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Equities: the new tech bubble?

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Abstract

The bull market of the heavyweights on the stock exchange is fuelling fears of a crash like at the turn of the millennium. However, there are structural differences to back then.

Zusammenfassung

Die Hausse der Schwergewichte an der Börse befeuert Befürchtungen vor einem Crash wie zur Jahrtausendwende. Dabei gibt es strukturelle Unterschiede zu damals.



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In the nineties of the
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The most exciting news from a newcomer to the Frankfurt Stock Exchange fluttered across the tickers at the end of August: Circus Group announced that it had signed a preliminary agreement with Lukas Podolski for the planned introduction of 2,400 autonomous food robots in Germany and Europe from next year.

As one of the most prominent German footballers of the past 20 years, almost everyone should be familiar with "Prinz Poldi". But hardly anyone is likely to know Circus SE. Yet the group is one of the few fresh faces on the German trading floor this year. The Hamburg-based company sees itself as a "leading AI robotics company" and has been listed with shares since January 2024. A partnership with "Mangal x LP10", the kebab chain owned by ex-national player Podolski, is now in the pipeline.

Circus went public as a so-called *direct listing* and is therefore not a genuine IPO (*Initial Public Offering*) where investors could have subscribed for shares. There have only been three of these in Frankfurt this year¹: the perfumery chain Douglas, the defence manufacturer Renk and the media group Springer Nature; *old economy* companies and also revenants - Douglas and Renk have been listed on the stock exchange for a long time in the past. What all three have in common is that they did not raise expansion capital, but money for their main shareholders from the private equity sector and to pay off debts.

In 2024, Germany will experience another drought year for IPOs, which will only have a homeopathic effect on the share price. It will even be shorter. This is because the few newcomers have so far been offset by 20 *delistings*.² The situation is not much different on the world's leading capital market, the USA, where IPOs are also expected to have a poor year despite record share prices.³

This has implications for investors, especially in light of the discussion about a possible bubble in US technology stocks, which is said to be similar to the one at the turn of the millennium. This overlooks the fact that there are significant structural differences to the bull market of a quarter of a century ago.

What these look like and what conclusions equity investors can draw from them will be discussed below.

¹ Pentixapharm Holding, a spin-off of Eckert & Ziegler, which is already listed on the stock exchange, is added to this.

² https://www.datawrapper.de/_/PF5iQ/

³ <https://news.crunchbase.com/public/ipo-market-activity-2024-valuation-reset/>

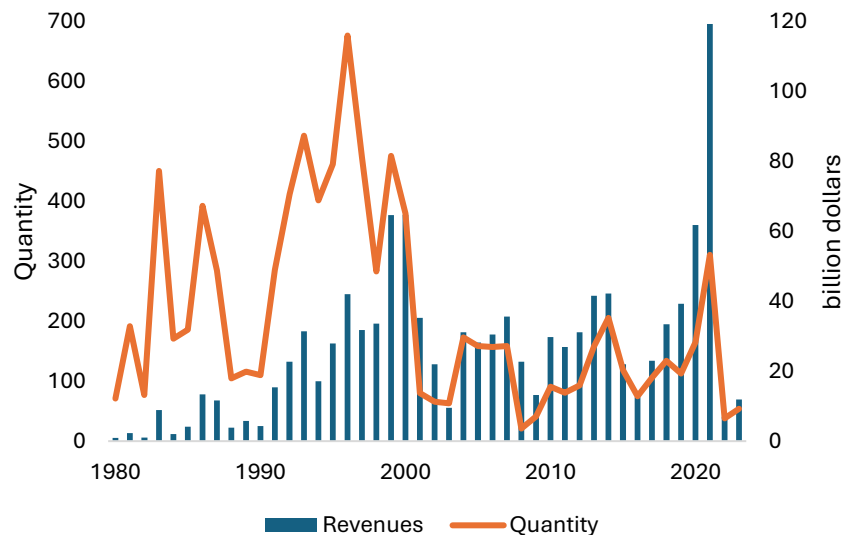


1. Drought in new issues

An initial finding: long gone are the days when masses of companies stormed onto the trading floor and a few departures did not bother. In Germany, for example, the Frankfurt Stock Exchange counted 396 new issues between 1998 and 2000 alone, according to data provider Statista. Since then, until this autumn, there have only been a total of 215 over almost 24 years.

