



Who owns the German DAX?

The Ownership Structure of the German DAX 40 in 2021

Ninth Edition – June 2022

A joint study of S&P Global Market Intelligence and Deutscher Investor Relations Verband (DIRK)

S&P GlobalMarket Intelligence

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Methodology

- In 2021, S&P Global Market Intelligence and DIRK German Investor Relations Association, analysed the changes within the shareholder structure of the 40 listed DAX companies during the course of 12 months. In particular, the institutional free float of the DAX 40 issuers was considered. Subsequently, trend analyses of institutional investors and benchmarking data will also be included in the study.
- The data was collected and prepared by S&P Global Market Intelligence from public and proprietary data, with all data used in this study being anonymised and aggregated.
 This is to ensure the confidentiality and preserve the sensitive nature of the information used in this study.
- The DAX expanded from 30 to 40 constituents on the 20th of September 2021. In light of this, changes from 2020 to 2021 will include the addition of the extra 10 constituents. Airbus SE, Zalando SE, Siemens Healthineers AG, Symrise AG, HelloFresh SE, Sartorius AG, Porsche Automobil Holding, Brenntag SE, Puma SE and Qiagen N.V. joined the now DAX 40. Siemens Energy replaced Beiersdorf in March 2021. Beiersdorf then replaced Deutsche Wohnen in the DAX 40 in October 2021.
- The horizon is set to 48 months between December 2018 and 2021, with a record date of the 31 December each period. The results this year include the continued impact of the global COVID-19 pandemic on the ownership structure of the DAX and the addition of 10 new constituents. The study's focus is the annual perspective and the change between 2020 and 2021. The information collected was analysed with regard to the shares held by institutional investors and prepared according to the following parameters:
 - Distribution of free float and strategic shareholdings, the latter being analysed according to investor classifications
 - Geographical distribution of shareholdings (regions, cities).
 - Distribution by investment style of institutional investors.
 - Influence of the institutional investors on the DAX: consideration of the largest investors as well as the largest buyers and sellers including the ESG sensitivity and voting behaviour of the largest investors.
 - Shareholdings by investor group, whereby the overall share of a particular group of investors is shown globally. In this sense, BlackRock, Inc. is a separate focus due of its importance to the DAX.
 - Investments and the influence of sovereign wealth funds were also prominent.
 - Distribution of invested funds and mandates, which have the greatest influence on the capital invested in the DAX.



Methodology – continued

- An analysis of trading venues for German equities is also included to reflect the growing importance of alternative platforms.
- The respective investments of the institutional investors are presented in US dollars for better comparability, based on the number of shares held at the respective reporting date, the share price at the respective reporting date and the currency conversion rate at the respective reporting date. As a result of currency and share price fluctuations as well as due date-related deviations, there is a fluctuation range in value-based changes which S&P Global Market Intelligence has largely eliminated. Nevertheless, the value comparison is technically not completely possible due to the different release periods.

Summary

- In 2021, Deutsche Börse expanded the DAX by 10 companies in order to better reflect the German economy. This change has also had an impact on the investor landscape. Overall, the free float in the DAX has decreased, which has meant that less institutional capital is invested in the DAX. Strategic holdings in the benchmark index have risen and now account for almost a quarter of the total index. In particular, the share of direct investments has increased by around 10 percentage points (pp) compared to 2020.
- Following the expansion of the DAX from 30 to 40 companies, actively managed money has flowed into the leading index. Passive portfolios continued the trend of the previous year and reduced exposure to the DAX. This provides a strong momentum for active IR work. However, there are also acquisitions in the DAX among ETF providers, especially among the large houses in the industry.
- The megatrend of sustainable investments will continue unabated in 2021. More than a year after the introduction of the Shareholders' Rights Directive II (ARUG II) to increase transparency within the shareholder base, most of the initial hurdles have been overcome. Nevertheless, new, more profound challenges have opened for companies that need to be solved.
- The proportion of institutional investors has fallen by about 2pp to 60%. On closer inspection, it is striking that actively managed portfolios have increased their exposure to the DAX by 0.3pp, especially from North America (+1.4pp compared to 2020). Looking at the largest buyers in the DAX, they are primarily dominated by active asset managers such as T. Rowe Price US, Capital Group and Baillie Gifford. The largest sellers, on the other hand, show a different picture, with more index funds (ETFs) such as Northern Trust Investments, State Street Global Advisors and Lyxor appearing.
- Retail investors remain an important investor group of the DAX, but with a significantly lower share than in previous years of around 14% (2020: approx. 17%). This apparent reduction was partly influenced by the new composition of the DAX, as some companies with a very small proportion of private investors were included in the benchmark index, thus reducing the average.
- The share of German investors continued to decline in 2021, both in actively and passively managed funds (approx. -0.5pp and -0.3pp respectively). Among the German ETFs, BlackRock Germany is the largest seller with the "iShares Core DAX ETF".
- Investors from Continental European (excl. Germany) reduced their ownership by 0.1pp, with the Dutch accounting for the majority of the reduction in the region. Thus, APG was the largest single seller in the country and reduced shareholding by 0.1pp.

Summary - Continued

Market Intelligence

- The money invested by sovereign wealth funds in the DAX fell by around 0.6pp in 2021, largely due to strong outflows from the Norwegian sovereign wealth fund. Norges Bank's exposure has also fallen beyond the DAX in other German indices and in Europe as a whole.
- BlackRock remains at the top of all DAX companies, managing a 5% share of the DAX's free float (2020: 6.3%). However, measured against the decrease in free float in 2021, BlackRock has increased its overall share in the benchmark index. Here, the investor follows the overall development of the DAX and has increased exposure through active funds.
- Investors continue to embrace ESG criteria in their decision-making processes. Above all, investors such as pension and insurance funds as well as sovereign wealth funds are index or ETF-bound, with a de facto infinite investment horizon and therefore have additional information from their end owners for financial performance, a mandate to achieve changes in their portfolio companies; they thus have a direct "impact" on issues such as climate change, decarbonisation, diversity, etc. These issues are also driven by a collective commitment of investor groups to capital market initiatives. An increased sensitivity to sustainability criteria is already evident in over 90 percent of institutional investors, and the trend is rising.
- ETFs have continued to reduce exposure to the DAX (-0.5pp). The general withdrawal of passive portfolios has also been counteracted by fund managers that are increasingly offering indexed products in addition to actively managed funds in order to meet the increased demand for ETFs such as DWS, UBS or Amundi.
- Value investors continue to be the largest ownership by style despite a reduction in holdings of -0.7pp to 33.1% of the identified free float. To counteract the decrease, Growth investors increased exposure by 2.1pp to now hold 32.5% of free float.
- London and Frankfurt remain as the top Road Show venues by DAX value despite both having a reduction in value of -0.2pp. Baltimore in Maryland US shifts into top 15 road show venue based on DAX value due to T. Rowe Price Associates being the largest buyer of the DAX in 2021 (+0.6pp).
- Deutsche Börse remains the most important trading venue for the DAX. The official stock exchange accounts for more than 38% of all DAX trades, down -5.3pp compared to 2020. Over-The-Counter (OTC) trades gained market share in 2021 (+12.8pp), with more then a third of all DAX trades being executed via unofficial venues. Visible trades in Dark Pools reduced to 3.5% of all DAX trades while electronic, automated trading (Systematic Internalisers) saw declining numbers.

