

FLOW OF FUNDS REPORT

TUYID Q4-2022

S&P Global



FLOW OF FUNDS REPORT: TÜYİD Q4-2022

December 2022

Dear Readers,

We are happy to present the Flow of Funds Report for the final quarter of 2022. Our report offers a detailed insight into the institutional ownership by investment type and regions as well as top buyers and sellers in the Turkish market. We also provide key investor hubs for roadshows and trust the report will be an important asset in IR planning and investor targeting.

Despite continued concerns over high inflation rates, Turkey continued its strong performance from Q2 22, ending Q4 22 up 196.6% over the year. The BIST continued to pull away from its peers over the quarter, with Hungary (-13.7%) being the best performer after Turkey. The Poland WIG reversed trends from the prior quarter and ended the year being the second-best performer (-20.9%). The Russian (-28.3%) market remains under pressure due to the ongoing conflict with Ukraine.

Reversing the outflows from the previous quarter, net inflows were witnessed during the quarter, with Russia, once again experiencing the largest outflows (-\$1,169.7M). The Turkish market witnessed inflows over the quarter (+\$265.2M). **The Vanguard Group, Inc., Norges Bank Investment Management (Norway) and Helikon Investments, LTD (United Kingdom)** were amongst the investors driving the inflows in the region.

Active investors were bearish across the Energy (-\$5.2M), Basic Materials (-\$46.3M) & Industrials (-\$58.6M) sectors within the Turkish Market. Active investors favored the Consumer Services (+\$65.5M) & Financials (+\$73.7M) sectors over the quarter. Overall net inflows of +\$72.7M came from Active investors. Passive investors followed the same trend, adding +\$193.8M to the Turkish market. Passive investors detracted in the Consumer Services sector (-\$29.1M).

The orientation remains skewed towards Passive investors, with 67% of Turkish funds being held by Passive investors. Index investors continued to rank as the largest investor in the Turkish market by investment style (\$5,738M). GARP investors were the biggest detractors for the quarter (-\$224.2M) and **Capital Research Global Investors (U.S.)** drove outflows by GARP investors (-\$106.5M).

London remains the top invested city, despite outflows amounting to (-\$211.8M) which were mainly attributable to the selling activity of **RBC Global Asset Management (UK), LTD & Schroder Investment Management**. Oslo is now the second largest invested city, driven mainly by inflows from **Norges** (+\$281.0M).

In terms of number of investors per city, London continues to lead the ranking with 68 investors, followed by New York (27) and Boston (11).

This report is prepared quarterly by S&P Global, in cooperation with TÜYİD, using S&P Global's database. We look forward to any feedback you may have.

S&P Global
Director, Shareholder Intelligence EMEA
Frederik Frank

TÜYİD Turkish IR Society
Chair
Başak Öge

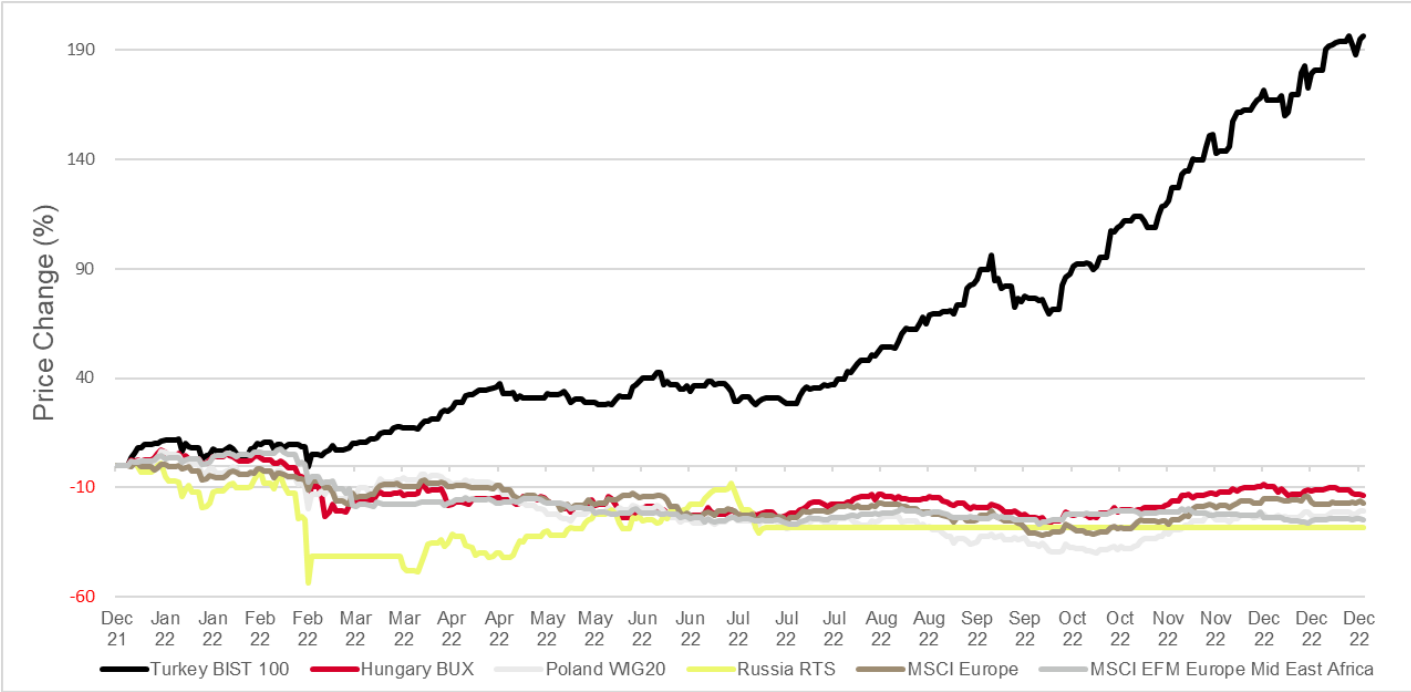
Acknowledgements: We express our gratitude to the S&P Global Issuer Solutions team and the TÜYİD Turkish IR Society.