The situation is no different in the USA: both the number and the amount of capital raised are significantly higher than in Germany. However, even the praised stock market country is a far cry from previous highs. Even in the exceptional year 2021, the number of IPOs was less than half of the top year 1996 (Figure 1).

Figure 1: Number of US IPOs and revenues*



*up to and including 2023, data from IPOs with an offer price of at least five dollars (on Amex, NYSE, Nasdaq), excluding ADRs, Spacs, closed-end funds, REITs, among others. Source: Warrington College of Business, Ritter, IPO Data, Flossbach von Storch Research Institute, as of October 2024.

In 2023, only 54 IPOs took place, even in the USA, the home of equities. This does not include non-genuine IPOs of closed-end funds and so-called *Spacs*, for example. These *special purpose acquisition companies* are shell companies that finance themselves via an IPO before starting their actual business.

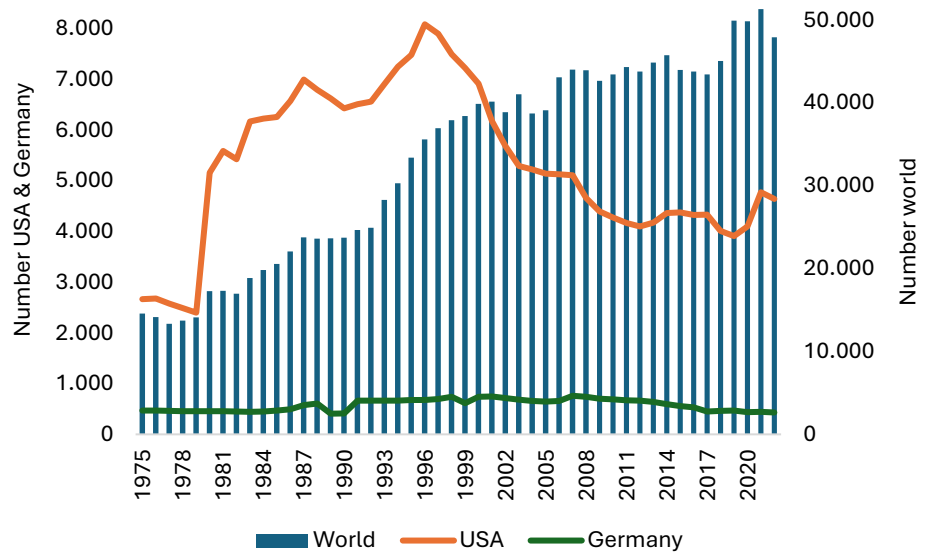
2. Stock selection strongly reduced

Spacs experienced a boom in the coronavirus era and are responsible for the fact that there are now more companies listed in the USA (number: 4,642) than at the low point in 2019 (number: 3,910). However, the high was a long time ago. In 1996, the US stock exchange had 8,090 listed companies. In



Germany, the number of listed companies fell from a peak of 761 at the beginning of the financial crisis in 2007 to 429 (2022). Globally, however, the number continued to grow into 2021 (Figure 2).

Figure 2: Number of listed companies in the USA, Germany and worldwide



Source: World Bank, Flossbach von Storch Research Institute, as at: October 2024.