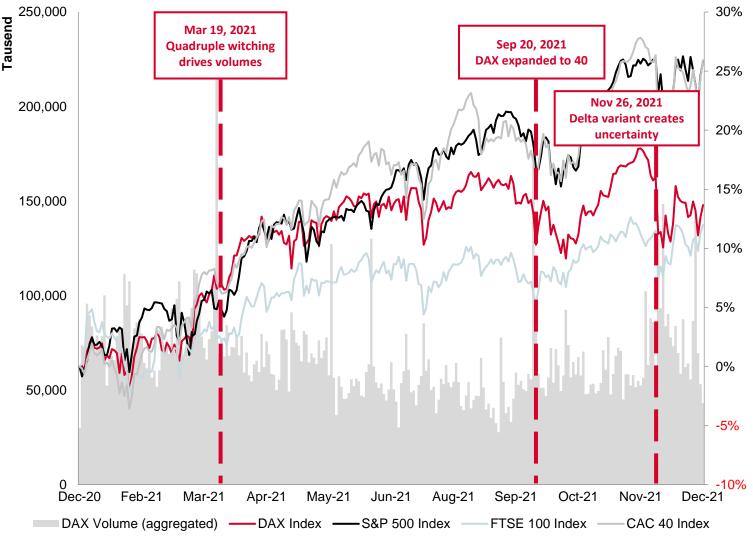
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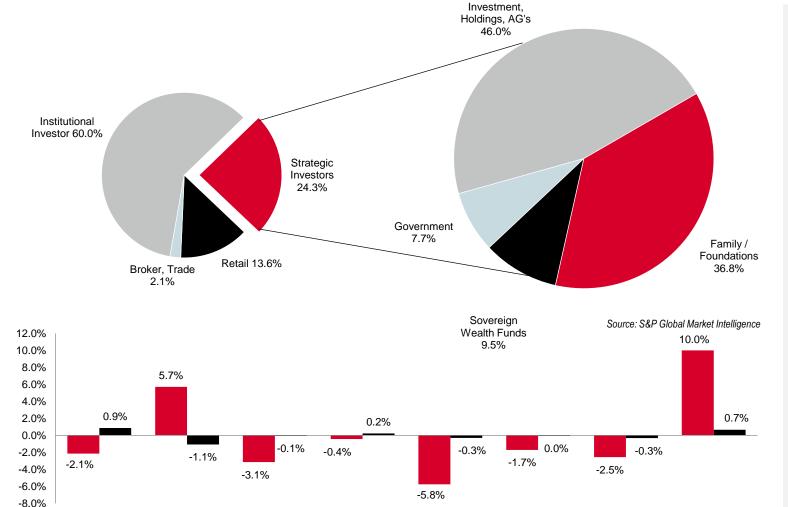
Price and Trading Volume History



- The DAX recovered in 2021 after the pandemic hit the global economy hard in 2020. The benchmark stayed in positive territory throughout 2021 with a slight drop into negative territory in Q1 2021 due to uncertainties.
- Despite looking at a strong finish for 2021, financial sectors were hit by the announcement of the more contagious Delta variant in November 2021 which caused uncertainty of the financial sector recovery.
- Looking at the other major indices, the DAX just outperformed the FTSE 100 and rose 14.0%. The S&P 500 and the CAC 40 index significantly outperformed the DAX with both rising over 25.0% in 2021.

Data accessed Dec 31, 2021; Source: FactSet, S&P Global Market Intelligence

Shareholder Structure of the DAX 30 Constituents



Broker, Trade

■ Change 2020

Retail

■ Change 2021

Direct

Sovereign Wealth

Funds

Government

Family /

Foundations

- Institutional investment decreased to 60.0% of the institutional free float (-2.1pp compared to 2020).
 This is due to the DAX increasing from 30 to 40 and the companies entering having a higher strategic Investors percentage.
- Conversely the Strategic investors
 increased investments in the DAX by 5.7pp, now
 holding 24.3%.
- Retail investors decreased their holdings by -3.1pp to 13.6pp with the new companies entering having a lower percentage and bringing down the average.
- Direct investment increased by 10.0pp, largely due to the addition of the new constituents.

Source: S&P Global Market Intelligence
Statements by persons who are not S&P Global Market Intelligence employees represent their own views and opinions and are not necessarily the views of

Direct Investment,

Holdings, AG's

Institutional

Investor

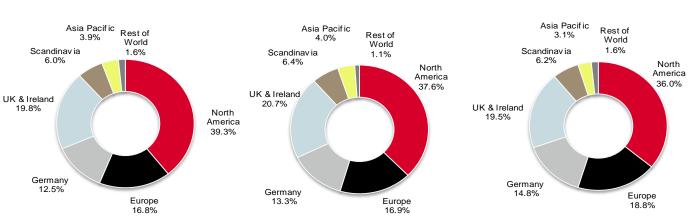
Strategic

Investors

S&P Global Market Intelligence.