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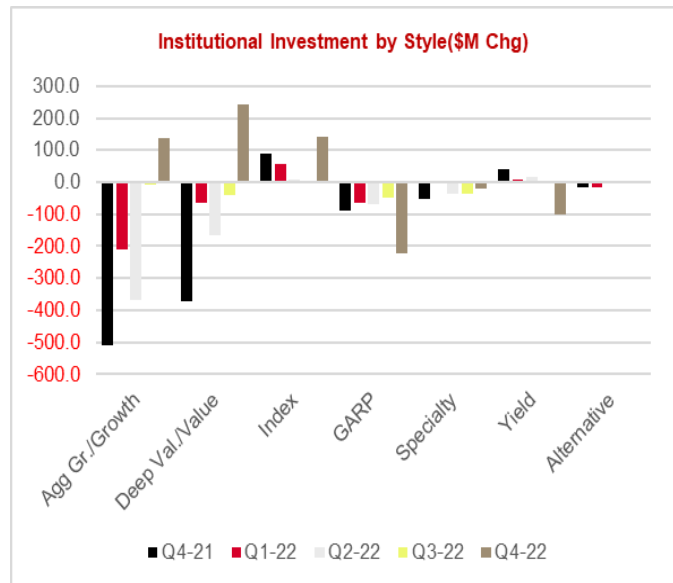
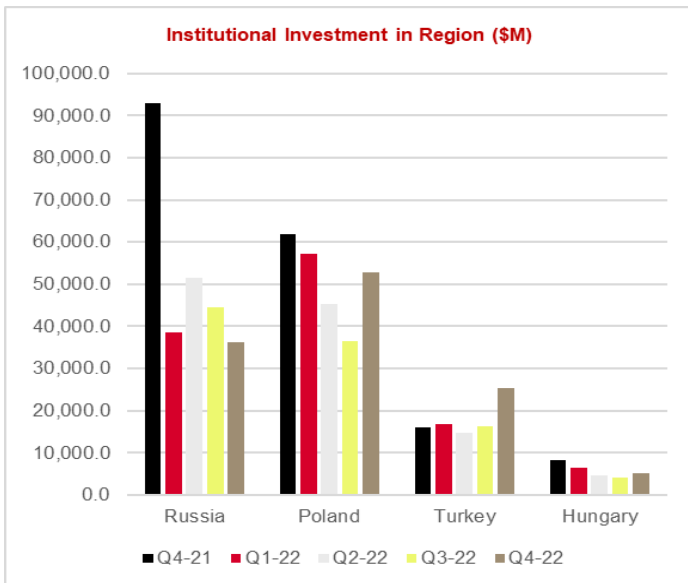
Price performance:

Despite continued concerns over high inflation rates, Turkey continued its strong performance from Q2 22, ending Q4 22 up 196.6% over the year. The BIST continued to pull away from its peers over the quarter, with Hungary (-13.7%) being the best performer after Turkey. The Poland WIG reversed trends from the prior quarter and ended the year being the second-best performer (-20.9%). The Russian (-28.3%) market remains under pressure due to the ongoing conflict with Ukraine.



Inflows and Outflows:

Reversing the outflows from the previous quarter, net inflows were witnessed during the quarter with Russia, once again experiencing the largest outflows (-\$1169.7M). The Turkish market witnessed inflows over the quarter (+\$265.2M). **The Vanguard Group, Inc., Norges Bank Investment Management (Norway) and Helikon Investments, LTD (United Kingdom)** were amongst the investors driving the inflows in the region.

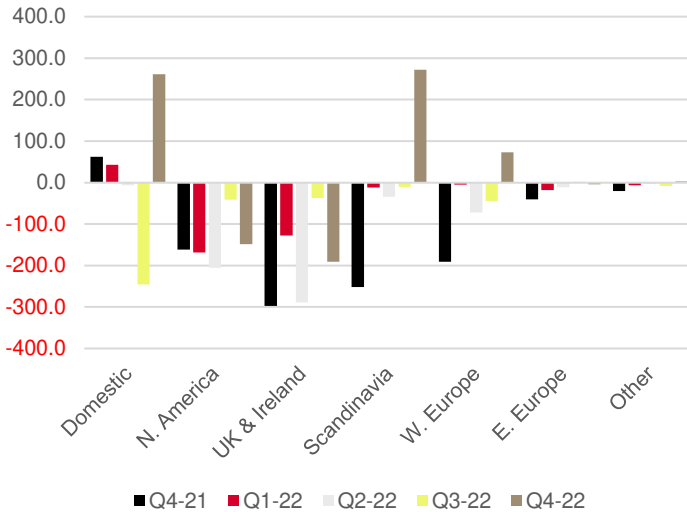


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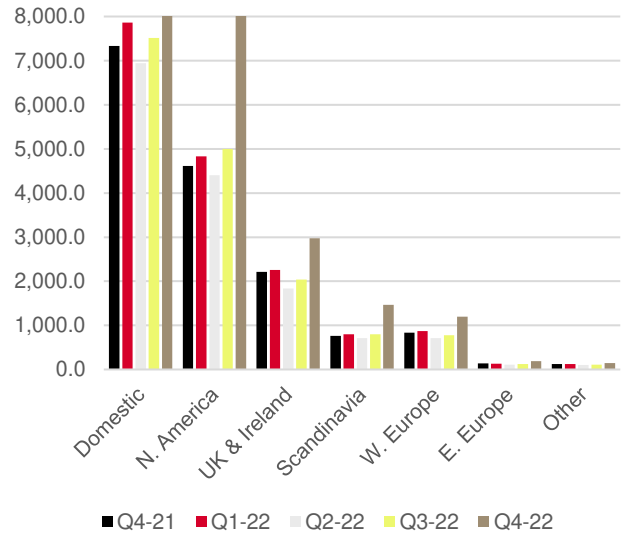
Investment by Investor Region:

