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ETFs: Gloomy wake-up call from China

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Abstract

The strong concentration of a small number of shares in the indices on passive investments. Is this a threat?

Zusammenfassung

Die starke Konzentration weniger Aktien in den Indizes strahlt auf passive Investments aus. Drohen von dort deshalb Gefahren?

The wake-up call came from China and is likely to continue to reverberate. When the global public became aware in January that the Chinese start-up DeepSeek could potentially become a real competitor to the language models of US tech companies paired with artificial intelligence, the stock market plummeted. In particular, chip companies dependent on investments in AI fell by double-digit percentages within hours.

1. one share spoils the index performance

The 17 per cent slump in the associated Nvidia share on 27 January alone was responsible for the evaporation of around 1.2 per cent of the capitalisation of the S&P 500 index, which comprises a good five hundred shares in total.

The S&P 500 is an index weighted according to the market value of the free float of its members and is the world's most closely watched and most respected stock market barometer. The S&P 500 lost 1.5 percent during the trading session on 27 January - four-fifths of the decline was attributable to Nvidia. [1]

The same fate as the S&P 500 befell the numerous exchange-traded funds (ETFs) that track the index.[2] Due to the strong concentration of a few, highly capitalised US shares in the most important indices, there were also setbacks for such supposedly broadly diversified investments.

The movements in ETFs that track clearly defined themes were even more noticeable. The "Strive U.S. Semiconductor ETF", for example, lost up to 11.4 per cent in value over the course of the day. Nvidia accounted for more than a fifth of the weighting here.

In contrast, Nvidia's impact on the equally weighted S&P 500, which is not weighted according to the capital value of its members like the usual S&P 500 index, was negligible. As the share weighs 0.2 per cent like all other members, Nvidia's 17 per cent slump in the index had a negative impact of just 0.034 per cent. The equally weighted index even made homeopathic gains on the day. A total of 350 shares in the S&P 500 were in positive territory at the end of the trading session - but investors in the cap-weighted ETFs, which ended the day in negative territory, had little to gain from this.

2. high concentration of fewer shares than risk?

This observation is an indication that the high concentration of a small number of shares in major indices such as the S&P 500, the Nasdaq 100 or the MSCI World, which is reflected (almost) 1:1 in products designed accordingly, could be a risk. ETF sales are also likely to have contributed to the price losses of Nvidia & Co.

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[1] As a general rule, historical performance is not a reliable indicator of future performance.

[2] Some ETFs are not backed physically, i.e. with real shares, for example, but are reproduced synthetically. However, the latter plays a rather minor role. Earlier studies show that around four per cent of ETFs were synthesised. In addition, so-called smart beta ETFs play a greater role, particularly in the USA. These modify the weights of indices, for example. In the USA, they account for around of all ETFs, while in Europe they play a much smaller role with a share of around 8%.

Equity ETFs now play an important role on the stock markets. But how important are they for the heavyweights? And could a reversal of the trend of steady inflows into ETFs or a sudden sell-off mean a disproportionate risk of a setback for the heavyweights from the technology sector and thus for the markets in general?

The Nasdaq 100 is a good case study for approaching the answer to this question. This is because the concentration of the seven heaviest stocks, referred to below as the Top7, is the highest in the 101-stock index of the technology-driven US stock exchange.[3] At the time of the survey, their index weighting in the Nasdaq 100 was a good 45 per cent. They accounted for around 32 per cent of the S&P 500 and around 24 per cent of the MSCI World. A comparison of the concentration of the Top7 and the other Nasdaq 100 stocks and their role in ETFs should allow conclusions to be drawn as to whether risks exist. The focus is on US-traded ETFs, which make up the bulk of the overall market.

3. ETFs with record inflows and record assets

The amount of ETF assets under management worldwide varies depending on the source. Data provider pputs the figure at USD 14.85 trillion at the end of 2024, with net inflows totalling USD 1.88 trillion last year - a record. The fund analysts at Morningstar calculated 13.8 trillion dollars in ETF assets.