Shareholder Structure by Region

- North American investors for the fifth year in a row were confident in the German stock market by being the largest investors in the DAX. Their holdings increased by 1.7pp which is on par with the increase in 2020, despite the continued global market volatility in 2021. The increases were driven by active fund managers with North American ETFs reducing exposure.
- European holdings remained relatively flat with a dip of -0.1pp.
 While the BeNeLux region drove most of the selling, Spain and Italy supported the DAX and saw inflows.UK & Ireland investors reversed the buying trend in 2020 and reduced exposure by -0.9pp.
- German investors continued to reduce exposure to the DAX with a
 0.8pp drop in 2021. Selling was driven once again by DWS who are
 in the top sellers list again this year. This is in parts due to the
 investor's synthetic ETF portfolio.

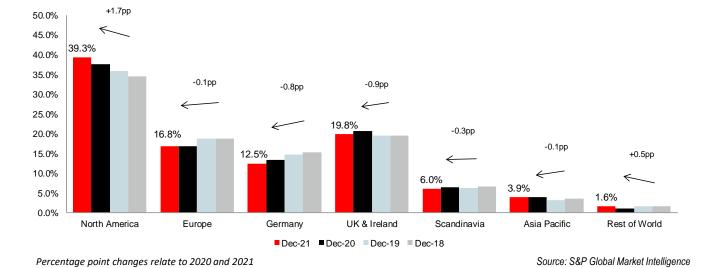


2020

2021

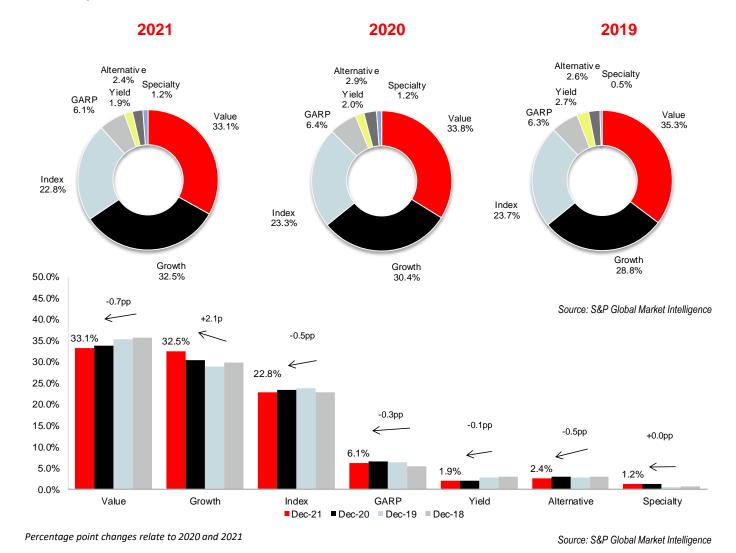
Source: S&P Global Market Intelligence

2019



Shareholder Structure by Investment Styles

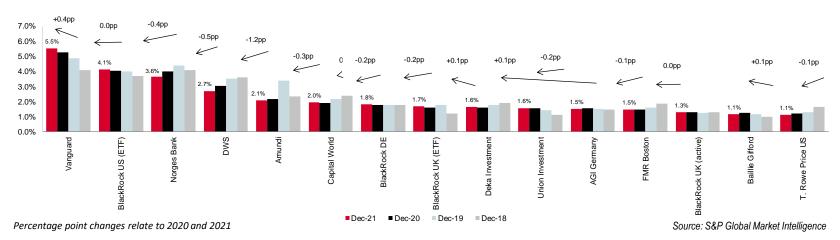
- Value investors continued to reduce exposure to the DAX (-0.7 pp) with the top three sellers for the year all being Value investors. Norges (-0.4pp) is the main contributor to this development and the biggest seller for the period.
- Growth increased their representation in the DAX by 2.1pp and retain their second rank in institutional ownership by style. This was the largest movement by style over the reporting period. The increase was mainly attributable to the top buyer, Growth investor, T. Rowe Price.
- Index investors holdings decreased by 0.5pp. The overall net decrease was attributable towards the DAX increasing from 30 to 40.



Top 15 DAX Investors

Rank	Firm Name	DAX Value in \$M Dec-21	% Share DAX Insti.	% Share Change (pp)	DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	DAX Value Change in \$M	Total Equity Assets in \$M	Style	Turnover	City
1	The Vanguard Group, Inc.	43,757.9	5.5%	0.3%	44,034.5	28,116.1	15,641.8	4,191,323.4	Index	Low	Malvern
2	BlackRock Fund Advisors	32,771.3	4.1%	0.1%	33,702.2	24,533.5	8,237.8	2,876,001.0	Index	Low	San Francisco
3	Norges Bank Investment Management (Norway)	28,786.6	3.6%	-0.4%	34,014.6	23,128.2	5,658.4	949,098.6	Value	Low	Oslo
4	DWS Investment GmbH	21,441.7	2.7%	-0.3%	25,597.4	20,362.1	1,079.6	137,885.8	Value	Low	Frankfurt am Main
5	Amundi Asset Management S.A.S.	16,485.7	2.1%	-0.1%	18,315.4	19,489.9	(3,004.2)	155,052.9	Value	Moderate	Paris
6	Capital World Investors (U.S.)	15,476.2	2.0%	0.4%	13,063.4	8,260.0	7,216.2	834,099.8	Value	Low	Los Angeles
7	BlackRock Asset Management (Deutschland) AG	14,307.4	1.8%	-0.1%	15,961.9	12,574.9	1,732.5	51,892.7	Index	Low	Munich
8	BlackRock Advisors (U.K.), LTD	13,442.2	1.7%	-0.1%	14,925.6	10,183.6	3,258.6	205,382.6	Index	Low	London
9	Deka Investment GmbH	13,046.0	1.6%	0.1%	13,264.7	10,136.1	2,910.0	69,516.5	Value	Low	Frankfurt am Main
10	Union Investment Privatfonds GmbH	12,480.7	1.6%	0.0%	13,063.2	8,620.8	3,860.0	85,443.4	GARP	Moderate	Frankfurt am Main
11	Allianz Global Investors GmbH	11,974.6	1.5%	0.0%	12,272.5	9,165.4	2,809.3	80,227.5	Growth	Moderate	Frankfurt am Main
12	Fidelity Management & Research Company, LLC	11,744.8	1.5%	-0.1%	13,298.3	10,235.5	1,509.3	1,248,536.7	Growth	Low	Boston
13	BlackRock Investment Management (U.K.), LTD	10,323.8	1.3%	0.0%	10,580.6	6,642.3	3,681.5	710,383.1	Growth	Low	London
14	Baillie Gifford & Company, LTD	9,055.3	1.1%	0.2%	8,020.3	1,583.9	7,471.4	298,252.0	Growth	Low	Edinburgh
15	T. Rowe Price Associates, Inc.	8,896.2	1.1%	0.6%	4,282.6	2,160.5	6,735.7	1,055,629.9	Growth	Low	Baltimore
	Total	263,990.6	33.3%	0.6%	274,397.3	195,192.7	68,797.9				





