AEGON Asset Management

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AEGON **INSIGHTS**

From the stadium to the stock exchange

Ajax is not only a mythological hero in Greek legend, but also one of the most renowned Dutch football clubs. AFC Ajax has an illustrious history, having nurtured iconic players such as Johan Cruijff, Marco van Basten, and Dennis Bergkamp. Although its most glorious era of 'totaalvoetbal' (total football) goes back to the 1970s and 1990s, the club experienced a resurgence in the 2018-2019 season, reaching the semi-finals of the UEFA Champions League. In the subsequent years, the club's performance on the pitch declined, as did the corporate situation. In recent years, several board members were dismissed or resigned, culminating in the firing of a newly appointed CEO just two weeks into his tenure. The CEO had controversially acquired equity shares in the club just before his appointment, allegedly using inside information.

Introducing the *Pelé Index*

The recent turmoil has not only disappointed fans but also had negative corporate implications. AFC Ajax is a publicly listed company. Its shareholders are facing risks due to the turmoil. The club has been listed on the Amsterdam Stock Exchange for over 25 years, since its IPO in 1998. Shareholders from that initial period have suffered a loss of approximately 25%, a stark contrast to the AEX index's return of 257% over the same period.

Ajax is one of many listed European football clubs. To assess their stock performance, we created the *Pelé Index*, named after the legendary Brazilian football player. We simulated the historical performance of the *Pelé Index* by including all European football clubs with listed equity since 1998. We used standard methodology rules to construct the index.

Jordy Hermanns
Portfolio Manager

Jordy Hermanns, CFA, is a portfolio manager in the multi-asset group and an investment strategist. He is responsible for tactical and strategic asset allocation strategies

Jacob Vijverberg
Portfolio Manager

Jacob Vijverberg, CFA, is a portfolio manager of the Diversified Income Strategy and an investment strategist.

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Pelé Index Constituents

Table 1: Pelé Index constituents per 2024

Club	Competition	Weight	IPO year	Market Cap
Aarhus GF	Superligaen	1.0%	1999	38
AFC Ajax	Eredivisie	4.7%	1998	191
Beşiktaş JK	Süper Lig	8.8%	2002	492
Borussia Dortmund	Bundesliga	9.2%	2000	375
Brøndby IF	Superligaen	1.3%	1990	57
Celtic FC	Scottish Premiership	3.6%	1995	142
FC Kopenhagen	Superligaen	4.2%	1997	164
FC Porto	Liga Portugal	0.6%	1998	28
Fenerbahçe SK	Superligaen	6.0%	2004	252
Galatasaray SK	Superligaen	5.2%	2002	212
Juventus FC	Serie A	14.3%	2001	606
Manchester United	Premier League	25.0%	2012	2,237
Olympique Lyonnais	Ligue 1	9.1%	2007	378
Silkeborg I.F.	Superligaen	0.7%	1991	29
SL Benfica	Liga Portugal	1.5%	2007	65
Sporting Portugal	Liga Portugal	1.6%	1999	67
SS Lazio	Serie A	1.1%	1998	44
Trabzonspor	Superligaen	2.5%	2005	115

Source: Aegon Asset Management, Bloomberg, Datastream (Data as per 04/2024). Note: Market Capitalization in EUR

The Pelé Index methodology includes all European football club stocks that are publicly traded.

The *Pelé Index* methodology includes all European football club stocks that are publicly traded. The constituent is included at the start of the first month following the IPO and excluded in the month post a delisting. The *Pelé Index* is a market-capitalization weighted index, and the weights are determined monthly on the market capitalization (in euro) at the close of the previous month. To limit concentration, the weight is capped at 25% per constituent. Stocks with a low market value (€2,5, €5, €10 or €15 mn, depending on the historical period) and low liquidity are excluded.

The base currency of the index is euro and all non-euro denominated stocks (prices, returns and market capitalizations) are translated to euro.

Although the first football club stock was listed in 1983, the *Pelé Index* starts in 1998 because at that time multiple initial public offerings expanded the investment universe.

At this moment, the index consists of 18 football clubs, including AFC Ajax and clubs from major European leagues in England, Germany, Italy, France, as well as clubs from Portugal, Turkey, the Netherlands, Denmark, and the Scottish league. The 18 constituents have a combined market capitalization of just under €5 billion.