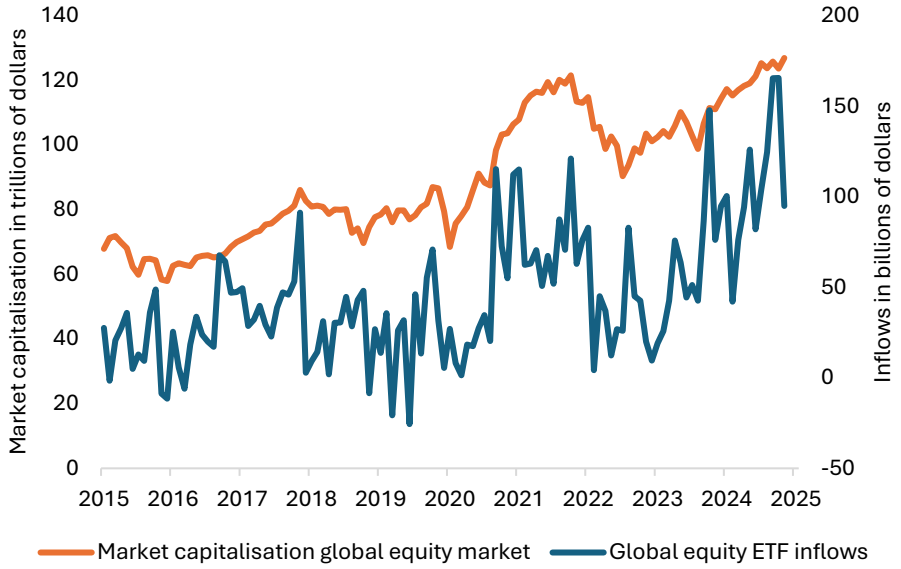
According to Lipperalpha, equity ETFs accounted for around USD 10.7 trillion as at 30 September 2024. According to Bloomberg, USD 455 billion had been added by the end of the year and a further USD 95 billion by the end of January 2025. The assets of the 7,174 equity ETFs listed by Bloomberg totalled USD 11.3 trillion, while ETF data specialist Trackinsight calculated USD 11.4 trillion at the end of January. The volume fluctuates with every up and down on the stock market and also depends on whether investors invest fresh capital there or, on the contrary, sell off ETF investments.

ETF investors are more erratic than often assumed: this can be seen from the short time their investments remain in the respective portfolios. On average, private investors have sold a fifth of each ETF investment after just one week, and a third after one quarter. Other investors have even sold a good three quarters of their investments after three months. This is shown by a study on investor behaviour in the USA published in October 2024.

Irrespective of the high turnover rate, there have been regular inflows into equity ETFs in recent years, with investors only withdrawing capital on balance in a few months. This has supported the general upward trend on the stock markets (Figure 1).

[3] Top7 = Apple, Microsoft, Nvidia, Amazon, Alphabet (Class A and C), Broadcom, Meta. Tesla shares are usually counted among the so-called Mag7 (Magnificent7), but they were outperformed by Broadcom in terms of free float and thus in terms of index weighting at the time of the survey.

