

FLOW OF FUNDS REPORT

TUYID Q2-2018



August, 2018

Dear Readers,

We are happy to present the Flow of Funds Report for the second quarter of 2018. Our report offers detailed insight on the funds flow by investment type and regions as well as top buyers and sellers in the Turkish market. We also provide key investor hubs for road shows and trust the Report will be an important asset in IR planning and investor targeting.

Investment in Turkey remained positive for the fifth consecutive quarter, while all other regions in this comparison experienced at least one quarter of negative sentiment over the same time frame with regards to the \$M change by region. Regionally, UK & Ireland offered the most support to Turkey with net increases of +\$237.1M, while also increasing their exposure to Russia (+\$281.9M) and remaining relatively flat in Poland (-\$7.1M) and Hungary (+\$36.2M). Value investors were the largest buyers of Turkish equities with increased investments of +\$245.2M, whilst reducing their aggregate portfolios in Russia, Poland and Hungary.

This Report is prepared quarterly by Ipreo By IHS Markit, in cooperation with TÜYİD, using Ipreo By IHS Markit's database. We look forward to any feedback you may have.

Ipreo By IHS Markit
Senior Associate
Kieran Kelly

TÜYİD Turkish IR Society
Chairperson/ TAV Airports Holding
Co. Director, Head of Investor Relations
Nursel İlgen, CFA

Acknowledgements: We express our gratitude to Kieran Kelly from Ipreo by IHS Markit Global Markets Intelligence and TÜYİD member İşil Bük for their contributions.

Disclaimer: The evaluations and the information in the Report, where you can find significant statistics about the stock exchange, are prepared based on IPREO's database. Investment information, comment and advices are not in the enclosure of investment consultancy and do not comprise information for buying and selling decisions in the capital markets. The data and the information in the Report cannot be guaranteed to be correct; the content can be changed without announcing. All the data are taken from the sources thought to be reliable. The data used in this report is sourced from publicly disclosed portfolios/information and due to the reporting periods there may be discrepancies (data sources used in this report include, but are not limited to, Factset, Morningstar, SEC filings (13Fs etc.) and news sources). IPREO and TÜYİD cannot be taken responsible for the problems that might emerge out of using these sources.



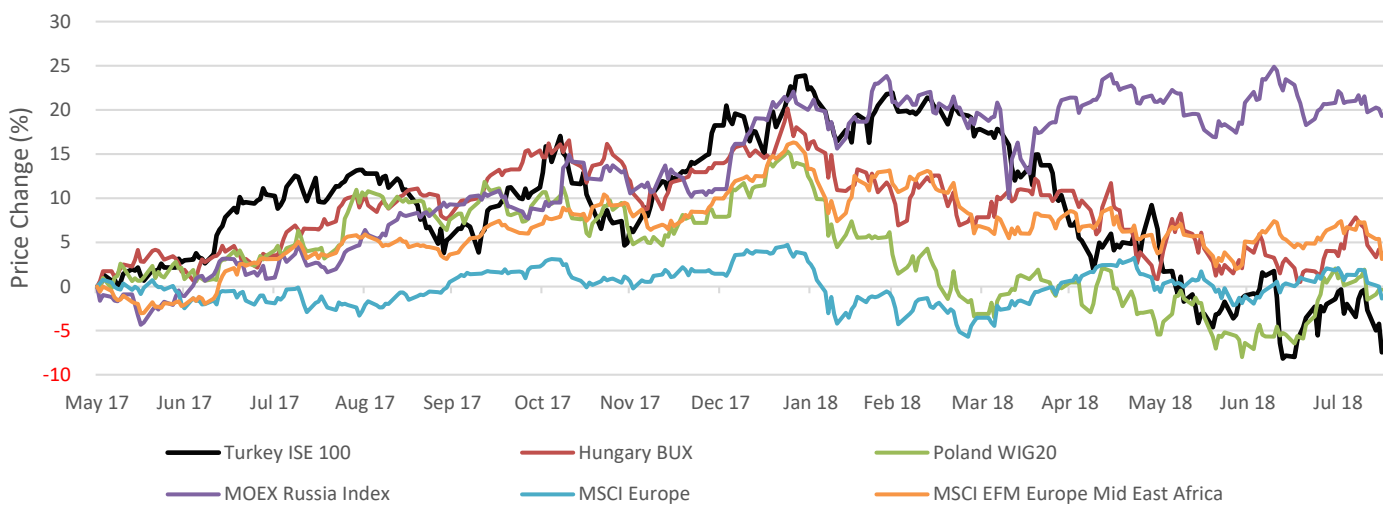
Price performance:

The Turkey ISE 100 index finished the twelve months to end of July with a -0.6% decrease making it the lowest performing index and the only one in negative territory within the basket of peer country and region indices. The Poland WIG 20 rose by +1.56% over the same period, with the MSCI Europe ending off slightly ahead at +2.1%. The Hungary BUX and the MSCI EFM Europe Mid East Africa index grew by +3.99% and +7.2% respectively, while the MOEX Russia index climbed by +20.8%.