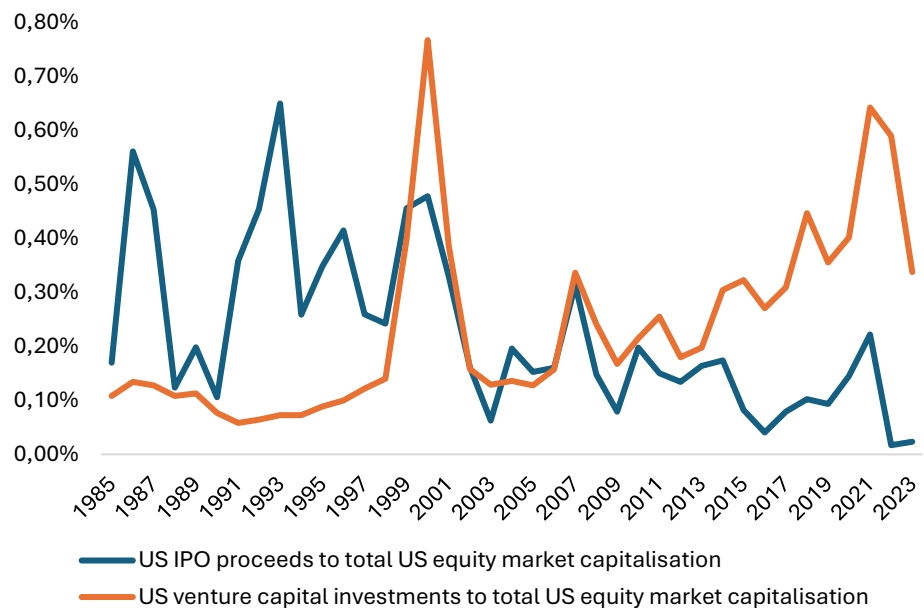
3. Venture capital dominates

Companies are increasingly raising less capital on the world's leading stock exchange, the US (secondary market), than on the primary market: for young companies, this is the market for *venture capital*. This has been dominant year after year since 2007.

Previously, IPOs regularly trumped venture capital as a source of financing - with the exception of the tech crash that began in 2000 (Figure 3).



Figure 3: US IPO proceeds and US venture capital investments compared to total US equity market capitalisation



Source: NVCA, Federal Reserve of St. Louis, Bloomberg, Warrington College of Business, Ritter, Flossbach von Storch Research Institute, as at October 2024.

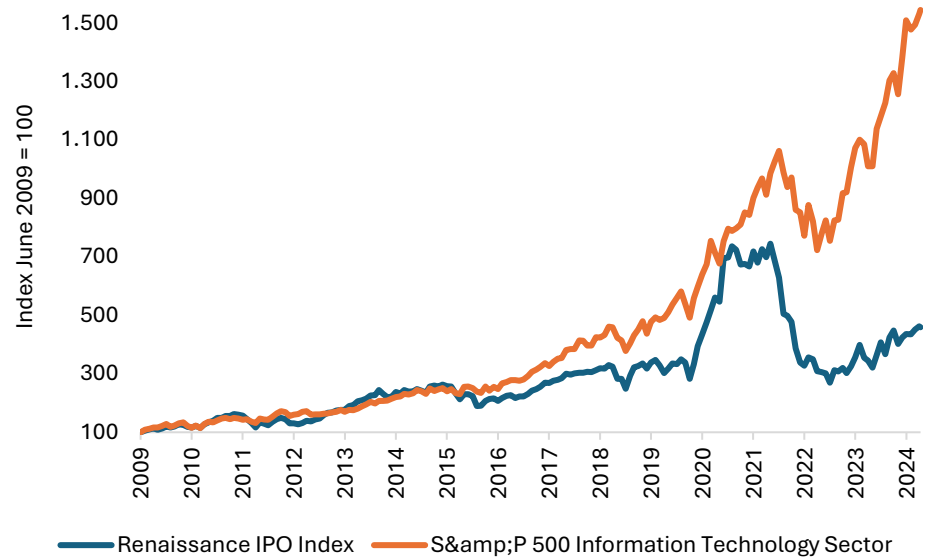
While more than half of all venture capital-financed US start-ups went public on average in the 1990s, this has regularly been the case for less than a fifth since the 2000s crash in technology shares. Since then, the favoured *exit* by far has been a sale or merger, according to data from the US National Venture Capital Association (NVCA).

