

FLOW OF FUNDS REPORT

TUYID Q1-2019



July, 2019

Dear Readers,

We are happy to present the Flow of Funds Report for the first quarter of 2019. Our report offers detailed insight of 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 road shows and trust the Report will be an important asset in IR planning and investor targeting.

Turkey experienced net inflows again, after experiencing net inflows in Q4-18, with all other regions in this comparison also subjected to net inflows over the quarter which is in contrast to the negative trend seen in the previous quarter. Regionally, North America and the UK & Ireland were the largest buyers of Turkish equities with net investments of +\$255.1M and +\$67.7M respectively. North American investors also increased their exposure to Russia (+\$866.9M) in addition to Poland (+\$4.5M), while divesting the Hungarian equity market by -\$11.7M.

Value investors remain the largest invested holders by style which is composed of Norges Bank and Lazard AM – Value investors also accounted for the largest net outflow for Q1-2019 with the largest detractors being SEB IM and Arisaig Partners (Asia). GARP investors were the second largest buyers in the period which was driven by inflows from Schroder IM, Hermes AM and East Capital AM. The largest net inflows by style emanated from Index investors based in the US being The Vanguard and State Street.

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

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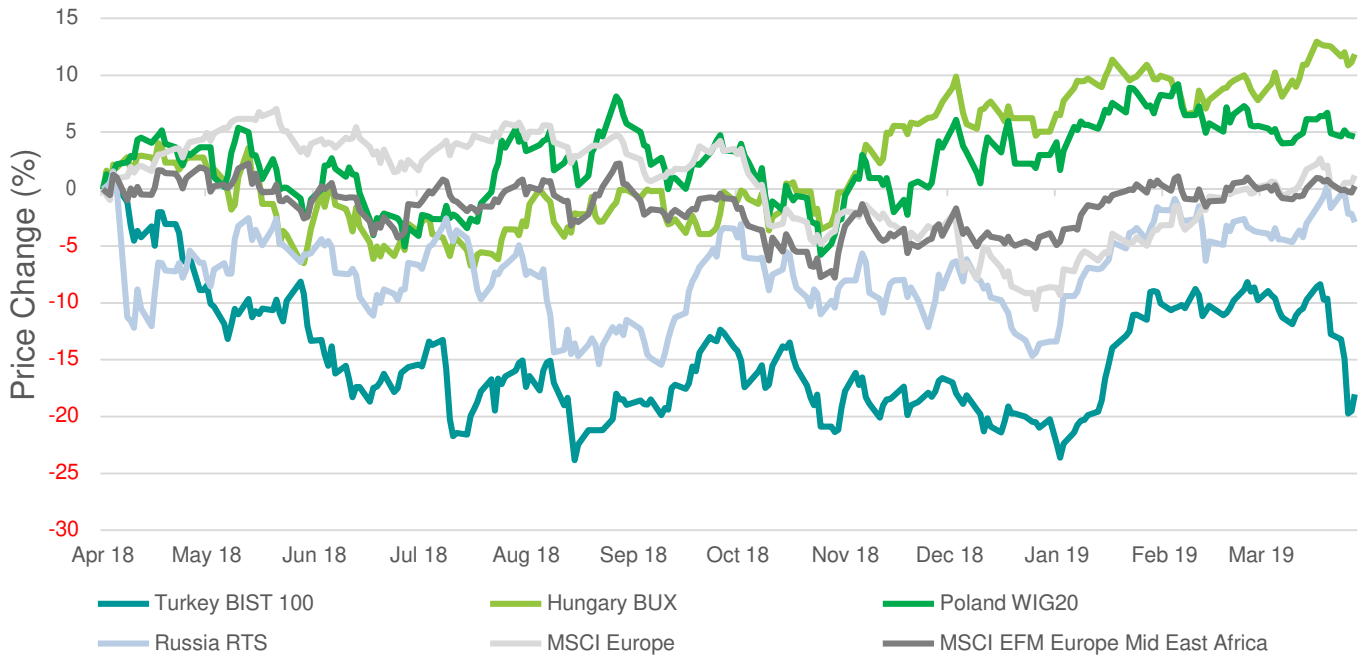
Acknowledgements: We express our gratitude to Max Heera from Ipree by IHS Markit Global Markets Intelligence and TÜYİD member Işıl Bük for their contributions.