"Emerging-market (EM) equities rebounded in July but trailed their developed-market counterparts. Constructive trade talks between the United States and European Union eased fears of a global trade war and lifted investor sentiment, driving a recovery in EM stocks and currencies. Trade tensions, particularly between the United States and China, have triggered investor caution towards emerging markets over the short term. In our opinion, what has been hurting sentiment is not trade policy itself, but continual trade friction and uncertainty. We believe businesses can adapt and develop long-term strategies around trade policies once there is greater clarity. We consider fears regarding US dollar strength to be overblown. Short-term risk aversion and a slight upward move in the US interest rate trajectory have contributed to the dollar's climb, but we do not expect these drivers to be sustained over the long term. We believe that many EM currencies are attractively valued and well-supported after recent declines. EM equity fundamentals remain strong, in our view. Cash flow generation has accelerated considerably. Paired with better capital allocation discipline, this improves shareholder returns and aids corporate balance sheet deleveraging. Earnings growth has also been resilient, while valuations have become cheaper."

Templeton Emerging Markets Fund, July 2018

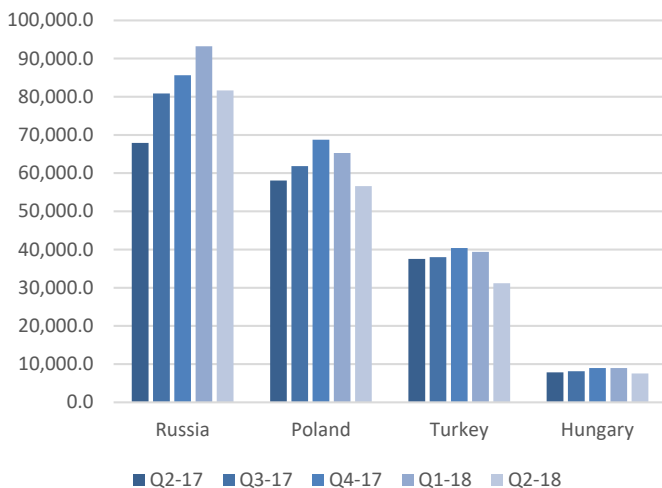
<http://www.franklintempleton.co.za/downloadsServlet?docid=hlofdgzh>



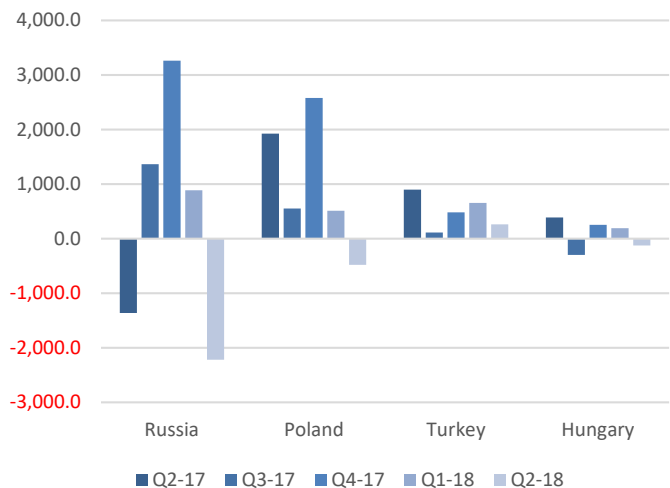
Inflows and Outflows:

Turkish equities continued to see positive sentiment with a net change in institutional investments of +\$262.2M. While Russian, Polish and Hungarian markets all experienced net outflows with Turkey the only region to see positive returns for five consecutive quarters.

Institutional Investment in Region (\$M)



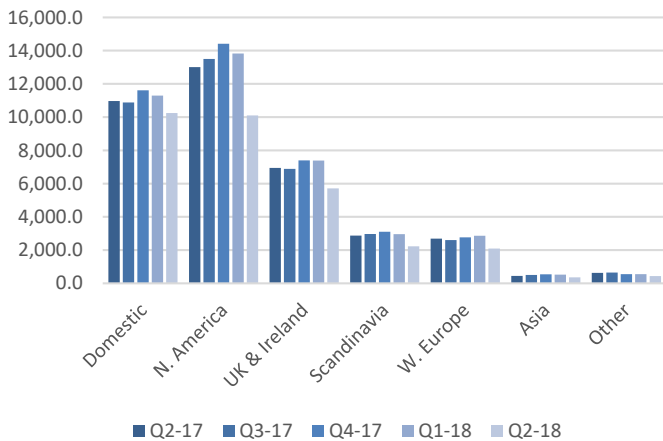
Institutional Investment in Region (\$M Chg)