In contrast to the stock market, venture capital is an elitist event. Access is difficult, involves above-average risk, comes with high fees and is only possible if you have the necessary millions in your account. With smaller sums, it is unlikely that private investors will be able to access the really interesting start-up financing. And many institutional investors do not take part either, either because it does not suit their business model or for regulatory reasons.

This leaves the stock market itself as the investment focus. This is also at the forefront of listed index funds (ETFs), many of which automatically follow the market and its (heavy) weightings. The combination of steadily growing ETF inflows and a lack of access to high-tech start-ups is driving established US technology stocks, while new issues are falling sharply in terms of performance (Figure 4).



Figure 4: Indices of US new equity issues and US tech stocks*



*Renaissance IPO Index and S&P 500 Information Technology Sector, indexed, price indices, monthly, source: Bloomberg, Flossbach von Storch Research Institute, as at October 2024. **Historical performance is not a reliable indicator of future performance.**

This suggests that investors find fewer interesting business models among the newcomers to the stock market than in well-known technology companies with a more comprehensible and transparent *track record*.

4. Return potential of newcomers limited

Although there were 165 IPOs in 2020 and even more than 300 in the boom year of 2021, fewer high-tech companies caused a stir than a delivery service such as DoorDash or the Airbnb rental platform.

Snowflake was particularly noteworthy from the technology sector in 2020. Founded in 2012, the provider of cloud data solutions went public with a market capitalisation of USD 33.2 billion. At the time, that would easily have been enough to place it in the top half of the German stock index (Dax).

The electric vehicle company Rivian, which was already twelve years old at the time, achieved double that, a valuation of 66.5 billion, in November 2021. Three years ago, Rivian was still generating hardly any revenue despite a certain level of maturity, but was on a par with BMW or Mercedes-Benz in terms of market capitalisation. The price was correspondingly high.



When it comes to prominent IPOs, some people may think of the streaming service Netflix with its supposedly rather recent success story: the Californian company went public back in 2002, less than five years after it was founded. At the time, Netflix had just outgrown the early stages of venture capital financing and found what it was looking for on the stock market in its search for expansion capital.

Netflix is a typical example of the enormous growth in value that speculative investors can achieve with young companies: Revenues at IPO were 85 million dollars, the stock market value was only 300 million dollars, today the market capitalisation is around 1000 times that. The same applies here as for all the companies mentioned: Past performance says nothing about the future prospects of the respective share.

In retrospect, WhatsApp, YouTube and LinkedIn could probably have been just as successful as Netflix - but they ended up in the business portfolios of Facebook (now Meta), Google (now Alphabet) and Microsoft. YouTube cost Google 1.65 billion dollars. In view of the rapid growth of - revenue has increased by a factor of 40 from 2010 to the latest figure of 31.5 billion dollars (2023) - YouTube could currently be worth 100 billion dollars or more.

Logically, the parent company Alphabet benefits from this. At the time of its IPO around 20 years ago, its market capitalisation already stood at 23 billion dollars. Although investors have been able to turn 1,000 dollars into around 78,000 dollars at the first stock market prices, even such an exorbitantly good performance is comparatively weak compared to the share price performance of companies that went public in the last major tech boom and developed successfully.

A performance of more than 19,000 per cent, as Amazon has achieved since the first stock market prices after its IPO in mid-May 1997, is hardly conceivable for more mature companies that are already going public with market capitalisations in the double-digit billion range, or it could only occur in the event of an extreme fall in the value of the dollar. As with Alphabet, Amazon's past share price performance does not allow any conclusions to be drawn about its future performance.

