

FLOW OF FUNDS REPORT

TUYID Q4-2019



March, 2020

Dear Readers,

We are happy to present the Flow of Funds Report for the fourth 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 accounts for a minor net outflow in Q4-19 after the large decrease in the previous quarter as we see the markets looking up overall - Turkey remains in the green for 2019 due to the solid Q2-19 performance. Russian equities also saw a net outflow, while Poland and Hungary were flat. North America is still the largest investor region in Turkey and are net buyers in Q4-19 following last quarter's net selling activity; the region was otherwise a net seller from Russian and Polish equities in Q4-19. After four quarters of net buying, UK & Ireland investors are now net sellers for Turkish stocks – they have been decreasing exposure to Russian and Hungarian stocks as well.

Top holders by style: Value investors accounted for a net outflow in the period predominantly due to Arrowstreet and SKAGEN – both investors preferring Russian and Polish equities over Q4-19. Invesco Advisors and JP Morgan AM UK invested considerably which drove the overall bullish sentiment by Growth investors.

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.

IHS Markit
Associate Director, Shareholder Identification EMEA
Frederik Frank

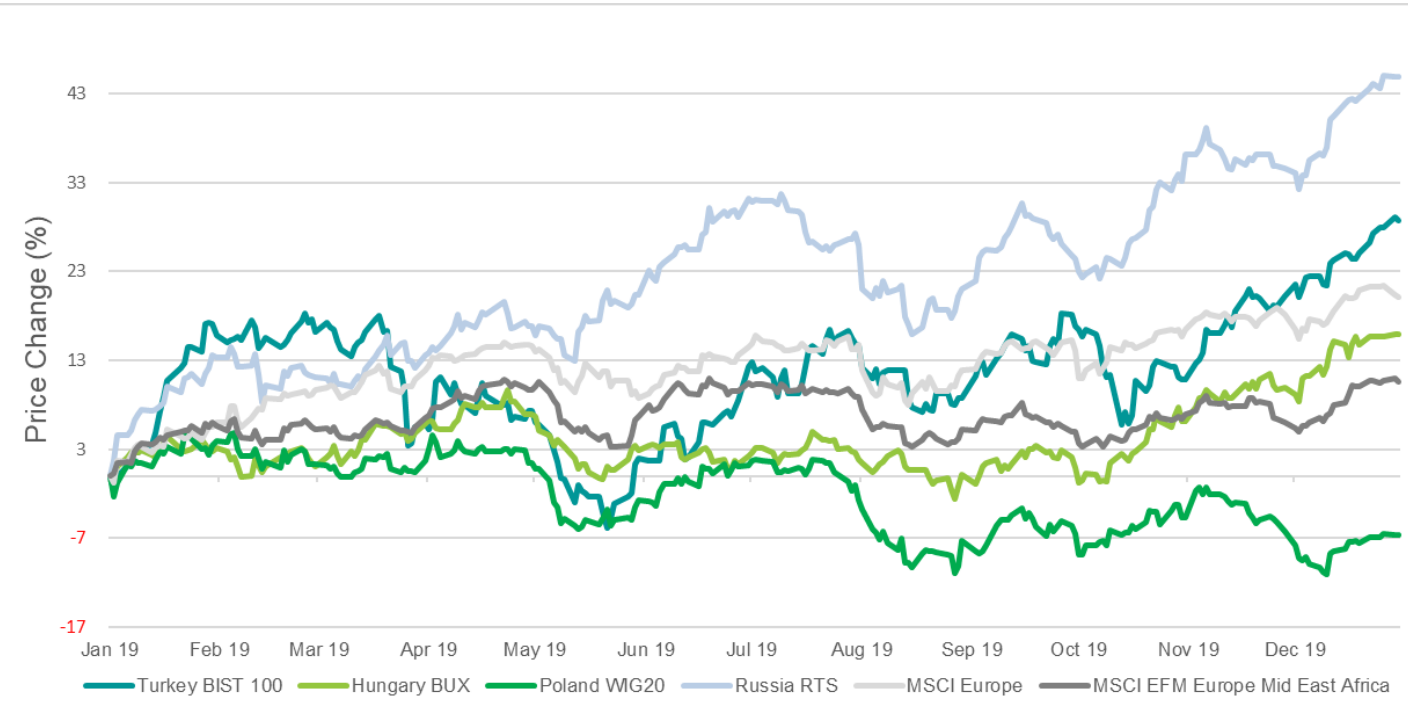
TÜYİD Turkish IR Society
Chair person/ Ford Otosan
Head of Investor Relations
Aslı Selçuk,