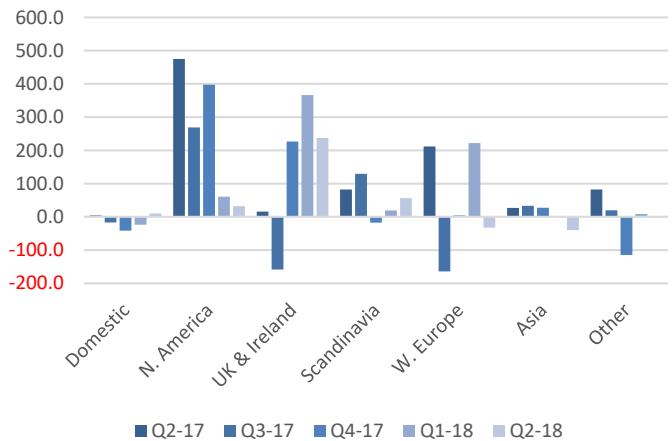
Investment by Investor Region:

Inflows from the UK & Ireland dominated in this quarter with net investments of +\$237.1M, which were largely driven by Index investor, BlackRock Advisors (U.K.), LTD, with net buying of +\$215.0M, as well as four other UK & Ireland investors present in the top 10 buyers which included active investors M&G Investment Management, LTD (+\$107.8M), J.P. Morgan Asset Management (UK), LTD (+\$100.2M), Kairos Investment Management, LTD (+\$17.3M) and N.F.U. Mutual Unit Managers, LTD (+\$15.5M). Scandinavia also recorded net buying of +\$56.4M with Danske Bank Asset Management (Denmark) (+\$20.0M) and Nordea Investment Management (Denmark) (+\$18.7M) increasing their holdings in Turkish stocks. Lazard Asset Management, LLC (U.S.) led the buying (+\$228.9M) North American investors who posted net purchases of +\$32.1M.

Institutional Investment by Region (\$M Val)



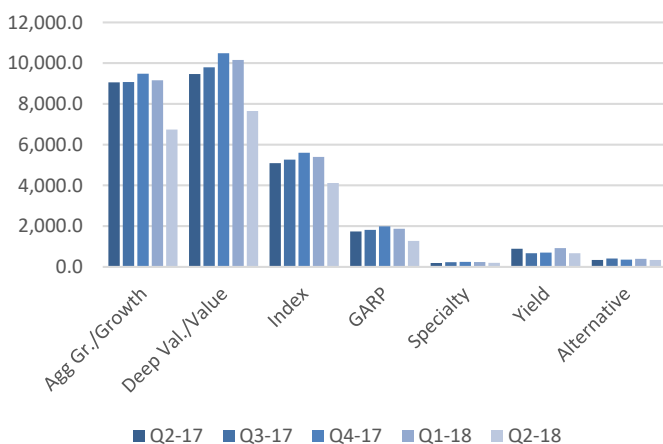
Institutional Investment by Region (\$M Chg)



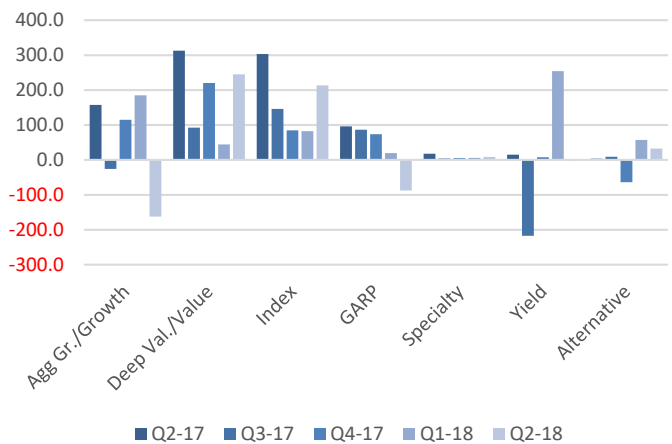
Investment by Style:

Value investors remain the largest investor group by style, reporting net investment of +\$245.2M in Turkish equities in the current period, largely attributed to the +\$228.9M investment by Lazard Asset Management, LLC (US). Index investors were also notable net buyers (+\$213.4M) with BlackRock Advisors (U.K.), LTD the largest buyers (+\$215.0M). Growth investors were the largest sellers (-\$162.0M) in the current period, led by US investor Fidelity Management & Research Company (-\$97.7M). GARP investors also recorded net selling (-\$87.5M), largely driven by US investor Harding Loevner, L.P. (-\$59.6M).

Institutional Investment by Style (\$M)



Institutional Investment by Style (\$M Chg)



Top Active Holders, Buyers & Sellers

TOP HOLDERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Lazard Asset Management, LLC (U.S.)	United States	Value	Medium	92,643.4	979.9	228.9	1.1	30.5
Norges Bank Investment Management (Norway)	Norway	Value	Low	683,768.3	886.9	0.0	0.1	0.0
Genesis Investment Management, LLP	United Kingdom	Growth	Low	28,239.5	691.4	7.5	2.4	1.1
Aberdeen Standard Investments (U.K.)	United Kingdom	Growth	Medium	142,032.2	639.5	-60.6	0.5	-8.7
APG Asset Management N.V.	Netherlands	Yield	Medium	163,856.7	621.5	0.0	0.4	0.0
J.P. Morgan Asset Management (UK), LTD	United Kingdom	Growth	Medium	117,291.4	368.9	100.2	0.3	37.3
Invesco Advisers, Inc.	United States	Growth	Low	167,112.4	323.8	0.2	0.2	0.1
Grantham Mayo Van Otterloo & Co., LLC	United States	Value	Medium	33,522.5	310.6	0.5	0.9	0.2
OppenheimerFunds, Inc	United States	Growth	Medium	162,733.5	307.2	-33.1	0.2	-9.7
Nordea Investment Management (Denmark)	Denmark	Value	Low	70,336.2	293.8	18.7	0.4	6.8
					5,423.5	262.4		