The net inflows (+\$265.2M) in the Turkish market are broken down by geographic regions below and were driven by Scandinavia (+\$271.7M), who detracted in the previous quarter. Domestic investors also followed a bullish trend, adding +\$261.1M over the quarter. Domestic investors continue to be the largest holders in the Turkish market (\$11,289.6M), followed by North America (\$8,072.1M)

Institutional Investment by Region (\$M Chg)



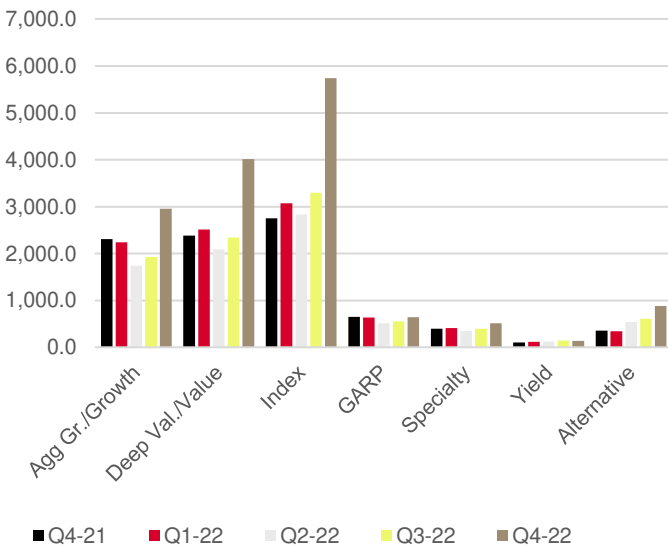
Institutional Investment by Region (\$M)



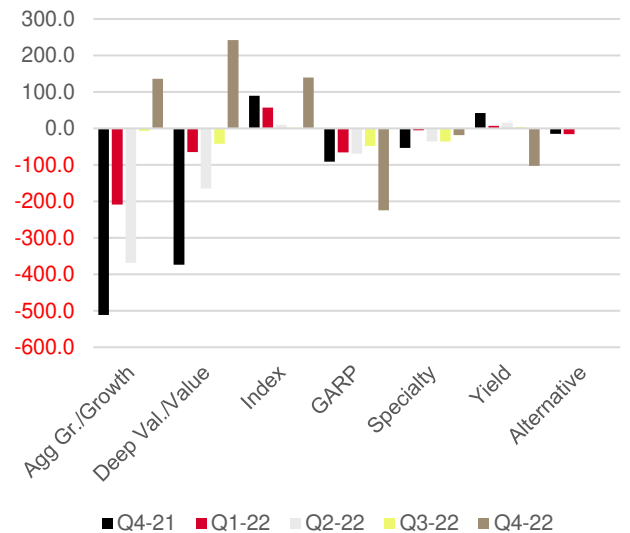
Investment by Style:

Aggressive Growth/Growth, Deep Val/Value and, once again, Index investors all contributed to inflows, with all other investment styles detracting. Index investors continue to be the largest investor in the Turkish market (\$5737.6M), followed by Deep Value/Value (\$4012.6M). GARP investors were the biggest detractors for the quarter (-\$224.2M) and **Capital Research Global Investors (U.S.)** drove outflows by GARP investors (-\$106.5M).

Institutional Investment by Style (\$M)



Institutional Investment by Style (\$M Chg)



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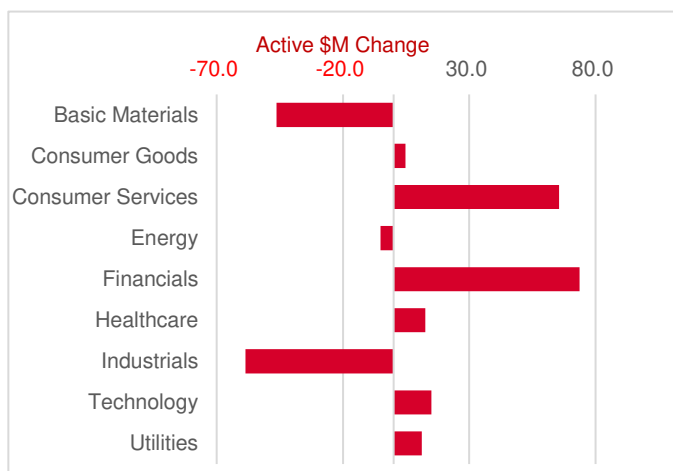
Top Active Holders, Buyers & Sellers

TOP HOLDERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Norges Bank Investment Management (Norway)	Norway	Value	Low	855,591.6	1,120.8	281.0	0.1	33.5
Helikon Investments, LTD (United Kingdom)	United Kingdom	Alternative	Low	1,784.3	556.0	0.0	31.2	0.0
Silchester International Investors, LLP	United Kingdom	Value	Low	21,191.3	224.5	0.0	1.1	0.0
APG Asset Management N.V.	Netherlands	Specialty	Low	137,400.4	221.2	0.0	0.2	0.0
California Public Employees Retirement System	United States	Growth	Low	121,952.4	169.7	0.0	0.1	0.0
GQG Partners, LLC	United States	Growth	Very High	70,949.7	165.9	165.9	0.2	Buy-in
BlackRock Investment Management (U.K.), LTD	United Kingdom	Growth	Low	682,364.6	149.7	11.0	0.0	8.0
Conifer Management, LLC	United States	Alternative	Low	1,906.9	139.9	0.0	7.3	0.0
Schroder Investment Management, LTD	United Kingdom	GARP	Low	146,154.1	137.7	-89.0	0.1	-39.3
RBC Global Asset Management (UK), LTD	United Kingdom	Growth	Low	45,602.2	131.9	-93.4	0.3	-41.5
					3,017.2	275.5		