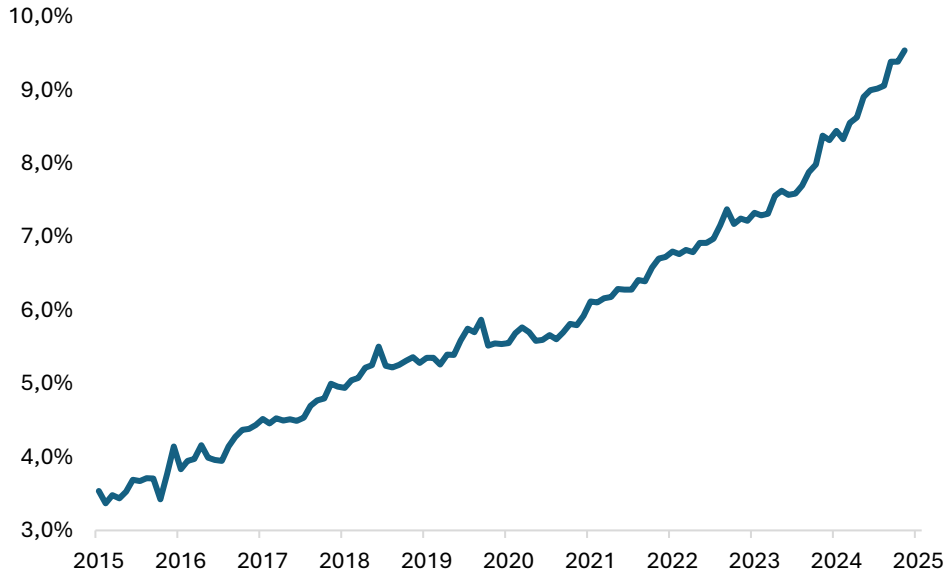
Figure 1: Global inflows into equity ETFs and world equity market capitalisation



monthly as at 31 January 2025, source: Bloomberg, Flossbach von Storch Research Institute, as at February 2025. ***Historical performance is not a reliable indicator of future performance.***

Although exchange-traded products (ETPs) such as ETFs in particular have experienced rapid growth, they do not play an all-important role. However, their influence on the markets is steadily increasing Their share of global equity market capitalisation has risen from 3.5 per cent in 2015 to 9.5 per cent in January 2025 (Figure 2).

Figure 2: Share of global equity ETPs in global equity market capitalisation



monthly as at 31 January 2025, ETPs = Exchange Traded Products, including ETFs, ETNs, ETCs, source: Bloomberg, Flossbach von Storch Research Institute, as at February 2025.

All passive investments in equities had overtaken for the first time by actively managed equity investments the end of 2023. In the US, ETFs accounted for a third of the fund industry's total assets at the end of 2024.

4. Importance of ETFs for the heavyweights

According to etf.com, Apple, the most valuable company on the stock market at the time of the survey, is held by at least 487 US-traded ETFs - and therefore by just under seven per cent of all global equity ETFs recorded by Bloomberg. These primarily include traditional ETFs that track the major indices 1:1. In addition, there are thematic ETFs and leveraged EFTs, which can double the performance of the underlying shares, for example, or reduce it to a greater extent if prices move in the opposite direction. Of the other top7, Nvidia is represented in 530, Microsoft in 538, Amazon in 456, Alphabet in 444, Meta in 461 and Broadcom in 428 US-traded ETFs.

Significant shares of these top7 heavyweights are held in the five largest ETFs. Three of them track the S&P 500, one the entire US equity market and another the Nasdaq 100 index. In mid-February 2025, the five largest ETFs were worth just under USD 2.7 trillion - representing just under a fifth of all equity ETFs. A good third of the assets of the five ETFs in dollars were attributable to the top7: exactly 967 billion dollars. This in turn corresponds to five per cent of the free float market capitalisation of the Top7.

The five largest ETFs hold more shares in the Top7 than all other ETFs combined. The five largest index funds hold between 45.2 and 66.2 (average 56.4) per cent of the shares of the top7 stocks that are held in ETFs (table).

Table: Positions of the five largest ETFs in all shares held in ETFs of the Top7

Share	Share of the respective equity position of the largest 5 ETFs in all ETFs
Apple Inc	56,8%
Microsoft Corp	54,6%
NVIDIA Corp	53,3%
Amazon.com Inc	59,8%
Alphabet (Class A and C)	59,0%
Broadcom Inc	45,2%
Meta Platforms Inc	66,2%

US-traded ETFs in each case, as at 20 February 2025, source: Bloomberg, Flossbach von Storch Research Institute, as at: February 2025.

5. what would be the impact of a sell-off of ETFs?