Amazon was a *first mover* with its online book trade, albeit with uncertain prospects of success. And with a market value of 438 million dollars at the time of its IPO, Amazon was a lightweight even by the standards of the time. Meta (Facebook), for example, had a market capitalisation of around 104 billion dollars when it went public in May 2012. If Meta were to perform like Amazon, the network company would be worth almost 200 trillion dollars on the stock market in 2039. This is, of course, a purely theoretical projection.



What can be seen in prominent examples is also reflected in the average. IPO proceeds per newcomer have risen significantly: in 1996 they averaged 621 million dollars, in 2021 3.84 billion dollars. At the end of the first day on the stock exchange, newcomers were capitalised on the market with an average of just under 3.2 billion dollars in 1996 and 38.8 billion dollars in 2021, the only IPO boom year since 2000. This may also be due to inflated valuations, but is probably primarily due to the greater maturity of the companies.

5. Investments outside the stock market play an increasingly important role

Young companies sell for much less on the primary market. In 2023, according to the NVCA, there were 999 exits from US venture capital portfolios with a value of 61.5 billion dollars - an average of 61.56 million dollars per sale or merger. This is the lowest number and by far the lowest equivalent value in a decade.

Start-ups are therefore less and less likely to venture an exit via the stock market, but instead regularly remain in the portfolios of existing investors, where they are fed by the abundant venture capital available. At the end of 2023, uninvested US venture capital (*dry powder*) totalled a record high of almost 303 billion dollars.⁴

AI technologies are popular with investors. According to venture capital data specialist Preqin, venture capital investments in the technology sector have skyrocketed by almost 500 per cent since 2014, reaching a value of USD 1.7 trillion in December 2023. That was 64 per cent of total VC assets.

More mature companies, on the other hand, are moving into *private equity* portfolios. Preqin has recorded an almost doubling of the volume of *buy-outs* of technology companies over the past ten years.

Then there are the deep pockets of Alphabet, Apple, Meta and Microsoft, which are not included in these sums. The software giant founded by Bill Gates, for example, holds 49 per cent of OpenAI and has invested 13.75 billion dollars in the AI company.⁵

Although OpenAI has only recently become known to the general public with its ChatGPT, it was founded back in 2015. At 6.6 billion dollars, OpenAI has

⁴ https://files.pitchbook.com/website/files/pdf/Q4_2023_PitchBook-NVCA_Venture_Monitor.pdf

⁵ <https://www.wsj.com/tech/ai/the-14-billion-question-dividing-openai-and-microsoft-71cf7d37>



just raised almost 80 times the amount of capital in an investor round that Netflix, for example, received for its IPO.

The ChatGPT company is now valued at 157 billion dollars. If OpenAI were listed on the stock exchange at this value, the company would be one of the 80 heaviest stocks in the world right now.

At the time of its IPO, Amazon, founded by Jeff Bezos, was a start-up less than three years old with correspondingly high risks. If OpenAI were to go public today, the risk of bankruptcy would be more manageable than it was for Amazon, eBay or Yahoo, which had to compete with numerous competitors on the Internet and for the coveted stock market capital. However, a lot of the future is already priced into the OpenAI share price. This year, with a turnover of 3.7 billion dollars, losses of around 5.0 billion dollars are expected.⁶

Amazon, for its part, is currently supporting the start-up Perplexity AI together with chip manufacturer Nvidia. The estimated annual turnover of the AI company is currently around 50 million dollars. In financing talks, Perplexity wants to more than double its valuation to eight billion dollars and receive 500 million dollars in fresh capital.⁷ For comparison: the fashion retailer Zalando, a DAX-listed company, is currently also worth around eight billion dollars on the stock exchange.

Only rarely do tech companies resist the call of the top corporations and favour the stock market. Last summer, Alphabet wanted to buy the cybersecurity company Wiz for 23 billion dollars, which would have corresponded to more than 60 times the company's turnover. However, the start-up, which was founded in 2020, prefers an IPO.⁸

6. Concentration increases

Fewer new issues and a thinning share price due to strong takeover and merger activity logically lead to greater concentration on the stock market. The ten most heavily weighted shares on the US market currently account for a third of the entire US equity market (Figure 5).