- Vanguard remains at the top of institutional holdings and increased their exposure by 0.3pp.
- BlackRock Fund Advisors overtakes Norges and shifts into 2nd largest holder with a 0.1pp increase. With the selling by Norges (-0.4pp) the SWF shifts into third.
- Despite being the largest domestic seller again in 2021 (-0.5pp), DWS remains at rank four and thus continues to be the most important domestic investor.
- Active managers Baillie Gifford (+0.2pp) and T.
 Rowe (+0.6pp) enter into the top 15 holders
 displacing Harris and State Street.

Top 15 Buyers & Sellers

Top 15 Buyers

Rank Firm Name	DAX Value in \$M Dec-21			DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	Total Equity Assets in \$M	Style	City
T. Rowe Price Associates, Inc.	8,896.2	1.12%	0.6%	4,282.6	2,160.5	1,055,629.9	Growth	Baltimore
2 Capital World Investors (U.S.)	15,476.2	1.95%	0.4%	13,063.4	8,260.0	834,099.8	Value	Los Angeles
3 The Vanguard Group, Inc.	43,757.9	5.51%	0.3%	44,034.5	28,116.1	4,191,323.4	Index	Malvern
4 Geode Capital Management, LLC	8,603.1	1.08%	0.2%	7,533.4	3,891.7	693,328.2	Index	Boston
5 Baillie Gifford & Company, LTD	9,055.3	1.14%	0.2%	8,020.3	1,583.9	298,252.0	Growth	Edinburgh
6 J O Hambro Capital Management, LTD	1,863.6	0.23%	0.1%	751.8	878.7	11,720.2	Value	London
7 CPP Investment Board	5,768.2	0.73%	0.1%	5,001.7	2,977.8	130,342.7	Growth	Toronto
8 MFS Investment Management	7,631.3	0.96%	0.1%	6,981.6	3,718.6	370,240.2	Value	Boston
9 GQG Partners, LLC	1,702.2	0.21%	0.1%	791.1	710.0	50,573.9	Value	Fort Lauderdale
10 Primecap Management Company	2,890.2	0.36%	0.1%	2,048.8	1,684.6	141,796.5	Growth	Pasadena
11 Wellington Management Company, LLP	5,080.8	0.64%	0.1%	4,385.1	2,057.0	609,943.2	Value	Boston
12 Capital International Investors	1,909.6	0.24%	0.1%	1,036.1	499.6	376,368.9	Growth	San Francisco
13 Arrowstreet Capital, L.P.	2,228.5	0.28%	0.1%	1,384.7	1,980.7	78,632.9	Deep Value	Boston
14 BlackRock Fund Advisors	32,771.3	4.13%	0.1%	33,702.2	24,533.5	2,876,001.0	Index	San Francisco
15 J.P. Morgan Investment Management, Inc.	1,915.5	0.24%	0.1%	1,082.5	934.9	378,168.7	Growth	New York
Total	149,550.0	18.85%	2.9%	134,099.7	83,987.6			

Source: S&P Global Market Intelligence

Top 15 Sellers

Rank	Firm Name	DAX Value in \$M Dec-21	% Share DAX Insti.	% Share Change (pp)	DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	Total Equity Assets in \$M	Style	City
1	Norges Bank Investment Management (Norway)	28,786.6	3.63%	-0.4%	34,014.6	23,128.2	949,098.6	Value	Oslo
2	DWS Investment GmbH	21,441.7	2.70%	-0.3%	25,597.4	20,362.1	137,885.8	Value	Frankfurt am Main
3	Harris Associates, L.P.	8,245.5	1.04%	-0.2%	10.677.7	7.079.6	91,769.2	Value	Chicago
4	Capital Research Global Investors (U.S.)	6,356.1	0.80%	-0.2%	8,402.7	4,080.3	538,431.6	GARP	Los Angeles
5	Orbis Investment Advisory, LTD	226.3	0.03%	-0.2%	1,636.9	394.9	1,558.3	Value	London
6	Northern Trust Investments, Inc.	4,431.3	0.56%	-0.2%	6,020.3	2,953.8	481,699.8	Index	Chicago
7	State Street Global Advisors, LTD	8,527.4	1.07%	-0.2%	10,290.4	7,416.1	106,159.6	Index	London
8	Lyxor Asset Management SAS	7,241.2	0.91%	-0.1%	8,915.6	6,304.6	42,140.2	Index	Paris
9	UBS Asset Management (U.K.), LTD	5,065.4	0.64%	-0.1%	6,472.3	5,383.9	125,592.5	Value	London
10	Northern Trust Global Investments, LTD	3,879.5	0.49%	-0.1%	5,209.1	3,589.0	92,280.0	Index	London
11	Parametric Portfolio Associates, LLC	610.6	0.08%	-0.1%	1,746.0	1,128.5	163,132.2	GARP	Seattle
12	Mondrian Investment Partners, LTD	982.8	0.12%	-0.1%	2,067.6	2,126.1	19,561.0	Value	London
13	GIC Asset Management Pte., LTD	2,830.1	0.36%	-0.1%	3,978.0	1,438.4	82,914.3	Value	Singapore
14	Select Equity Group, L.P.	197.5	0.02%	-0.1%	1,127.5	920.1	29,278.7	Alternative	New York
15	Amundi Asset Management S.A.S.	16,485.7	2.08%	-0.1%	18,315.4	19,489.9	155,052.9	Value	Paris
	Total	115.307.7	14.53%	-2.7%	144.471.6	105.795.5			

Source: S&P Global Market Intelligence

- North American fund manages accounted for 13 of the 15 top buyers for 2021 with Baillie Gifford and J O Hambro disrupting the full house.
- T. Rowe was the largest buyer for 2021
 (+0.6pp) with the institution being in the top buyers list in 2020 indicating continued positive sentiment to DAX companies.
- Norges Bank was the largest seller in 2021 (-0.4pp) with the entity selling heavily in other European countries indicating the selling is not unique to the DAX.

