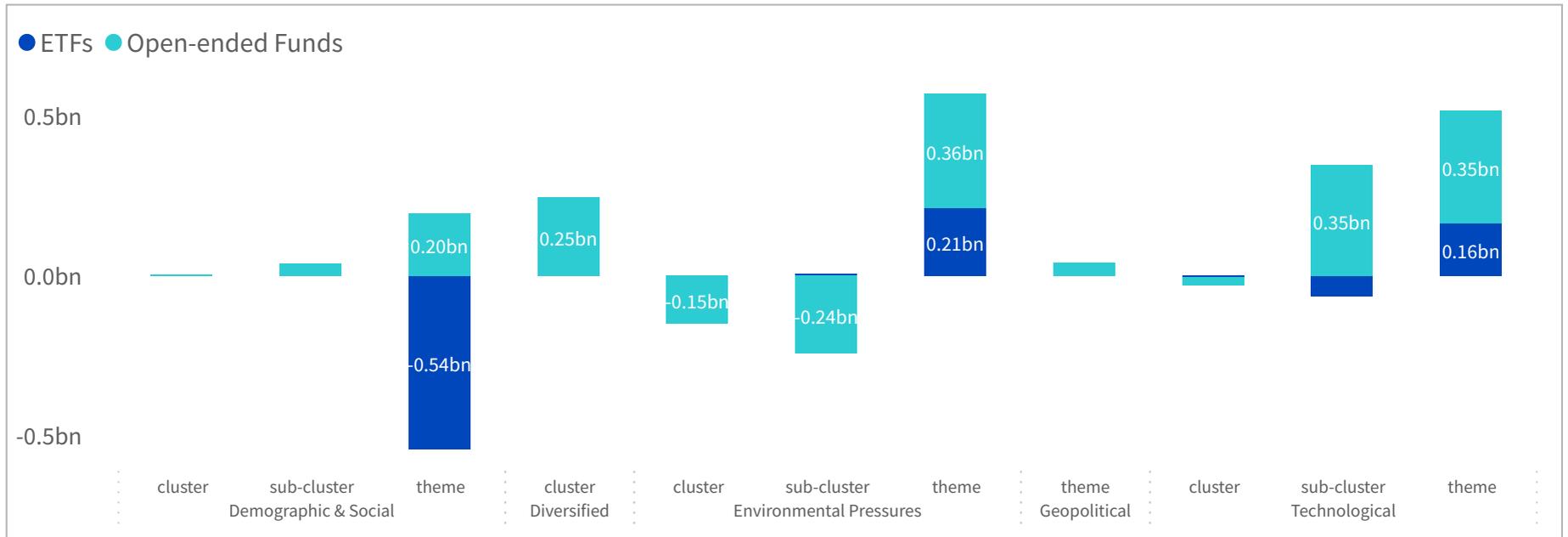
+ In a complete reversal from last year trends, Open-ended funds and ETFs have gathered the most flows in the "Technological Shifts" cluster, in line with markets' expectations of a pivot. Within both wrappers, most of the year-to-date flows went into both the theme-focused strategies and more diversified wrappers within the sub-cluster "Disruptive Technologies".

+ In the "Environmental Pressures" clusters, we observe that open-ended funds suffered outflows in multi-thematic strategies focused on climate change or energy transition. At the same time, in strategies focused on single themes, 'Sustainable Energy Production' and 'Sustainable Food' suffered outflows in ETFs.