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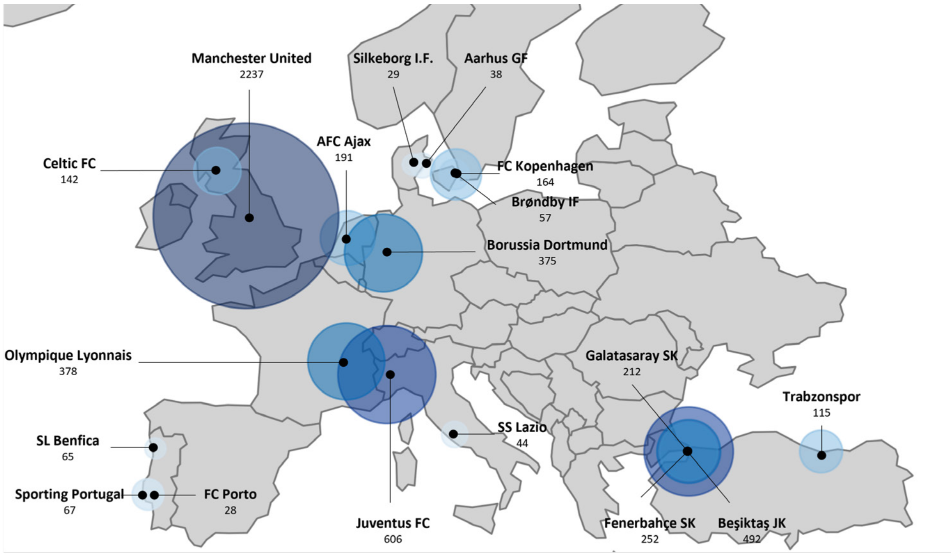
Figure 1: Pelé Index constituents per 2024

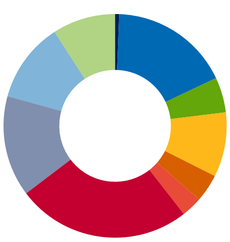


Source: Aegon Asset Management, Bloomberg, Datastream (Data as per 04/2024). Note: Pelé Index constituents and market capitalization (in euro)

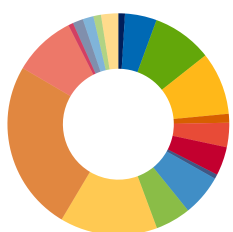
At the inception of the *Pelé Index* the Tottenham Hotspurs stock had a 9% weight. Tottenham Hotspurs was the first football club to have publicly listed shares in 1983. The stock was delisted in 2012.

The composition of the *Pelé Index* has changed historically. In 1998, the index consisted of only ten clubs that met the methodology rules. Those clubs were AFC Ajax, SS Lazio, FC Porto, Tottenham Hotspurs, Newcastle United, Manchester United, Aarhus, Brøndby IF, Celtic FC and Copenhagen.

Pelé Index: weights at inception (1998)



Pelé Index: current weights (2024)



Pelé Index: Current competition breakdown (2024)

Figure 2 and 3 and 4: Pelé index constituents and competition breakdown. Source: Aegon Asset Management, Bloomberg, Datastream

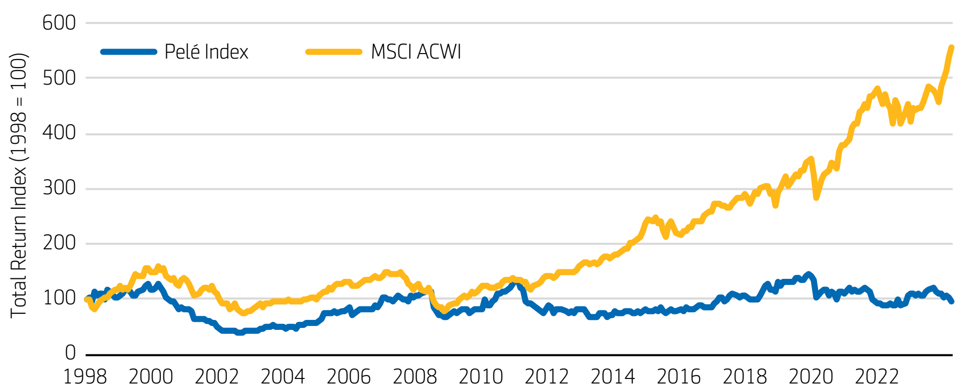
Later, more football clubs went to the market and got included in the *Pelé Index*, whilst other constituents were delisted. Some clubs had a listing and delisting in the period between 1998 and 2024, such as Arsenal.