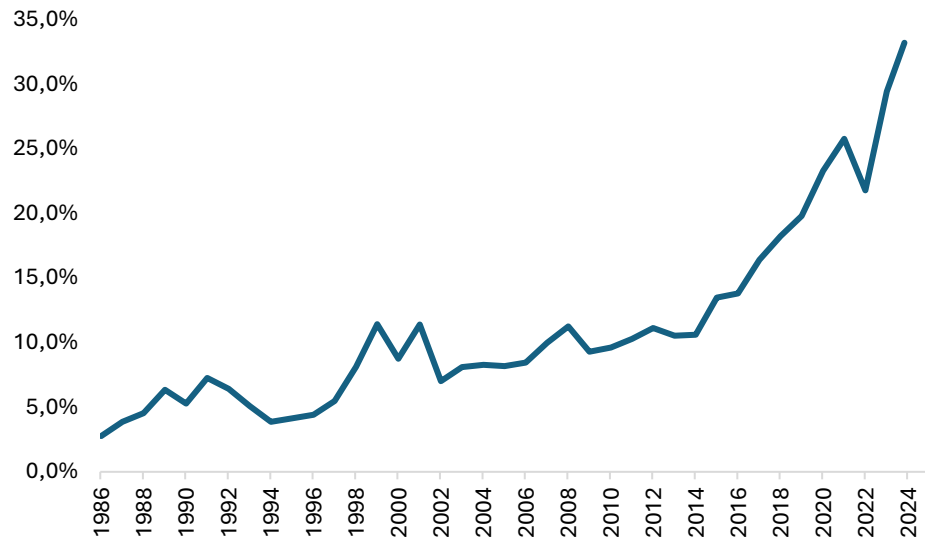
⁶ <https://www.cnn.com/2024/09/27/openai-sees-5-billion-loss-this-year-on-3point7-billion-in-revenue.html>

⁷ <https://www.reuters.com/technology/artificial-intelligence/perplexity-ai-funding-talks-more-than-double-valuation-8-blb-wsj-reports-2024-10-20/>

⁸ <https://www.handelsblatt.com/technik/it-internet/wiz-google-mutterkonzern-alphabet-scheitert-mit-rekorduebernahme/100054803.html>



Figure 5: Share of the ten heaviest US equities in the total capitalisation of the US equity market



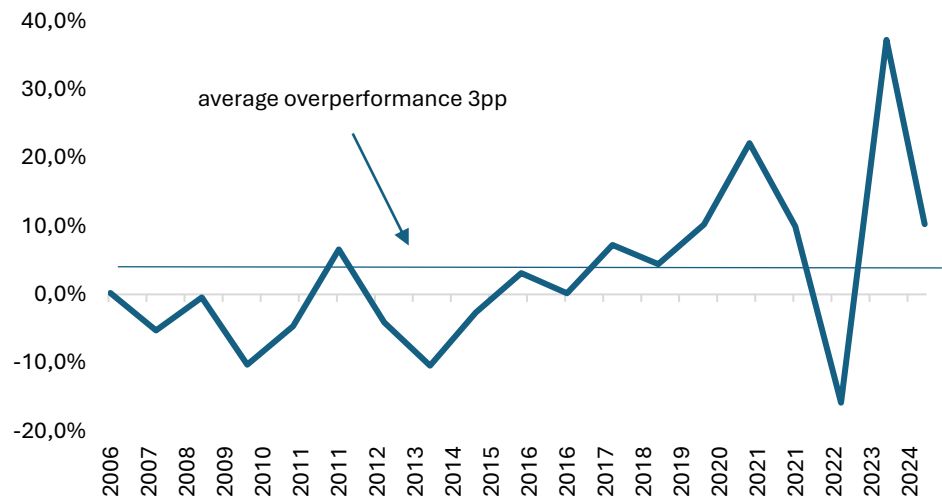
2024: as at 10 October, source: Federal Reserve of St. Louis, Bloomberg, Flossbach von Storch Research Institute, as at October 2024. **Historical performance is not a reliable indicator of future performance.**

Apple, Microsoft and Nvidia together currently account for around 60 per cent of the S&P 500 Information Technology Sector, which is of course an enormous concentration.