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

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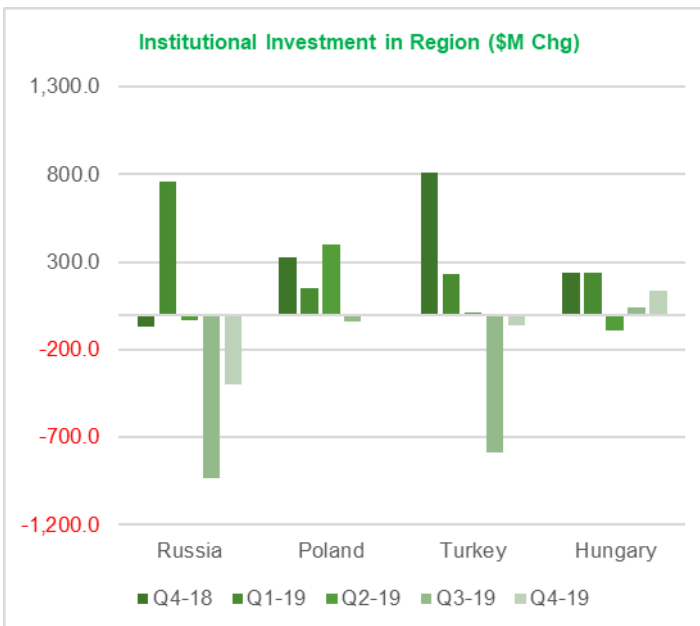
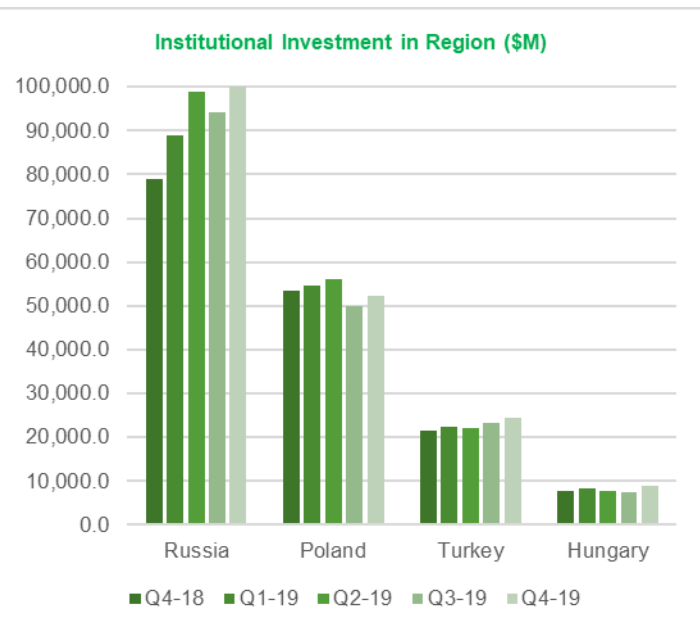
Price performance:

The BIST 100 index returned +28.8% year-on-year outperforming the Poland WIG20, MSCI Europe, the Hungarian BUX and MSCI EFM EMEA, second only to the Russian RTS which saw a +44.9% change. While all the indices saw a positive change, the WIG20 was the only index to see a negative change of -6.6%.



Inflows and Outflows:

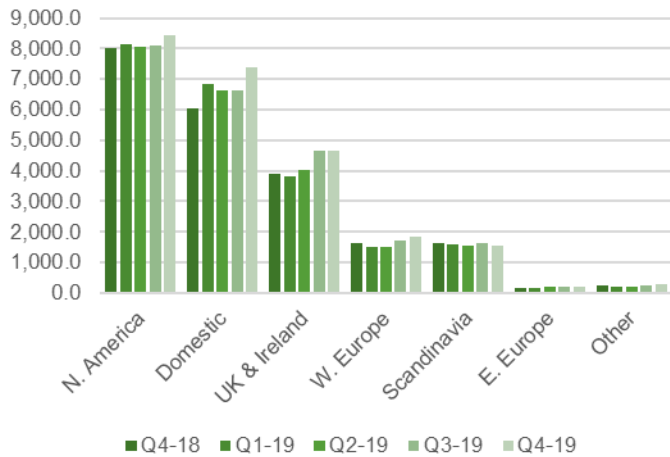
In Q4-19, all regions, with the exception of Hungary, saw net outflows in a year of increasing asset values. Turkish outflows were driven by Arrowstreet, SKAGEN AS and M&G IM, while BlackRock Fund Advisors, Lazard and JP Morgan AM led Russian outflows.



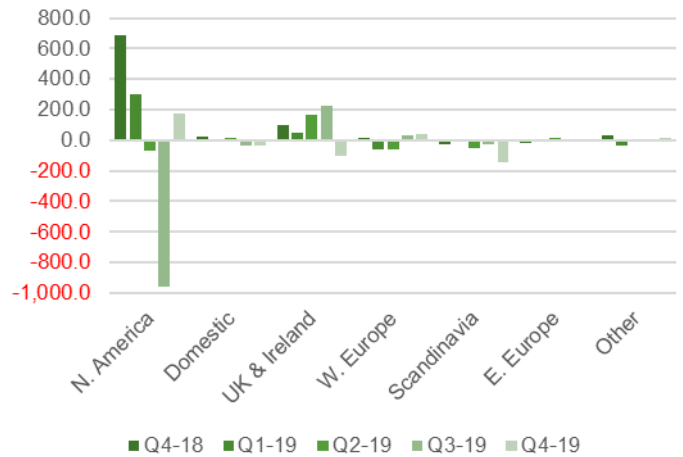
Investment by Investor Region:

While North America continues to be most invested, it was also a net buyer overall driven by Invesco Advisors and Capital World. SKAGEN and Nordea IM accounted for the bulk of the overall regional outflow by Scandinavia while M&G IM and Investec AM UK drove the overall outflows of UK & Ireland.

