What is a technology stock?

For some time now, many investors have been talking about technology stocks as attractive investments. This has become an idea of a sort that often is taken for granted as just a given. But what exactly is a technology stock? Wikipedia offers the following definition: “A technology company is an electronics-based technology company, including, for example, businesses relating to digital electronics, software, and internet-related services, such as e-commerce services.”

So, basically and very simply put, it is electronics, software, and online stores. In my opinion, this definition is too narrow and paradoxically excludes many modern, advanced, and boundary-pressing technologies. Based upon sales, the largest technology companies (according to the official classification) include Apple, Samsung, Foxconn, Alphabet, Microsoft, Huawei, Dell, Hitachi, IBM, and Sony. Based upon profit, these include Apple, Microsoft, Alphabet, Intel, Facebook, Samsung, and Tencent. Even though these companies fall into diverse sub-categories, such as consumer electronics (Apple, Samsung, Sony), computer hardware (Foxconn, Dell), software infrastructure (Microsoft, Huawei), semiconductors (Intel), information technology services (IBM), industrial conglomerates (Hitachi), and communication services (Alphabet, Facebook, Tencent), they still encompass a relatively narrow segment of activities. By the way, Amazon, like Tesla, falls into the category known as cyclical consumer goods.

Similarly, if you study which technologies are regarded as “Top trending” today, you will come up with roughly the following results: AI, Machine Learning, Data Science, Full Stack Development, Robotic Process Automation, Edge Computing, Virtual Reality, Blockchain, 5G, and Cyber Security. Basically, this is mostly about software and working with data. I have no problem with this per se, but it strikes me that these trends as well as the general definition of a technology company completely neglect manufacturing activities, as if the technologies that exist or are being developed there were inferior.

The debate about what is a technology company is not just a theoretical academic exercise. To be considered a technology company is worth quite a lot today. Technology companies enjoy greater investor interest, capital is more readily available to them, and they often trade at incomparably higher valuations. It should not be surprising, therefore, that many companies are doing everything they can to be regarded as technology companies. As a result, rather bizarre categories have been created, such as Bigtech, Fintech, Regtech, Govtech, Gastrotech, Foodtech, Insurancetech, Healthtech, Transporttech, Agrotech, and so forth. If you were wondering what the companies claiming to be Govtech, for instance, are trying to do, it is technological innovation in the public sector. I often wonder whether, in many of these cases, this is something new at all, or if it is just pretending to be something new. The similarity to the frantic efforts of companies late in the 20th century to be seen as dot.com businesses is obvious.

Returning to what a technology company actually is, it is worthwhile to take a completely different, much more comprehensive view of the matter. Let’s take as an example the F-35 fighter produced by Lockheed Martin. In my opinion, it is perhaps the most technologically advanced product of our time. If you look at it in greater detail, you will see that the spectrum of technologies represented within it is very wide and varied. It includes not only software, data handling, electronics, and artificial intelligence, but also a whole range of other technologies relating to mechanical properties, the materials used, components, radio communications, a whole array of different sensors, weapon systems, network operations management, and so on. Many of these technologies not only are perched upon the very cutting edges of their fields, but they are not even commonly available. Yet, for all that, almost no one considers Lockheed Martin to be a technology company. Could that be because it doesn’t have an e-shop?

I’m no fan of military products, and if you don’t like a fighter jet as an example, then I can offer you, for instance, ASML and its lithographic devices using the EUV technology. By the way, the price of one such machine is about the same as the price of an F-35 fighter. While it is true that ASML is formally classified as a technology company, its technological uniqueness lies in its manufacturing process.

Companies that are not seen as technological, but should be due to their technological maturity, can be found in a number of other sectors: in the automotive industry (Toyota, Daimler, BMW, Bosch), robotics (Fanuc), semiconductors (Taiwan Semi, Samsung), pharmaceuticals (Bayer, Regeneron, Roche), medical labs (LabCorp, Quest), food (Nestlé), etc. These companies scarcely ever are seen as technological, even though the level of the diverse technologies they have developed and use is very high and often indispensable to humanity.

Many technologies that are crucial to humankind are found in the manufacturing sector. To simplify the matter, if the tech giant Facebook disappeared tomorrow, essentially nothing would happen. Life would go on as normal, and it could even be argued that society as a whole would be better off. Now try to imagine a world without oil, steel, or fertilizers. That is completely out of question. The manufacturing sector’s share in the global economy may be shrinking, but its technological capabilities remain critically important to humanity.

Investors’ fascination with technology companies is related in part to the commonly stated idea that we are living in a period with an unprecedented pace of fundamental innovations and that this development tempo is even accelerating. The credit for this is then attributed to these very technology companies. But is this really the case? In his books, Václav Smil says that we are not at all in a period of record-pace innovations. He argues that in fact modern innovations are just variants of two earlier fundamental discoveries, namely, microprocessors (1958, Texas Instruments) and the use of radio waves (1885, Heinrich Hertz).