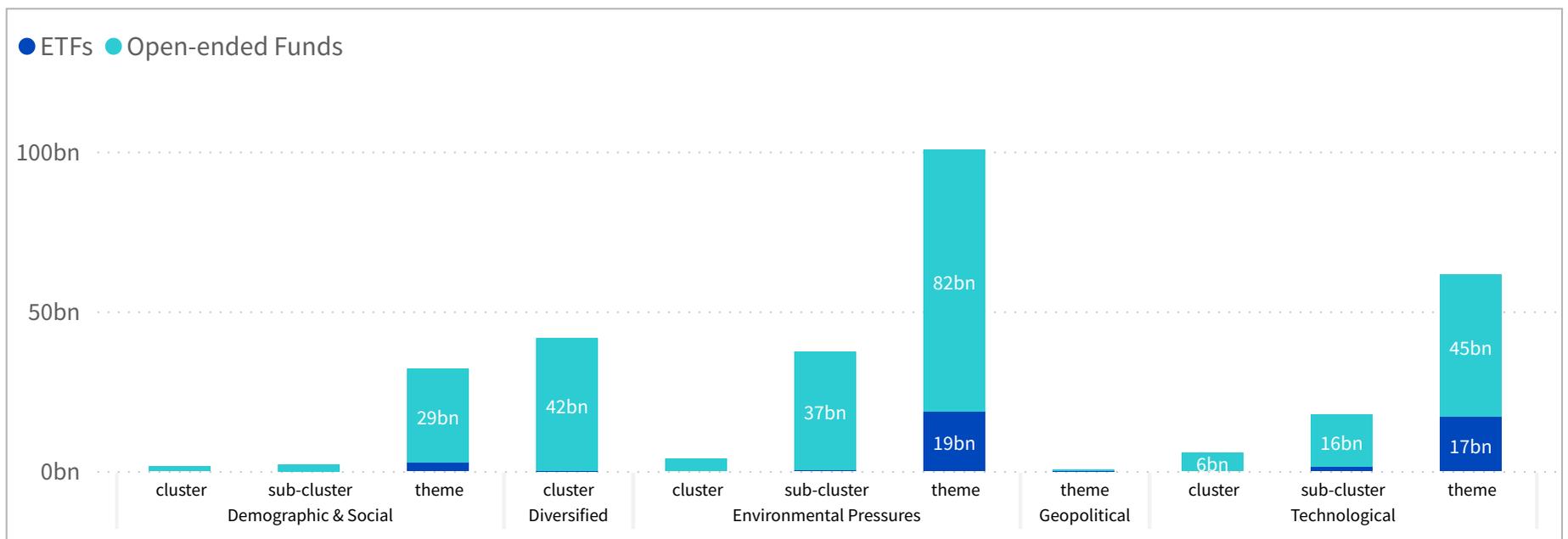
AuM in Thematics by region (Last 10Y)



YTD flows in Europe by wrapper in cluster, sub-cluster and focused themes



AuM in Europe by wrapper in cluster, sub-cluster and focused themes



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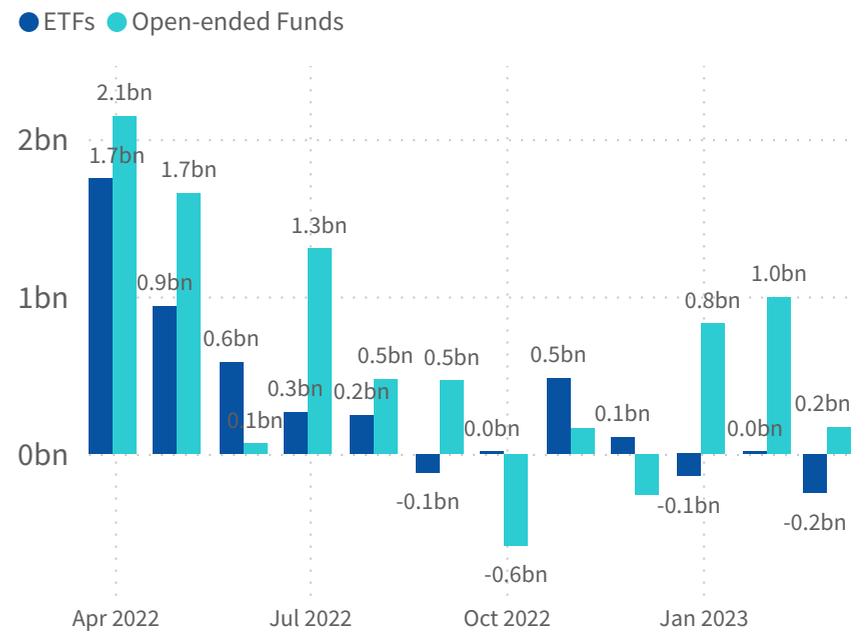
Thematic flows in Europe

+ February flows ended up being more muted than flows in January, with \$168 million inflows in open-ended funds and \$246 million outflows in ETFs. Overall, year-to-date, mutual funds gathered \$1.16 billion flows vs. \$233 million outflows in ETFs.

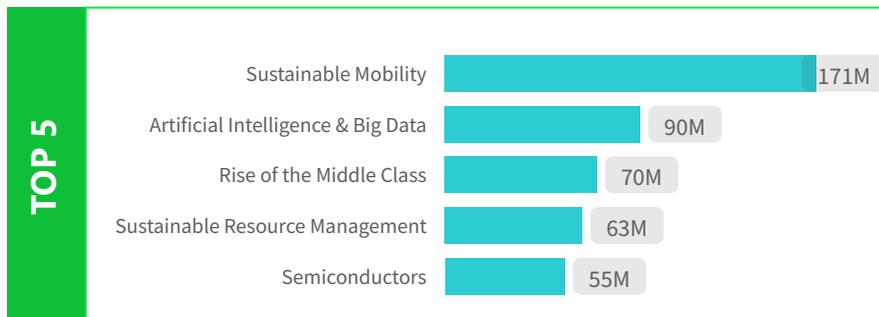
+ In February, flows in ETFs were dominated by "Sustainable Mobility". However, the recent surge of stories around ChatGPT also helped "Artificial Intelligence & Big Data" and "Semiconductors" reach the top 5. In open-ended funds, "Rise of the Middle Class" raised the most assets but "Artificial Intelligence & Big Data" still made it into the top 3. "Equality, Inclusion & Diversity" saw large outflows across both wrappers.