Institutional Investment by Region (\$M)



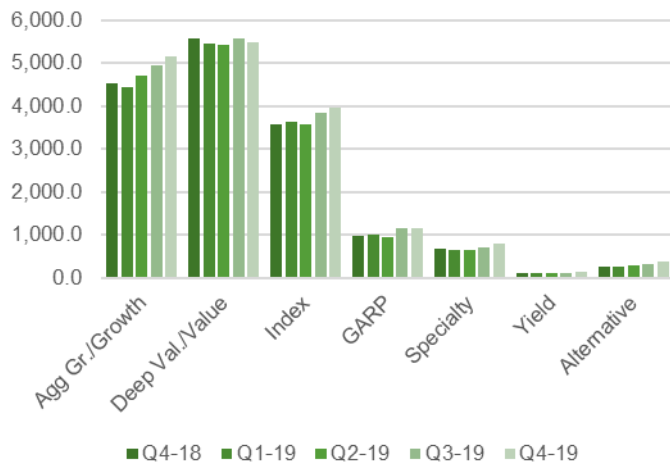
Institutional Investment by Region (\$M Chg)



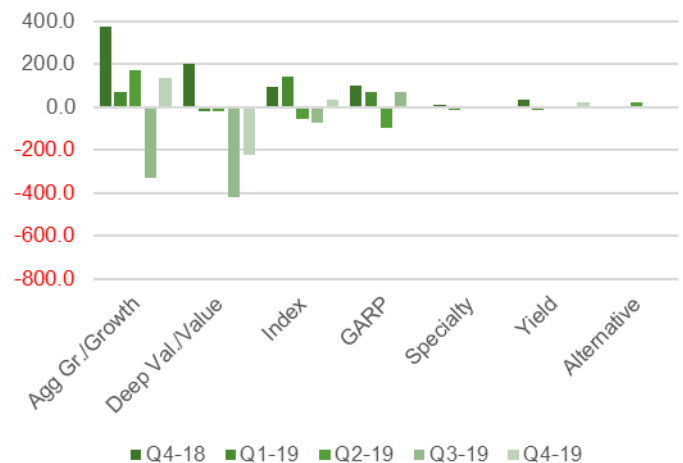
Investment by Style:

Value / Deep Value are still the largest investors by style despite accruing the largest outflows in the period due to ArrowStreet and SKAGEN. Growth / Aggregate Growth investors were bullish overall as Invesco Advisors and JP Morgan AM UK led the charge as Turkish equities bounced back comparative to Q3-19.

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	712,828.2	794.2	0.0	0.1	0.0	
Invesco Advisers, Inc.	United States	Growth	Low	300,591.7	765.6	236.3	0.3	44.6	
Lazard Asset Management, LLC (U.S.)	United States	Value	Medium	103,414.4	656.3	-16.0	0.6	-2.4	
Genesis Investment Management, LLP	United Kingdom	Growth	Low	16,159.6	647.2	-18.0	4.0	-2.7	
APG Asset Management N.V.	Netherlands	Specialty	Low	174,089.1	554.0	0.0	0.3	0.0	
Capital World Investors (U.S.)	United States	Value	Low	720,722.5	442.5	106.3	0.1	31.6	
Grantham Mayo Van Otterloo & Co., LLC	United States	Value	Medium	30,788.2	384.4	0.0	1.2	0.0	
Schroder Investment Management, LTD	United Kingdom	GARP	Medium	117,733.9	372.7	3.6	0.3	1.0	
BlackRock Investment Management (U.K.), LTD	United Kingdom	Growth	Low	504,166.0	330.1	-6.4	0.1	-1.9	
J.P. Morgan Asset Management (UK), LTD	United Kingdom	Growth	Medium	110,813.5	286.7	60.2	0.3	26.6	
					5,233.6	366.1			