Manchester United was the latest club with an IPO in 2012. With a market capitalization of over €2bn it is the most valuable club in the index. Interestingly, this was Manchester United's second IPO, after initially going public in 1991 and then being taken private in 2005.

Pelé Index: Historical development

The *Pelé Index* shows that the outcome of investing in football clubs has been disappointing, resulting in a loss! The *Pelé Index* has clearly underperformed the broader index whilst volatility was higher. Regardless of the viewpoint, publicly traded football equities have consistently proven to be poor investments.

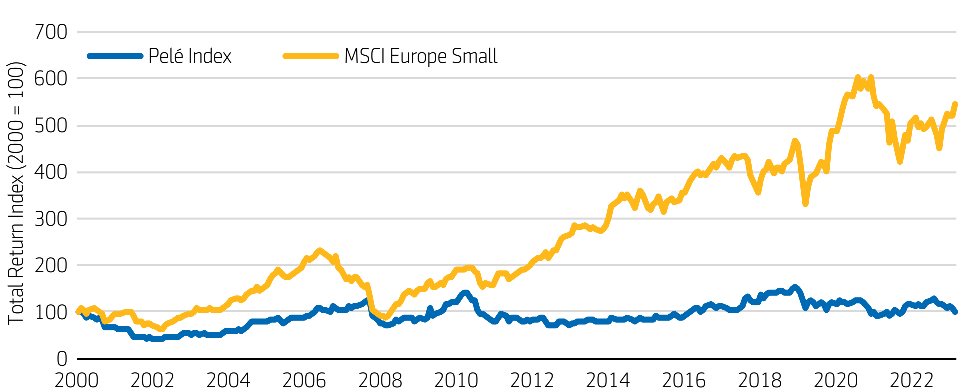
Figure 5: *Pelé index* and World equities



Source: Aegon Asset Management, Bloomberg, Datastream

The *Pelé Index* has returned -5% since its inception in 1998. In the same period, the broad market index returned more than 450%. The strong underperformance might be explained by the misalignment of interests between the sports clubs and shareholders. Typically, listed companies have an aim to maximize long-term shareholder value. Instead, football clubs have a prime objective to win matches and titles, and to amuse fans. These objectives are not necessarily aligned.

Figure 6: *Pelé index* and MSCI Europe Small cap index

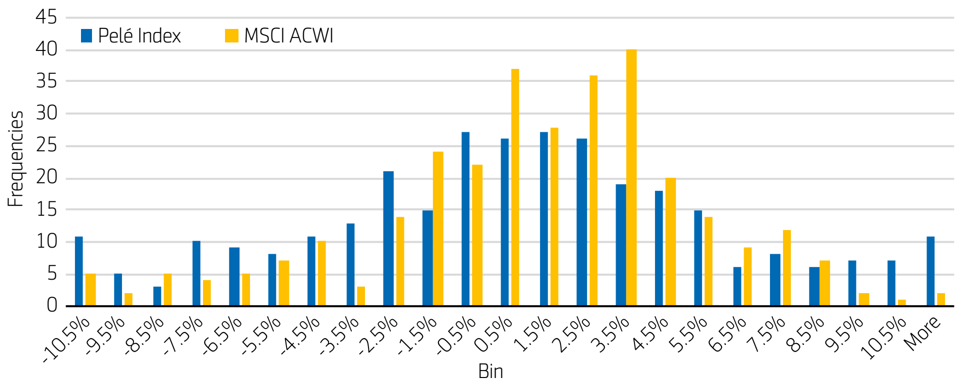


Source: Bloomberg, Aegon Asset Management

Another comparison, which might be more relevant to the Pelé Index, is to the MSCI Europe Small index, which has more similarities than the world equity index. After all, the football clubs are European, are often listed on European exchanges and have small market capitalizations. The Pelé Index also massively underperformed this index. Since the inception of the MSCI Europe Small Index in 2000, it returned 445%. In the same period the Pele Index returned -0.3%. This analysis confirms the earlier findings that the Pelé Index underperformed the broader market and that investments in listed football clubs have had an inferior financial risk-return balance.