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Price performance:

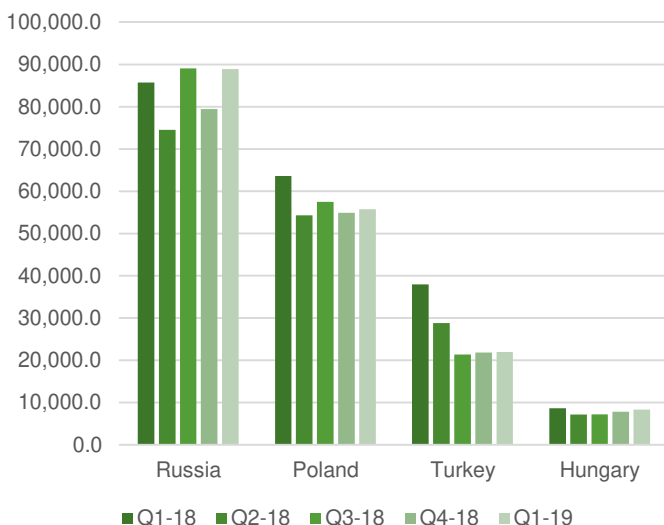
The Turkey BIST 100 index was down -18.1% for the 12-month period ending Q1-2019. The only other index to finish in negative territory was the Russia RTS (- 2.9%) while the Hungary BUX (+11.9%) was the best performing index over the same time frame. Poland's WIG20 ended with a +4.6% increase, MSCI Europe increased by +1.2% while the MSCI EFM Europe Mid East Africa added +0.3%.



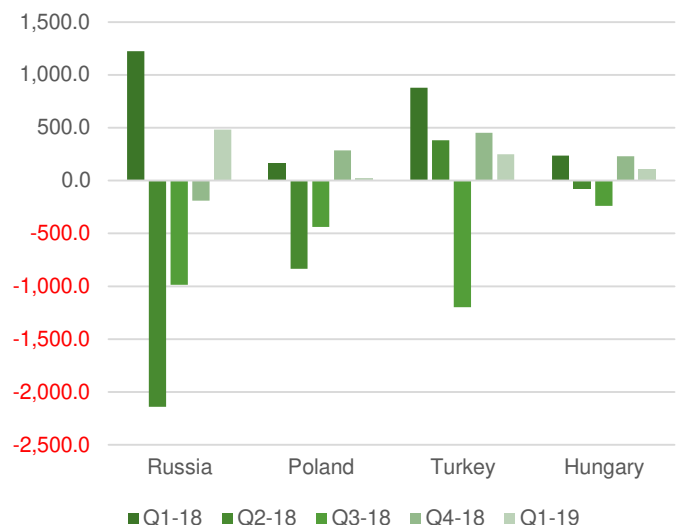
Inflows and Outflows:

Turkey saw a consecutive period of net inflows, although at a reduced rate, driven by North American investors in both quarters. North American institutions also led inflows into the Russian market while Western Europe investors was the key contributor to Polish inflows.

Institutional Investment in Region (\$M)



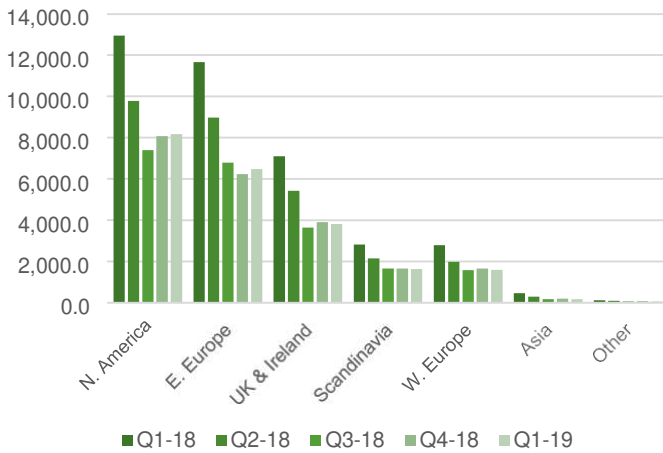
Institutional Investment in Region (\$M Chg)



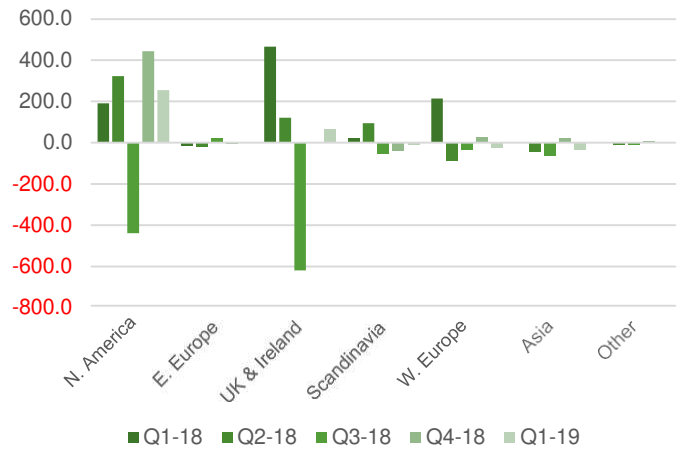
Investment by Investor Region:

The Turkish equity market saw net aggregated increases of +\$250,2M across all key investor regions. North America continues to be the largest holder and buyer of Turkish equities (+\$255.1M) followed by Eastern Europe albeit this region was a net seller over the quarter (-\$3.2M). The UK & Ireland were the second largest buyers of Turkish equity (+\$67.7M) over the review period.