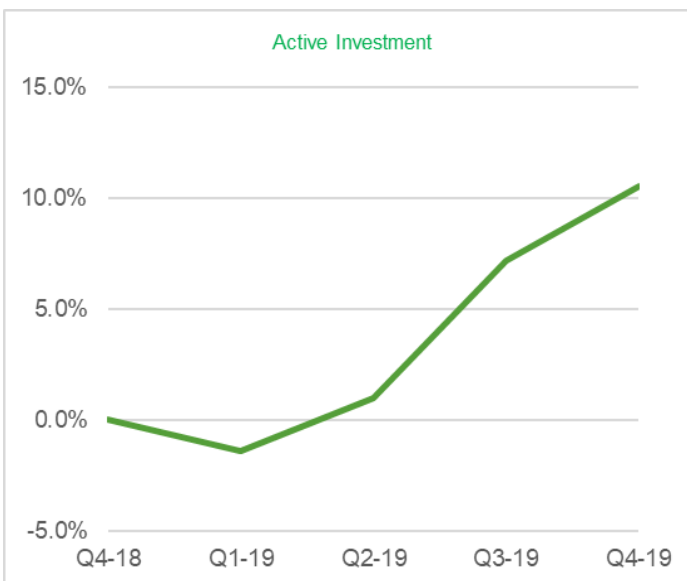
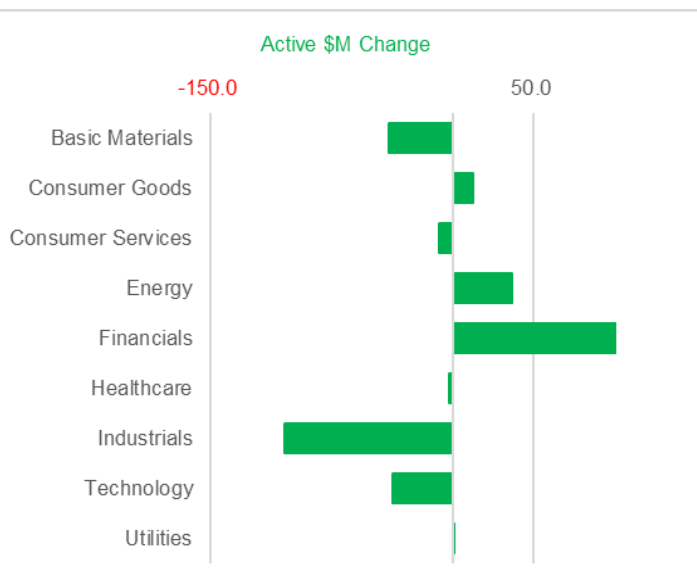
TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg	
Invesco Advisers, Inc.	United States	Growth	Low	300,591.7	765.6	236.3	0.3	44.6	
Capital World Investors (U.S.)	United States	Value	Low	720,722.5	442.5	106.3	0.1	31.6	
J.P. Morgan Asset Management (UK), LTD	United Kingdom	Growth	Medium	110,813.5	286.7	60.2	0.3	26.6	
Mellon Investments Corporation	United States	Value	Low	188,717.1	121.4	26.0	0.1	27.2	
UBS Asset Management AG	Switzerland	Value	Low	123,882.1	54.8	20.1	0.0	57.8	
Coronation Asset Management Pty., LTD	South Africa	Value	Medium	10,228.9	18.4	17.8	0.2	3,046.2	
Allianz Global Investors GmbH	Germany	Growth	Low	74,870.9	42.8	16.8	0.1	64.5	
Hermes Investment Management, LTD	United Kingdom	GARP	Low	20,236.8	117.3	11.6	0.6	11.0	
BlackRock Advisors, LLC	United States	Value	Low	358,047.7	37.1	11.1	0.0	42.7	
Fiera Capital (UK), LTD	United Kingdom	Growth	Medium	1,723.2	67.7	10.0	3.9	17.2	
					1,954.3	516.2			

TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg	
SKAGEN AS	Norway	Value	Medium	6,070.1	0.0	-71.5	0.0	-100.0	
M&G Investment Management, LTD	United Kingdom	Growth	Low	60,223.7	74.8	-57.0	0.1	-43.2	
Investec Asset Management, LTD (U.K.)	United Kingdom	Growth	Medium	56,216.8	93.7	-36.4	0.2	-28.0	
Brandes Investment Partners, L.P.	United States	Deep Value	Low	12,359.4	48.8	-30.8	0.4	-38.7	
Nordea Investment Management (Denmark)	Denmark	Value	Medium	74,330.3	189.5	-30.0	0.3	-13.6	
T. Rowe Price International, LTD	United Kingdom	Growth	Low	38,837.0	65.7	-20.9	0.2	-24.1	
SEB Investment Management AB	Sweden	Value	Medium	38,765.0	56.4	-20.5	0.1	-26.6	
Genesis Investment Management, LLP	United Kingdom	Growth	Low	16,159.6	647.2	-18.0	4.0	-2.7	
Fidelity International Limited - FIL Investment Services (I)	United Kingdom	Growth	Medium	102,430.6	34.7	-17.5	0.0	-33.6	
N.F.U. Mutual Unit Managers, LTD	United Kingdom	Value	Low	6,585.5	16.0	-16.9	0.2	-51.5	
					1,226.7	-319.3			