+ Year-to-date, "Sustainable Energy Production" retains its top spot for flows in open-ended funds. "Artificial Intelligence & Big Data" posted strong inflows across both wrappers, while "Semiconductors" led the flows in ETFs. "Agriculture" and "Equality, Inclusion & Diversity" saw the outflows across both wrappers.

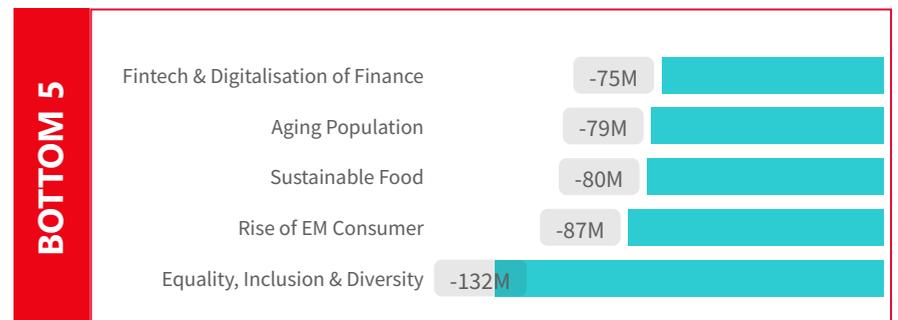
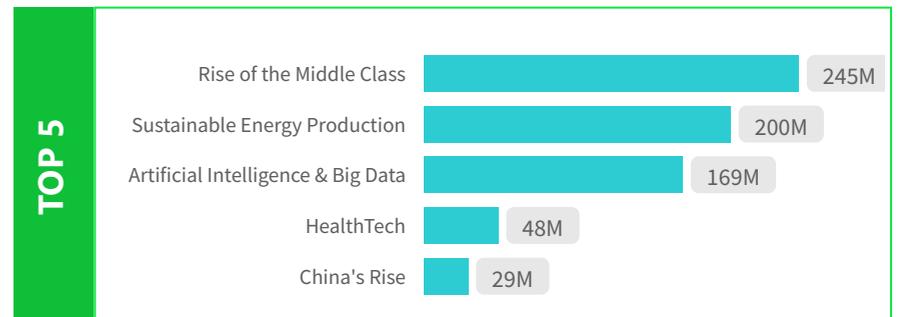
Month-on-month thematic flows



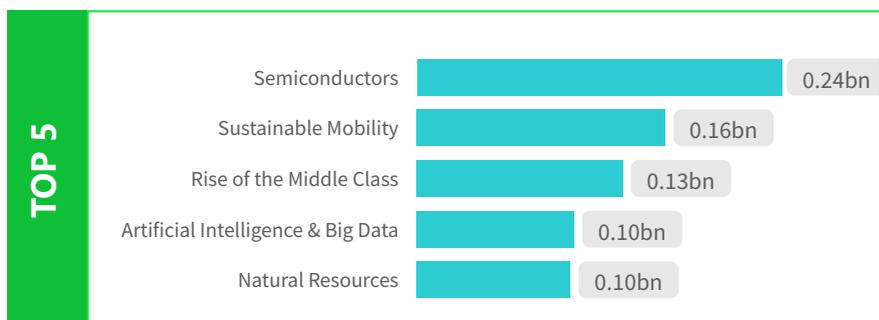
February Top/Bottom flows in Europe ETFs



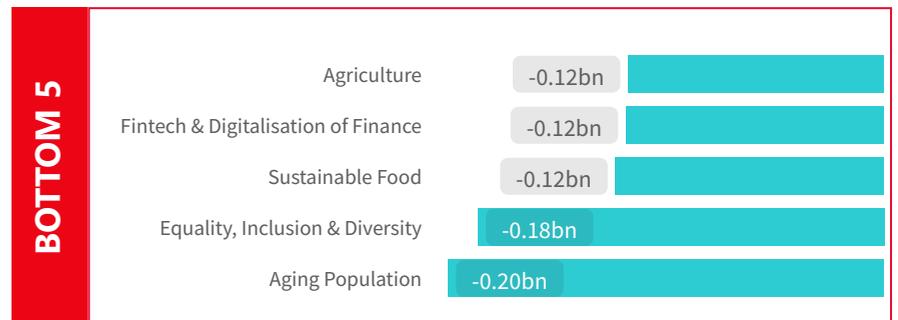
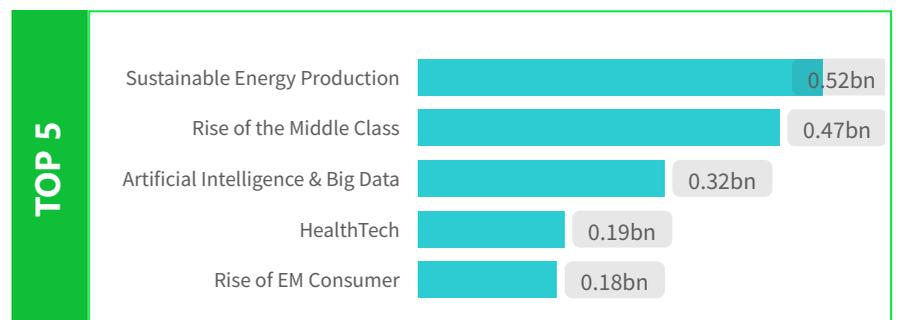
February Top/Bottom flows in Mutual Funds