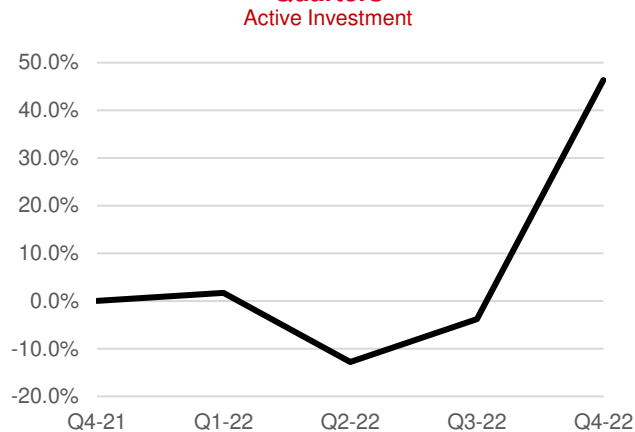
TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Norges Bank Investment Management (Norway)	Norway	Value	Low	855,591.6	1,120.8	281.0	0.1	33.5
GQG Partners, LLC	United States	Growth	Very High	70,949.7	165.9	165.9	0.2	Buy-in
Candriam S.C.A. (Belgium Branch)	Belgium	Growth	Medium	35,288.6	44.2	44.2	0.1	Buy-in
Robeco Institutional Asset Management BV	Netherlands	Value	Medium	52,965.8	118.1	18.4	0.2	18.5
BlackRock Investment Management (U.K.), LTD	United Kingdom	Growth	Low	682,364.6	149.7	11.0	0.0	8.0
Goldman Sachs Asset Management, L.P. (U.S.)	United States	GARP	Medium	243,838.3	36.0	8.7	0.0	31.7
SEB Investment Management AB	Sweden	Value	Medium	39,057.4	27.0	8.1	0.1	42.9
American Century Investment Management, Inc.	United States	Growth	Medium	139,344.0	33.7	7.5	0.0	28.5
Baring Asset Management, LTD (U.K.)	United Kingdom	GARP	Low	4,084.0	43.4	6.5	1.1	17.6
Credit Suisse Asset Management (Schweiz) AG	Switzerland	Value	Low	123,522.5	59.8	6.4	0.0	11.9
					1,798.6	557.7		

TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Mellon Investments Corporation	United States	Yield	Low	209,977.2	119.9	-106.6	0.1	-47.1
Capital Research Global Investors (U.S.)	United States	GARP	Low	447,729.2	105.5	-106.5	0.0	-50.2
RBC Global Asset Management (UK), LTD	United Kingdom	Growth	Low	45,602.2	131.9	-93.4	0.3	-41.5
Schroder Investment Management, LTD	United Kingdom	GARP	Low	146,154.1	137.7	-89.0	0.1	-39.3
Fidelity Management & Research Company, LLC	United States	Growth	Low	1,091,956.4	67.7	-43.8	0.0	-39.3
Wellington Management Company, LLP	United States	Value	Low	555,301.5	44.9	-29.9	0.0	-40.0
MFS Investment Management	United States	Value	Low	336,670.6	54.4	-22.6	0.0	-29.3
Invesco Advisers, Inc.	United States	Growth	Low	239,426.4	44.2	-20.6	0.0	-31.8
U.S. Global Investors, Inc. (Asset Management)	United States	Specialty	Medium	2,295.0	61.0	-19.1	2.7	-23.8
First Eagle Investment Management, LLC	United States	Value	Low	64,346.0	60.9	-18.6	0.1	-23.4
<i>Includes Investors with EUM greater than \$100M; Excludes Passive/Index Investors</i>					828.1	-550.0		

Sector Inflows/Outflows



% Change in Active Investment vs 5 Previous Quarters



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Top Passive Holders, Buyers & Sellers

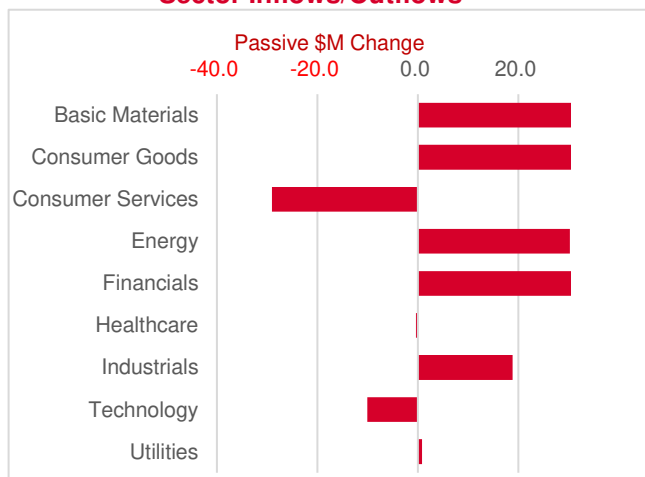
TOP HOLDERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
The Vanguard Group, Inc.	United States	Index	Low	4,434,570.1	2,426.0	44.0	0.1	1.8
BlackRock Fund Advisors	United States	Index	Low	2,719,211.8	1,374.1	70.8	0.1	5.4
Dimensional Fund Advisors, L.P. (U.S.)	United States	Value	Low	404,671.7	458.1	-13.9	0.1	-2.9
BlackRock Advisors (U.K.), LTD	United Kingdom	Index	Low	198,941.7	393.2	-5.8	0.2	-1.5
Charles Schwab Investment Management, Inc.	United States	Index	Low	381,620.4	230.1	-25.1	0.1	-9.9
Geode Capital Management, LLC	United States	Index	Low	835,739.5	190.2	29.1	0.0	18.1
Arrowstreet Capital, L.P.	United States	Deep Value	High	76,893.3	175.0	10.9	0.2	6.6
Van Eck Associates Corporation	United States	Index	Low	50,674.0	155.7	-8.9	0.3	-5.4
State Street Global Advisors (SSgA)	United States	Index	Low	1,800,727.5	127.9	5.0	0.0	4.1
Acadian Asset Management, LLC	United States	Deep Value	Medium	29,378.2	110.8	1.3	0.4	1.2
					5,641.1	107.5		

TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
BlackRock Fund Advisors	United States	Index	Low	2,719,211.8	1,374.1	70.8	0.1	5.4
The Vanguard Group, Inc.	United States	Index	Low	4,434,570.1	2,426.0	44.0	0.1	1.8
First Trust Advisors, L.P.	United States	Index	Medium	91,042.0	108.9	39.4	0.1	56.7
Geode Capital Management, LLC	United States	Index	Low	835,739.5	190.2	29.1	0.0	18.1
Avantis Investors	United States	Index	Medium	20,969.0	30.5	12.1	0.1	66.4
Arrowstreet Capital, L.P.	United States	Deep Value	High	76,893.3	175.0	10.9	0.2	6.6
Legal & General Investment Management, LTD	United Kingdom	Index	Low	347,720.8	80.9	7.3	0.0	9.9
Northern Trust Global Investments, LTD	United Kingdom	Index	Low	74,751.7	52.5	6.3	0.1	13.6
DWS Investments UK, LTD	United Kingdom	Index	Medium	77,141.5	32.3	5.4	0.0	20.2
State Street Global Advisors (SSgA)	United States	Index	Low	1,800,727.5	127.9	5.0	0.0	4.1
					4,598.2	230.4		

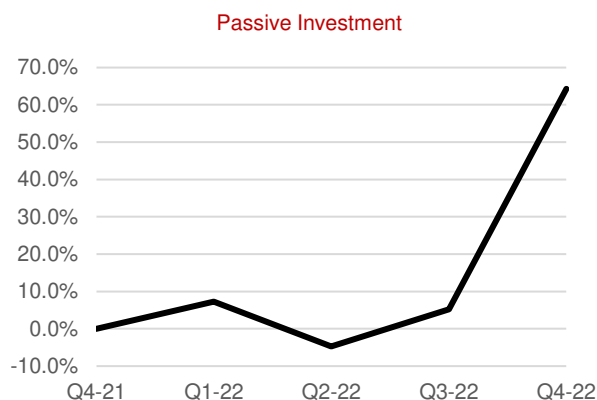
TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Parametric Portfolio Associates, LLC	United States	GARP	Low	182,524.7	55.1	-33.0	0.0	-37.5
Research Affiliates, LLC	United States	Index	Medium	2,351.6	74.1	-28.0	3.2	-27.4
Charles Schwab Investment Management, Inc.	United States	Index	Low	381,620.4	230.1	-25.1	0.1	-9.9
Dimensional Fund Advisors, L.P. (U.S.)	United States	Value	Low	404,671.7	458.1	-13.9	0.1	-2.9
Keppler Asset Management, Inc.	United States	GARP	Low	144.6	1.9	-10.4	1.3	-84.5
PGIM Quantitative Solutions, LLC	United States	Index	Medium	53,784.2	17.2	-9.3	0.0	-35.0
Van Eck Associates Corporation	United States	Index	Low	50,674.0	155.7	-8.9	0.3	-5.4
ALPS Advisors, Inc.	United States	Index	Medium	12,436.6	0.7	-7.9	0.0	-92.2
BlackRock Advisors (U.K.), LTD	United Kingdom	Index	Low	198,941.7	393.2	-5.8	0.2	-1.5
LSV Asset Management	United States	Deep Value	Low	51,638.1	20.7	-5.3	0.0	-20.4
					1,406.9	-147.6		

Includes Investors with EUM greater than \$100M; Excludes Active Investors

Sector Inflows/Outflows



% Change in Passive Investment vs 5 Previous Quarters



FLOW OF FUNDS REPORT: TUYID Q4-2022

Road show:

London remains the top invested city, despite outflows amounting to (-\$211.8M) which were mainly attributable to the selling activity of **RBC Global Asset Management (UK), LTD & Schroder Investment Management**. Oslo is now the second largest invested city, driven mainly by inflows from **Norges** (+\$281.0M). In terms of number of investors per city, London continues to lead the ranking with 68 investors, followed by New York (27) and Boston (11).