Top 20 DAX Investors at a Group Level

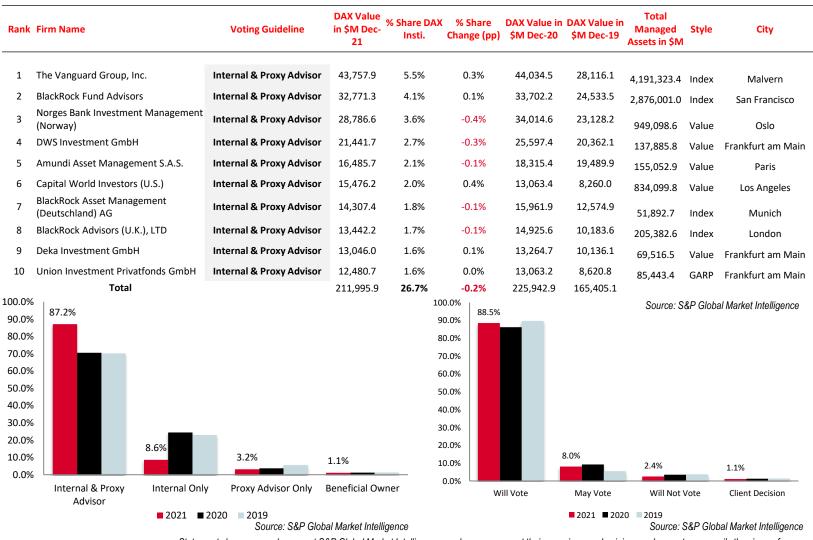
- On a group level, BlackRock remains the top investor in the DAX by far with an investment of 10.0% of the institutional free float of the benchmark, despite showing outflows mainly in their ETF portfolios.
- Lyxor merged into the SAS Rue la Boetie group which has catapulted the group to be the third largest holder of the DAX from seventh despite the reduction in ownership (-0.2pp).
- The top 20 DAX groups increased holdings by 0.7pp to now how hold 50.9%.

Rank	Firm Name	DAX Value in \$M Dec-21	% Share DAX Insti.	% Share Change (pp)	DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	Orientation	Country
1	BlackRock, Inc.	79,163.5	10.0%	-0.0%	83,753.1	58,895.8	Active & Passive	USA
2	The Vanguard Group, Inc.	45,149.1	5.7%	0.3%	45,283.8	29,185.5	Passive	USA
3	SAS Rue la Boetie (Amundi, Lyxor)	29,051.3	3.7%	-0.2%	32,768.6	31,363.1	Active & Passive	France
4	Norges Bank (Norway)	28,786.6	3.6%	-0.4%	34,014.6	23,128.2	Active & Passive	Norway
5	The Capital Group Companies, Inc.	25,732.4	3.2%	0.3%	24,437.9	13,559.5	Active	USA
6	Deutsche Bank AG	24,893.9	3.1%	-0.4%	29,712.3	22,008.6	Active & Passive	Germany
7	State Street Corporation	20,663.2	2.6%	-0.2%	23,426.6	15,960.2	Active & Passive	USA
8	BPCE S.A. (Harris Associates)	15,053.3	1.9%	-0.2%	17,454.8	12,788.4	Active	France
9	FMR, LLC	14,629.8	1.8%	-0.0%	15,588.7	11,564.3	Active	USA
10	DekaBank Deutsche Girozentrale	13,396.4	1.7%	0.1%	13,404.3	10,287.2	Active & Passive	Germany
11	DZ Bank (Union)	13,139.5	1.7%	-0.0%	13,915.0	9,116.5	Active & Passive	Germany
12	Allianz SE	13,073.5	1.6%	-0.0%	13,881.8	10,173.0	Active	Germany
13	Sun Life Financial, Inc. (MFS)	12,337.4	1.6%	0.2%	11,457.8	6,496.9	Active	Canada
14	UBS Group AG	12,316.1	1.6%	-0.2%	14,638.5	11,086.9	Active & Passive	Switzerland
15	T. Rowe Price Group, Inc.	11,062.6	1.4%	0.7%	5,848.1	3,556.2	Active	USA
16	Franklin Resources, Inc.	10,610.4	1.3%	0.1%	10,134.1	7,596.4	Active & Passive	USA
17	Baillie Gifford & Co.	9,055.3	1.1%	0.2%	8,020.3	1,583.9	Active	UK
18	Geode Holdings Trust	8,603.1	1.1%	0.2%	7,533.4	3,891.7	Passive	USA
19	J.P. Morgan Chase and Company	8,596.6	1.1%	0.2%	7,245.5	6,063.3	Active & Passive	USA
20	FIL, LTD	8,538.5	1.1%	0.1%	8,567.5	6,222.0	Active	UK
	Total	403,852.5	50.9%	0.7%	421,086.6	294,527.6		

Source: S&P Global Market Intelligence

Focus: Voting Behaviour of the Top Investors in the DAX

- Internal voting guidelines become increasingly important within the investment community. A total 95.8% of the top 100 DAX investors maintain their own voting policies, an increase of 0.7pp compared to 20202.
- Nonetheless, Proxy Advisors play an important role to investors' internal guidelines as over three quarters of the top 100 investors pay close attention to the voting recommendations.
- In 2021 more investors indicated that they will vote compared to the previous year whilst less investors indicated that they may vote.

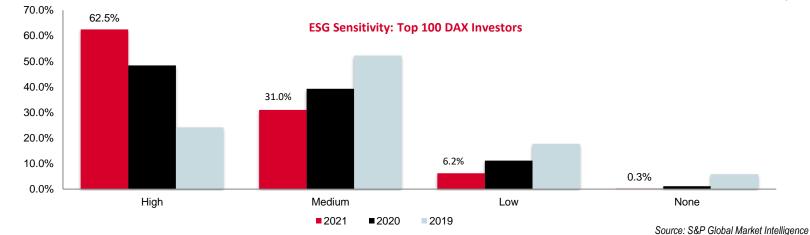


Focus: ESG Sensitivity of the Top Investors in the DAX

- The increasing importance of ESG investing in today's financial sectors was clearly visible in the results of the analysis. The strategy of integrating environment, social and governance criteria into the investment strategy has become an ever increasingly important factor for investors.
- This trend is reflected in the significant jump observed amongst the top 100 DAX investors who have a high ESG sensitivity, a metric that expresses the importance that ESG related criteria in the asset allocation process. It shows that 62.5% now indicate a high importance on ESG integration, a jump of 14.1pp compared to 2021.

