

# FLOW OF FUNDS REPORT

## TUYID Q4 2017

February, 2018

Dear Readers,

We are happy to present the Flow of Funds Report for the fourth quarter of 2017. 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. Passive investors were the largest set of investors offering support to Turkish equities with net inflows of \$442.4M, while their active counterparts made sales of \$248.4M over the same period. Russian equities saw the highest inflows over the quarter with net increases of \$1.7B, Hungarian equities saw increases of \$106.1M while Polish equities witnessed net reductions of \$545.2M, with the bulk of the sales in this market coming from domestic and North American investors.

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

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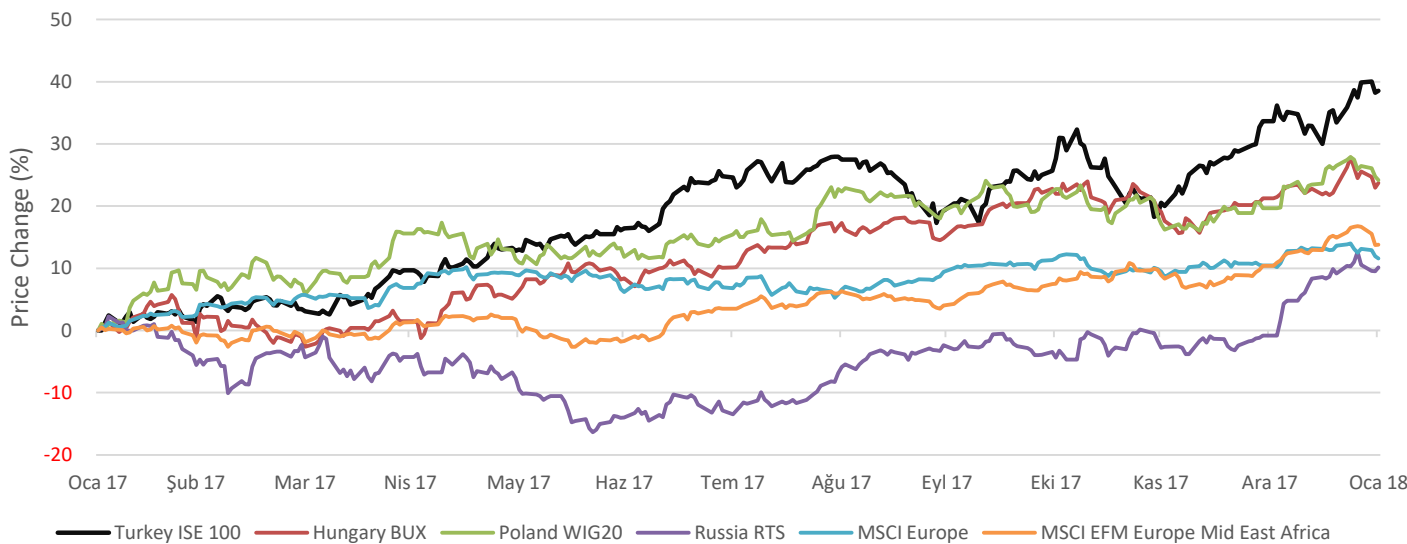
## Price performance:

Over the twelve months to the end of January 2018, the Turkey ISE 100 Index rose by 38.51% - by far the highest performer in the comparable basket. The Poland WIG 20 and the Hungary BUX indices performed at similar levels with recorded gains of 24.16% and 23.73% respectively, while the Russia RTS index was a relative laggard with gains of just 10.15%. The two MSCI indices in the comparison performed at the lower end of the scale with the MSCI Europe index rising by 11.58% and the MSCI EFM Europe Mid East Africa index performing marginally better with gains of 13.76%.

*"Emerging market equities advanced in December, buoyed by optimism over the health of the global economy and higher demand expectations.... Emerging European equities were the top regional gainers, up 5.4% in December. Greece was the best performing country in the benchmark, up 16.5% on news its government had secured its next tranche of bailout loans. Turkey advanced 13.3%, on reported quarterly economic growth of 11.1% as well as an interest rate hike which at 50bps was half of what the market had expected. Regional heavyweight Russia benefitted from an advancing oil price and was 2.9% higher for the month."*

Allianz Emerging Markets Equity - January 2018

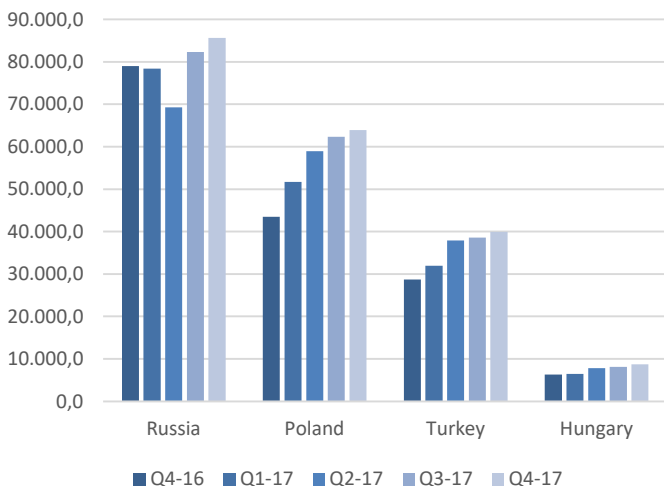
<http://www.allianzglobalinvestors.de/MDBWS/doc/17-1171+Allianz+Emerging+Markets+Equity+-+Commentary+AP1602.pdf?1c89652aa835377ef74b0060587784072ac9972d>