Institutional Investment by Region (\$M)



Institutional Investment by Region (\$M Chg)

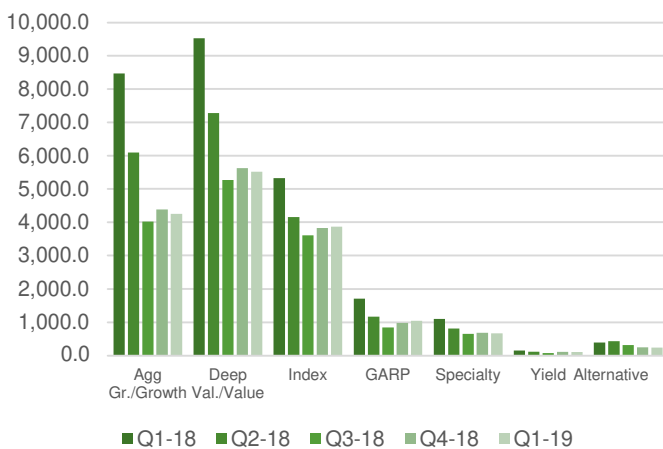


Investment by Style:

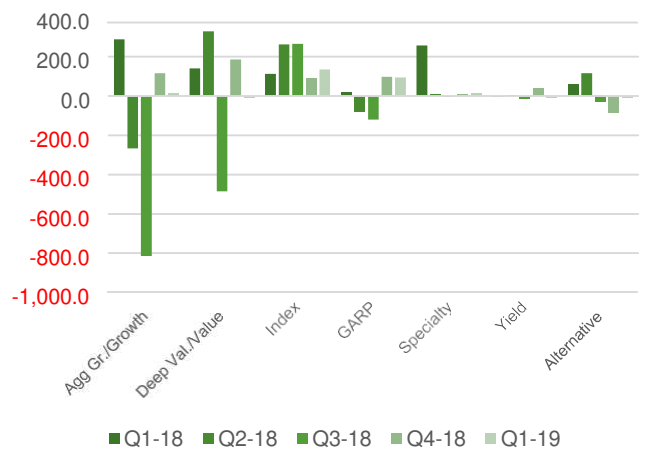
Index orientated investment strategies (+\$135,2M) saw the largest increases led by The Vanguard Group (+\$63.1M) and State Street Global Advisors (+\$19,6M). GARP (+\$95,5M) accounted for the second largest inflows driven by U.K investors namely Schroder Investment Management,LTD (+\$64.4M) and Hermes Investment Management,LTD (+\$24.1M).

Value investors remain the largest invested holders by style (Norges Bank, Lazard AM et al) but accounted for the largest net outflows in Q1. SEB IM and Arisaig Partners (Asia) were the largest detractors.

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
Norges Bank Investment Management (Norway)	Norway	Value	Low	680,800.3	681.7	0.0	0.1	0.0
Lazard Asset Management, LLC (U.S.)	United States	Value	Medium	95,621.4	589.3	10.4	0.6	1.8
Genesis Investment Management, LLP	United Kingdom	Grow th	Medium	15,585.7	564.4	-6.0	3.6	-1.1
Grantham Mayo Van Otterloo & Co., LLC	United States	Value	Medium	29,643.7	507.5	-9.4	1.7	-1.8
APG Asset Management N.V.	Netherlands	Specialty	Low	161,486.9	503.0	4.8	0.3	1.0
Schroder Investment Management, LTD	United Kingdom	GARP	Medium	115,981.0	321.0	64.4	0.3	25.1
Capital World Investors (U.S.)	United States	Value	Low	665,966.1	304.5	57.7	0.0	23.4
Invesco Advisers, Inc.	United States	Grow th	Low	159,272.4	255.5	-23.8	0.2	-8.5
Silchester International Investors, LLP	United Kingdom	Value	Low	19,528.0	240.2	0.0	1.2	0.0
BlackRock Investment Management (U.K.), LTD	United Kingdom	Grow th	Low	430,477.3	203.6	11.0	0.0	5.7
					4,170.8	109.1		