YTD Top/Bottom flows in Europe ETFs



YTD Top/Bottom flows in Mutual Funds



Source: WisdomTree, Morningstar, Bloomberg. All data as of 28/02/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar. More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

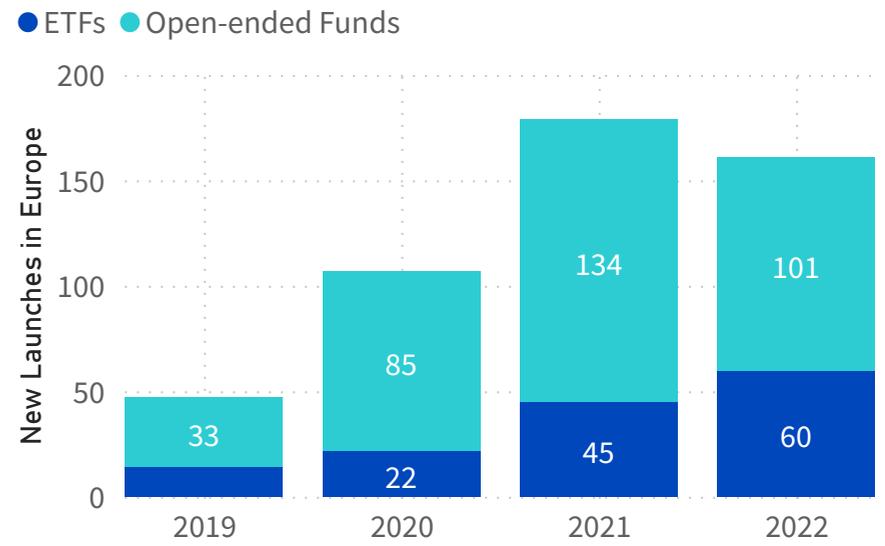
Thematic performance and launches in Europe

+ Year-to-date, technology-focused thematic strategies have rebounded strongly with Blockchain leading the way (+24.6%). "Semiconductors" and "Artificial Intelligence & Big Data" also benefitted from the news frenzy unleashed by ChatGPT in the last few months. "Cloud Computing" and "Sustainable Mobility" closed the top 5 best-performing themes.

+ February saw thematic strategies suffer slightly due to a series of remarks from the Federal Reserve officials and macro data suggesting more action needed to combat inflation. However, "Cybersecurity", "Semiconductors" and "Artificial Intelligence & Big Data" continued to benefit from the tech rebound.

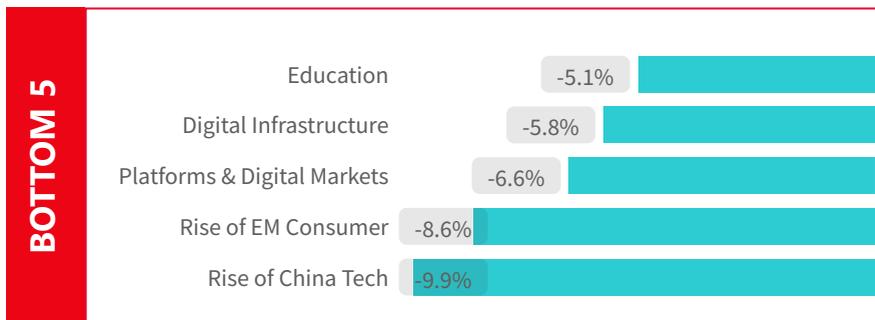
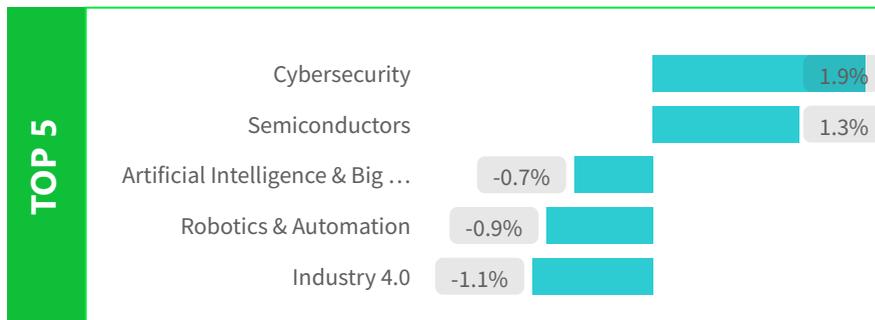
+ On the other side of the ledger, themes related to Emerging Markets, in particular China, have suffered the most in February despite China's reopening. Year-to-date, only one theme posted a negative return, "HealthTech", while "Digital Health" and "Wellness" also appeared in the bottom 5 themes.