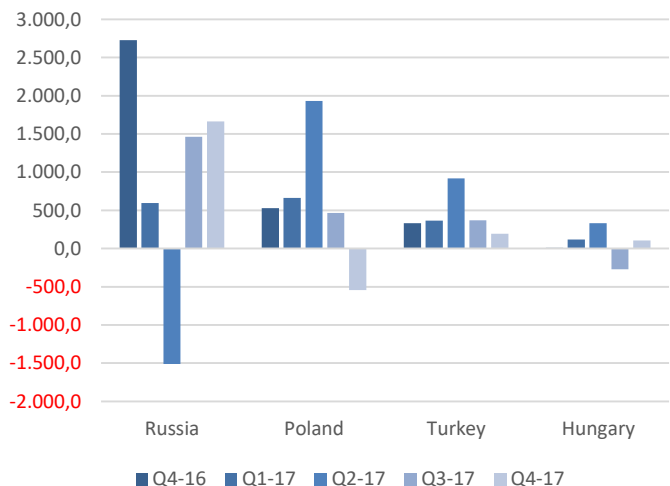
## Inflows and Outflows:

Sentiment towards Turkey remained positive for the fifth consecutive quarter with a net investment of \$194.0M in Q4-17. Led by North American investors, attitude to Russian equities remained positive (+\$1.7B) while investors (mainly domestic) retreated from Poland with net sales of \$545.2M. There was a positive swing in Hungarian equities with net purchases of \$106.1M – the bulk of which coming from UK based investors.

Institutional Investment in Region (\$M)



Institutional Investment in Region (\$M Chg)



## Investment by Investor Region:

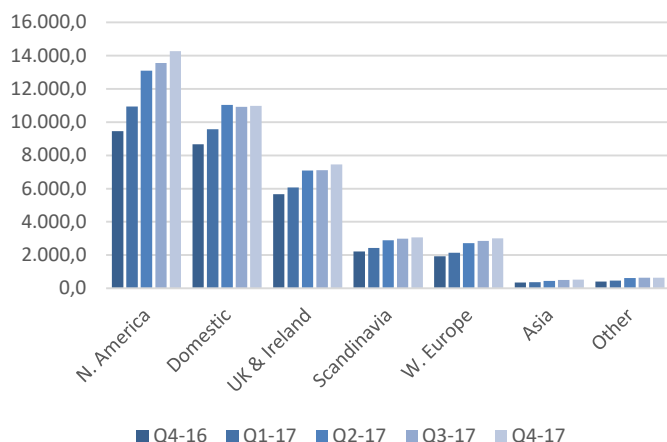
Support for the market was dominated by North American investors which made net contributions of \$204.4M. However, active investors from this region were net sellers with reductions of \$185.8M over the period, while passive investments increased by \$390.2M. Regionally, passive investment from all regions was positive over the quarter; while active investors from all regions were on the whole net sellers, with the exceptions of the UK & Ireland and Asia based active investors which showed signs of positivity with net purchases of \$62.6M (passive: +\$21.2M) and \$26.4M (passive: +\$0.1M) respectively.

*"After several months of very volatile period for Turkish lira the last month of the year was relatively stable and with some positive movements. In December Turkish lira strengthened vs euro by 2.7%. Solving of visa crises with US and returning to full, normal visa regulation improved sentiment. In the fund's investment region Turkey was the best performing market returning +14% in euro terms, the next performer was Poland with +2.8% return, followed by Hungary with +2.6% and Czech with +1.6%(all in euro terms). YTD Turkish stocks have appreciated +59.2% in Turkish lira and in euro terms +30%."*

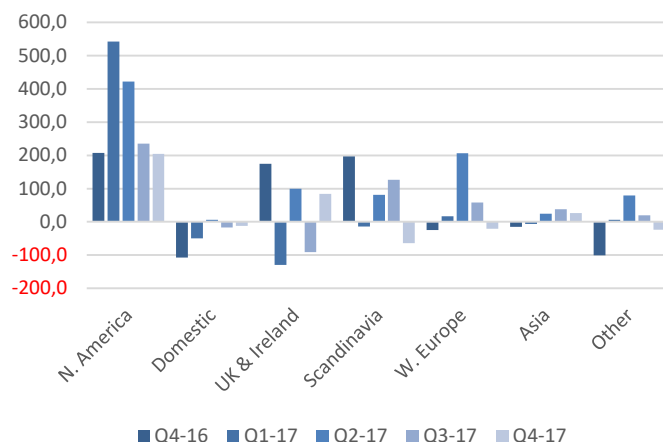
Swedbank Eastern Europe Equity Fund - December 2017

[https://www.swedbank.ee/static/investor/funds/SEEEF\\_raport\\_eng.pdf](https://www.swedbank.ee/static/investor/funds/SEEEF_raport_eng.pdf)

### Institutional Investment by Region (\$M)



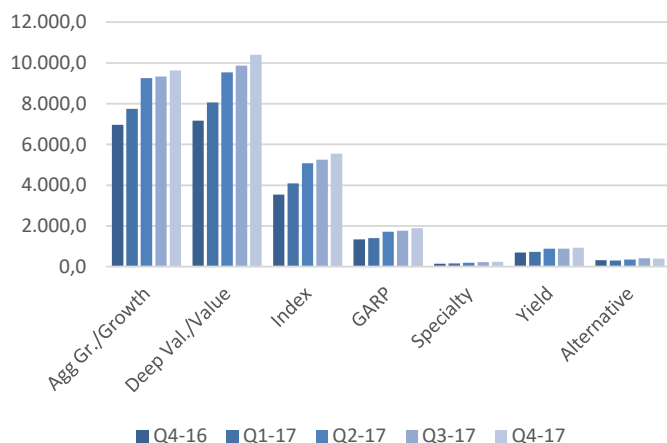
### Institutional Investment by Region (\$M Chg)