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

Sector Inflows/Outflows

% Change in Active Investment vs 5 Previous Quarters



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	3,612,176.7	1,567.4	-1.4	0.0	-0.1	
BlackRock Fund Advisors	United States	Index	Low	2,315,395.2	975.6	0.9	0.0	0.1	
BlackRock Advisors (U.K.), LTD	United Kingdom	Index	Low	142,456.0	384.6	-15.8	0.3	-4.0	
Acadian Asset Management, LLC	United States	Deep Value	Medium	37,955.4	244.9	-5.8	0.6	-2.3	
Dimensional Fund Advisors, L.P. (U.S.)	United States	Value	Low	341,149.0	205.2	-5.6	0.1	-2.6	
Stewart Investors (U.K.)	United Kingdom	Grow th	Low	4,024.4	156.4	0.0	3.9	0.0	
Research Affiliates, LLC	United States	Index	Low	5,822.8	140.5	1.1	2.4	0.8	
Arrow street Capital, L.P.	United States	Deep Value	Very High	51,908.0	106.6	-156.6	0.2	-59.5	
Charles Schwab Investment Management, Inc.	United States	Index	Low	232,103.7	106.1	3.9	0.0	3.8	
State Street Global Advisors (SSgA)	United States	Index	Low	1,523,072.3	98.3	4.0	0.0	4.3	
					3,985.7	-175.3			

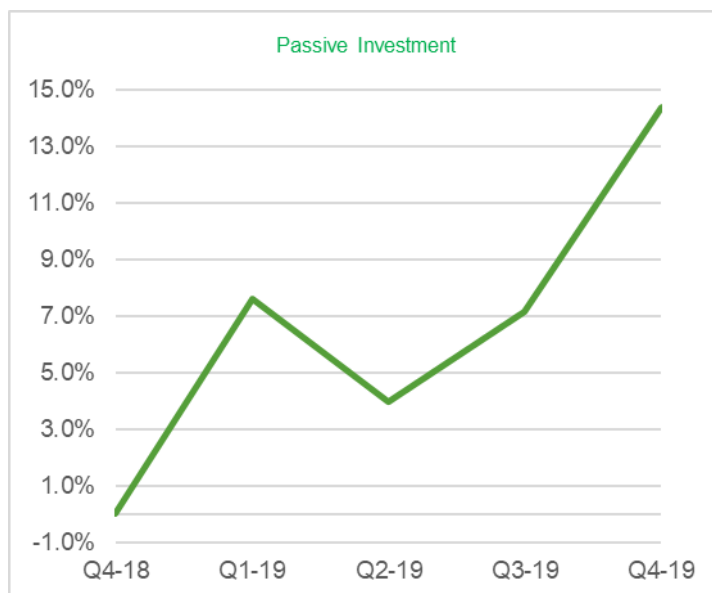
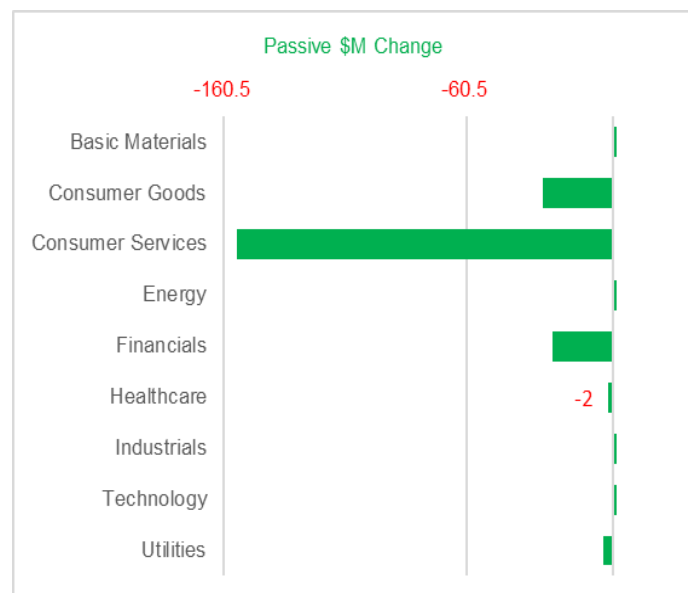
TOP BUYERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg	
First Trust Advisors, L.P.	United States	Index	Medium	63,002.7	84.1	38.7	0.1	85.3	
TOBAM	France	Specialty	Medium	4,984.1	69.9	7.5	1.4	12.0	
Global X Management Company, LLC	United States	Index	Medium	11,981.9	19.4	7.4	0.2	61.4	
AQR Capital Management, LLC	United States	Alternative	Medium	102,677.0	28.3	5.5	0.0	24.0	
Geode Capital Management, LLC	United States	Index	Low	549,492.5	71.9	4.5	0.0	6.7	
State Street Global Advisors (SSgA)	United States	Index	Low	1,523,072.3	98.3	4.0	0.0	4.3	
Charles Schwab Investment Management, Inc.	United States	Index	Low	232,103.7	106.1	3.9	0.0	3.8	
LSV Asset Management	United States	Deep Value	Low	73,767.0	26.9	3.4	0.0	14.6	
Invesco Capital Management, LLC	United States	Index	Low	191,016.3	32.7	1.9	0.0	6.2	
Cambria Investment Management, L.P.	United States	Index	Medium	586.8	16.4	1.5	2.8	10.2	
					554.2	78.4			