Most Invested

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	2,181,495.6	2,083.4	-211.8	68
Norway (Oslo)	904,481.5	1,136.7	283.4	3
Turkey (Istanbul)	926.7	985.8	169.6	9
United States (Boston)	2,683,748.6	420.2	-207.2	11
United States (New York)	2,284,559.2	344.2	-26.3	27
United States (Los Angeles)	1,227,311.6	261.2	-107.7	7
Netherlands (Amsterdam)	140,440.1	222.7	0.0	4
Sweden (Stockholm)	289,920.9	185.6	13.1	8
United States (Sacramento)	121,952.4	169.7	0.0	1
United States (Fort Lauderdale)	76,912.9	166.2	165.9	3
Germany (Stuttgart)	4,838.1	165.6	0.0	1
Germany (Frankfurt)	375,219.1	159.9	-3.0	8
Switzerland (Zürich)	453,162.8	128.1	15.3	11
Netherlands (Rotterdam)	69,475.5	125.1	19.9	2
Canada (Montreal)	85,222.3	117.2	-0.0	3
United States (San Antonio)	106,510.6	97.3	-28.1	2
Austria (Vienna)	19,467.1	83.6	-8.6	5
Belgium (Brussels)	82,784.8	76.0	44.0	3
Poland (Warsaw)	15,491.5	71.7	-1.8	10
Denmark (Copenhagen)	128,078.7	55.7	-17.9	6
<i>Excludes Passive/Index Investors</i>		7,056.0	98.6	192

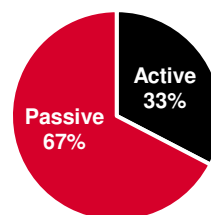
Most Investors

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
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United States (New York)	2,284,559.2	344.2	-26.3	27
United States (Boston)	2,683,748.6	420.2	-207.2	11
Switzerland (Zürich)	453,162.8	128.1	15.3	11
Finland (Helsinki)	29,740.9	39.9	-3.2	11
Poland (Warsaw)	15,491.5	71.7	-1.8	10
Japan (Tokyo)	861,056.0	51.1	2.1	10
South Korea (Seoul)	45,816.0	7.7	-0.3	10
Turkey (Istanbul)	926.7	985.8	169.6	9
Sweden (Stockholm)	289,920.9	185.6	13.1	8
Germany (Frankfurt)	375,219.1	159.9	-3.0	8
United States (Chicago)	162,571.6	7.6	0.0	8
United States (Los Angeles)	1,227,311.6	261.2	-107.7	7
Singapore (Singapore)	49,565.7	16.9	-0.4	7
Denmark (Copenhagen)	128,078.7	55.7	-17.9	6
France (Paris)	241,927.1	28.1	2.5	6
Canada (Toronto)	266,335.3	12.4	5.4	6
Taiwan (Taipei)	3,374.7	5.7	0.0	6
Austria (Vienna)	19,467.1	83.6	-8.6	5
Ireland (Dublin)	42,949.2	46.0	6.0	5
<i>Excludes Passive/Index Investors</i>		4,994.8	-374.4	239

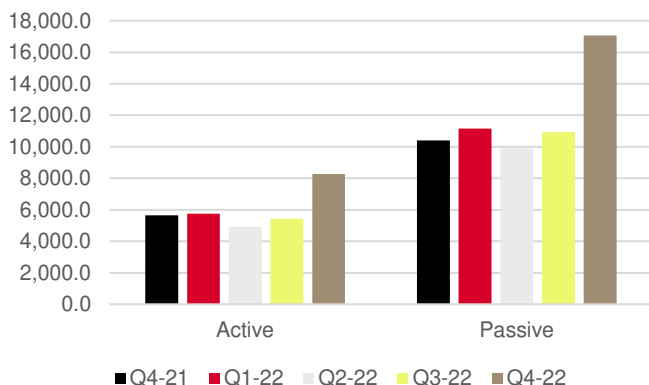
Active vs. Passive investors

Both Active & Passive investors contributed to inflows over the quarter. Passive investors continue to hold the bulk of the Turkish market (67%).

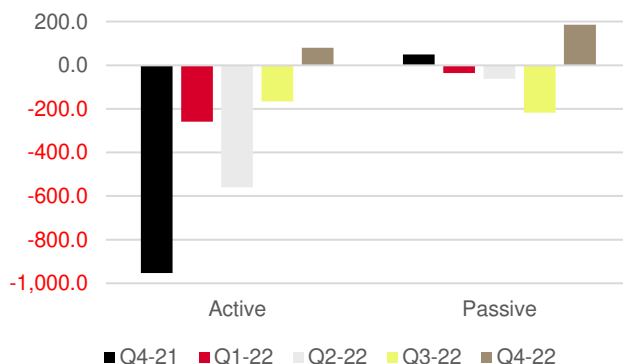
Active vs Passive Split



Active vs Passive (\$M)



Active vs Passive (\$M Chg)



FLOW OF FUNDS REPORT: TUYID Q4-2022

Top Holders, Buyers & Sellers – Corporate Debt

TOP HOLDERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Amundi (U.K.), LTD	United Kingdom	London	Medium	15,519.0	222.2	0.7	1.4	0.3
Goldman Sachs Asset Management International	United Kingdom	London	Very High	68,263.7	193.5	3.0	0.3	1.6
TIAA-CREF Investment Management, LLC	United States	New York	Very High	253,482.4	153.4	0.0	0.1	0.0
Dimensional Fund Advisors, L.P. (U.S.)	United States	Charlotte	Medium	91,982.5	96.6	85.3	0.1	757.4
Ninety One UK, LTD	United Kingdom	London	High	10,978.1	82.8	-0.9	0.8	-1.1
CIGNA Investments, Inc.	United States	Bloomfield	Low	4,952.7	73.8	11.0	1.5	17.5
Trea Asset Management, S.G.I.I.C., S.A.	Spain	Barcelona	Medium	4,080.2	73.2	0.2	1.8	0.2
Pictet Asset Management, LTD	United Kingdom	London	Medium	6,680.7	65.1	-27.4	1.0	-29.6
BlackRock Advisors (U.K.), LTD	United Kingdom	London	Low	197,067.5	63.4	2.8	0.0	4.6
Union Investment Privatfonds GmbH	Germany	Frankfurt	Low	43,096.6	62.4	-3.6	0.1	-5.4
					1,086.4	71.1		