A statistical analysis reveals interesting characteristics of the Pelé Index. The returns are not normally distributed and have fat tails.

Figure 7: Histogram of returns



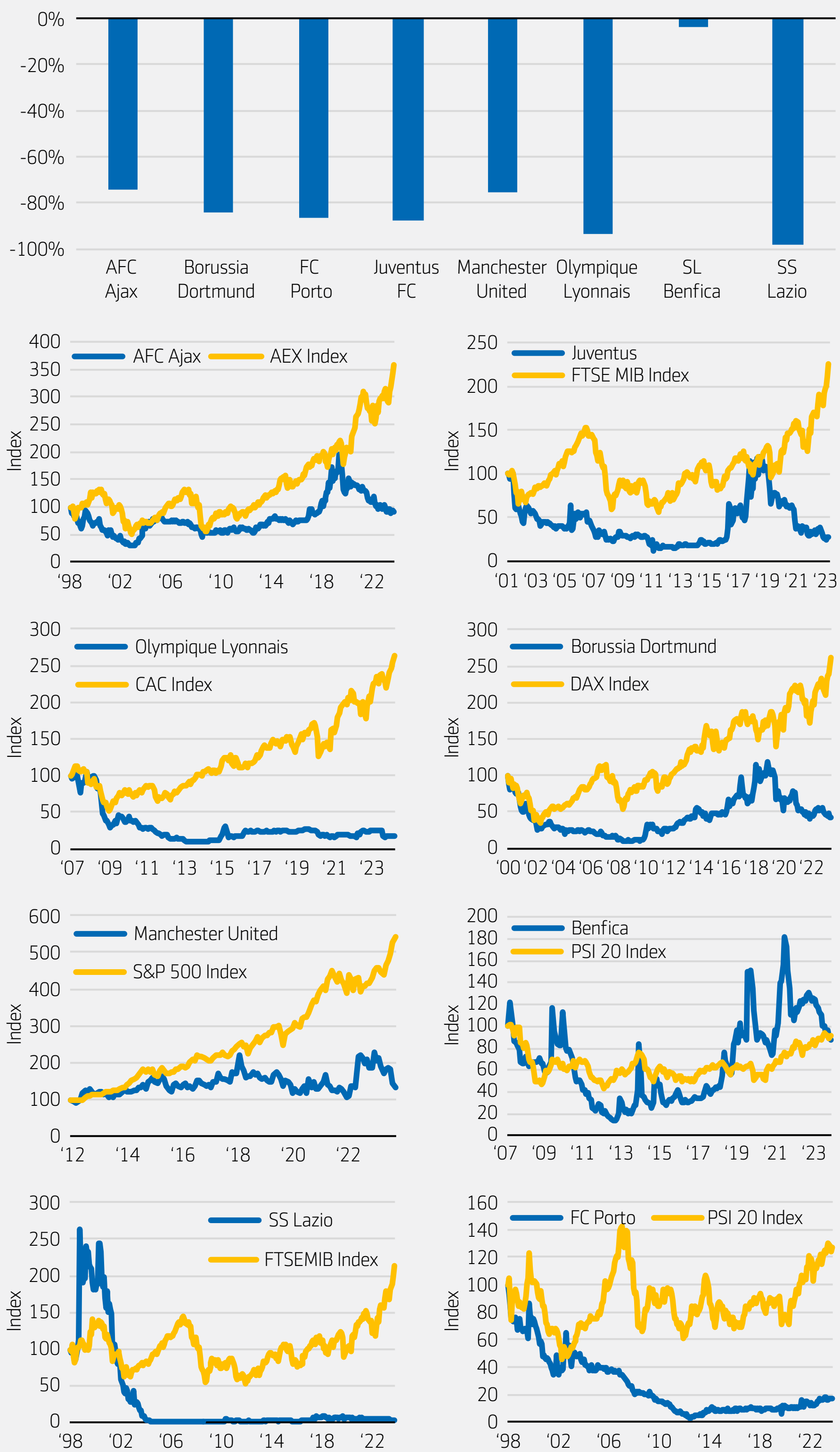
Source: Bloomberg, Aegon Asset Management

A statistical analysis reveals interesting characteristics of the Pelé Index. The returns are not normally distributed and have fat tails. The fat tails – both positive and negative – imply that extreme returns occur more common than in a normal distribution.