Since 2006, investors have achieved an average of three percentage points more per year with the top ten stocks from the S&P 500 than with the S&P 500 itself. This average outperformance is primarily attributable to the past few years. In the majority of years, the S&P 500 outperformed the Top Ten (Figure 6).



Figure 6: Relative performance of the S&P 500 TopTen to the S&P 500



2024: as at 10 October, price indices, source: Bloomberg, Flossbach von Storch Research Institute, as at October 2024. **Historical performance is not a reliable indicator of future performance.**

In the very weak stock market year 2022, investors would have had to endure a loss of a good 35 per cent at the end of the year with the top ten, and a much more manageable 19 per cent in the S&P 500 itself.

The strong price gains since the brief bear market in 2022 have now also lifted the world's heavyweights to unprecedented market capitalisations. The table is headed by five of the so-called Magnificent-7 (Table 1).



Table 1: Market capitalisations of the ten heaviest stocks in the world at the bull market peak in 2000 and today

heaviest stocks currently	Market capitalisation billions of dollars in March 2000	Stock market value billions of dollars in October 2024	heaviest stocks 2000	Market capitalisation billions of dollars in March 2000	Stock market value billions of dollars in October 2024
Apple	22	3.460	Microsoft	533	3.095
Nvidia	3	3.307	Cisco	533	214
Microsoft	533	3.095	General Electric	511	204
Alphabet	n.a.	2.017	Intel	440	99
Amazon	23	1.982	NTT Domoco	393	n.a.
Saudi Arabian Oil	n.a.	1.753	Vodafone	340	25
Meta	n.a.	1.493	Exxon Mobil	271	547
Berkshire Hathaway	87	992	Nippon Telecom & Telegraph	252	91
Eli Lilly	68	886	Nokia	246	25
Taiwan Semiconductor	53	842	Deutsche Telekom	244	148

as at 31 March 2000 and 10 October 2024, n.a. = not yet established or not (or no longer) listed, source: Bloomberg, Flossbach von Storch Research Institute, as at: October 2024. **Historical performance is not a reliable indicator of future performance.**

Of the current Magnificent-7, only the e-car manufacturer Tesla is not (or no longer) among the world's heavyweights.

Compared to the peak of the technology bubble in spring 2000, there are some conspicuous features: Only two non-US companies still make the leap, and seven of the ten global heavyweights are currently in the technology sector. Telecommunications dominated in 2000, with only half of the shares coming from the USA.