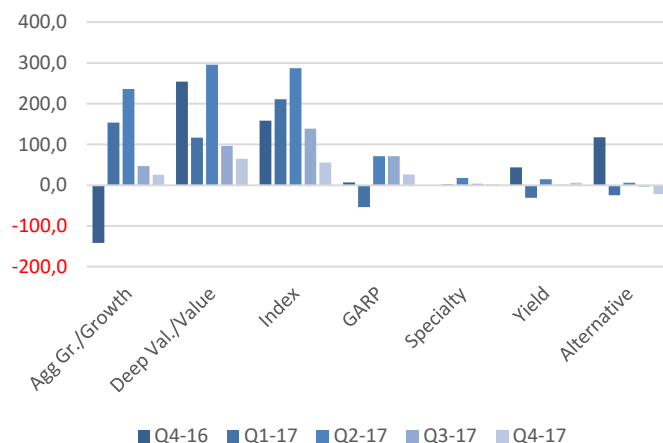
## Investment by Style:

Value investors continue to dominate the ownership of the market with 35.8% of the investments, with growth investors a very close second controlling 33.2% of the investments. Index investors are the only other set to control double-digit investments with 19.1% of the ownership. While all styles were buyers, apart from alternative with sales of \$21.8M, GARP investors were the largest buyers in percentage terms with net increases of 1.42% or \$26.5M (similar to growth investors which had net buys of \$25.9M). In dollar terms, value investors dominate the purchases with increases of \$65.2M (0.63% increase), with US based AllianceBernstein. L.P. (U.S) leading the purchases with increases of \$43.1M.

### Institutional Investment by Style (\$M)



### Institutional Investment by Style (\$M Chg)



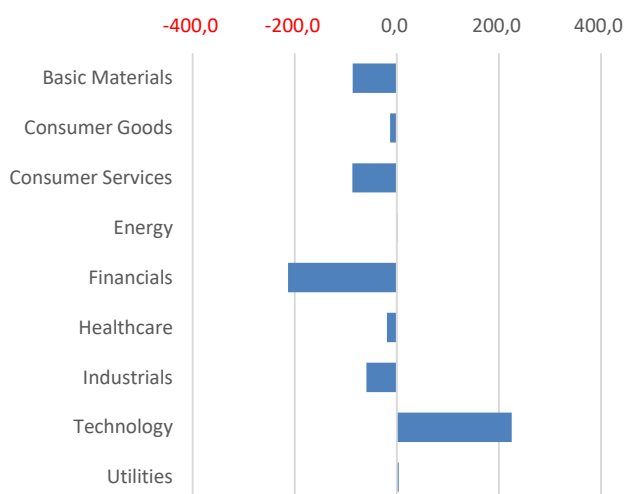
## Top Active Holders, Buyers & Sellers

| TOP HOLDERS   | Country        | Style       | Turnover  | Equity Assets (\$M) | Value (\$M) | Change (\$M) | % Portfolio | % Portfolio Chg |
|---|----------------|-------------|-----------|---------------------|-------------|--------------|-------------|-----------------|
| Aberdeen Asset Managers, LTD (U.K.)                         | United Kingdom | Growth      | Low       | 103,618.5           | 1,286.9     | -166.8       | 1.2         | -11.5           |
| Norges Bank Investment Management (Norway)                  | Norway         | Value       | Low       | 654,159.2           | 1,259.4     | 8.5          | 0.2         | 0.7             |
| Lazard Asset Management, LLC (U.S.)                         | United States  | Value       | Medium    | 99,318.4            | 1,242.7     | -9.1         | 1.3         | -0.7            |
| APG Asset Management N.V.                                   | Netherlands    | Yield       | Low       | 174,688.4           | 865.1       | 0.0          | 0.5         | 0.0             |
| Genesis Investment Management, LLP                          | United Kingdom | Growth      | Low       | 26,608.4            | 822.4       | 38.3         | 3.1         | 4.9             |
| Fidelity Management & Research Company                      | United States  | Growth      | Low       | 939,371.8           | 524.1       | 2.8          | 0.1         | 0.5             |
| OppenheimerFunds, Inc                                       | United States  | Growth      | Medium    | 167,556.6           | 483.9       | 0.1          | 0.3         | 0.0             |
| Silchester International Investors, LLP                     | United Kingdom | Value       | Low       | 21,176.4            | 453.5       | 5.9          | 2.1         | 1.3             |
| Invesco Advisers, Inc.                                      | United States  | Growth      | Low       | 180,448.6           | 447.0       | 14.9         | 0.2         | 3.4             |
| Fidelity International Limited - FIL Investment Services (L | United Kingdom | Growth      | Medium    | 107,146.7           | 423.4       | 300.9        | 0.4         | 245.5           |
|   |                |             |           | 7,808.4             | 195.6       |              |             |                 |
| TOP BUYERS  | Country        | Style       | Turnover  | Equity Assets (\$M) | Value (\$M) | Change (\$M) | % Portfolio | % Portfolio Chg |
| Fidelity International Limited - FIL Investment Services (L | United Kingdom | Growth      | Medium    | 107,146.7           | 423.4       | 300.9        | 0.4         | 245.5           |
| AllianceBernstein, L.P. (U.S.)                              | United States  | Value       | Medium    | 169,128.2           | 175.2       | 43.1         | 0.1         | 32.6            |
| Genesis Investment Management, LLP                          | United Kingdom | Growth      | Low       | 26,608.4            | 822.4       | 38.3         | 3.1         | 4.9             |
| Pictet Asset Management S.A.                                | Switzerland    | GARP        | Low       | 75,344.5            | 83.6        | 30.9         | 0.1         | 58.6            |
| TIAA-CREF Investment Management, LLC                        | United States  | Growth      | Low       | 322,537.3           | 205.6       | 28.0         | 0.1         | 15.7            |
| Brandes Investment Partners, L.P.                           | United States  | Deep Value  | Low       | 17,119.9            | 129.9       | 22.3         | 0.8         | 20.8            |
| Danske Capital (Denmark)                                    | Denmark        | Growth      | Medium    | 25,009.6            | 94.6        | 18.1         | 0.4         | 23.7            |
| Hermes Investment Management, LTD                           | United Kingdom | GARP        | Medium    | 15,027.9            | 15.6        | 15.6         | 0.1         | Buy-in          |
| Invesco Advisers, Inc.                                      | United States  | Growth      | Low       | 180,448.6           | 447.0       | 14.9         | 0.2         | 3.4             |
| Schroder Investment Management, LTD                         | United Kingdom | GARP        | Medium    | 127,163.4           | 385.6       | 14.8         | 0.3         | 4.0             |
|   |                |             |           | 2,782.9             | 526.9       |              |             |                 |
| TOP SELLERS   | Country        | Style       | Turnover  | Equity Assets (\$M) | Value (\$M) | Change (\$M) | % Portfolio | % Portfolio Chg |
| Aberdeen Asset Managers, LTD (U.K.)                         | United Kingdom | Growth      | Low       | 103,618.5           | 1,286.9     | -166.8       | 1.2         | -11.5           |
| Grantham Mayo Van Otterloo & Co., LLC                       | United States  | Value       | Medium    | 39,108.8            | 394.6       | -116.1       | 1.0         | -22.7           |
| BlackRock Investment Management (U.K.), LTD                 | United Kingdom | Growth      | Low       | 401,126.9           | 356.9       | -64.5        | 0.1         | -15.3           |
| Goldman Sachs Asset Management International                | United Kingdom | Growth      | High      | 17,606.7            | 222.8       | -63.5        | 1.3         | -22.2           |
| Dodge & Cox   | United States  | Value       | Low       | 190,462.4           | 257.4       | -43.1        | 0.1         | -14.3           |
| Robeco Institutional Asset Management BV                    | Netherlands    | Value       | Medium    | 45,204.9            | 348.3       | -42.8        | 0.8         | -10.9           |
| SKAGEN AS   | Norway         | Value       | Medium    | 8,698.2             | 285.2       | -39.3        | 3.3         | -12.1           |
| Nordea Investment Management (Denmark)                      | Denmark        | Value       | Medium    | 75,747.3            | 372.7       | -36.5        | 0.5         | -8.9            |
| William Blair & Company, LLC (Investment Management)        | United States  | Agg. Growth | Medium    | 52,825.4            | 61.6        | -26.3        | 0.1         | -29.9           |
| Pine River Capital Management, L.P.                         | United States  | Alternative | Very High | 190.3               | 18.8        | -23.9        | 9.9         | -56.0           |
|   |                |             |           | 3,605.3             | -622.9      |              |             |                 |

