



Degree Program in Corporate Finance

Course of Financial Statement Analysis

From Unicorns to IPOs: Listing Process, Valuation Challenges and the Airbnb Case Study

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ABSTRACT

This thesis is structured into two main parts: the first focuses on the Initial Public Offerings (IPOs) of unicorn companies, and the second delves into the valuation methodologies applied to these entities. Unicorns—startups valued at over one billion dollars—are distinguished by their rapid growth and significant market valuations, typically achieved without the long-term financial histories that characterize established companies. The nature of their business models and market positions presents substantial challenges to traditional valuation methods.

- **First Hypotheses:** It is hypothesized that unicorn companies are underpriced when they go public, considering their rapid growth and market potential compared to their IPO valuations.

In the first section, we explore the general IPO process, the phenomenon of Private Investment in Public Equity (PIPO), and then outline the unique aspects of taking such high-valuation companies public. This part provides a foundational understanding of the complexities involved in launching an IPO, including regulatory challenges, market dynamics, and the strategic considerations unique to these high-stake public offerings. Additionally, we examine the phenomenon of underpricing in unicorn IPOs, hypothesizing that their rapid growth and market potential may lead to undervaluation at the time of their public debut. Understanding the dynamics of underpricing is crucial for assessing the true market value of unicorn companies and the implications for investors and the broader market.

- **Second Hypotheses:** It is hypothesized that it may not be feasible to accurately value unicorns like Airbnb using traditional valuation techniques such as Discounted Cash Flows (DCF), Comparable Company Analysis, and precedent transactions, necessitating the development or application of specialized valuation techniques tailored to their unique characteristics.

The second part of the thesis focuses specifically on the valuation of the unicorn company Airbnb. It critically assesses the efficacy of traditional financial valuation techniques such

as Discounted Cash Flows (DCF), Comparable Company Analysis, and Precedent Transactions. Given the unique characteristics of Airbnb and similar unicorn companies, these traditional methods often fall short in accurately capturing the true market value of such high-growth entities. This section explores specific valuation techniques tailored to the unique challenges of valuing unicorn like Airbnb, which do not rely on historical financial data to the same extent as more established companies.

Moreover, this part of the thesis aims to highlight how these specific startup-oriented valuation methods can provide a more robust framework for evaluating unicorns like Airbnb. Through a systematic comparison with traditional techniques, this research seeks to demonstrate the necessity for specialized approaches in the financial analysis of these companies, thereby contributing to a more nuanced understanding and better-informed investment decisions in the context of high volatility and market speculation associated with unicorns.

"Predicting rain doesn't count, building the ark does."

Warren Buffett

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1. INITIAL PUBLIC OFFERING (IPO): GENERAL ASPECTS

1.1. The IPOs and phases of the process

The Initial Public Offering (IPO) has been defined as the operation in which “the securities are offered to the general public for the first time, with the prospect of a liquid market developing” (RITTER, 2004).

This type of operation can refer to both stocks and bonds.

The Initial Public Offering represents one of the best-known techniques through which a company undertakes the path towards the stock market for the first time. Specifically, starting from a capital, it decides to open up to a wider public of investors at the same time as the listing on the stock exchange.

Subsequently, the "float" is constituted, i.e. investors are offered a certain amount of securities, established by the regulations for admission to the Stock Exchange, useful for guaranteeing the correct and natural progression of trading.

Therefore, the company, through some technical forms, places some parts of its capital on the market. These forms consist of:

- disposal of shares of controlled entities; this type is called OPV (Public Sale Offer).
- opening of a subscription for new shares for potential investors; this type is called OPS (Public Subscription Offer).
- conjunction of the previous methods; this type is called OPVS (Public Offer for Sale and Subscription).

There are many ways in which a company is admitted to trading on the stock exchange, and they must all be consistent with the criteria established by the authorities responsible for managing the market in question.

Regardless of the type of IPO, listing is a complex operation, both in relation to the procedural requirements useful for its implementation and the interactions between the parties taking part in the listing, and in relation to the nature of the operation itself.

Regarding the procedural aspect, it should be noted that its duration varies depending on the case. However, it is usually between 6 months and 2 years in more complex cases.