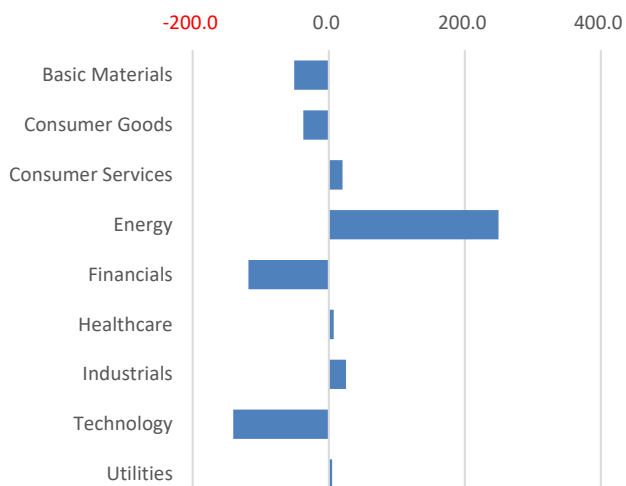
TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Lazard Asset Management, LLC (U.S.)	United States	Value	Medium	92,643.4	979.9	228.9	1.1	30.5
M&G Investment Management, LTD	United Kingdom	Growth	Low	68,271.1	163.2	107.8	0.2	194.6
J.P. Morgan Asset Management (UK), LTD	United Kingdom	Growth	Medium	117,291.4	368.9	100.2	0.3	37.3
Brandes Investment Partners, L.P.	United States	Deep Value	Low	14,877.8	137.3	55.6	0.9	68.2
Danske Bank Asset Management (Denmark)	Denmark	Growth	Medium	18,620.8	77.6	20.0	0.4	34.7
Nordea Investment Management (Denmark)	Denmark	Value	Low	70,336.2	293.8	18.7	0.4	6.8
Kairos Investment Management, LTD	United Kingdom	Alternative	High	1,868.3	130.8	17.3	7.0	15.3
N.F.U. Mutual Unit Managers, LTD	United Kingdom	Value	Low	7,420.7	33.6	15.5	0.5	85.8
Van Eck Associates Corporation	United States	Value	Low	32,025.5	103.8	14.3	0.3	16.0
J.P. Morgan Investment Management, Inc.	United States	Growth	Low	274,394.6	111.8	13.2	0.0	13.4
					2,400.7	591.5		

TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Fidelity Management & Research Company	United States	Growth	Low	940,867.6	256.7	-97.7	0.0	-27.6
Fidelity International Limited - FIL Investment Services (U.K.), LTD	United Kingdom	Growth	Medium	101,644.6	231.4	-90.4	0.2	-28.1
Robeco Institutional Asset Management BV	Netherlands	Value	Medium	45,050.9	186.2	-77.3	0.4	-29.3
Aberdeen Standard Investments (U.K.)	United Kingdom	Growth	Medium	142,032.2	639.5	-60.6	0.5	-8.7
Harding Loevner, L.P.	United States	GARP	Low	40,102.6	119.3	-59.6	0.3	-33.3
Waddell & Reed Investment Management Company	United States	Agg. Growth	Medium	54,904.4	0.0	-58.0	0.0	-100.0
OppenheimerFunds, Inc	United States	Growth	Medium	162,733.5	307.2	-33.1	0.2	-9.7
Templeton Asset Management, LTD	Hong Kong	Growth	Low	9,509.7	19.9	-28.9	0.2	-59.2
Eaton Vance Management	United States	Value	Low	45,824.1	29.9	-22.7	0.1	-43.1
Schroder Investment Management, LTD	United Kingdom	GARP	Medium	122,230.6	292.8	-21.0	0.2	-6.7
					2,082.7	-549.1		

Includes Investors with EUM greater than \$100M; Excludes Passive/Index Investors