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

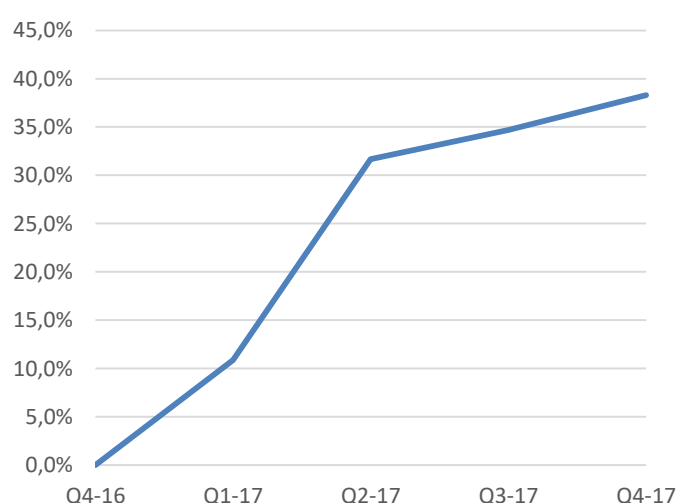
## Sector Inflows/Outflows

### 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       | 2,917,052.8         | 2,318.1     | 40.2         | 0.1         | 1.8             |
| BlackRock Fund Advisors                       | United States  | Index      | Low       | 1,994,223.0         | 1,422.6     | 36.6         | 0.1         | 2.6             |
| Dimensional Fund Advisors, L.P. (U.S.)        | United States  | Value      | Low       | 417,352.7           | 1,092.6     | -5.3         | 0.3         | -0.5            |
| Arrowstreet Capital, L.P.                     | United States  | Deep Value | Very High | 53,090.7            | 557.9       | 298.5        | 1.1         | 115.1           |
| BlackRock Advisors (U.K.), LTD                | United Kingdom | Index      | Low       | 150,448.7           | 351.3       | -25.1        | 0.2         | -6.7            |
| Parametric Portfolio Associates, LLC          | United States  | GARP       | Medium    | 108,624.6           | 265.7       | 3.8          | 0.2         | 1.5             |
| Acadian Asset Management, LLC                 | United States  | Deep Value | Medium    | 38,455.1            | 246.7       | 10.1         | 0.6         | 4.2             |
| California Public Employees Retirement System | United States  | Index      | Low       | 133,693.8           | 246.4       | 0.0          | 0.2         | 0.0             |
| State Street Global Advisors (SSgA)           | United States  | Index      | Low       | 1,321,029.0         | 148.1       | 9.4          | 0.0         | 6.8             |
| Stewart Investors (U.K.)                      | United Kingdom | Growth     | Low       | 6,542.9             | 141.2       | 2.4          | 2.2         | 1.7             |
|   |                |            |           | 6,790.7             | 370.7       |              |             |                 |