Personally, I consider the 1880s to be probably the most productive decade of modern times. For instance, the following major innovations originated in this decade: Edison's first power station in London (1882), the steam turbine (1884), the four-stroke internal combustion engine (1884), and the first electromagnetic waves created in a laboratory (1885). Hardly anything can compare to that today. I have always wondered why labour productivity in developed countries has been growing more and more slowly in recent decades. Where is the impact of the innovations of the last two decades, such as telecommunications, the internet, software, cloud computing, big data, nanotechnologies, social networks, and so forth? We would look in vain for them on the labour productivity charts.

The misconception that we are living in a time of unprecedented technological growth coupled with a narrow understanding of technology then leads to unrealistic expectations and curious excesses in the markets. This is nicely illustrated by the development of the Non-Profitable Tech Index compiled by Goldman Sachs. With a bit of exaggeration, I say that one large group of people believe that all problems of humankind can be solved by some sort of app. Another large group of people believe that all of problems of humankind can be solved by printing money. This combination then leads to speculative investor behaviour in the relevant part of the market, as we have seen until quite recently in the shares of loss-making technology companies.

If using information from The Value Line publication we calculate the average return on invested capital (ROIC) for the past ten years for some of the companies mentioned above, we reach the following results: Lockheed Martin 35%, Apple 32%, Microsoft 24%, Facebook 17%, Amazon 8%, Salesforce 0%, Tesla −18%.

Although these figures cannot be interpreted unambiguously on their own, they do suggest several important things. First, the formal classification of a company as a technology company does not mean that it creates value (i.e. has higher returns on capital than the costs of that capital). Second, the mere existence of some technological innovation does not guarantee any business advantage. Third, sometimes we find high returns on capital where we might not even look for them (who would have expected BMW to have an average ROCE from its automotive business of more than 50% over the past ten years, for instance?). Fourth, stories and narratives are nice, but numbers have greater explanatory value. So, is it not better to move away from classifying companies into categories altogether? This classification often carries with it biases and predispositions in thinking even as it obscures reality. Investing is not about trying to guess new trends in the development of society and business, but about finding companies that have some sustainable competitive advantage, no matter their classification.

Daniel Gladiš, January, 2022

For more information

Visit www.vltavafund.com

Write us investor@vltavafund.com

Follow us www.facebook.com/vltavafund or https://twitter.com/danielgladis

DISCLAIMER

The Fund is licensed as an Alternative investment fund by the Malta Financial Services Authority (MFSA) and is dedicated to qualified investors.

This document expresses the opinion of the author as at the time it was written and is intended exclusively for promotional purposes. The investor should base his or her investment decision on consideration of comprehensive information about the Fund.

Our projections and estimates are based on a thorough analysis. Yet they may be and sometimes will be wrong. Do not rely on them and take your own views into consideration when making your investment choices. Estimating the intrinsic value of the share necessarily contains elements of subjectivity and may prove to be too optimistic or too pessimistic. Long-term convergence of the stock price and its intrinsic value is likely, but not guaranteed.

Only a qualified investor pursuant to § 272 of Act No. 240/2013 Coll. may become a shareholder of the Fund. Persons who are not qualified investors pursuant to the aforementioned provision of the Act shall not be allowed to invest.

The value of an investment may increase and decrease. Neither return of the amount originally invested nor increase in the value of such investment is guaranteed. The Fund's past performance is not a reliable indicator of future investment returns.

The information contained in this letter to shareholders may include statements that, to the extent they are not recitations of historical fact, constitute forward-looking statements within the meaning of applicable securities legislation. Forward-looking statements may include financial and other projections, as well as statements regarding our future plans, objectives or financial performance, or the estimates underlying any of the foregoing. Any such forward-looking statements are based on assumptions and analyses made by the Fund based upon its experience and perception of historical trends, current conditions and expected future developments, as well as other factors we believe are appropriate in the given circumstances. However, whether actual results and developments will conform to our expectations and predictions is subject to a number of risks, assumptions and uncertainties. In evaluating forward-looking statements, readers should specifically consider the various factors which could cause actual events or results to differ materially from those contained in such statements. Unless otherwise required by applicable securities laws, we do not intend, nor do we undertake any obligation, to update or revise any forward-looking statements to reflect subsequent information, events, results or circumstances or otherwise.

Before subscribing, prospective investors are urged to seek independent professional advice as regards both Maltese and any foreign legislation applicable to the acquisition, holding and repurchase of shares in the Fund as well as payments to the shareholders.

The shares of the Fund have not been and will not be registered under the United States Securities Act of 1933, as amended (the "1933 Act") or under any state securities law. The Fund is not a registered investment company under the United States Investment Company Act of 1940 (the "1940 Act").

The Fund is registered with the Czech National Bank as a foreign alternative investment fund for offer only to qualified investors (not including European social entrepreneurship funds and European venture capital funds) and managed by an alternative investment fund manager.

Investment returns for the individual investments are not audited, are stated in approximate amounts, and may include dividends and options.