Yearly thematic launches in Europe*

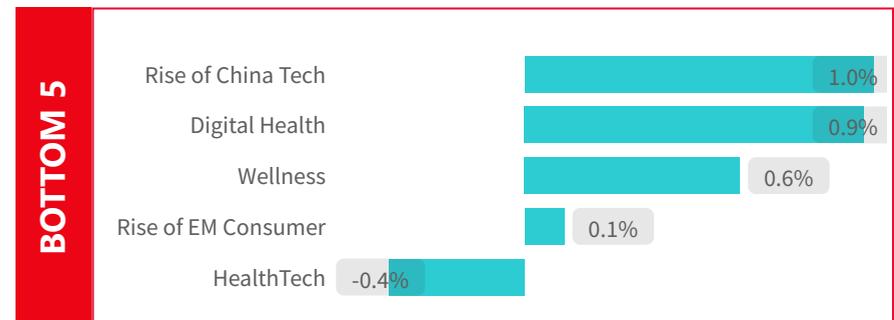
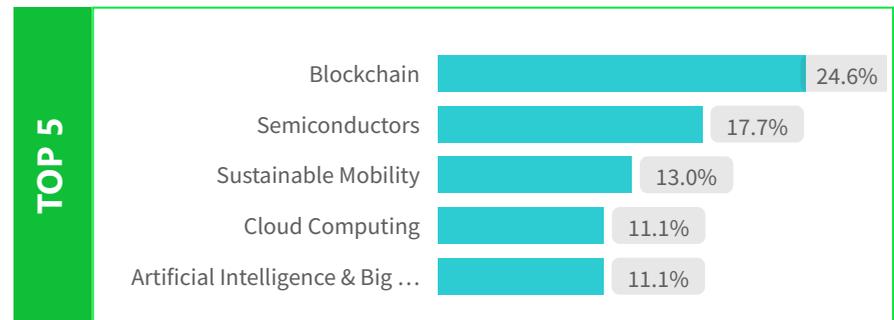


* New launches are updated quarterly

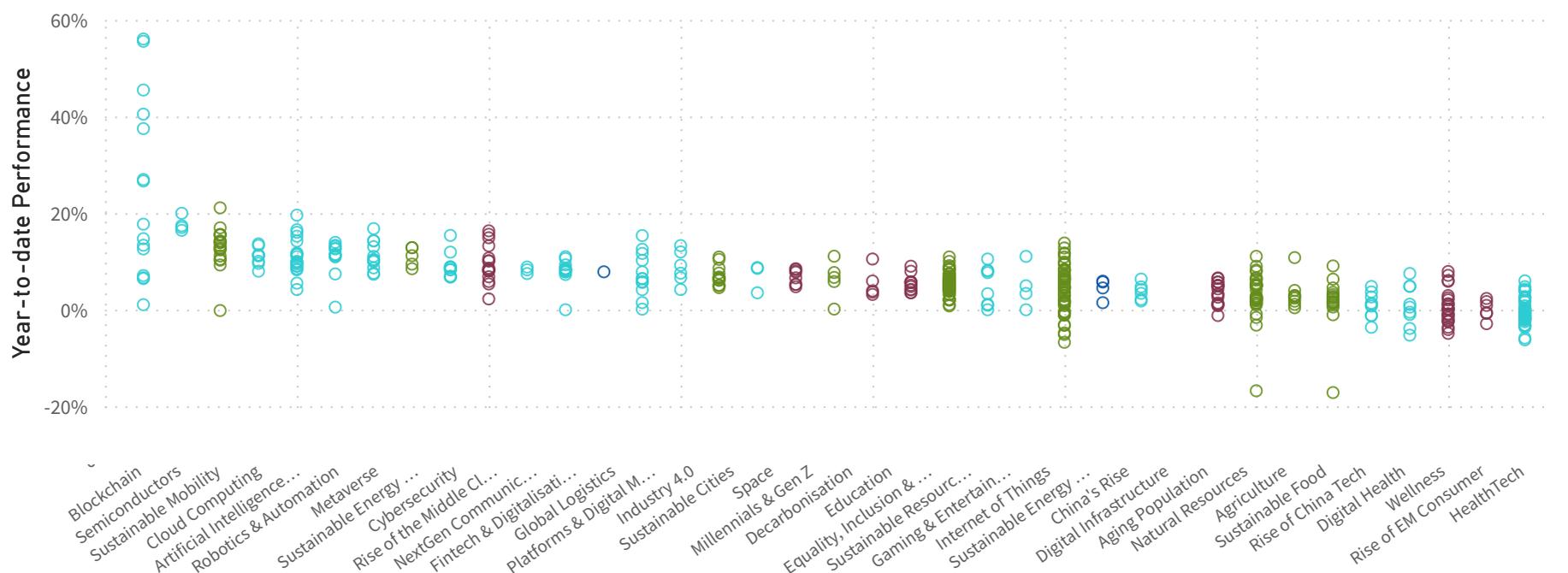
Top 5/Bottom 5 by performance in February