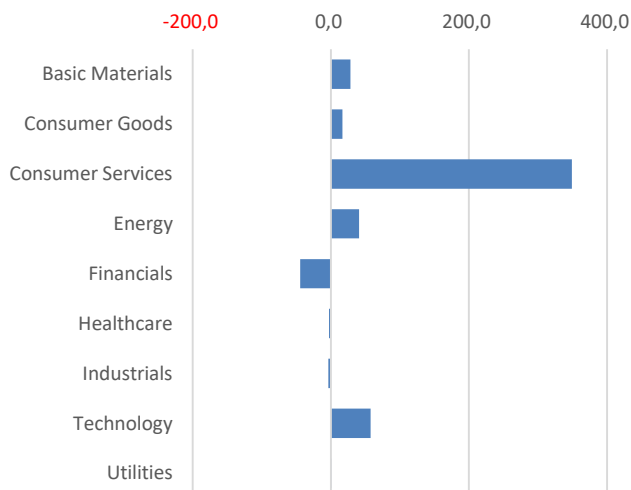
| TOP BUYERS                          | Country        | Style      | Turnover  | Equity Assets (\$M) | Value (\$M) | Change (\$M) | % Portfolio | % Portfolio Chg |
|-------------------------------------|----------------|------------|-----------|---------------------|-------------|--------------|-------------|-----------------|
| Arrowstreet Capital, L.P.           | United States  | Deep Value | Very High | 53,090.7            | 557.9       | 298.5        | 1.1         | 115.1           |
| The Vanguard Group, Inc.            | United States  | Index      | Low       | 2,917,052.8         | 2,318.1     | 40.2         | 0.1         | 1.8             |
| BlackRock Fund Advisors             | United States  | Index      | Low       | 1,994,223.0         | 1,422.6     | 36.6         | 0.1         | 2.6             |
| Sjunde AP-Fonden (AP 7)             | Sweden         | Index      | Low       | 44,324.7            | 78.2        | 28.4         | 0.2         | 57.0            |
| First Trust Advisors, L.P.          | United States  | Growth     | Medium    | 47,424.9            | 57.6        | 21.9         | 0.1         | 61.5            |
| Renaissance Group, LLC              | United States  | Growth     | Low       | 2,961.3             | 17.4        | 17.4         | 0.6         | Buy-in          |
| Acadian Asset Management, LLC       | United States  | Deep Value | Medium    | 38,455.1            | 246.7       | 10.1         | 0.6         | 4.2             |
| State Street Global Advisors (SSgA) | United States  | Index      | Low       | 1,321,029.0         | 148.1       | 9.4          | 0.0         | 6.8             |
| Deutsche Asset Management (UK), LTD | United Kingdom | Index      | Very High | 20,649.1            | 12.8        | 8.6          | 0.1         | 202.0           |
| Sunamerica Asset Management, LLC    | United States  | Index      | Low       | 32,070.0            | 8.0         | 5.3          | 0.0         | 199.8           |
|                                     |                |            |           | 4,867.6             | 476.5       |              |             |                 |

| TOP SELLERS                                 | Country        | Style       | Turnover  | Equity Assets (\$M) | Value (\$M) | Change (\$M) | % Portfolio | % Portfolio Chg |
|---|----------------|-------------|-----------|---------------------|-------------|--------------|-------------|-----------------|
| Mellon Capital Management Corporation       | United States  | Index       | Low       | 179,187.7           | 116.6       | -49.0        | 0.1         | -29.6           |
| BlackRock Advisors (U.K.), LTD              | United Kingdom | Index       | Low       | 150,448.7           | 351.3       | -25.1        | 0.2         | -6.7            |
| Invesco PowerShares Capital Management, LLC | United States  | Index       | Low       | 115,224.4           | 40.8        | -11.0        | 0.0         | -21.3           |
| Vident Investment Advisory, LLC             | United States  | Index       | High      | 4,806.3             | 72.6        | -6.2         | 1.5         | -7.9            |
| Dimensional Fund Advisors, L.P. (U.S.)      | United States  | Value       | Low       | 417,352.7           | 1,092.6     | -5.3         | 0.3         | -0.5            |
| Northern Trust Global Investments, LTD      | United Kingdom | Index       | Low       | 73,635.4            | 38.6        | -4.7         | 0.1         | -10.9           |
| INVESCO Asset Management Deutschland GmbH   | Germany        | Value       | Medium    | 10,831.1            | 5.9         | -2.2         | 0.1         | -26.9           |
| AQR Capital Management, LLC                 | United States  | Alternative | Medium    | 109,484.2           | 33.8        | -1.8         | 0.0         | -5.0            |
| Vector Asset Management S.A.                | Luxembourg     | Specialty   | Very High | 316.2               | 7.1         | -1.3         | 2.2         | -16.0           |
| Quantitative Management Associates, LLC     | United States  | Index       | Medium    | 74,840.4            | 18.0        | -1.3         | 0.0         | -6.6            |
|   |                |             |           | 1,777.1             | -107.9      |              |             |                 |

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

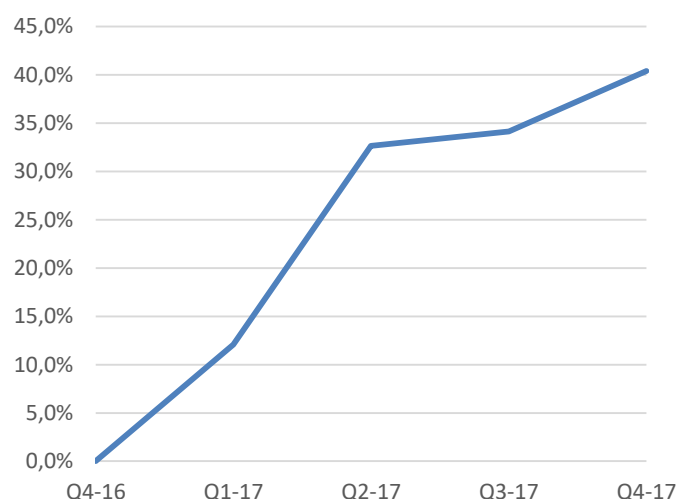
## Sector Inflows/Outflows

Passive \$M Chg



## % Change in Passive Investment vs 5 Previous Quarters

Passive Investment





## Road show:

Although having less investors than in the previous report, London (72 investors versus 74 previously) and New York (45 vs 46) continue to be the dominant investment hubs to the region. Both sets of investors showed support to the market over the quarter with London based Fidelity International Limited (FIL) increasing its exposure to the market by \$300.9M. Boston based investors swung to negative to make them the largest net sellers with Grantham Mayo Van Otterloo & Co., LLC reducing its portfolio by \$116.1M (after being a net buyer in Q3).