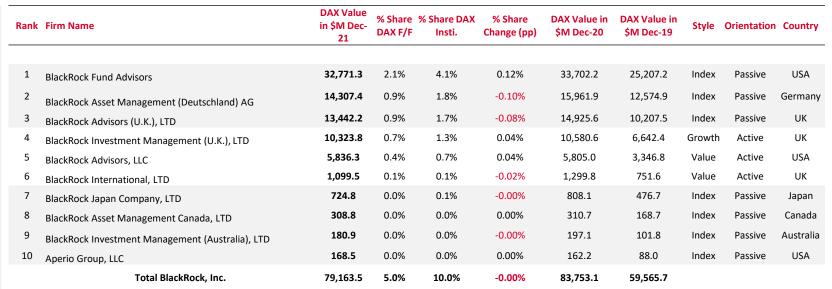
Rank	Firm Name	ESG Sensitivity	DAX Value in \$M Dec-21	% Share DAX Insti.	% Share Change (pp)	DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	Total Equity Assets in \$M	Style	City
1	The Vanguard Group, Inc.	High	43,757.9	5.5%	0.3%	44,034.5	28,116.1	4,191,323.4	Index	Malvern
2	BlackRock Fund Advisors	High	32,771.3	4.1%	0.1%	33,702.2	24,533.5	2,876,001.0	Index	San Francisco
3	Norges Bank Investment Management (Norway)	High	28,786.6	3.6%	-0.4%	34,014.6	23,128.2	949,098.6	Value	Oslo
4	DWS Investment GmbH	Medium	21,441.7	2.7%	-0.3%	25,597.4	20,362.1	137,885.8	Value	Frankfurt am Main
5	Amundi Asset Management S.A.S.	High	16,485.7	2.1%	-0.1%	18,315.4	19,489.9	155,052.9	Value	Paris
6	Capital World Investors (U.S.)	High	15,476.2	2.0%	0.4%	13,063.4	8,260.0	834,099.8	Value	Los Angeles
7	BlackRock Asset Management (Deutschland) AG	High	14,307.4	1.8%	-0.1%	15,961.9	12,574.9	51,892.7	Index	Munich
8	BlackRock Advisors (U.K.), LTD	Medium	13,442.2	1.7%	-0.1%	14,925.6	10,183.6	205,382.6	Index	London
9	Deka Investment GmbH	Medium	13,046.0	1.6%	0.1%	13,264.7	10,136.1	69,516.5	Value	Frankfurt am Main
10	Union Investment Privatfonds GmbH	Medium	12,480.7	1.6%	0.0%	13,063.2	8,620.8	85,443.4	GARP	Frankfurt am Main
	Total		211,995.9	26.7%	-0.2%	225,942.9	165,405.1			

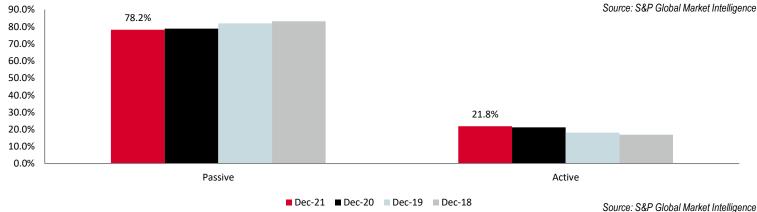
Source: S&P Global Market Intelligence



Focus: Investor Group BlackRock, Inc.

- BlackRock remains the largest investor within the DAX with the group holding 10.0 % of the institutional holdings and 5.0 % of the DAX's free float.
- Overall passive holdings dropped to 78.2%, down from 78.8%. Actively managed funds of the Group on the other hand saw money inflows and increased to 21.8% (+0.6pp).
- In his 2022 annual Letter to CEOs, BlackRock's
 Larry Fink highlighted that, "It's never been
 more essential for CEOs to have a consistent
 voice, a clear purpose, a coherent strategy, and
 a long-term view. Your company's purpose is its
 north star in this tumultuous environment".





Focus: Top 10 Sovereign Wealth Funds in the DAX

Rank	Sovereign Wealth Fund	DAX Value in \$M Dec-21	% Share DAX Insti.	% Share Change (pp)	DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	Management	Country
1	Norges Bank (Norway)	28,786.6	3.6%	-0.42%	34,014.6	23,128.2	Internal & External	Norway
2	SAFE (China)	7,698.9	1.0%	-0.05%	8,570.8	4,790.7	Internal & External	Mainland China
3	Kuwait Investment Office/Authority	6,101.7	0.8%	-0.04%	6,776.8	3,645.4	Internal & External	Kuwait
4	Qatar Investment Authority	3,984.5	0.5%	0.07%	3,605.2	2,574.0	Internal & External	Qatar
5	GIC Singapore/UK	3,845.9	0.5%	-0.17%	5,518.7	2,809.2	Internal & External	Singapore
6	AP 1-7 Fonds	2,066.4	0.3%	0.04%	1,880.3	1,192.0	Internal & External	Sweden
7	Abu Dhabi Investment Authority	2,016.1	0.3%	-0.06%	2,664.7	2,036.1	Internal & External	UAE
8	Libyan Investment Authority	1,511.2	0.2%	0.00%	1,588.1	1,199.3	Internal & External	Libya
9	Saudi Arabian Monetary Authority	502.7	0.1%	0.02%	391.5	281.6	Internal & External	Saudi Arabia
10	Brunei Investment Agency	39.5	0.0%	-0.00%	45.9	26.9	Internal & External	Brunei
	Total	56,553.5 7.1% -0.62% 65,056.5 41,683.4 Source: S&P Global Marke				Global Market Intelligence		

- Overall, the top 10 SWFs invested in the DAX held a relatively stable investment, but reversed trends seen in 2020 and had an overall decrease of 0.62pp mainly drive by Norges. The buying was predominantly driven by Qatar and the Swedish.
- Norges continues to hold the title of the largest invested SWF but reversed sentiment on the DAX and were bearish in 2021 (-0.4pp), accounting for almost 50.9% of
 DAX investments made by the ten largest SWFs. Along with the previously mentioned increased importance of ESG investing, it is important to know that Norges places
 great value and focus on ESG and Corporate Governance.
- Nicolai Tangen, CEO of Norges, stated to Norwegian parliament that with current geopolitical challenges the SWF have a, "We have a rocky ride ahead".