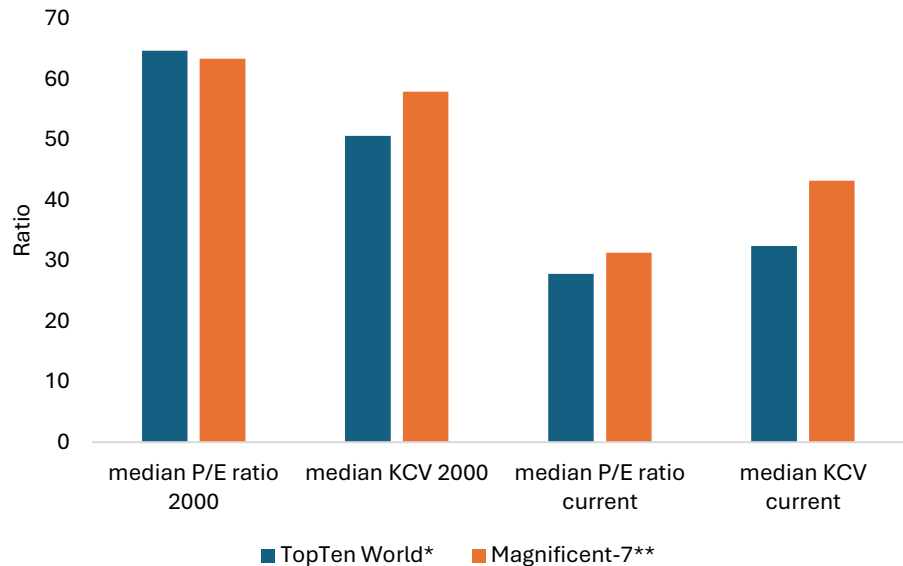
Microsoft is currently the only company to reappear in the top ten of the world's heaviest stocks. In addition, of the former top ten, only Exxon Mobil has increased in value over a good 24 years, while the prices of all other shares have fallen sharply in some cases. This reflects the constant change in the economy and therefore the stock market. Here too, no conclusions can be drawn about the future performance of the individual shares.

7. Lower valuations

Although the dispersion of the world's top ten by sector and country was greater in spring 2000 than it is today, the valuations measured in terms of free cash flow prices and estimated price/earnings ratios were significantly higher. The same finding can also be seen in the Magnificent 7 today and back then (Figure 7).



Figure 7: Valuation of the respective heavyweights of global equities, respective Magnificent-7 in 2000 and today



*Top ten: see Table 1, **Magnificent-7 today: Apple, Alphabet, Amazon, Meta, Microsoft, Nvidia, Tesla. **Magnificent-7 year 2000 (own selection based on market capitalisation at the time ex classic industry): Cisco, IBM, Intel, Microsoft, Nippon Telecom & Telegraph, Oracle, Vodafone. median P/E ratio current = price/earnings ratio 12-month forward, for median P/E ratio 2000 either 12-month forward or estimated P/E ratio FY 2001, KCV = current ratio of price to free cash flow in each case, as at 31 March 2000 and 10 October 2024, source: Bloomberg, Refinitiv, Flossbach von Storch Research Institute, as at October 2024.

However, a lower valuation compared to the 2000 tech boom says little about future performance. This is unknown. However, there are good reasons to assume that the capital-saving technology companies will not lose their leading role on the stock market any time soon.⁹

And because valuations are high, but not as lofty as in spring 2000, there is a good chance that setbacks that can never be ruled out will not be as severe as they were back then. The technology-heavy Nasdaq index lost up to 78 per cent at the time.

Conclusion

The high weighting of fewer shares on the stock exchanges is also due to the fact that promising start-ups no longer dare to go public, venture capital is their main source of financing, they tend to be bought up by the already established, leading listed companies and, in the best case, develop positively

⁹ <https://www.flossbachvonstorch-researchinstitute.com/de/kommentare/us-aktienmarkt-teuer-aber-auch-gut/>



there. This initially benefits venture capital investors and later the shareholders of the buying companies.

The number of listed companies is falling sharply in all major markets, particularly in the USA, which is fuelling concentration. Inevitably, the growing capital to be invested in the market is spread across a smaller selection of companies, for example in ETFs. At the same time, the private capital sector is on the rise. Marc Rowan, head of Apollo Global Management, is certain: "At the end of the day private [markets] will win over public [markets]. That doesn't mean replace public, it just grows faster. Private will win over banks."¹⁰

Even if the future remains uncertain, there are clear indications overall that the lack of choice and the high level of investment in companies outside of IPOs mean that there will not be an extreme crash in technology shares as there was almost a quarter of a century ago. The fact that an increasing proportion of corporate capital is being held "privately" outside the market could also contribute to this.

¹⁰ <https://www.ft.com/content/3191e867-1ee7-4b24-b2e9-8792619b6c21>



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