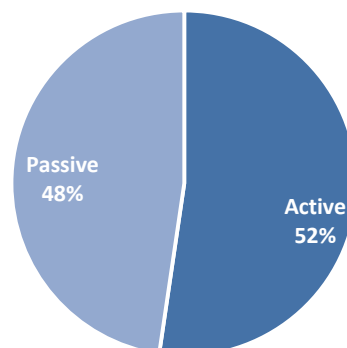
| Most Invested                    |                           |             |                |         |
|----------------------------------|---------------------------|-------------|----------------|---------|
| Country / City                   | Total Equity Assets (\$M) | Value (\$M) | Activity (\$M) | # Firms |
| United Kingdom (London)          | 2,105,085.7               | 6,397.9     | 77.6           | 72      |
| United States (New York)         | 2,640,233.3               | 2,687.1     | 33.7           | 45      |
| Norway (Oslo)                    | 685,491.2                 | 1,274.2     | 9.2            | 3       |
| United States (Boston)           | 2,294,260.1               | 1,101.4     | -138.8         | 14      |
| Netherlands (Amsterdam)          | 180,210.9                 | 869.9       | 0.0            | 4       |
| United States (Los Angeles)      | 1,266,682.4               | 520.8       | 7.6            | 8       |
| United States (Atlanta)          | 193,418.9                 | 484.0       | 16.1           | 2       |
| Sweden (Stockholm)               | 218,859.1                 | 431.6       | -25.0          | 11      |
| Denmark (Copenhagen)             | 99,335.1                  | 379.4       | -35.6          | 6       |
| Netherlands (Rotterdam)          | 45,204.9                  | 348.3       | -42.8          | 1       |
| Switzerland (Geneva)             | 103,012.8                 | 348.2       | 31.7           | 9       |
| Canada (Toronto)                 | 525,620.7                 | 334.9       | -4.0           | 12      |
| United States (San Francisco)    | 373,500.2                 | 299.4       | -51.3          | 5       |
| Turkey (Istanbul)                | 295.9                     | 295.7       | -12.3          | 9       |
| Norway (Stavanger)               | 8,698.2                   | 285.2       | -39.3          | 1       |
| United States (Bridgewater)      | 37,761.1                  | 267.2       | 4.8            | 1       |
| Germany (Frankfurt)              | 315,272.9                 | 265.6       | 16.3           | 8       |
| Singapore (Singapore)            | 154,920.6                 | 246.5       | 18.7           | 9       |
| Sweden (Solna)                   | 39,498.7                  | 237.5       | -21.0          | 1       |
| Canada (Victoria)                | 43,600.9                  | 207.2       | 0.0            | 1       |
| Excludes Passive/Index Investors |                           | 17,282.2    | -154.3         | 222     |

| Most Investors                   |                           |             |                |         |
|----------------------------------|---------------------------|-------------|----------------|---------|
| Country / City                   | Total Equity Assets (\$M) | Value (\$M) | Activity (\$M) | # Firms |
| United Kingdom (London)          | 2,105,085.7               | 6,397.9     | 77.6           | 72      |
| United States (New York)         | 2,640,233.3               | 2,687.1     | 33.7           | 45      |
| Poland (Warsaw)                  | 21,478.4                  | 199.3       | 0.0            | 17      |
| France (Paris)                   | 268,534.2                 | 178.5       | -1.9           | 16      |
| United States (Boston)           | 2,294,260.1               | 1,101.4     | -138.8         | 14      |
| Japan (Tokyo)                    | 695,994.8                 | 116.1       | 2.0            | 14      |
| South Korea (Seoul)              | 57,850.9                  | 16.5        | 0.0            | 14      |
| Canada (Toronto)                 | 525,620.7                 | 334.9       | -4.0           | 12      |
| United States (Chicago)          | 307,691.7                 | 155.9       | -25.3          | 12      |
| Sweden (Stockholm)               | 218,859.1                 | 431.6       | -25.0          | 11      |
| Switzerland (Geneva)             | 103,012.8                 | 348.2       | 31.7           | 9       |
| Turkey (Istanbul)                | 295.9                     | 295.7       | -12.3          | 9       |
| Singapore (Singapore)            | 154,920.6                 | 246.5       | 18.7           | 9       |
| Taiwan (Taipei)                  | 12,784.3                  | 20.8        | -1.7           | 9       |
| United States (Los Angeles)      | 1,266,682.4               | 520.8       | 7.6            | 8       |
| Germany (Frankfurt)              | 315,272.9                 | 265.6       | 16.3           | 8       |
| Finland (Helsinki)               | 18,024.4                  | 91.0        | 0.6            | 8       |
| Switzerland (Zürich)             | 260,805.2                 | 161.6       | 1.6            | 7       |
| Hong Kong (Central)              | 75,529.8                  | 74.6        | 9.1            | 7       |
| Denmark (Copenhagen)             | 99,335.1                  | 379.4       | -35.6          | 6       |
| Excludes Passive/Index Investors |                           | 14,023.6    | -45.7          | 307     |