TOP SELLERS	Country	Style	Turnover	Equity Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg	
Arrow street Capital, L.P.	United States	Deep Value	Very High	51,908.0	106.6	-156.6	0.2	-59.5	
BlackRock Advisors (U.K.), LTD	United Kingdom	Index	Low	142,456.0	384.6	-15.8	0.3	-4.0	
Parametric Portfolio Associates, LLC	United States	GARP	Low	142,023.8	76.9	-7.8	0.1	-9.2	
Acadian Asset Management, LLC	United States	Deep Value	Medium	37,955.4	244.9	-5.8	0.6	-2.3	
Dimensional Fund Advisors, L.P. (U.S.)	United States	Value	Low	341,149.0	205.2	-5.6	0.1	-2.6	
Northern Trust Investments, Inc.	United States	Index	Low	423,222.7	50.4	-4.9	0.0	-8.8	
State Street Global Advisors, LTD	United Kingdom	Index	Low	104,478.0	41.1	-3.9	0.0	-8.6	
Numeric Investors, LLC	United States	Alternative	High	19,611.2	17.7	-3.8	0.1	-17.8	
Vident Investment Advisory, LLC	United States	Index	High	3,711.1	67.6	-2.5	1.8	-3.6	
State Street Global Advisors France S.A.	France	Index	Low	18,108.3	32.0	-1.6	0.2	-4.7	
					1,226.9	-208.3			

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

Sector Inflows/Outflows

% Change in Passive Investment vs 5 Previous Quarters





Road show:

The most invested cities in Turkey remain London and New York as Genesis IM and Lazard AM being the top investors from each respectively. Outflows by M&G IM and Investec AM UK drove the London outflows while New York now saw inflows emanating from Capital World Investors and BlackRock Advisors. Atlanta moves up the list above Boston as Invesco Advisors was a notable buyer in the period.

Most Invested

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,955,370.7	3,557.7	-55.0	67
United States (New York)	2,988,924.4	1,802.5	103.3	31
Norway (Oslo)	751,541.7	804.1	-0.4	3
United States (Atlanta)	315,700.0	765.6	236.3	3
United States (Boston)	2,573,792.5	629.0	22.8	13
Netherlands (Amsterdam)	174,537.8	555.3	-0.1	3
Sweden (Stockholm)	264,231.7	296.4	-13.5	10
Canada (Toronto)	540,727.7	255.3	-2.3	11
United Kingdom (Edinburgh)	309,713.4	221.7	4.9	4
Denmark (Copenhagen)	94,380.1	200.3	-30.7	6
Turkey (Istanbul)	196.0	193.6	-11.4	8
Germany (Frankfurt)	310,969.0	192.8	20.1	7
Netherlands (Rotterdam)	58,377.0	162.6	-1.8	1
Switzerland (Zürich)	336,615.5	139.7	19.0	9
France (Paris)	285,006.4	125.4	7.6	11
Austria (Vienna)	11,448.8	120.6	-9.0	5
United States (San Francisco)	660,005.9	114.1	-2.4	4
United States (Los Angeles)	506,997.4	108.5	-16.6	4
Germany (Stuttgart)	5,142.4	102.9	0.0	1
Italy (Milan)	52,757.8	98.8	8.0	7
Excludes Passive/Index Investors		10,446.8	278.8	208

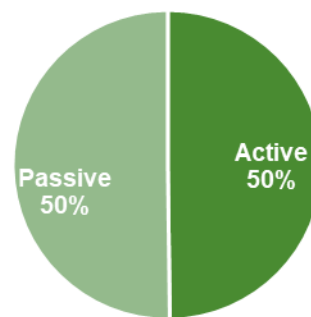
Most Investors

Country / City	Total Equity Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,955,370.7	3,557.7	-55.0	67
United States (New York)	2,988,924.4	1,802.5	103.3	31
United States (Boston)	2,573,792.5	629.0	22.8	13
Japan (Tokyo)	871,365.4	73.4	1.2	12
Canada (Toronto)	540,727.7	255.3	-2.3	11
France (Paris)	285,006.4	125.4	7.6	11
Poland (Warsaw)	8,616.8	71.5	0.0	11
Sweden (Stockholm)	264,231.7	296.4	-13.5	10
Switzerland (Zürich)	336,615.5	139.7	19.0	9
United States (Chicago)	286,100.1	19.7	-3.9	9
South Korea (Seoul)	28,820.8	4.3	-0.3	9
Turkey (Istanbul)	196.0	193.6	-11.4	8
Ireland (Dublin)	54,596.4	65.0	-2.1	8
Germany (Frankfurt)	310,969.0	192.8	20.1	7
Italy (Milan)	52,757.8	98.8	8.0	7
Singapore (Singapore)	73,703.7	75.4	2.2	7
Denmark (Copenhagen)	94,380.1	200.3	-30.7	6
Finland (Helsinki)	17,688.3	21.8	-3.8	6
Luxembourg (Luxembourg)	16,522.6	18.3	-0.1	6
Switzerland (Geneva)	15,458.3	18.1	0.0	6
Excludes Passive/Index Investors		7,859.1	61.1	254