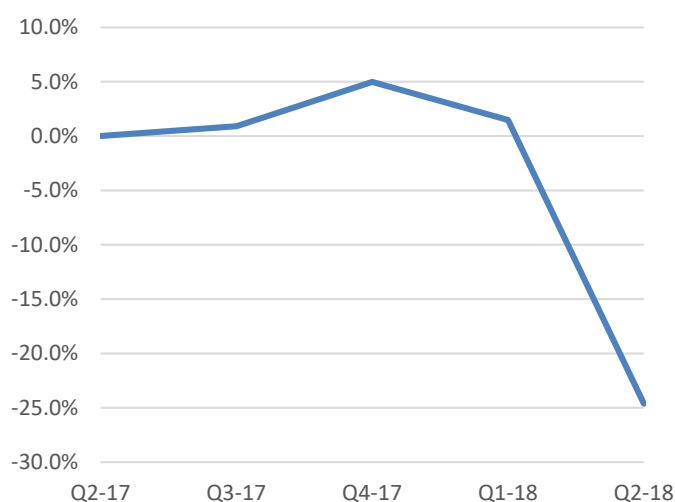
Sector Inflows/Outflows

Active \$M Chg



% Change in Active Investment vs 5 Previous Quarters

Active Investment





Top Passive Holders, Buyers & Sellers

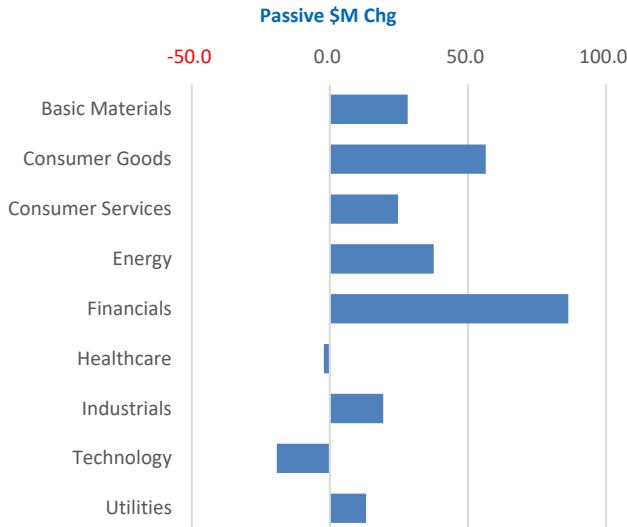
TOP HOLDERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
The Vanguard Group, Inc.	United States	Index	Low	2,973,224.1	1,584.6	-26.7	0.1	-1.7
BlackRock Fund Advisors	United States	Index	Low	1,968,819.9	996.0	12.1	0.1	1.2
Dimensional Fund Advisors, L.P. (U.S.)	United States	Value	Low	426,422.6	838.2	27.2	0.2	3.4
Arrowstreet Capital, L.P.	United States	Deep Value	Very High	50,856.2	462.6	-32.1	0.9	-6.5
BlackRock Advisors (U.K.), LTD	United Kingdom	Index	Low	141,285.4	462.3	215.0	0.3	86.9
Acadian Asset Management, LLC	United States	Deep Value	Medium	39,461.8	202.2	9.4	0.5	4.9
Parametric Portfolio Associates, LLC	United States	GARP	Low	112,811.4	178.4	1.5	0.2	0.9
California Public Employees Retirement System	United States	Index	Low	75,295.1	171.5	0.0	0.2	0.0
BNY Mellon Asset Management North America Corporati	United States	Index	Low	198,443.6	110.7	5.1	0.1	4.8
Stewart Investors (U.K.)	United Kingdom	Growth	Low	5,964.7	110.5	0.0	1.9	0.0
				5,117.0	211.5			

TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
BlackRock Advisors (U.K.), LTD	United Kingdom	Index	Low	141,285.4	462.3	215.0	0.3	86.9
Dimensional Fund Advisors, L.P. (U.S.)	United States	Value	Low	426,422.6	838.2	27.2	0.2	3.4
TOBAM	France	Specialty	Medium	6,551.9	56.9	22.0	0.9	63.1
BlackRock Fund Advisors	United States	Index	Low	1,968,819.9	996.0	12.1	0.1	1.2
Acadian Asset Management, LLC	United States	Deep Value	Medium	39,461.8	202.2	9.4	0.5	4.9
First Trust Advisors, L.P.	United States	Growth	Medium	54,235.4	64.5	7.4	0.1	13.0
Renaissance Technologies, LLC	United States	Alternative	High	91,742.5	6.8	6.8	0.0	Buy-in
Northern Trust Investments, Inc.	United States	Index	Low	379,704.0	59.3	5.8	0.0	10.9
State Street Global Advisors (SSgA)	United States	Index	Low	1,270,444.6	105.1	5.1	0.0	5.1
BNY Mellon Asset Management North America Corporati	United States	Index	Low	198,443.6	110.7	5.1	0.1	4.8
				2,901.9	315.9			