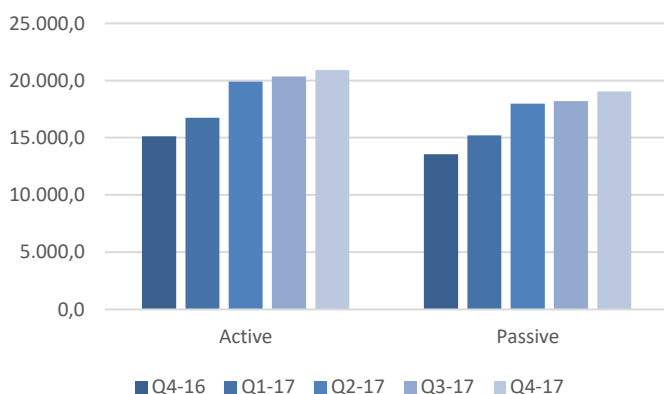
## Active vs. Passive investors

Ownership by active versus passive investors narrowed in Q4-17 to represent an almost parity in the market. Passive investors made inroads of \$442.4M into Turkish equities, while their active counterparts decreased their exposure to the market by \$248.4M over the same period. The bulk of the passive increase can be attributed to Boston based Arrowstreet Capital, L.P. which increased its position in the market by \$298.5M; while the active decreases are led by UK based Aberdeen Asset Managers, LTD (U.K.) which reduced the exposure in its portfolio by \$166.8M.

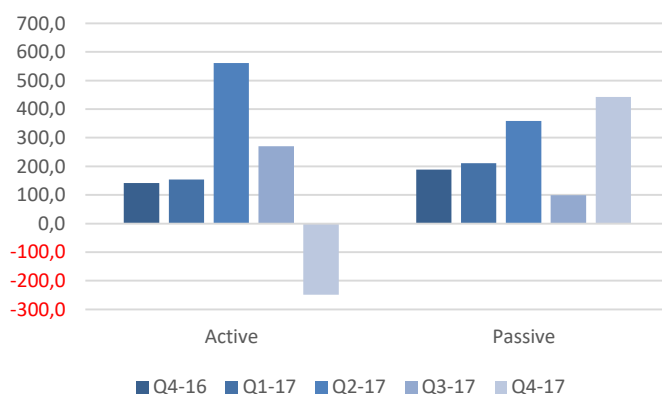
## Active vs Passive Split



## 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 | 327,109.8       | 397.0          | 2.2           | 0.1         | 0.5             |
| Fidelity International Limited - FIL Investment Services (L | United Kingdom | London      | Medium    | 42,123.7        | 361.3          | -7.0          | 0.9         | -1.9            |
| Pioneer Investment Management, LTD (U.K.)                   | United Kingdom | London      | High      | 8,170.5         | 349.3          | -60.2         | 4.3         | -14.7           |
| Pictet Asset Management, LTD                                | United Kingdom | London      | Medium    | 24,037.1        | 349.1          | 81.3          | 1.5         | 30.0            |
| Pioneer Investment Management, LTD (Ireland)                | Ireland        | Dublin      | Medium    | 23,148.8        | 216.2          | -22.3         | 0.9         | -9.3            |
| Union Investment Privatfonds GmbH                           | Germany        | Frankfurt   | Low       | 57,715.7        | 214.4          | 15.2          | 0.4         | 7.6             |
| Deutsche Asset Management Investment GmbH                   | Germany        | Frankfurt   | Medium    | 76,822.8        | 212.3          | -1.9          | 0.3         | -0.9            |
| Metlife Investment Advisors, LLC                            | United States  | Boston      | Medium    | 311,005.2       | 208.4          | 0.0           | 0.1         | 0.0             |
| Eurizon Capital SGR S.p.A.                                  | Italy          | Milan       | High      | 32,694.2        | 191.1          | -4.7          | 0.6         | -2.4            |
| J.P. Morgan Investment Management, Inc.                     | United States  | New York    | Medium    | 122,126.3       | 188.4          | 33.4          | 0.2         | 21.6            |
|   |                |             |           |                 | <b>2,687.5</b> | <b>36.0</b>   |             |                 |
| TOP BUYERS  | Country        | City        | Turnover  | FI Assets (\$M) | Value (\$M)    | Change (\$M)  | % Portfolio | % Portfolio Chg |
| Pictet Asset Management, LTD                                | United Kingdom | London      | Medium    | 24,037.1        | 349.1          | 81.3          | 1.5         | 30.4            |
| J.P. Morgan Investment Management, Inc.                     | United States  | New York    | Medium    | 122,126.3       | 188.4          | 33.4          | 0.2         | 21.6            |
| HSBC Global Asset Management (USA), Inc.                    | United States  | New York    | Very High | 41,212.3        | 101.9          | 23.8          | 0.2         | 30.5            |
| Millennium Towarzystwo Funduszy Inwestycyjnych S.A.         | Poland         | Warsaw      | High      | 749.3           | 57.7           | 23.3          | 7.7         | 67.7            |
| Asset Plus Fund Management Company, LTD                     | Thailand       | Bangkok     | Low       | 51.3            | 23.1           | 19.5          | 45.1        | 534.5           |
| Neuberger Berman Europe, LTD (Netherlands)                  | Netherlands    | The Hague   | Very High | 4,622.1         | 176.0          | 18.4          | 3.8         | 11.6            |
| Sumus Capital SA  | Switzerland    | Geneva      | Low       | 188.1           | 16.7           | 16.7          | 8.9         | Buy-in          |
| Union Investment Privatfonds GmbH                           | Germany        | Frankfurt   | Low       | 57,715.7        | 214.4          | 15.2          | 0.4         | 7.6             |
| Muzinich & Co., LTD (London)                                | United Kingdom | London      | Very High | 18,835.8        | 75.5           | 15.1          | 0.4         | 25.0            |
| AIG Asset Management (U.S.), LLC                            | United States  | New York    | Low       | 154,327.6       | 105.3          | 14.8          | 0.1         | 16.4            |
|   |                |             |           |                 | <b>1,308.3</b> | <b>261.6</b>  |             |                 |
| 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      | 112,727.3       | 163.3          | -105.3        | 0.1         | -39.2           |
| BZ WBK TFI S.A.   | Poland         | Poznan      | Medium    | 2,775.3         | 163.6          | -94.7         | 5.9         | -36.7           |
| Pioneer Investment Management, LTD (U.K.)                   | United Kingdom | London      | High      | 8,170.5         | 349.3          | -60.2         | 4.3         | -14.7           |
| BlueBay Asset Management, LLP                               | United Kingdom | London      | Very High | 38,412.7        | 115.3          | -48.2         | 0.3         | -29.5           |
| Fidelity Management & Research Company                      | United States  | Boston      | Low       | 80,073.6        | 31.4           | -42.5         | 0.0         | -57.5           |
| Aviva Investors Global Services, LTD (U.K.)                 | United Kingdom | London      | High      | 21,038.2        | 31.2           | -35.4         | 0.1         | -53.2           |
| TCW Investment Management Company, LLC                      | United States  | Los Angeles | Very High | 117,162.6       | 21.8           | -28.8         | 0.0         | -56.9           |
| UBS Asset Management (Deutschland) GmbH                     | Germany        | Frankfurt   | High      | 2,037.5         | 10.6           | -25.3         | 0.5         | -70.5           |
| Credit Suisse (Luxembourg) S.A.                             | Luxembourg     | Luxembourg  | Low       | 17.9            | 0.0            | -22.9         | 0.0         | -100.0          |
| Pioneer Investment Management, LTD (Ireland)                | Ireland        | Dublin      | Medium    | 23,148.8        | 216.2          | -22.3         | 0.9         | -9.3            |
|   |                |             |           |                 | <b>1,102.7</b> | <b>-485.5</b> |             |                 |