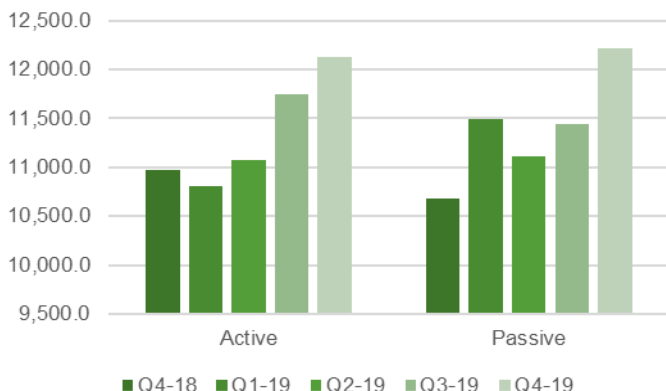
Active vs. Passive investors

Orientation is now in balance as Passive investors' outflows, mainly due to Arrowstreet, was taken up by active investors.

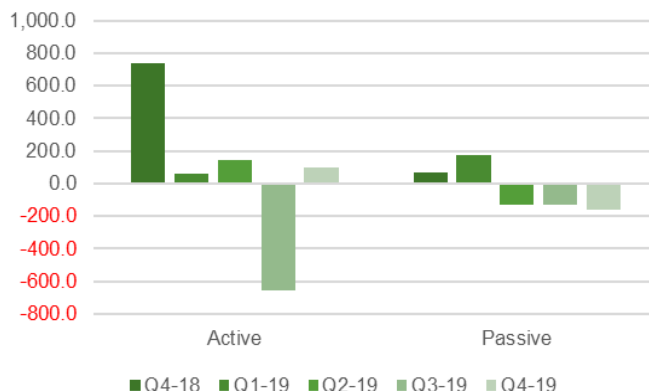
Active vs Passive Split



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
Invesco Advisers, Inc.	United States	Atlanta	Low	162,160.8	395.2	-0.8	0.2	-0.2
Pictet Asset Management, LTD	United Kingdom	London	Medium	16,517.6	340.5	22.1	2.1	6.9
TIAA-CREF Investment Management, LLC	United States	New York	Very High	296,360.5	268.8	-5.8	0.1	-2.1
Ashmore Investment Management, LTD	United Kingdom	London	High	31,971.2	245.1	-205.5	0.8	-45.6
AllianceBernstein, L.P. (U.S.)	United States	New York	Medium	196,378.9	232.3	-29.2	0.1	-11.2
Amundi Ireland, LTD (London)	United Kingdom	London	High	15,820.2	219.6	-24.0	1.4	-9.9
Investec Asset Management, LTD (U.K.)	United Kingdom	London	High	16,411.4	210.8	-18.0	1.3	-7.9
Goldman Sachs Asset Management International	United Kingdom	London	Very High	126,518.4	207.3	0.3	0.2	0.1
Amundi Asset Management S.A.	France	Paris	High	124,125.1	206.4	21.5	0.2	11.6
T. Rowe Price Associates, Inc.	United States	Baltimore	Low	218,245.4	203.9	-0.7	0.1	-0.4
					2,530.0	-240.2		

TOP BUYERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Dimensional Fund Advisors, L.P. (U.S.)	United States	Austin	Very High	94,909.3	48.0	45.3	0.1	1,681.0
Eurizon Capital SGR S.p.A.	Italy	Milan	Very High	36,537.9	158.9	39.4	0.4	33.0
Azimet Portfoy Yonetimi A.S.	Turkey	Istanbul	Very High	65.5	40.5	31.8	61.9	363.0
Generali TFI S.A.	Poland	Warsaw	Low	7,226.8	57.4	27.3	0.8	90.9
Pictet Asset Management, LTD	United Kingdom	London	Medium	16,517.6	340.5	22.1	2.1	6.9
Amundi Asset Management S.A.	France	Paris	High	124,125.1	206.4	21.5	0.2	11.6
Edmond de Rothschild (Suisse) S.A.	Switzerland	Geneva	Medium	1,071.4	62.8	16.9	5.9	36.8
Nordea Investment Management (Denmark)	Denmark	Copenhagen	Medium	39,470.5	63.3	14.7	0.2	30.2
Schroder Investment Management, LTD	United Kingdom	London	Medium	52,722.8	28.2	13.7	0.1	94.4
Aberdeen Standard Investments (U.K.)	United Kingdom	Edinburgh	Medium	110,530.2	83.3	13.2	0.1	18.8
					1,089.4	245.8		