TOP BUYERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Dimensional Fund Advisors, L.P. (U.S.)	United States	Charlotte	Medium	91,982.5	96.6	85.3	0.1	757.4
CIGNA Investments, Inc.	United States	Bloomfield	Low	4,952.7	73.8	11.0	1.5	17.5
Edmond de Rothschild Asset Management (France)	France	Paris	Medium	5,779.4	7.4	5.1	0.1	229.2
EG Capital Advisors (UK), LTD	United Kingdom	London	High	197.9	8.0	3.9	4.0	97.4
Edmond de Rothschild (Suisse) S.A.	Switzerland	Geneva	Medium	523.5	20.0	3.8	3.8	23.6
Goldman Sachs Asset Management International	United Kingdom	London	Very High	68,263.7	193.5	3.0	0.3	1.6
BlackRock Advisors (U.K.), LTD	United Kingdom	London	Low	197,067.5	63.4	2.8	0.0	4.6
DWS Investment GmbH	Germany	Frankfurt	High	79,360.8	43.9	2.6	0.1	6.4
Bank Julius Baer & Co. AG	Switzerland	Zürich	Low	3,725.5	39.5	2.5	1.1	6.7
T. Rowe Price Associates, Inc.	United States	Baltimore	Medium	139,604.6	16.5	2.4	0.0	16.6
					562.6	122.5		

TOP SELLERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Pictet Asset Management, LTD	United Kingdom	London	Medium	6,680.7	65.1	-27.4	1.0	-29.6
Towarzystwo Funduszy Inwestycyjnych PZU S.A.	Poland	Warsaw	Medium	2,030.4	59.6	-20.7	2.9	-25.7
UBS Asset Management (Americas), Inc.	United States	New York	Medium	30,282.1	7.9	-14.4	0.0	-64.5
Invesco Advisers, Inc.	United States	Atlanta	Medium	164,446.6	26.8	-13.3	0.0	-33.2
TD Asset Management, Inc.	Canada	Toronto	Low	64,013.3	0.0	-9.2	0.0	-100.0
Robeco Institutional Asset Management BV	Netherlands	Rotterdam	Medium	26,447.3	0.0	-9.1	0.0	-100.0
Fideuram Asset Management (Ireland), DAC	Ireland	Dublin	Medium	16,143.0	6.4	-8.6	0.0	-57.4
BankInvest Asset Management	Denmark	Copenhagen	Low	6,690.8	19.9	-7.1	0.3	-26.3
Lord, Abbett & Co., LLC (Asset Management)	United States	Jersey City	High	136,983.1	13.8	-6.3	0.0	-31.3
AllianceBernstein, L.P. (U.S.)	United States	Nashville	Medium	192,132.1	20.0	-6.2	0.0	-23.5
					219.6	-122.3		

Corporate Debt – City Analysis

Most Invested

Country / City	Total FI Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,016,302.5	938.6	-17.3	43
United States (New York)	1,571,986.8	344.7	-13.3	23
United States (Boston)	1,524,883.4	199.0	-4.6	10
Switzerland (Zürich)	235,307.1	152.6	-7.6	12
United States (Charlotte)	275,323.8	142.3	85.3	3
Germany (Frankfurt)	190,989.1	139.3	-0.9	11
Italy (Milan)	91,329.7	77.6	-1.1	10
United States (Bloomfield)	4,952.7	73.8	11.0	1
Spain (Barcelona)	4,246.8	73.5	0.2	2
France (Paris)	202,969.5	71.6	3.9	12
Poland (Warsaw)	2,791.1	65.6	-21.9	4
Denmark (Copenhagen)	61,283.7	63.9	-4.8	4
Singapore (Singapore)	28,019.5	61.7	-3.8	9
United States (Newport Beach)	843,074.3	44.3	0.0	2
United States (San Francisco)	818,845.8	41.7	1.5	4
Italy (Basiglio)	5,054.5	38.1	0.0	1
Austria (Vienna)	22,029.7	28.4	2.6	7
United States (Atlanta)	165,127.0	27.1	-13.1	2
United States (Newark)	476,849.2	26.2	-2.3	1
Switzerland (Geneva)	11,238.6	25.0	1.9	4
		2,635.3	15.5	165

Most Investors

Country / City	Total FI Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,016,302.5	938.6	-17.3	43
United States (New York)	1,571,986.8	344.7	-13.3	23
Switzerland (Zürich)	235,307.1	152.6	-7.6	12
France (Paris)	202,969.5	71.6	3.9	12
Germany (Frankfurt)	190,989.1	139.3	-0.9	11
Spain (Madrid)	29,964.7	9.4	-1.0	11
United States (Boston)	1,524,883.4	199.0	-4.6	10
Italy (Milan)	91,329.7	77.6	-1.1	10
Singapore (Singapore)	28,019.5	61.7	-3.8	9
Austria (Vienna)	22,029.7	28.4	2.6	7
United States (Chicago)	68,635.8	13.5	-2.7	5
Switzerland (Lugano)	2,923.5	11.6	-0.0	5
Poland (Warsaw)	2,791.1	65.6	-21.9	4
Denmark (Copenhagen)	61,283.7	63.9	-4.8	4
United States (San Francisco)	818,845.8	41.7	1.5	4
Switzerland (Geneva)	11,238.6	25.0	1.9	4
Germany (Munich)	22,683.0	21.5	0.1	4
Luxembourg (Luxembourg)	6,703.0	10.0	-5.2	4
United States (Charlotte)	275,323.8	142.3	85.3	3
Ireland (Dublin)	23,762.1	7.1	-8.6	3
		2,425.4	2.3	188

FLOW OF FUNDS REPORT: TUYID Q4-2022

GLOSSARY

Institutional Investment Styles

Aggressive Growth – Investors in this category invest in companies that have very high revenue, EPS growth rates and multiples relative to the overall market. These companies usually do not pay any dividends and are at the early stages of growth. Aggressive Growth investors exhibit a higher portfolio turnover than other styles of investors.