## 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)       | 1,103,439.0           | <b>2,357.8</b> | -94.6          | 64      | United Kingdom (London)  | 1,103,439.0           | 2,357.8     | -94.6          | 64      |
| United States (New York)      | 1,951,402.0           | <b>1,303.8</b> | 43.1           | 27      | United States (New York) | 1,951,402.0           | 1,303.8     | 43.1           | 27      |
| Germany (Frankfurt)           | 211,640.3             | <b>609.4</b>   | -9.4           | 8       | Spain (Madrid)           | 91,296.6              | 115.1       | 6.0            | 23      |
| Italy (Milan)                 | 143,329.6             | <b>450.6</b>   | -7.3           | 11      | Switzerland (Zürich)     | 227,786.6             | 276.9       | -12.0          | 16      |
| United States (Boston)        | 1,208,402.3           | <b>426.9</b>   | -63.9          | 14      | Taiwan (Taipei)          | 5,773.9               | 100.7       | 4.7            | 16      |
| Switzerland (Zürich)          | 227,786.6             | <b>276.9</b>   | -12.0          | 16      | United States (Boston)   | 1,208,402.3           | 426.9       | -63.9          | 14      |
| Ireland (Dublin)              | 44,186.4              | <b>259.3</b>   | -22.3          | 4       | Italy (Milan)            | 143,329.6             | 450.6       | -7.3           | 11      |
| Poland (Warsaw)               | 5,902.6               | <b>254.0</b>   | 25.0           | 9       | Austria (Vienna)         | 32,566.0              | 121.3       | -9.6           | 11      |
| Singapore (Singapore)         | 18,584.1              | <b>226.9</b>   | 6.1            | 7       | Switzerland (Lugano)     | 3,339.7               | 100.0       | -1.2           | 10      |
| Netherlands (The Hague)       | 31,182.4              | <b>194.1</b>   | 11.0           | 2       | Poland (Warsaw)          | 5,902.6               | 254.0       | 25.0           | 9       |
| Poland (Poznan)               | 2,775.3               | <b>163.6</b>   | -94.7          | 1       | Switzerland (Geneva)     | 70,227.6              | 118.0       | 33.1           | 9       |
| United States (Jersey City)   | 112,727.3             | <b>163.3</b>   | -105.3         | 1       | Luxembourg (Luxembourg)  | 25,000.3              | 73.8        | -10.8          | 9       |
| United States (Charlotte)     | 136,007.1             | <b>142.8</b>   | 0.8            | 2       | Germany (Frankfurt)      | 211,640.3             | 609.4       | -9.4           | 8       |
| United States (Atlanta)       | 186,554.0             | <b>122.4</b>   | -4.2           | 2       | Singapore (Singapore)    | 18,584.1              | 226.9       | 6.1            | 7       |
| Austria (Vienna)              | 32,566.0              | <b>121.3</b>   | -9.6           | 11      | Japan (Tokyo)            | 44,924.5              | 11.7        | -0.0           | 6       |
| Switzerland (Geneva)          | 70,227.6              | <b>118.0</b>   | 33.1           | 9       | Canada (Toronto)         | 104,718.1             | 46.6        | -0.5           | 5       |
| Spain (Madrid)                | 91,296.6              | <b>115.1</b>   | 6.0            | 23      | Germany (Hamburg)        | 5,077.8               | 20.0        | 0.1            | 5       |
| United States (Newport Beach) | 749,263.6             | <b>111.2</b>   | 0.0            | 2       | Germany (Munich)         | 20,327.9              | 17.6        | 0.6            | 5       |
| Taiwan (Taipei)               | 5,773.9               | <b>100.7</b>   | 4.7            | 16      | France (Paris)           | 83,840.4              | 10.8        | 7.4            | 5       |
| Switzerland (Lugano)          | 3,339.7               | <b>100.0</b>   | -1.2           | 10      | Ireland (Dublin)         | 44,186.4              | 259.3       | -22.3          | 4       |
|                               |                       |                |                |         |                          |                       |             |                |         |
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## 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.