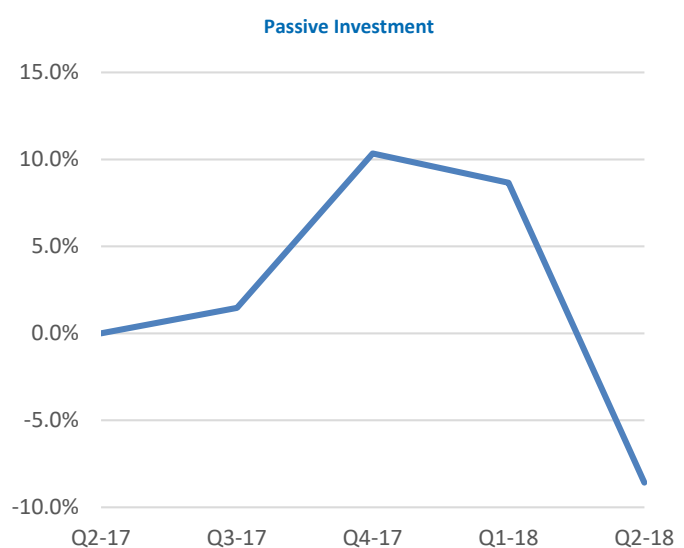
TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Arrowstreet Capital, L.P.	United States	Deep Value	Very High	50,856.2	462.6	-32.1	0.9	-6.5
The Vanguard Group, Inc.	United States	Index	Low	2,973,224.1	1,584.6	-26.7	0.1	-1.7
Renaissance Group, LLC	United States	Growth	Medium	2,815.7	0.0	-17.7	0.0	-100.0
AQR Capital Management, LLC	United States	Alternative	Medium	114,235.4	31.7	-4.5	0.0	-12.4
Quantitative Management Associates, LLC	United States	Index	Medium	67,950.6	13.9	-4.4	0.0	-23.9
Managed Account Advisors, LLC	United States	Specialty	Medium	230,132.1	11.3	-4.1	0.0	-26.4
Global X Management Company, LLC	United States	Index	Medium	9,395.1	9.7	-3.6	0.1	-27.1
Deutsche Asset Management (UK), LTD	United Kingdom	Index	High	26,831.4	8.3	-2.7	0.0	-24.4
Vanguard Investments Australia, LTD	Australia	Index	Low	47,896.8	5.6	-2.3	0.0	-29.5
Aperio Group, LLC	United States	Index	Low	21,094.7	2.0	-1.9	0.0	-48.2
				2,129.8	-99.9			

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

Sector Inflows/Outflows



% Change in Passive Investment vs 5 Previous Quarters





Road show:

While London and New York continue to be the dominant investment centres, Boston-based investors switched from net buyers in Q1-18 (+\$6.6M) to net sellers (-\$114.1M) in Q2-18, led by Fidelity Management & Research Company with net decreases of -\$97.7M. New York-based investors were the largest net buyers having invested +\$213.0M in the current period with aforementioned Value investor, Lazard Asset management, LLC (US) the largest buyer (+\$228.9M).

Most Invested

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,914,209.0	3,788.5	60.5	72
United States (New York)	2,603,624.9	2,010.9	213.0	44
Norway (Oslo)	716,582.6	903.4	0.7	3
United States (Boston)	2,245,897.9	701.1	-114.1	13
United Kingdom (Edinburgh)	329,737.5	686.3	-56.8	5
Netherlands (Amsterdam)	168,929.5	625.8	0.8	4
United States (Atlanta)	179,448.5	337.3	0.2	2
Sweden (Stockholm)	197,768.9	322.4	5.3	10
Denmark (Copenhagen)	86,844.5	302.9	20.5	6
Canada (Toronto)	524,788.8	299.7	5.5	12
United Kingdom (I)	20,584.8	293.5	0.0	1
United States (Los Angeles)	1,267,241.2	259.0	-15.7	6
Switzerland (Geneva)	105,258.7	242.1	-0.5	9
Turkey (Istanbul)	214.2	214.8	0.6	9
Germany (Frankfurt)	299,106.4	201.4	23.3	8
Canada (Montreal)	106,211.1	198.8	0.1	5
Netherlands (Rotterdam)	45,050.9	186.2	-77.3	1
Sweden (Solna)	37,395.0	180.3	12.7	1
Norway (Stavanger)	7,198.3	180.1	1.7	1
United States (San Diego)	82,059.4	176.9	54.0	5
Excludes Passive/Index Investors	12,111.3		134.6	217

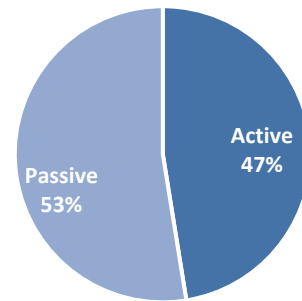
Most Investors

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,914,209.0	3,788.5	60.5	72
United States (New York)	2,603,624.9	2,010.9	213.0	44
Poland (Warsaw)	22,045.0	97.0	0.0	19
France (Paris)	289,881.8	106.0	-3.5	16
Japan (Tokyo)	711,611.0	81.4	1.3	14
South Korea (Seoul)	58,013.4	11.8	0.0	14
United States (Boston)	2,245,897.9	701.1	-114.1	13
Canada (Toronto)	524,788.8	299.7	5.5	12
United States (Chicago)	311,413.3	93.8	-9.3	12
Sweden (Stockholm)	197,768.9	322.4	5.3	10
Switzerland (Geneva)	105,258.7	242.1	-0.5	9
Turkey (Istanbul)	214.2	214.8	0.6	9
Singapore (Singapore)	129,027.1	166.6	-14.1	9
Hong Kong (Central)	70,076.9	49.7	-26.7	9
Germany (Frankfurt)	299,106.4	201.4	23.3	8
Switzerland (Zürich)	134,192.3	78.5	-2.7	8
Taiwan (Taipei)	10,405.6	10.9	0.0	8
Austria (Vienna)	11,003.8	126.3	7.0	7
Italy (Milan)	30,716.5	48.2	-1.5	7
Denmark (Copenhagen)	86,844.5	302.9	20.5	6
Excludes Passive/Index Investors		8,953.9	164.7	306