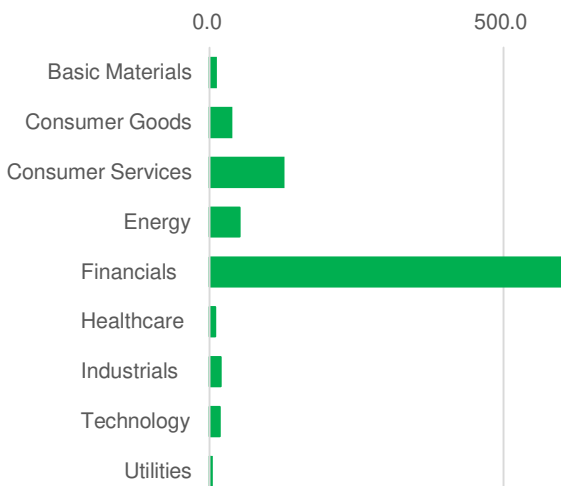
TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Schroder Investment Management, LTD	United Kingdom	GARP	Medium	115,981.0	321.0	64.4	0.3	25.1
Capital World Investors (U.S.)	United States	Value	Low	665,966.1	304.5	57.7	0.0	23.4
AllianceBernstein, L.P. (U.S.)	United States	Value	Low	182,136.6	127.5	50.9	0.1	66.6
Morgan Stanley Investment Management Inc.	United States	Grow th	Medium	78,223.3	52.9	48.8	0.1	1,191.0
Robeco Institutional Asset Management BV	Netherlands	Value	Medium	53,101.9	193.0	38.7	0.4	25.1
Fidelity Management & Research Company	United States	Grow th	Low	934,791.3	140.1	34.5	0.0	32.7
Sw edbank Robur Fonder AB	Sw eden	Grow th	Low	77,588.5	95.2	27.4	0.1	40.4
Hermes Investment Management, LTD	United Kingdom	GARP	Low	18,294.0	53.0	24.1	0.3	83.3
East Capital Asset Management AB	Sw eden	GARP	Medium	1,147.6	50.6	23.9	4.4	89.2
J.P. Morgan Asset Management (UK), LTD	United Kingdom	Grow th	Medium	106,693.9	117.1	16.5	0.1	16.4
					1,455.0	387.0		

TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
M&G Investment Management, LTD	United Kingdom	Grow th	Low	55,395.4	89.2	-48.3	0.2	-35.1
SEB Investment Management AB	Sw eden	Value	Medium	35,615.1	164.7	-37.4	0.5	-18.5
Arisaig Partners (Asia) Pte., LTD	Singapore	Value	Low	3,958.5	3.6	-30.3	0.1	-89.3
Invesco Advisers, Inc.	United States	Grow th	Low	159,272.4	255.5	-23.8	0.2	-8.5
Metagestión S.G.I.I.C., S.A.U.	Spain	Value	High	514.0	0.0	-20.8	0.0	-100.0
Mondrian Investment Partners, LTD	United Kingdom	Value	Low	20,987.4	84.8	-20.1	0.4	-19.2
Deka Investment GmbH	Germany	Value	Low	49,996.7	7.3	-19.9	0.0	-73.3
Candriam Belgium S.A.	Belgium	Grow th	Medium	20,754.5	4.6	-19.6	0.0	-81.1
Polunin Capital Partners, LTD	United Kingdom	Value	Low	1,412.6	40.5	-15.3	2.9	-27.4
Aviva Investors Global Services, LTD (U.K.)	United Kingdom	Grow th	Low	43,359.8	39.7	-14.2	0.1	-26.4
					689.9	-249.7		