On a more optimistic note, the exposure that institutional investors have to these stocks is minimal, if any at all. These constituents of the Pelé Index have a marginal market capitalization, and the free float is often low, which frequently makes inclusion in popular and widely used benchmarks – such as MSCI and Bloomberg - unattainable.

Interestingly, the Turkish Bloomberg Equity Index includes both Fenerbahçe and Beşiktaş, with a combined index weight of 0.3%. Juventus is also a constituent of the Italian Bloomberg Index, with a weight of 0.1%.

Figure Box 1: Relative returns since inception of stocks versus national benchmark of selection of *Pelé Index* constituents



Source: Aegon Asset Management, Bloomberg (data as per 04/2024). The Return Index starts at the first month following the IPO

Winning for the fans, not for shareholders

An interesting viewpoint is to assess whether the stock market returns of football clubs can be explained by sportive returns on the pitch. In other words – even though the *Pelé Index* underperforms the market – do clubs with good results have better stock returns? After all, one could argue that the financial situation of a club improves and ticket and merchandise sales are higher if the club wins games and succeeds in European leagues. Also, good results could lead to higher transfer values of the players, which can result in higher profits.

Do clubs with good results have better stock returns?

Table 2: UEFA Coefficients for a subset of the *Pelé Index* Soccer stocks

Club	UEFA Ranking	Coeff 2023-24	Coeff 10yrs
AFC Ajax	16	8	165.5
Borussia Dortmund	12	18	196
Celtic FC	40	4	76
FC Kopenhagen	42	7	73.5
FC Porto	13	18	185
Fenerbahçe SK	55	17	58.5
Galatasaray SK	34	0	85
Juventus FC	4	17	250
Manchester United	10	19	208
Olympique Lyonnais	21	0	132.5
SL Benfica	15	25	171
Sporting Portugal	35	14	83.5
SS Lazio	33	6	97

Source: UEFA (Data as per 04/2024)

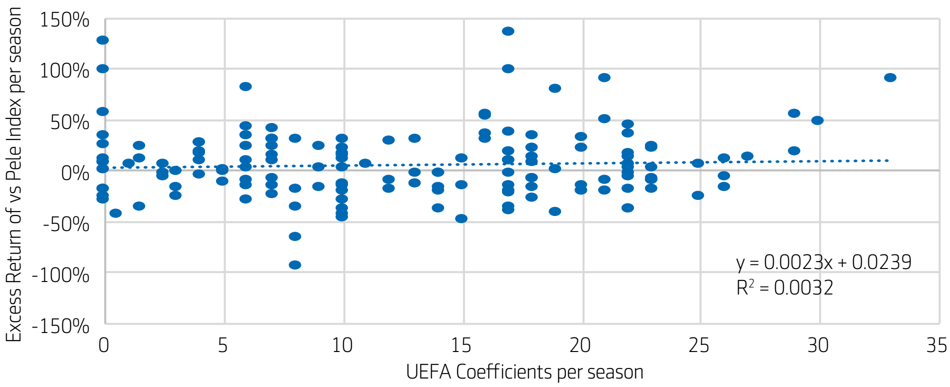
Obviously, there are various measures of sportive results. For European clubs the UEFA coefficient ranking is a good starting point for medium-term and short-term results. This UEFA ranking is based on game results in UEFA's competitions per season. Currently, Real Madid, Bayern Munich and Barcelona are the top-3 teams according to the UEFA ranking (based on 10-year performance).

For this analysis, we only use a subset of *Pelé Index* constituents that have structurally been qualified for European leagues. Within the *Pelé Index*, Juventus FC is currently the highest ranked club at place 4, based on the coefficients earned over the past 10 seasons. Manchester United and Borussia Dortmund are ranked 10th and 12th.

Another interesting angle is to assess whether short-term performance (the UEFA coefficients earned per season) relate to the excess stock performance (over the benchmark) in the same period. Every datapoint in Figure 8 resembles the excess return of a stock versus the benchmark (y-axis) and the number of UEFA coefficients earned in a season. Interestingly, a first glance at the chart shows a high dispersion of returns. There are many return outliers at extreme values, indicating high positive returns, and low negative returns of specific stocks. But are these excess returns driven by sportive results? Our analysis over the period 2014 – 2023 does not show a significant correlation between UEFA coefficients earned in a season and excess stock returns. In other words, winning games is good for fans, but not necessarily for equity shareholders.