TOP SELLERS	Country	City	Turnover	FI Assets (\$M)	Value (\$M)	Change (\$M)	% Portfolio	% Portfolio Chg
Ashmore Investment Management, LTD	United Kingdom	London	High	31,971.2	245.1	-205.5	0.8	-45.6
TCW Investment Management Company, LLC	United States	Los Angeles	High	116,058.6	5.9	-54.8	0.0	-90.3
Fidelity Management & Research Company	United States	Boston	High	67,019.5	66.1	-54.6	0.1	-45.2
Neuberger Berman Europe, LTD (Netherlands)	Netherlands	The Hague	High	8,050.4	138.9	-52.5	1.7	-27.4
Candriam Belgium S.A.	Belgium	Brussels	High	21,230.1	69.8	-39.1	0.3	-35.9
Credit Suisse Asset Management (Schweiz) AG	Switzerland	Zürich	Low	67,398.0	125.4	-30.8	0.2	-19.7
AllianceBernstein, L.P. (U.S.)	United States	New York	Medium	196,378.9	232.3	-29.2	0.1	-11.2
Capital Research Global Investors (U.S.)	United States	Los Angeles	Medium	3,145.9	0.0	-28.9	0.0	-100.0
Amundi Ireland, LTD (London)	United Kingdom	London	High	15,820.2	219.6	-24.0	1.4	-9.9
J.P. Morgan Investment Management, Inc.	United States	New York	Medium	159,022.6	102.1	-20.8	0.1	-16.9
					1,205.2	-540.2		

Corporate Debt – City Analysis

Most Invested

Country / City	Total FI Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,216,322.9	2,274.3	-285.5	53
United States (New York)	2,211,156.0	1,088.4	-58.5	24
United States (Atlanta)	265,031.3	467.7	-0.4	2
Switzerland (Zürich)	190,168.6	394.1	-36.0	13
France (Paris)	284,463.8	342.4	30.2	12
Germany (Frankfurt)	211,896.4	329.2	-2.7	10
Italy (Milan)	153,520.9	282.1	31.6	13
United States (Boston)	974,378.5	238.8	-55.5	13
United States (Baltimore)	218,245.4	203.9	-0.7	1
Singapore (Singapore)	22,131.1	191.9	-3.7	5
United States (Charlotte)	150,709.3	145.1	-6.7	2
Netherlands (The Hague)	51,495.7	142.3	-52.7	3
United States (Jersey City)	143,040.0	130.1	-0.5	1
United Kingdom (Edinburgh)	122,384.3	110.1	13.7	2
Switzerland (Geneva)	31,592.4	86.6	12.1	6
Switzerland (Lugano)	3,907.0	83.4	-0.8	9
Ireland (Dublin)	32,524.1	82.5	-11.1	5
Denmark (Copenhagen)	56,102.2	82.5	4.2	3
United States (Merrimack)	704,945.4	80.0	-0.2	1
United States (Newport Beach)	913,443.5	73.2	0.0	2
		6,828.5	-423.3	180

Most Investors

Country / City	Total FI Assets (\$M)	Value (\$M)	Activity (\$M)	# Firms
United Kingdom (London)	1,216,322.9	2,274.3	-285.5	53
United States (New York)	2,211,156.0	1,088.4	-58.5	24
Spain (Madrid)	73,821.2	30.8	0.7	19
Switzerland (Zürich)	190,168.6	394.1	-36.0	13
Italy (Milan)	153,520.9	282.1	31.6	13
United States (Boston)	974,378.5	238.8	-55.5	13
France (Paris)	284,463.8	342.4	30.2	12
Austria (Vienna)	25,817.1	55.6	-9.9	11
Germany (Frankfurt)	211,896.4	329.2	-2.7	10
Switzerland (Lugano)	3,907.0	83.4	-0.8	9
Switzerland (Geneva)	31,592.4	86.6	12.1	6
Malaysia (Kuala Lumpur)	1,679.2	59.5	6.5	6
Luxembourg (Luxembourg)	12,787.1	44.7	-11.6	6
United States (Chicago)	162,307.1	18.8	-0.8	6
Singapore (Singapore)	22,131.1	191.9	-3.7	5
Ireland (Dublin)	32,524.1	82.5	-11.1	5
Spain (Barcelona)	4,186.6	67.3	3.2	5
Poland (Warsaw)	8,068.9	65.4	28.2	4
Germany (Munich)	6,350.7	19.5	-0.2	4
Netherlands (The Hague)	51,495.7	142.3	-52.7	3
		5,897.6	-416.8	227



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

IHS Markit'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, IHS Markit 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 Q4 2019 can be considered a snapshot of the most current positions.