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

Sector Inflows/Outflows

Active \$M Change



% Change in Active Investment vs 5 Previous Quarters

Active Investment





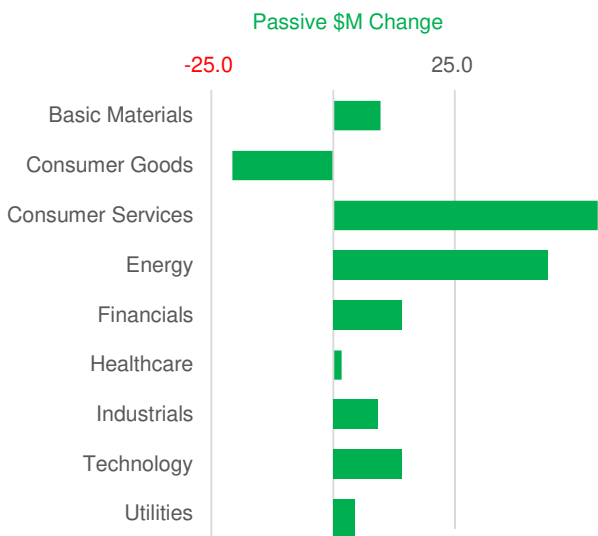
Top Passive Holders, Buyers & Sellers

TOP HOLDERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg	
The Vanguard Group, Inc.	United States	Index	Low	3,181,122.8	1,445.6	63.1	0.0	4.6	
BlackRock Fund Advisors	United States	Index	Low	2,063,726.7	1,043.4	-38.3	0.1	-3.5	
BlackRock Advisors (U.K.), LTD	United Kingdom	Index	Low	135,779.5	349.4	5.8	0.3	1.7	
Arrow street Capital, L.P.	United States	Deep Value	Very High	51,252.3	285.5	-0.2	0.6	-0.1	
Acadian Asset Management, LLC	United States	Deep Value	Medium	40,426.2	245.8	40.2	0.6	19.6	
Dimensional Fund Advisors, L.P. (U.S.)	United States	Value	Low	314,869.0	196.2	0.4	0.1	0.2	
California Public Employees Retirement System	United States	Index	Low	85,551.8	171.5	0.0	0.2	0.0	
Parametric Portfolio Associates, LLC	United States	GARP	Low	121,611.2	153.2	-11.1	0.1	-6.8	
Stew art Investors (U.K.)	United Kingdom	Grow th	Medium	4,788.7	113.0	-15.6	2.4	-12.1	
State Street Global Advisors (SSgA)	United States	Index	Low	1,355,243.9	111.6	19.6	0.0	21.3	
				4,115.2	64.0				

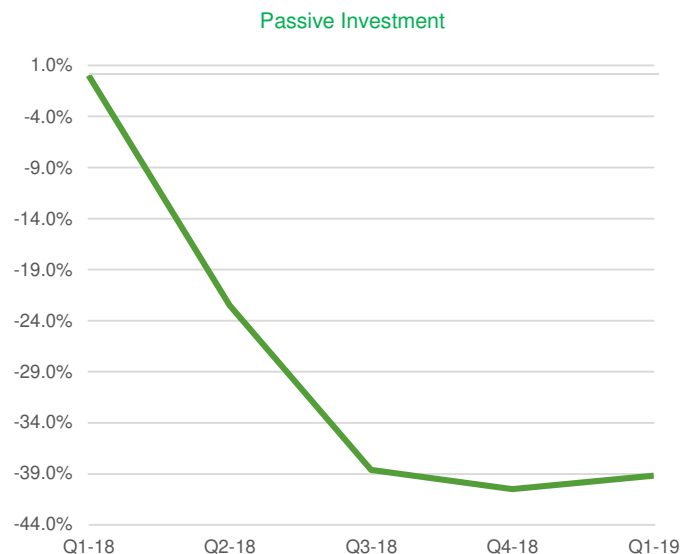
TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg	
The Vanguard Group, Inc.	United States	Index	Low	3,181,122.8	1,445.6	63.1	0.0	4.6	
Acadian Asset Management, LLC	United States	Deep Value	Medium	40,426.2	245.8	40.2	0.6	19.6	
State Street Global Advisors (SSgA)	United States	Index	Low	1,355,243.9	111.6	19.6	0.0	21.3	
Charles Schw ab Investment Management, Inc.	United States	Index	Low	198,710.5	90.7	18.3	0.0	25.4	
Invesco Capital Management, LLC	United States	Index	Low	161,945.1	29.7	12.3	0.0	70.9	
First Trust Advisors, L.P.	United States	Index	Medium	55,284.6	58.4	8.6	0.1	17.3	
Global X Management Company, LLC	United States	Index	Medium	9,702.4	12.9	6.5	0.1	102.8	
Geode Capital Management, LLC	United States	Index	Low	443,377.8	56.9	6.1	0.0	12.1	
Vident Investment Advisory, LLC	United States	Index	Medium	3,933.0	61.5	6.1	1.6	11.0	
Quantitative Management Associates, LLC	United States	Index	Medium	62,105.1	27.2	6.0	0.0	28.4	
				2,140.2	187.0				

TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg	
BlackRock Fund Advisors	United States	Index	Low	2,063,726.7	1,043.4	-38.3	0.1	-3.5	
Stew art Investors (U.K.)	United Kingdom	Grow th	Medium	4,788.7	113.0	-15.6	2.4	-12.1	
Parametric Portfolio Associates, LLC	United States	GARP	Low	121,611.2	153.2	-11.1	0.1	-6.8	
ICON Advisers, Inc.	United States	Value	Medium	1,125.2	2.1	-2.8	0.2	-57.6	
Hexavest, Inc.	Canada	Grow th	High	10,093.6	1.0	-2.0	0.0	-66.8	
AQR Capital Management, LLC	United States	Alternative	Medium	107,328.3	17.2	-1.3	0.0	-7.2	
Weld Capital Management, LLC	United States	Alternative	Very High	549.0	0.0	-1.2	0.0	-100.0	
Old Mission Capital, LLC	United States	Specialty	Very High	598.0	1.0	-0.9	0.2	-45.6	
ALPS Advisors, Inc.	United States	Index	Medium	13,304.8	2.3	-0.8	0.0	-24.6	
Seven Investment Management, LLP	United Kingdom	Index	High	1,912.2	1.1	-0.7	0.1	-39.1	
<i>Includes Investors with EUM greater than \$100M; Excludes Active Investors</i>				1,334.4	-74.7				

Sector Inflows/Outflows



% Change in Passive Investment vs 5 Previous Quarters



Road show:

London and New York are the largest institutional investment centres measured by \$m invested in Turkish equities with New York being the largest net buyer and AllianceBernstein and Morgan Stanley Investment Management the most bullish.

London also saw net inflows in the period driven by investments from Schroder IM and Hermes IM. Selling by Arisaig Partners (Asia) contributed to Singapore being the largest selling city in the period.

Most Invested

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,853,915.2	2,827.2	63.6	70
United States (New York)	2,360,088.7	1,343.9	107.7	43
United States (Boston)	2,380,679.7	835.9	25.4	13
Norway (Oslo)	716,108.8	691.2	1.9	4
Netherlands (Amsterdam)	165,729.3	503.8	4.7	3
United States (Los Angeles)	1,157,266.6	453.9	55.8	6
Sweden (Stockholm)	241,016.2	420.0	13.8	12
United States (Atlanta)	172,334.7	259.1	-23.8	3
Canada (Toronto)	480,548.5	224.9	-2.6	9
Denmark (Copenhagen)	86,337.6	207.0	-6.0	6
United Kingdom (Edinburgh)	295,303.9	200.2	-7.0	4
Netherlands (Rotterdam)	53,101.9	193.0	38.7	1
Turkey (Istanbul)	197.1	192.5	-6.0	9
Germany (Frankfurt)	286,674.3	152.6	-13.8	7
Switzerland (Geneva)	99,411.0	127.7	-4.1	8
United States (San Francisco)	596,955.3	117.8	-11.8	5
United States (San Diego)	86,236.2	109.2	-9.4	4
Austria (Vienna)	11,020.5	104.3	-5.8	5
Canada (Victoria)	31,241.3	95.9	0.0	1
Sweden (Gothenburg)	15,366.9	93.1	0.0	1
<i>Excludes Passive/Index Investors</i>		9,153.1	221.2	214

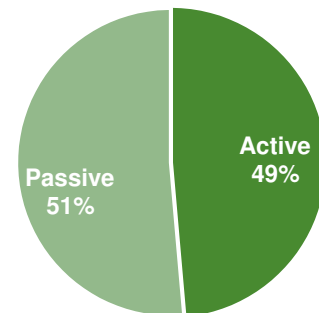
Most Investors

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,853,915.2	2,827.2	63.6	70
United States (New York)	2,360,088.7	1,343.9	107.7	43
Japan (Tokyo)	794,183.9	78.5	0.0	15
Poland (Warsaw)	18,025.8	58.2	0.0	14
United States (Chicago)	317,756.2	35.4	-10.1	14
United States (Boston)	2,380,679.7	835.9	25.4	13
France (Paris)	252,384.7	83.5	6.8	13
Sweden (Stockholm)	241,016.2	420.0	13.8	12
South Korea (Seoul)	40,529.6	5.4	-0.5	12
Canada (Toronto)	480,548.5	224.9	-2.6	9
Turkey (Istanbul)	197.1	192.5	-6.0	9
Switzerland (Geneva)	99,411.0	127.7	-4.1	8
Switzerland (Zürich)	144,102.8	68.1	5.0	8
Singapore (Singapore)	75,233.4	48.2	-27.6	8
Germany (Frankfurt)	286,674.3	152.6	-13.8	7
United States (Los Angeles)	1,157,266.6	453.9	55.8	6
Denmark (Copenhagen)	86,337.6	207.0	-6.0	6
Finland (Helsinki)	15,008.2	42.2	-4.1	6
Ireland (Dublin)	34,602.5	32.5	0.9	6
United States (San Francisco)	596,955.3	117.8	-11.8	5
<i>Excludes Passive/Index Investors</i>		7,355.3	192.2	284