Focus: Top 25 Investment Funds and Managers of the DAX

Rank Fund Name	Investor name	DAX Value in \$M	% Share DAX	% Share Chang	e DAX Value in \$M	Number of DAX	Orientation	n Type	Country
Rank Fund Name	investor name	Dec-21 *	Insti.	(pp)	Dec-20 *	Equities	Orientation	туре	Country
1 The Government Pension Fund - Global	Norges Bank Investment Management (Norway)	31,976.8	4.0%	0.2%	32,365.7	33	Active & Passive	Pension	Norway
2 Vanguard Total International Stock Index Fund	The Vanguard Group, Inc.	15,453.5	1.9%	0.1%	15,585.9	40	Passive	ETF	USA
3 American Funds EuroPacific Growth Fund	Capital World Investors (U.S.)	9,598.2	1.2%	0.3%	7,544.4	18	Active	Mutual Fund	USA
4 Vanguard Developed Markets Index Fund	The Vanguard Group, Inc.	8,656.1	1.1%	0.1%	8,113.7	40	Passive	ETF	USA
5 iShares Core MSCI EAFE ETF	BlackRock Fund Advisors	5,753.8	0.7%	0.0%	5,995.6	40	Passive	ETF	USA
6 iShares Core DAX UCITS ETF (DE)	BlackRock Asset Management (Deutschland) AG	5,474.5	0.7%	-0.3%	8,387.1	40	Passive	ETF	Germany
7 Oakmark International Fund	Harris Associates, L.P.	4,639.6	0.6%	-0.1%	5,991.7	9	Active	Mutual Fund	USA
8 Stichting Pensioenfonds ABP (Global Equity Portfolio)	APG Asset Management N.V.	4,594.3	0.6%	0.0%	4,837.6	32	Active	Pension	Netherland
9 DekaFonds CF	Deka Investment GmbH	4,532.1	0.6%	0.1%	3,987.1	35	Active	Mutual Fund	Germany
10 Canada Pension Plan	CPP Investment Board	4,509.9	0.6%	0.3%	2,151.1	24	Active	Pension	Canada
11 California Public Employees' Retirement System	California Public Employees Retirement System	4,270.4	0.5%	0.0%	4,114.9	37	Active & Passive	Pension	USA
12 iShares Trust - MSCI EAFE ETF	BlackRock Fund Advisors	3,588.0	0.5%	-0.1%	4,362.3	40	Passive	ETF	USA
13 Xtrackers DAX UCITS ETF	DWS Investment GmbH	3,583.9	0.5%	-0.1%	4,797.9	40	Passive	ETF	Germany
14 CREF Stock Account	TIAA-CREF Investment Management, LLC	3,446.7	0.4%	0.2%	1,930.1	40	Passive	ETF	USA
15 Capital World Growth and Income Fund	Capital World Investors (U.S.)	3,353.6	0.4%	0.2%	1,819.8	11	Active	Mutual Fund	USA
16 DWS Aktien Strategie Deutschland	DWS Investment GmbH	3,342.3	0.4%	0.1%	2,754.2	27	Active	Mutual Fund	Germany
17 Legal & General Pension PMC Europe(Ex UK) Index	Legal & General Investment Management, LTD	3,086.6	0.4%	0.4%	20.4	38	Passive	ETF	UK
18 Fidelity International Index Fund	Geode Capital Management, LLC	2,905.7	0.4%	0.1%	2,515.7	40	Passive	ETF	USA
19 DWS Deutschland	DWS Investment GmbH	2,869.0	0.4%	-0.1%	3,825.8	31	Active	Mutual Fund	Germany
20 Vanguard International Growth Fund (U.S.)	Baillie Gifford & Company Schroder IM UK	2,816.0	0.4%	0.0%	2,774.4	7	Active	Mutual Fund	USA/UK
21 DWS ESG Investa	DWS Investment GmbH	2,770.8	0.3%	-0.1%	3,390.6	33	Active	Mutual Fund	Germany
22 Vanguard European Stock Index Fund	The Vanguard Group, Inc.	2,655.6	0.3%	0.1%	2,263.7	40	Passive	ETF	USA
23 American Funds New Perspective Fund	Capital World Investors (U.S.)	2,492.5	0.3%	0.2%	1,360.7	8	Active	Mutual Fund	USA
24 UniFonds	Union Investment Privatfonds GmbH	2,337.4	0.3%	0.1%	1,277.5	27	Active	Mutual Fund	Germany
25 Vanguard FTSE All-World Ex-US Index Fund	The Vanguard Group, Inc.	2,326.5	0.3%	0.0%	2,312.7	40	Passive	ETF	USA
		141,033.7	17.8%	1.8%	134,480.5				

The Capital EuroPacific Growth fund notably shifts to be the 3rd largest fund invested in the DAX (+0.3pp) after being the 5th largest in 2020.

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The table shows the largest invested funds in the DAX according to recent public information. Hence, there may be possible holdings discrepancies when compared to other slides in this study.