When Ajax won the first leg of the semi-finals the stock price of Ajax jumped up.

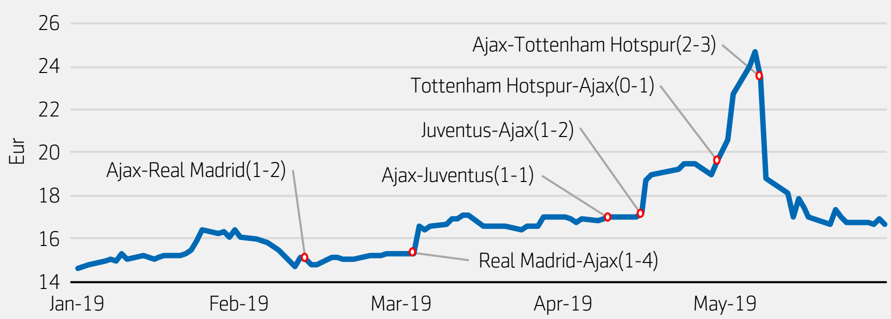
Figure 8: Excess Return of Constituents in the Pelé Index vs the Pelé Index per Season versus UEFA Coeffients earned in that season



Source: Aegon Asset Management, Bloomberg, Datastream, UEFA

Although the section above shows that there is no structural relationship between short-term sportive results and stock performance, there are occasions where such a link is present. In the 2018-2019 season AFC Ajax did very well in the Champions League. The team made it to the knockout phase of the Champions League and won games against giants like Real Madrid and Juventus. Tottenham Hotspurs was the opponent in the semi-finals. When Ajax won the first leg of the semi-finals the stock price of Ajax jumped up. A similar effect had already been seen on the days following the win against Real Madrid and Juventus. On the day after the 0-1 win against Tottenham Hotspurs, the stock rose by 5%, and gained a further 10%, +6% and +2%, respectively, on the following days. The mania reached a high the day before the home game against Tottenham Hotspurs at a price of €27.6. Intraday, the stock even reached a price of €28.2, about 94% higher than the opening price at the start of 2019. AFC Ajax lost the home game 2-3 and the stock fell by 5%, 20%, 3% and 6%, respectively, in the days following the loss. At the end of June, when the season came to an end, the stock price was around €21. This was much higher than at the start of the year, but 25% lower than the peak. This shows that occasionally there is a link between stock and sportive performance, but it also shows how volatile these moves are and that the effects are not necessarily long-lived.

AFC Ajax Share Price: 2018-2019 Champions League



Sources: Aegon AM, Bloomberg

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With a market capitalization of over €2bn, Manchester United is the constituent in the Pelé Index with the highest market capitalization. The index methodology caps the weight of constituents at 25% to avoid concentration risks, otherwise the index weight of Manchester United would be closer 40%. The stock of Manchester United experienced a strong price surge at the end of 2022. That jump was not related to results at Old Trafford but instead had its origin in Saudi Arabia. Manchester United shares jumped as much as 13%, hitting the highest level since February 2019, after Saudi Arabia's sports minister Prince Abdulaziz bin Turki Al-Faisal told BBC Sport that its government would support private sector bids for the team. Earlier that week, the Glazer family, the owners of Manchester United, said they were exploring strategic options that could lead to a sale of the club. This example shows that stock performance can be driven by takeovers and takeover speculations. It has become quite popular for private investment vehicles to invest in sport clubs. These investment vehicles are linked to private equity and sovereign weight funds as well as to wealthy individuals. This can drive the stock prices higher, which was also the case in 2022 for Manchester United. Currently, the stock trades around $15 (versus $22 at the peak of the takeover speculation).