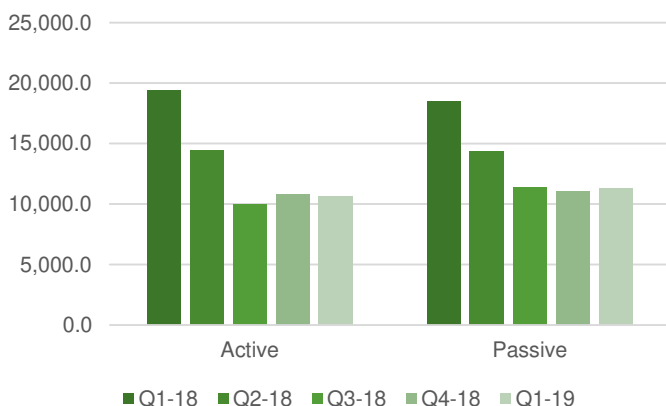
Active vs. Passive investors

The active-to-passive split of ownership previously stood at a 2% difference in Active investors favour, however due to slight buying seen by Passive (+152,1M) they now hold 51% of the Turkish equity market. Passive orientated investors also continued to be net buyers in Turkey with an increase +\$63M led by The Vanguard Group. Active orientated investors who saw the largest outflows are M&G IM, SEB IM and Arisaig Partners who sold an aggregated -\$116M in Q1-19.

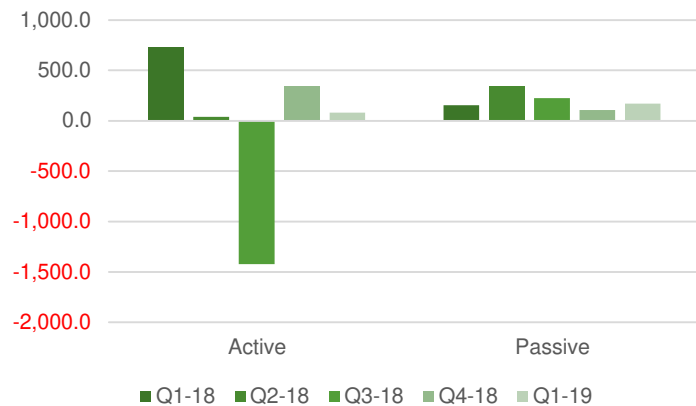
Active vs Passive Split



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
Ashmore Investment Management, LTD	United Kingdom	London	Medium	30,672.7	670.8	-5.9	2.2	-0.9
TIAA-CREF Investment Management, LLC	United States	New York	Low	285,736.3	332.0	-17.3	0.1	-4.9
AllianceBernstein, L.P. (U.S.)	United States	New York	Low	167,251.3	276.2	-36.7	0.2	-11.7
Pictet Asset Management, LTD	United Kingdom	London	Medium	15,440.0	270.2	-30.5	1.8	-10.1
Fidelity International Limited - FIL Investment Services (U.K.), LTD	United Kingdom	London	High	38,239.6	217.4	-65.6	0.6	-23.2
Neuberger Berman Europe, LTD (Netherlands)	Netherlands	The Hague	High	6,680.9	199.7	34.3	3.0	20.8
T. Rowe Price Associates, Inc.	United States	Baltimore	Low	169,098.1	193.6	18.5	0.1	10.6
Lord, Abbett & Co., LLC (Asset Management)	United States	Jersey City	Low	137,723.7	187.8	-42.9	0.1	-18.6
Union Investment Privatfonds GmbH	Germany	Frankfurt	Low	52,105.3	178.1	-4.7	0.3	-2.6
Eurizon Capital SGR S.p.A.	Italy	Milan	High	27,556.3	175.1	76.0	0.6	76.8
					2,700.8	-74.8		

TOP BUYERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Eurizon Capital SGR S.p.A.	Italy	Milan	High	27,556.3	175.1	76.0	0.6	76.8
AIG Asset Management (U.S.), LLC	United States	New York	Low	154,539.4	139.7	47.3	0.1	51.2
Nordea Investment Management (Denmark)	Denmark	Copenhagen	High	34,224.9	40.5	40.1	0.1	11,100.4
Neuberger Berman Europe, LTD (Netherlands)	Netherlands	The Hague	High	6,680.9	199.7	34.3	3.0	20.8
AmFunds Management Bhd	Malaysia	Kuala Lumpur	Low	397.0	27.3	27.3	6.9	Buy-in
Fidelity Investments Money Management, Inc.	United States	Merrimack	Very High	603,154.6	85.7	19.6	0.0	29.5
T. Rowe Price Associates, Inc.	United States	Baltimore	Low	169,098.1	193.6	18.5	0.1	10.6
Franklin Advisers, Inc.	United States	San Mateo	High	273,526.2	45.9	16.2	0.0	54.4
Van Eck Associates Corporation	United States	New York	Low	13,761.0	25.7	13.6	0.2	112.8
Deka Investment GmbH	Germany	Frankfurt	Medium	41,221.9	76.3	13.5	0.2	21.5
					1,009.5	306.5		