Top 5/Bottom 5 by YTD performance

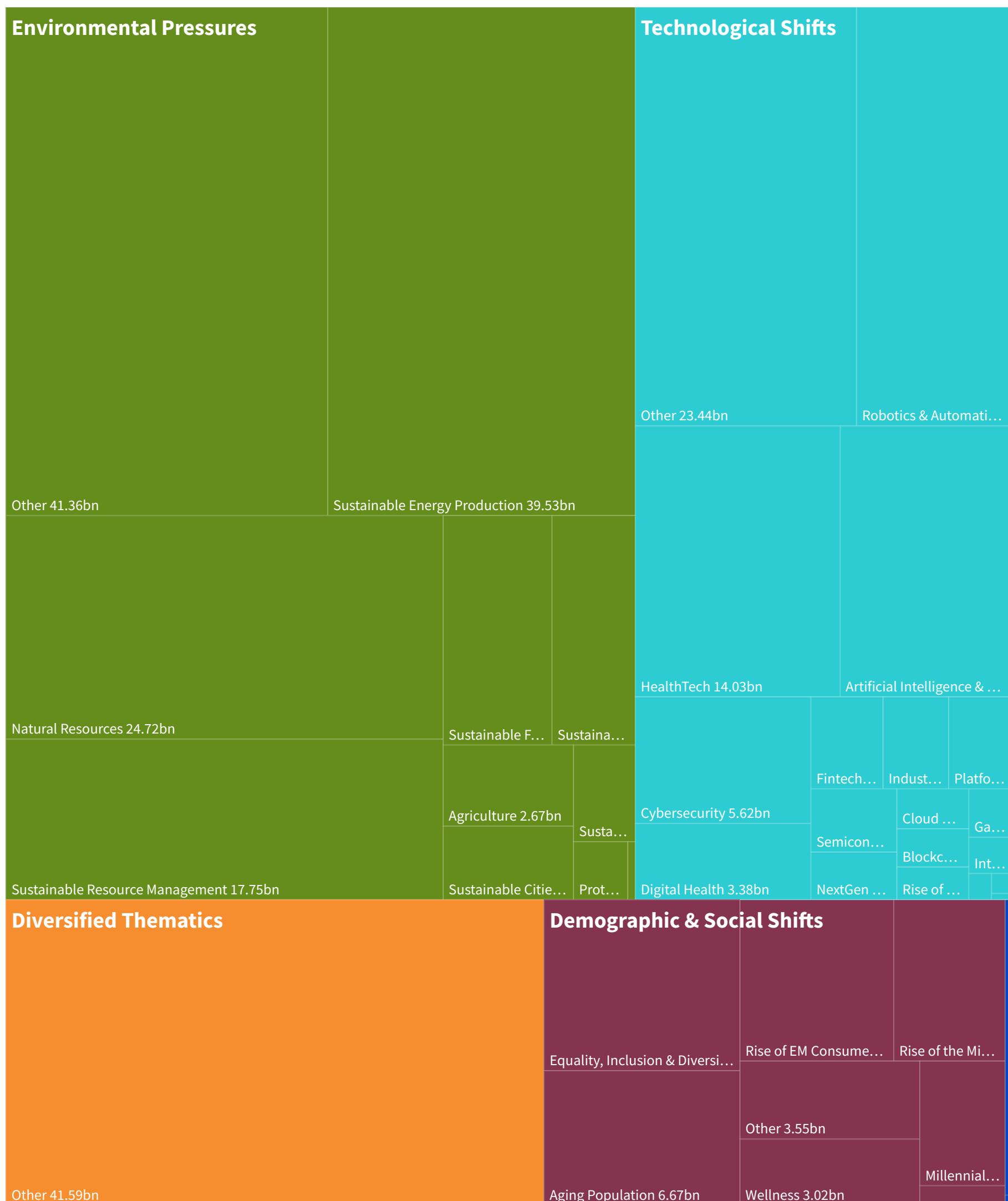


Dispersion of YTD performance of all ETFs and mutual funds by themes in Europe



Source: WisdomTree, Morningstar, Bloomberg. All data as of 28/02/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar. More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