Focus: Top Roadshow Destinations in the DAX

City	Т	otal Equity Assets in \$M	DAX Value in \$M Dec-21	% Share DAX Insti.	% Share Change (pp)	DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	# Firms
London		2,958,205.9	94,126.9	11.9%	-0.2%	100,976.6	69,874.7	267
Frankfurt am Main		419,033.1	63,953.1	8.1%	-0.2%	69,215.4	52,719.8	58
Paris		635,523.5	52,742.4	6.6%	0.1%	54,745.2	45,737.7	179
New York, NY		4,357,213.1	32,465.9	4.1%	-0.1%	35,562.1	21,743.1	190
Oslo		1,017,690.1	30,405.7	3.8%	-0.4%	35,669.4	23,972.2	19
Boston, MA		3,068,552.5	30,349.8	3.8%	0.2%	30,299.4	21,669.9	47
Los Angeles, CA		1,575,856.7	25,298.4	3.2%	0.2%	25,373.3	15,106.6	24
Zürich		568,468.8	20,073.4	2.5%	0.1%	20,238.6	12,363.4	77
Edinburgh		540,323.6	16,876.1	2.1%	0.1%	16,802.4	7,941.8	19
Toronto, ON		1,061,740.1	13,783.5	1.7%	0.2%	12,788.8	7,621.9	53
Chicago, IL		566,740.5	13,375.7	1.7%	-0.2%	15,949.8	10,610.1	40
Brussels		123,357.2	9,266.8	1.2%	-0.1%	10,879.2	7,773.5	18
Baltimore, MD		1,098,074.4	8,951.7	1.1%	0.6%	4,395.7	2,202.7	6
Stockholm		552,200.9	7,342.3	0.9%	0.1%	6,867.0	4,724.4	43
Tokyo		1,316,888.8	6,368.7	0.8%	-0.0%	6,924.2	4,921.2	47
	Total	19,859,869.3	425,380.2	53.6%	0.4%	446,687.2	308,983.1	1,087

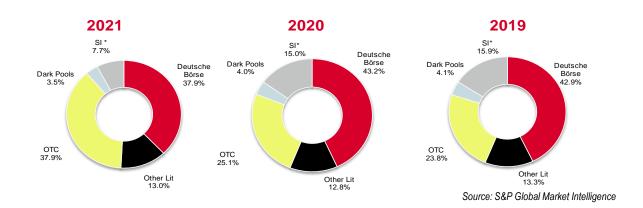
Source: S&P Global Market Intelligence

City	Т	otal Equity Assets in \$M	DAX Value in \$M Dec-21	% Share DAX Insti.	% Share Change (pp)	DAX Value in \$M Dec-20	DAX Value in \$M Dec-19	# Firms
London		2,958,205.9	94,126.9	11.9%	-0.2%	100,976.6	69,874.7	267
Paris		635,523.5	52,742.4	6.6%	0.1%	54,745.2	45,737.7	179
New York, NY		4,357,213.1	32,465.9	4.1%	-0.1%	35,562.1	21,743.1	190
Madrid		91,340.0	3,799.8	0.5%	0.0%	3,757.2	2,777.5	80
Zürich		568,468.8	20,073.4	2.5%	0.1%	20,238.6	12,363.4	77
Frankfurt am Main		419,033.1	63,953.1	8.1%	-0.2%	69,215.4	52,719.8	58
Geneva		50,096.4	2,637.7	0.3%	-0.1%	3,702.0	5,959.7	51
Toronto, ON		1,061,740.1	13,783.5	1.7%	0.2%	12,788.8	7,621.9	53
Tokyo		1,316,888.8	6,368.7	0.8%	-0.0%	6,924.2	4,921.2	47
Stockholm		552,200.9	7,342.3	0.9%	0.1%	6,867.0	4,724.4	43
Boston, MA		3,068,552.5	30,349.8	3.8%	0.2%	30,299.4	21,669.9	47
Chicago, IL		566,740.5	13,375.7	1.7%	-0.2%	15,949.8	10,610.1	40
Hong Kong		276,689.6	4,679.2	0.6%	0.2%	3,561.4	1,446.7	44
Luxembourg		52,529.8	1,956.5	0.2%	0.0%	2,056.9	947.4	55
Singapore		202,992.1	4,075.2	0.5%	-0.1%	4,895.8	2,086.3	38
Т	otal	16,178,215.1	351,729.9	44.3%	0.1%	371,540.6	265,203.8	1,269

- London (-0.2pp) remains the top roadshow destination for yet another period. This relates to both invested capital in the DAX as well as the number of investment firms that currently hold shares of members listed on the DAX.
- Overall, the top roadshow destinations remained relatively stable. Baltimore enters as a top focus due to the largest buyer of the DAX being T. Rowe who are based in Baltimore.
- Oslo (-0.4pp) was the city that accounted for the biggest outflows over the period due to the selling by Norges.

Source: S&P Global Market Intelligence

Focus: Trading Venues of German Shares



- Deutsche Börse remains the most important trading venue for the DAX. The official stock exchange accounts for more than 38% of all DAX trades, down -5.3pp compared to 2020.
- Over-The-Counter (OTC) trades gained market share in 2021 (+12.8pp), with more then a third of all DAX trades being executed via unofficial venues.
- Visible trades in Dark Pools reduced to 3.5% of all DAX trades while electronic, automated trading (Systematic Internalisers) saw declining numbers.

			2021			
Platform	Turnover (in M EUR)	Volume	# Transactions	Average Value	Average Volume	Proportion
Deutsche Börse	880,830	16,738	41,370,000	21,292	405	37.9%
Other Lit	315,380	5,735	69,250,000	4,554	83	13.0%
OTC	936,560	16,774	4,300,000	217,805	3,901	37.9%
Dark Pools	90,110	1,561	7,150,000	12,603	218	3.5%
SI*	187,210	3,397	8,570,000	21,845	396	7.7%
Total		44,205.1				

			2019			
Platform	Turnover (in M EUR)	Volume	# Transactions	Average Value	Average Volume	Proportion
Deutsche Börse	1,057,540	25,676	58,880,000	17,961	436	43.2%
Other Lit	321,420	7,594	68,800,000	4,672	110	12.8%
OTC	652,020	14,901	2,830,000	230,396	5,265	25.1%
Dark Pools	109,100	2,347	6,430,000	16,967	365	4.0%
SI*	410,170	8,895	9,830,000	41,726	905	15.0%
Total		59,413.2				

2018						
Platform	Turnover (in M EUR)	Volume	# Transactions	Average Value	Average Volume	Proportion
Deutsche Börse	592,220	21,697	38,150,000	15,523	569	42.9%
Other Lit	286,260	6,749	47,120,000	6,075	143	13.3%
OTC	544,170	12,058	1,800,000	302,317	6,699	23.8%
Dark Pools	92,820	2,077	5,060,000	18,344	411	4.1%
SI*	361,790	8,030	7,000,000	51,684	1,147	15.9%
Total		50,611.0				

Source: S&P Global Market Intelligence

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