Alternative – Primarily used to classify hedge funds that use various strategies that fall outside the traditional investment strategies that can be categorized as the above. A catch-all for lightly regulated investment vehicles that have the ability to "go-anywhere" and invest long or short in any type of security – equity, debt, commodity, options, currency, etc. Hedge funds seek to earn above market returns for their clients while at the same time controlling risk factors. Hedge funds have grown in prominence over the years as their returns net of fees (typically 2% management, 20% incentive) have outperformed mutual fund and pension managers performance. Recently, many hedge funds have gained notoriety as "activists" demanding change (leadership or strategic) at companies in North America, Europe and Asia.

Asset Allocation – Asset allocation managers allocate their investments among stocks, bonds, and cash equivalents, among others. It is primarily dictated by the various needs of clients and used by many smaller firms and banks.

Deep Value – Investors in this category employ an extreme style of value investing where they invest in companies with very low valuations versus their own historic valuation, and in relation to the overall market. Usually the companies or the industries they are in have been out of favour in the marketplace for an extended period of time.

GARP – These institutions seek to add growth stocks to their portfolios, but will not pay a premium price to obtain the securities. Thus, investors of this type are categorized as GARP, or "growth at a reasonable price," investors. Investors utilizing this investment approach will use methodologies and indicators favoured by both growth and value investors, but neither of the aforementioned styles dominates the process.

Growth – These institutions place the greatest emphasis in their selection process on the growth prospects of a company's earnings. Growth investors prefer companies where bottom line growth will average at least 15% annually and are willing to pay above market average multiples for a stock. At the first sign of an earnings slow-down, however, growth investors are often the quickest to sell.

Index – These institutions strive to match the performance of an equity index such as the MSCI EAFE Index or the S&P 500 Index, while at the same time keeping trading costs at a minimum. An institution accomplishes this by holding the stocks that comprise the index in its portfolio at the same proportion as the index. Indexing is a passive style of investing; stocks are bought and sold based upon their inclusion in an index and not on their fundamentals. Please note, index investors are not familiar with the companies in which they have made investments and are therefore considered investor relations immune.

Other – This style is applied to companies that are not investment firms, such as public companies.

Private Equity – This style is applied to firms that are private equity investors and their public equity holdings are the result of pre-IPO holdings.

Specialty – Applied to firms with investment strategies that cannot be categorized due to the specific nature of their focus. Industry or sector specific focus is the most common example of a Specialty investor.

Value – Value-oriented institutions prefer stocks that are trading at undervalued levels relative to some valuation such as a stock's intrinsic value or a company's free cash flow. Value investors tend to have longer-term investment horizons than their growth counterparts as they wait for the convergence of value and price.

Venture Capital – This style is applied to firms that are venture capital investors and their public equity holdings are the result of pre-IPO holdings.

Yield – Yield investors are sensitive to a high dividend yield and invest in companies with yield levels very high compared to the market yield, and have a history of paying and increasing dividends over time.

Orientation

Active – Indicates that the final investment decision making process at an institution is enacted by a portfolio manager or analyst. While computer screening models may be used in the investment process they are not utilized to make the final investment decision.

Passive – This category primarily captures index and quantitative investors. These investors utilize computer models to define an investable universe and make final portfolio decisions. Investor relations officers cannot influence these investment decisions.

FLOW OF FUNDS REPORT: TUYID Q4-2022

GLOSSARY

Turnover

Portfolio Equity Turnover is the measure of how frequently a portfolio buys or sells securities over a 12 month period. It is calculated as the sum of the dollar values of buys and sells over a given period, divided by the sum of the beginning and ending equity assets over the same period, reported as an annualized percentage.

A portfolio with a turnover rate of 100% replaces its entire portfolio throughout the course of a 12-month period, whereas, a portfolio with a turnover rate of 50% replaces half of its holdings during the same time.

- Low Turnover (0-33.3% per year)
- Medium Turnover (33.3 -66.6% per year)
- High Turnover (66.6-100% per year)
- Very High Turnover (Over 100% per year)

Equity Assets (\$M) – The market value of all current publicly disclosed ownership of equity securities held by an account/institution as identified by IHS Markit, expressed in millions of USD.

Value (\$M) – Total value invested in a company/country/region by an institution

Equation: $(\sum \text{All Shares Held Owned Over Period} \times \text{End-of-Period Security Price})$

Change (\$M) - Measures the actual buying/selling activity of institutions (excluding changes in the price of the underlying security). Throughout the report, Net Buy/Sell Activity may be displayed as a value or on a percent change .

Equation: $[(\sum \text{All Shares Bought Over Period} \times \text{End-of-Period Security Price}) - (\sum \text{All Shares Sold Over Period} \times \text{End-of-Period Security Price})]$

% Portfolio - The % of a Buy side institution's position in a company/country/region based on an institution's total portfolio value (Equity Assets (\$M)).

% Portfolio Change – The % change of the institution in the company/country/region

Equation: $[(\sum \text{Value} (\$M)) / ((\sum \text{Value} (\$M)) - (\sum \text{Change} (\$M)) \times 100)]$

S&P Global's institutional ownership data is based on publicly-disclosed information, collected from such sources as regulatory ownership filings (including SEC forms 13F/D/G), disclosures made by mutual funds / pension funds to their beneficiaries, registration statements, news releases, and other sources. It should be noted that regulatory filings and other ownership sources vary widely country-by-country as to their completeness and timeliness. When an institutional investor's complete ownership is not disclosed by requirement, S&P Global aggregates and sums the publicly-filed portfolio information from the investor to arrive at a disclosed total equity figure. Data for the beginning and end of Q3-2021 can be considered a snapshot of the most current positions.