A comparison with the other Nasdaq 100 stocks should be helpful in determining the extent to which these heavyweights could be disproportionately affected by potentially stronger ETF sell-offs. Among the broad equity indices, the Nasdaq 100 is the index with the highest concentration of heavyweights: together they accounted for a good 45 per cent at the time of the survey.

The thesis: If shares of the heavyweights were to play a predominant role in ETFs, ETF sales could lead to disproportionate discounts in the top7 stocks and thus drag down cap-weighted indices such as the S&P 500 or the Nasdaq 100. [4]

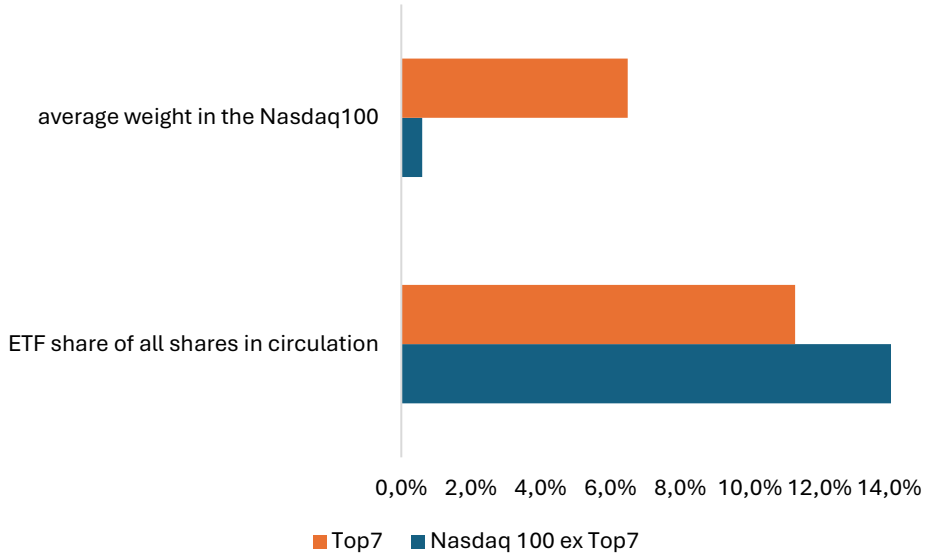
The first result is that more shares of the Top7 are held in ETFs than their weighting in the Nasdaq 100. ETFs hold an average of 11.3 per cent of the free float of the Top7, while their average weighting in the Nasdaq 100 is only 6.5 per cent.

Viewed in isolation, this points to a risk in ETF sales. If there were a wave of selling in equity ETFs, then the top7 could be disproportionately affected according to this finding. It is possible that more of their shares would be dumped on the market than other securities. This in turn is likely to depress their prices disproportionately, which would have a negative impact on the broad, capital-weighted indices due to their high concentration.

A comparison with the other Nasdaq 100 stocks is necessary to get even closer to this. These are weighted at an average of 0.6 per cent in the index. However, ETFs not only contain significantly more of their shares in circulation than their index weighting, but also more shares than the top7: on average, 14.5 per cent of their shares in circulation are part of an ETF - i.e. around one in seven shares (Figure 3).

[4] The Nasdaq 100 was adjusted for six foreign stocks included in the index, as these are regularly not represented there with real shares, but mostly only with special share certificates (American Depository Receipts/ADRs), which are held disproportionately in ETFs. This leaves 87 Nasdaq 100 stocks outside the top7. The Nasdaq 100 comprises 101 shares from 100 companies. Alphabet (Google) is represented by two classes of shares (Class A and Class C). All data was totalled here.

Figure 3: Average weights in the Nasdaq 100 and ETF shares of the top7 and other Nasdaq 100 stocks



Proportion of all shares in ETFs = proportion of all shares in free float in ETFs, Nasdaq 100 ex Top7 = Nasdaq 100 ex Top7 ex foreign index members (including ADRs) = 87 shares. Top7 at the time of the survey = Apple, Microsoft, Nvidia, Amazon, Alphabet (Class A and C), Broadcom, Meta, Source: Bloomberg, Flossbach von Storch Research Institute, as at February 2025.