Manchester United Share Price: 2022

Sources: Aegon AM, Bloomberg

Zooming out: Sports, Leisure and Entertainment

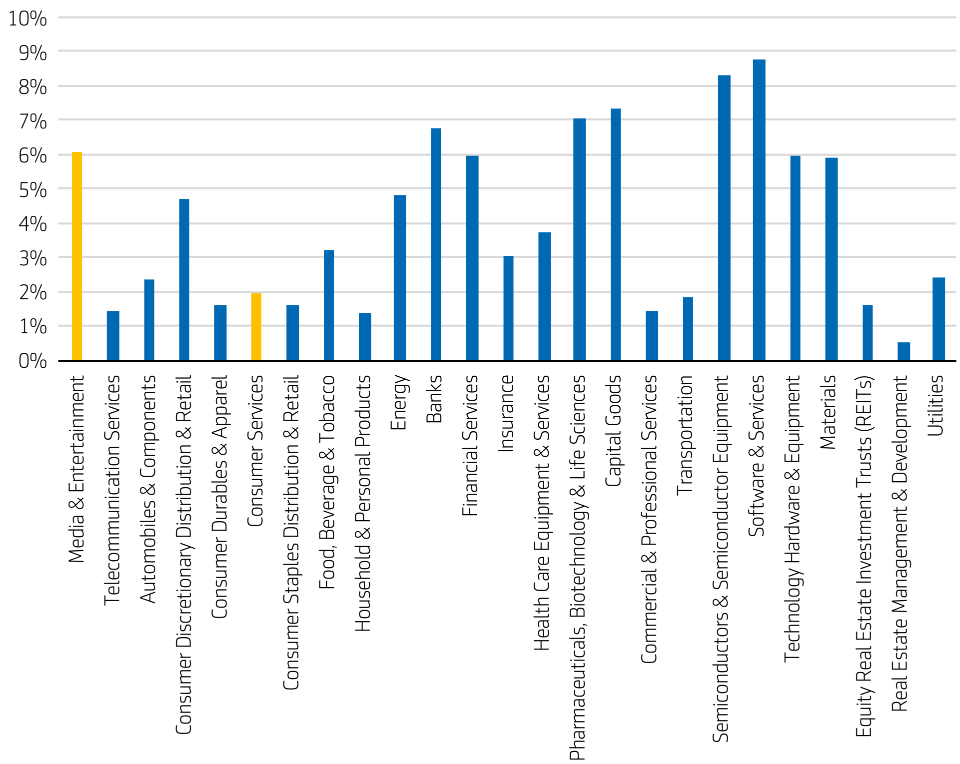
Football clubs are not the only sport clubs which are listed on equity markets or are owned by listed companies. Examples in other sports include;

- In the US, the Atlanta Braves Holding owns the Atlanta Braves Major League Baseball Club, that competes in the Major League Baseball. The sports company has a market value of $2.5bn and is a constituent of the popular Russell 2000 index.
- The Madison Square Garden Sports Corporation owns the New York Knicks and the New York Rangers. This corporation has a market value of $4.4bn, almost the size of market value of all European football clubs combined. The stock is a constituent of the Russell 1000.
- Another major pro sport listed equity is Liberty Media Formula One Group. This group holds the commercial rights of the Formula One World Championship. The market value of the group is almost $16bn. Earlier this month, the company acquired Dorna Sports, which holds the commercial rights of the MotoGP World Championship, for $4.2bn. Interestingly, considering the market value of Formula One is now roughly $16bn, the rights were bought in a $4.4bn deal in 2017 when CVC Capital Partners sold their holding. Now, Liberty Media Formula One is a member of the widely followed MSCI ACWI benchmark, and a stock hold by many institutional investors as part of their broad equity exposure.

Although the sports exposure in institutional portfolios is limited, the Leisure, Media and Entertainment industries have a larger weight. The Media and Entertainment industry's weight in the MSCI ACWI is 6%, including companies like Disney and Tencent. In Europe, Universal and Vivendi are trading in these categories. The Consumer Services industry group is good for another 2% weight and includes stocks like Airbnb, Booking, McDonalds and Starbucks. In Europe, this includes Accor and Amadeus.

> *Investing in leisure and entertainment has become more popular, as economies become more affluent and people have more time and money to spend.*

Figure 9: MSCI ACWI Industry Weights (GICS Level 2)



Source: Bloomberg

Investing in leisure and entertainment has become more popular, as economies become more affluent and people have more time and money to spend. It is therefore expected that this category can grow faster than overall economic growth. So far however, football clubs haven't been able to ride this wave.

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