AUM per theme in ETFs and open-ended funds domiciled in Europe (\$billions)



Source: WisdomTree, Morningstar, Bloomberg. All data as of 28/02/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

Appendix - Multi themes & diversified thematic ETFs and Open-ended funds

Cluster	Sub-Cluster	AuM (\$)	Flows Last Month (\$)	Flows YTD (\$)
Technological Shifts		5,720.55M	-35.65M	-29.49M
Technological Shifts	Disruptive Technologies	12,989.47M	40.55M	135.96M
Technological Shifts	HyperConnectivity & Digitalisation	5,364.09M	127.88M	131.49M
Environmental Pressures		3,964.11M	-137.50M	-150.33M
Environmental Pressures	Climate Change & Sustainability	38,031.22M	-95.39M	-252.20M
Environmental Pressures	Limited Resources	11.43M	-0.64M	-1.07M
Diversified Thematics		41,592.69M	184.50M	245.12M
Demographic & Social Shifts		1,404.05M	2.53M	3.84M
Demographic & Social Shifts	Demographic Shifts	2,119.55M	8.46M	37.66M
Demographic & Social Shifts	Social Shifts	26.61M	-0.07M	-0.15M

Appendix - Theme focused ETFs and Open-ended funds

Theme Name	AuM (\$)	Flows Last Month (\$)	Flows YTD (\$)	Performance Last Month	Performance YTD
Aging Population	6,674.13M	-55.57M	-155.90M	-2.2%	3.6%
Agriculture	2,674.97M	-131.86M	-202.04M	-1.7%	3.2%
Artificial Intelligence & Big Data	11,755.84M	258.88M	419.39M	-0.7%	11.1%
Blockchain	694.21M	14.82M	25.24M	-3.6%	24.6%
China's Rise	496.24M	28.71M	37.16M	-5.0%	4.4%
Cloud Computing	727.17M	-0.99M	8.33M	-1.9%	11.1%
Cybersecurity	5,621.93M	36.99M	-47.19M	1.9%	9.1%
Decarbonisation	110.01M	0.46M	1.66M	-3.9%	6.3%
Digital Health	3,383.03M	-62.72M	-86.05M	-3.7%	0.9%
Digital Infrastructure	102.27M	-23.61M	-25.61M	-5.8%	3.8%
Education	425.41M	-8.82M	-12.30M	-5.1%	5.4%
Equality, Inclusion & Diversity	8,469.56M	-665.18M	-901.65M	-1.7%	5.4%
Fintech & Digitalisation of Finance	1,678.45M	-73.82M	-115.41M	-3.3%	8.0%
Gaming & Entertainment	527.57M	-3.22M	-4.78M	-3.6%	5.0%
Global Logistics	17.27M	0.11M	0.76M	-2.7%	7.9%
HealthTech	14,032.26M	9.91M	180.50M	-4.6%	-0.4%
Industry 4.0	1,525.94M	10.93M	24.38M	-1.1%	7.6%
Internet of Things	393.72M	19.22M	45.91M	-1.4%	4.9%
Metaverse	149.82M	8.58M	11.39M	-2.3%	10.8%
Millennials & Gen Z	2,692.39M	1.13M	-23.92M	-2.6%	6.8%
Natural Resources	24,724.23M	-37.16M	114.82M	-4.8%	3.4%
NextGen Communications	1,035.35M	-34.09M	-59.93M	-2.2%	8.2%
Platforms & Digital Markets	1,469.35M	-7.53M	-5.17M	-6.6%	7.7%
Protect Biodiversity	795.93M	6.24M	21.71M	-2.5%	3.7%
Rise of China Tech	594.72M	-66.99M	-7.84M	-9.9%	1.0%
Rise of EM Consumer	6,275.69M	-86.66M	178.65M	-8.6%	0.1%
Rise of the Middle Class	4,543.25M	314.74M	598.88M	-2.5%	9.0%
Robotics & Automation	16,438.71M	-11.70M	-87.39M	-0.9%	10.9%
Semiconductors	1,375.91M	55.32M	237.03M	1.3%	17.7%
Space	32.27M	0.71M	1.71M	-2.3%	6.9%
Sustainable Cities	2,421.34M	-3.14M	48.70M	-2.0%	7.0%
Sustainable Energy Production	39,531.75M	159.68M	418.68M	-4.2%	4.8%
Sustainable Energy Storage	1,512.03M	15.04M	16.35M	-4.1%	10.8%
Sustainable Food	6,315.27M	-91.19M	-136.67M	-3.4%	1.9%
Sustainable Mobility	4,829.62M	171.61M	148.27M	-2.6%	13.0%
Sustainable Resource Management	17,748.46M	80.73M	138.46M	-1.8%	5.3%
Wellness	3,015.57M	-30.49M	-31.58M	-3.7%	0.6%