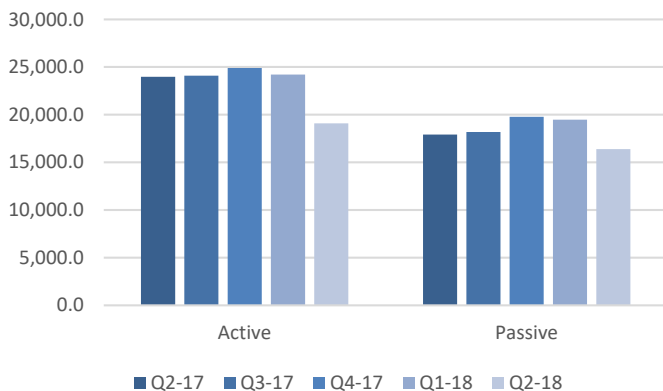
Active vs. Passive investors

The active versus passive ownership split stands at a 6% difference, with active investors holding 47% and passive investors 53% of Turkish equities. Both investor groups recorded net purchases in the market with active holders increasing by +\$16.3M and their passive counterparts increasing their aggregated exposure by +\$245.9M, led by US-based Lazard Asset Management (Active) and UK-based Blackrock Fund Advisors (Passive) which made net purchases of +\$228.9M and +\$215.0M respectively.

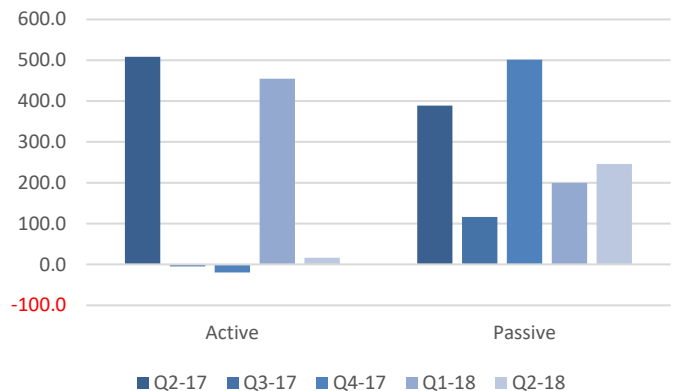
Active vs Passive Split



Active vs Passive (\$M)



Active vs Passive (\$M Chg)





Top Holders, Buyers & Sellers – Corporate Debt

TOP HOLDERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
TIAA-CREF Investment Management, LLC	United States	New York	Very High	329,895.5	423.1	1.4	0.1	0.3
Pictet Asset Management, LTD	United Kingdom	London	Medium	23,271.7	421.1	61.1	1.8	17.0
Fidelity International Limited - FIL Investment Services (L	United Kingdom	London	Medium	36,627.5	326.4	13.1	0.9	4.2
Amundi Ireland, LTD (London)	United Kingdom	London	High	9,629.1	316.8	-17.2	3.3	-5.1
J.P. Morgan Investment Management, Inc.	United States	New York	Medium	126,167.6	248.7	32.0	0.2	14.8
Union Investment Privatfonds GmbH	Germany	Frankfurt	Low	57,175.3	219.5	6.3	0.4	3.0
Deutsche Asset Management Investment GmbH	Germany	Frankfurt	Medium	75,931.9	217.2	-1.0	0.3	-0.5
Neuberger Berman Europe, LTD (Netherlands)	Netherlands	The Hague	Very High	6,288.9	215.9	7.7	3.4	3.7
Metlife Investment Advisors, LLC	United States	Boston	Medium	313,991.3	200.0	0.0	0.1	0.0
Lord, Abnett & Co., LLC (Asset Management)	United States	Jersey City	High	118,310.1	195.2	-67.1	0.2	-25.6
					2,784.1	36.5		
TOP BUYERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Pictet Asset Management, LTD	United Kingdom	London	Medium	23,271.7	421.1	61.1	1.8	17.0
J.P. Morgan Asset Management (UK), LTD	United Kingdom	London	Medium	34,633.1	91.1	37.0	0.3	68.4
J.P. Morgan Investment Management, Inc.	United States	New York	Medium	126,167.6	248.7	32.0	0.2	14.8
MFS Investment Management	United States	Boston	Low	68,101.9	31.7	31.7	0.0	Buy-in
Acomea SGR S.p.A.	Italy	Milan	Very High	1,238.5	29.0	29.0	2.3	Buy-in
Fidelity Management & Research Company	United States	Boston	Medium	76,711.7	66.3	27.1	0.1	69.0
Ashmore Investment Management, LTD	United Kingdom	London	High	23,858.9	86.1	26.5	0.4	44.4
Robeco Institutional Asset Management BV	Netherlands	Rotterdam	Medium	27,083.9	35.8	24.9	0.1	228.0
T. Rowe Price Associates, Inc.	United States	Baltimore	Low	166,835.4	21.5	21.5	0.0	Buy-in
Schroder Investment Management North America, Inc.	United States	New York	Medium	14,204.5	23.1	17.0	0.2	280.4
					1,054.3	307.7		
TOP SELLERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Lord, Abnett & Co., LLC (Asset Management)	United States	Jersey City	High	118,310.1	195.2	-67.1	0.2	-25.6
Quercus Towarzystwo Funduszy Inwestycyjnych S.A.	Poland	Warsaw	Medium	542.8	53.7	-50.7	9.9	-48.6
AllianceBernstein, L.P. (U.S.)	United States	New York	Medium	158,844.0	150.4	-47.2	0.1	-23.9
OppenheimerFunds, Inc	United States	New York	Medium	71,404.9	47.0	-40.5	0.1	-46.3
Amundi Ireland, LTD	Ireland	Dublin	Medium	22,836.3	181.3	-33.2	0.8	-15.5
Muzinich & Co., LTD (London)	United Kingdom	London	High	18,023.8	45.0	-32.7	0.2	-42.1
Credit Suisse Asset Management (Schweiz) AG	Switzerland	Zürich	Low	55,560.5	170.7	-31.6	0.3	-15.6
Eurizon Capital SGR S.p.A.	Italy	Milan	High	32,463.5	126.7	-30.0	0.4	-19.1
TwentyFour Asset Management, LLP	United Kingdom	London	Very High	8,161.1	68.7	-29.5	0.8	-30.0
NN Investment Partners Towarzystwo Funduszy Inwestyc	Poland	Warsaw	Medium	1,853.8	22.1	-25.2	1.2	-53.3
					1,060.9	-387.6		