TOP SELLERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Fidelity International Limited - FIL Investment Services (U.K.), LTD	United Kingdom	London	High	38,239.6	217.4	-65.6	0.6	-23.2
Amundi Ireland, LTD (London)	United Kingdom	London	Medium	7,190.6	157.5	-47.1	2.2	-23.0
Millennium Tow arzystw o Funduszy Inw estycyjnych S.A.	Poland	Warsaw	Medium	710.4	0.0	-43.2	0.0	-100.0
Lord, Abbett & Co., LLC (Asset Management)	United States	Jersey City	Low	137,723.7	187.8	-42.9	0.1	-18.6
AllianceBernstein, L.P. (U.S.)	United States	New York	Low	167,251.3	276.2	-36.7	0.2	-11.7
Amundi Ireland, LTD	Ireland	Dublin	Medium	19,754.8	132.2	-35.9	0.7	-21.3
Morgan Stanley Investment Management Inc.	United States	New York	Low	153,758.5	44.2	-32.3	0.0	-42.2
Pictet Asset Management, LTD	United Kingdom	London	Medium	15,440.0	270.2	-30.5	1.8	-10.1
TCW Investment Management Company, LLC	United States	Los Angeles	High	100,520.9	78.8	-29.2	0.1	-27.0
Acomea SGR S.p.A.	Italy	Milan	High	1,508.1	47.7	-28.5	3.2	-37.3
					1,412.3	-391.7		

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)	992,491.5	2,444.2	-229.0	55	United Kingdom (London)	992,491.5	2,444.2	-229.0	55
United States (New York)	1,878,322.1	1,187.0	-42.8	27	United States (New York)	1,878,322.1	1,187.0	-42.8	27
Germany (Frankfurt)	194,055.7	421.9	5.3	9	Spain (Madrid)	101,186.9	72.2	-1.2	21
Sw itzerland (Zürich)	140,746.7	352.2	-4.3	13	Taiwan (Taipei)	5,917.6	97.7	2.2	16
Italy (Milan)	132,482.5	318.2	32.5	10	Sw itzerland (Zürich)	140,746.7	352.2	-4.3	13
United States (Boston)	1,147,200.5	288.8	5.5	13	United States (Boston)	1,147,200.5	288.8	5.5	13
Netherlands (The Hague)	45,485.4	204.3	34.2	3	Austria (Vienna)	28,050.6	88.9	-14.0	11
United States (Baltimore)	169,098.1	193.6	18.5	1	Sw itzerland (Lugano)	3,490.1	87.1	-2.7	11
United States (Jersey City)	137,723.7	187.8	-42.9	1	Italy (Milan)	132,482.5	318.2	32.5	10
Singapore (Singapore)	24,097.7	186.0	14.8	9	France (Paris)	180,039.4	111.0	-9.1	10
Ireland (Dublin)	39,919.5	169.5	-33.4	4	Germany (Frankfurt)	194,055.7	421.9	5.3	9
United States (Charlotte)	148,257.6	162.5	8.0	2	Singapore (Singapore)	24,097.7	186.0	14.8	9
United States (Los Angeles)	121,632.7	111.6	-29.6	3	Luxembourg (Luxembourg)	21,509.0	53.5	1.1	9
France (Paris)	180,039.4	111.0	-9.1	10	Sw itzerland (Geneva)	29,889.0	77.6	1.7	7
Belgium (Brussels)	19,261.4	106.2	-0.3	2	United States (Chicago)	31,076.5	15.3	1.3	6
Taiwan (Taipei)	5,917.6	97.7	2.2	16	Sw itzerland (Zurich)	77,955.0	82.1	-3.5	5
United States (Atlanta)	193,491.4	93.1	-3.6	2	Spain (Barcelona)	3,674.6	76.9	-6.7	5
United Kingdom (Edinburgh)	99,096.0	91.7	5.1	2	Malaysia (Kuala Lumpur)	1,518.5	46.6	35.1	5
Austria (Vienna)	28,050.6	88.9	-14.0	11	Germany (Munich)	21,544.6	19.1	2.2	5
Sw itzerland (Lugano)	3,490.1	87.1	-2.7	11	Canada (Toronto)	97,135.2	6.0	-0.6	5
	6,903.2		-285.6	204			6,032.2	-212.3	252



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.



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 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 2018 can be considered a snapshot of the most current positions.