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Appendix - Definitions

The WisdomTree Thematic classification is built around 4 main thematic clusters

Technological Shifts

This cluster focuses on the different themes that originate from the introduction of new technologies and innovation. It incorporates disruptive and emerging technologies as well as their impact on societies and economies, such as the increasing digitalisation and connectivity of the world.

Demographic and Social Shifts

This cluster focuses on the themes that originate from changes in population and societies alike. For example, it incorporates changes in the world's pyramid of age, the impact of the growing, younger, wealthier populations in emerging markets, as well as changes to societal values and lifestyles.

Environmental Pressures

Focusing on the environment and, more importantly, on the impact of human activities on the planet, this cluster incorporates changes driven by sustainability issues, the increasing scarcity of resources and the need to address global warming and climate change.

Geopolitical Shifts

This cluster focuses on the themes driven by the globalisation and the changes in the global geopolitical order with the rise of new geopolitical powers like China. It also taps into the increasing polarisation of modern societies as a counterforce to globalisation.

All thematic ETFs and open-ended funds in the WisdomTree Thematic classification are classified into

- **Diversified thematics**, if they try to harness a large number of megatrends in one go. Those funds tend to have a very diluted focus, which could mean that it might be harder to find sources of potential differentiation against a broad market benchmark.
- **A specific cluster**, if they try to harness multiple themes across sub-clusters but within one particular cluster. For example, a fund investing in Artificial Intelligence, Robotics, Cloud, and Cybersecurity would be classified as a 'Technological Shifts' fund.
- **A particular sub cluster**, if a strategy aims to invest in most of the themes within that sub-cluster. For example, a fund investing in Cloud Computing, Platforms, Cybersecurity, and Fintech would be classified as a 'Hyperconnectivity & Digitalisation' fund.
- **A theme**, if the investment strategy is focused on a specific, clear theme.

YTD stands for Year to Date

MTD stands for Month to Date

For all of our calculations, we use the WisdomTree Thematic Classification that we have previously introduced here and can be found in the next page.

Performance of a theme. For any given theme, we consider each month all the ETFs and open-ended funds classified in that specific theme that have published a monthly return for that month in Morningstar. We then calculate the average of all those monthly returns to compute the average monthly return for that theme. So, the monthly return for January 2020 for the theme may include 19 funds, while the February 2020 return may comprise 21 funds (if two funds classified in that theme have been launched in the meantime). By collating monthly returns for the theme, we get the theme's average historical performance. Therefore, the theme's average historical performance incorporates every ETF, and open-ended fund focused on this theme. The theme's average historical performance is not biased towards surviving funds or successful funds. Every fund alive in a given month is included irrespective of its future survival or success. Investments that try to focus on multiple themes and, therefore, classified either at Cluster or Sub-Cluster Level are not included.

The WisdomTree Thematic Classification

DIVERSIFIED THEMATICS							
TECHNOLOGICAL SHIFTS		DEMOGRAPHIC AND SOCIAL SHIFTS		GEOPOLITICAL SHIFTS		ENVIRONMENTAL PRESSURES	
DISRUPTIVE TECHNOLOGIES	HYPER CONNECTIVITY & DIGITALISATION	DEMOGRAPHIC SHIFTS	SOCIAL SHIFTS	GLOBALISATION	MULTI-POLARITY	CLIMATE CHANGE & SUSTAINABILITY	LIMITED RESOURCES
Artificial Intelligence & Big Data	Cloud Computing	Aging Population	Education	Global Logistics	China's Rise	Decarbonisation	Agriculture
Rise of China Tech		Millennials & Gen Z	Equality, Inclusion & Diversity		Polarisation	Protect Biodiversity	Natural Resources
Blockchain	Cybersecurity		Rise of the Middle Class		Rise of Tension	Sustainable Mobility	
HealthTech	Digital Health		Rise of EM Consumer			Sustainable Energy Production	
Industry 4.0	Digital Infrastructure		Wellness			Sustainable Energy Storage	
Next Gen Communications	Fintech & Digitalisation of Finance					Sustainable Food	
Robotics & Automation	Gaming & Entertainment					Sustainable Cities	
Semiconductors	Internet of Things					Sustainable Resource Management	
Smart Materials & Nano Tech	Metaverse					Extreme Events	
Space	Platforms & Digital Markets						
	Social Media & Media						

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