This means that more of the top7 free float stocks are in ETFs (11.3 per cent) than their weighting in the Nasdaq 100 (6.5 per cent). For the other Nasdaq 100 stocks, however, the discrepancy is much greater: 14.5 per cent to 0.6 per cent.

The thesis that the top7 would be disproportionately affected by ETF sell-offs therefore cannot be upheld on this basis. Contrary to expectations, this applies more to the other Nasdaq 100 stocks, as ETFs play a more important role for them, and they would therefore be hit harder by sell-offs.

6. How easy is the sale?

However, in order to be able to make a final judgement, another important component must be taken into account: what stock market experts call liquidity. So how easy is it to sell anything at all?

For example, it is much easier to sell a gold coin weighing one ounce (31.1 grams) than a 12.5-kilo bar. Therefore, one gram of gold bullion costs less than one gram of a troy ounce. The bar price has a liquidity discount.

In terms of the interaction between the equity ETFs and the equity market, this means: How receptive is the market to an individual share or a basket of shares? Because if there is a wave of ETF sales, the ETF providers must also sell the shares they contain. Conclusions can be drawn from the trading volume as to how difficult this would be.

Apple, for example, recently had a good 14.7 billion shares in circulation (free float). The average daily trading volume over the past twelve months (as at 31 January) was just

under 56 million shares. It therefore takes 263 trading days for all Apple shares to be completely turned over in arithmetical terms.

The average daily trading volume in relation to the number of shares held by the ETFs can be seen as an indication of how long it would take to sell a complete holding of shares from the ETFs.

Apple holds 1.4 billion shares in (US-traded) ETFs. With a daily trading volume of 56 million Apple shares, it would take 25 days for all ETF holdings of Apple shares to be sold.

The result for all stocks as a whole: if, in a theoretical assumption, orders to sell were placed at once for all ETFs containing Nasdaq 100 stocks, then on average all of the top7 stocks would be sold after 16 trading days. For the other 87 stocks, it would take about 13 days. [5]

Surprisingly, ETF sales would hit the top7 stocks harder than the other Nasdaq 100 stocks, as their liquidity is lower. This assumes that the trading volumes shown in the past do not change. Looking at the past does not provide complete certainty, but it is at least a good indicator.

A closer look reveals differences between the Top7 and the other Nasdaq 100 stocks. For example, the average sell-off period from ETFs would be more than 25 days for a good 26 per cent of the non-Top7 stocks. This applies to one share in the Top7.

For 21 of the 87 non-top7 stocks, there is a very high proportion of their shares outstanding in ETFs - measured by their weighting in the Nasdaq 100 - with a long sell-off period (greater than 25 days in each case). This could be an increased risk for price formation in the event of a sell-off. This combination does not occur in the Top7.

Conclusion

US-traded ETFs hold significantly more shares in the top7 stocks than their index weighting in the Nasdaq 100, with the five largest ETFs holding significant shares. For the other Nasdaq stocks, ETFs even play an outstanding role compared to their weighting in the Nasdaq 100.

However, in the event of a massive sell-off of ETFs, the top7 would be hit harder on average than the other stocks in terms of trading volume over the past twelve months, as their liquidity is lower**.**

However, around a quarter of the non-top7 stocks are significantly less liquid than the average and the top7 in terms of index weight, the proportion of their shares in ETFs and their trading volume. This could depress them more than the market in the event of a sell-off of ETFs.

[5] based on the average moving 30-day trading volume from the end of January 2024 to the end of January 2025, adjusted for an extreme value for the non-top7

As experience shows that liquidity on the markets is always lacking when it is needed, the importance of ETFs for individual stocks could provide insights into their weighting in an actively managed portfolio so as to avoid being caught in a liquidity trap in case of doubt. With the increasing growth of the ETF industry, such an observation becomes more important.

A strongly above-average risk for the top7 shares and thus for the markets in general cannot be identified from the perspective of ETFs.

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