Corporate Debt – City Analysis

Most Invested					Most Investors				
Country / City	Total FI Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms	Country / City	Total FI Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,052,224.7	2,442.9	18.9	59	United Kingdom (London)	1,052,224.7	2,442.9	18.9	59
United States (New York)	2,076,554.9	1,382.8	-47.1	27	United States (New York)	2,076,554.9	1,382.8	-47.1	27
Germany (Frankfurt)	212,951.2	647.7	13.2	9	Spain (Madrid)	72,967.0	128.6	-2.5	23
United States (Boston)	1,267,066.6	459.4	69.5	13	Taiwan (Taipei)	5,804.4	100.5	2.7	16
Italy (Milan)	142,700.0	382.9	4.4	13	United States (Boston)	1,267,066.6	459.4	69.5	13
Switzerland (Zürich)	136,445.4	355.5	-50.8	12	Italy (Milan)	142,700.0	382.9	4.4	13
Netherlands (The Hague)	40,655.8	221.8	7.6	3	Switzerland (Zürich)	136,445.4	355.5	-50.8	12
Ireland (Dublin)	44,407.7	213.9	-42.5	5	Austria (Vienna)	31,119.9	107.8	-12.5	12
Singapore (Singapore)	20,960.3	209.0	-7.5	7	Germany (Frankfurt)	212,951.2	647.7	13.2	9
Poland (Warsaw)	7,428.5	200.4	-83.8	9	Poland (Warsaw)	7,428.5	200.4	-83.8	9
United States (Jersey City)	118,310.1	195.2	-67.1	1	Switzerland (Lugano)	3,630.4	105.4	-5.4	9
United States (Newport Beach)	798,250.4	185.4	0.0	2	Switzerland (Geneva)	71,038.7	149.7	-0.1	8
United States (Charlotte)	141,912.3	160.9	-0.0	2	Luxembourg (Luxembourg)	27,281.6	86.0	5.3	8
Poland (Poznan)	3,239.1	155.2	-8.4	1	France (Paris)	153,213.4	49.8	0.8	8
Switzerland (Geneva)	71,038.7	149.7	-0.1	8	Singapore (Singapore)	20,960.3	209.0	-7.5	7
United States (Atlanta)	204,120.1	130.3	1.2	2	Ireland (Dublin)	44,407.7	213.9	-42.5	5
Spain (Madrid)	72,967.0	128.6	-2.5	23	Canada (Toronto)	98,878.3	43.5	-1.5	5
Austria (Vienna)	31,119.9	107.8	-12.5	12	Germany (Hamburg)	5,142.1	22.7	-0.9	5
Switzerland (Lugano)	3,630.4	105.4	-5.4	9	Germany (Munich)	20,724.7	17.2	-3.0	5
Taiwan (Taipei)	5,804.4	100.5	2.7	16	United States (Philadelphia)	51,791.1	87.7	-8.8	4
	7,935.2		-210.3	233			7,193.3	-151.8	257



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.

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)



GLOSSARY

Equity Assets (\$M) – The market value of all current publicly disclosed ownership of equity securities held by an account/institution as identified by Ipreo, 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: $[(\sum \text{Value} (\$M)) / ((\sum \text{Value} (\$M) - (\sum \text{Change} (\$M)) \times 100)]$

Ipreo'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, Ipreo 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 2017 can be considered a snapshot of the most current positions.