However, this time frame does not take into account the initial preparation phase prior to the procedure.

The IPO process is very complex and articulated and is divided into different phases that are often connected to each other. First of all, it must be noted that upstream of the same lies a strategic choice on the part of the company (PERRINI, 1999).

In fact, the request for admission to stock exchange listing must take place after a detailed analysis of the actual convenience of the operation, from an economic, strategic, and financial perspective. In fact, the desire to list the company constitutes a fairly complex securities strategy which presupposes a growth in size of the issuing company, as well as organizational development and a change in the management model (RAPPAPORT, 1997).

The preliminary phase of the process is represented by the evaluation necessary to decide to go public. This evaluation is fundamental as it highlights the feasibility or otherwise of the procedure. In this phase, therefore, the company is called upon to make a series of choices, which constitute a sort of premise for the path towards the IPO and which, normally, are part of the "listing project" for the company.

Specifically, the issuing company, with the support of a financial adviser, works to develop the feasibility study in which the possible advantages and disadvantages arising from the listing are assessed, taking into close consideration the pre-established objectives and the tools at his disposal. The feasibility study also analyzes the cost/benefit ratio. If the evaluation is positive, the company will have to choose the listing market, to start the process.

This leads to the following milestone, the preparatory phase. It presupposes some changes inherent to the company as a whole. In fact, it is necessary that the latter, even before the listing, begins to operate as if it were already listed. These interventions fall within the following areas of activity (JOVENITTI, 1994):

- statutory provisions, i.e. the company that intends to enter the stock exchange must have a statute compliant with the provisions of the TUF (Consolidated Finance Act).
- corporate organization, i.e. the company, in view of the listing, must strengthen the internal administrative structure, as well as its financial service, both in

relation to information obligations and in reference to the strategic value of the securities finance; therefore, it will have to establish new internal bodies in order to be able to satisfy the new needs.

- company policies, with reference to investment policy, financing, policy towards stakeholders, communication policy.

The next phase concerns, however, the choice of the market for which the company has requested to be admitted to listing on the stock exchange. This aspect is very important and is closely connected with the company's strategic line and the impact it has on its image and credibility (PERRINI, 1999).

Hence, it may be observed that the constituent phases of a company's listing process include:

1. ***Preparatory activities***: they usually last from 4 to 6 months during which various actors are involved (issuer, financial advisor, audit firm, nomad). in turn, this phase is divided into:
 - identification of the optimal listing perimeter and introduction of any changes to the managerial and management control structure.
 - selection of the Nomad and legal consultants.
 - development of the 3-year business plan with two scenarios (Pre-Money and Post-Money).
 - drafting of the Management Presentation containing Equity story and description of the business.
 - drafting of the Information Memorandum to support the Business Plan.
 - start of financial statement audit activities.
2. ***Due Diligence***: these phases generally last from 2 to 4 months and are made up of the following processes:
 - start of due diligence activities by the Nomad of lawyers and consultants.
 - start of verification activities of the Management Control System.
 - an analyst's estimate of the pre-IPO value.
 - preparation of a draft of the admission document.

- issuing of the independent auditors' reports on the financial statements and the half-yearly report.
 - completion of due diligence activities and finalization of the admission document.
 - issuing comfort letter, net working capital, management control and admission document.
 - determination, post evaluation, of the share of capital offered to Aucap;
 - presentation of the company to the sales force.
 - roadshows and one-to-one meetings with investors.
 - signing of orders.
3. **Admission Procedure:** generally, it lasts 10 open market days and is divided into:
- pre-admission communication.
 - admission request.
 - any Bring Down.
 - definition of the price and conclusion of the placement.
 - interviews with company management.
 - admission and publication of the admission document.
 - start of trading of the stock.

1.2. The reasons behind the IPO

At an empirical level, little has been investigated about the reason underlying companies' choice to list on the stock exchange. However, several theories have been put forward in the academic literature, most of which start from the assumption that markets are efficient and that managers aim to maximize the value of the firm. As a result, companies choose to go public primarily to raise capital to finance investment opportunities and minimize the company's weighted average cost of capital (MODIGLIANI F., 1976).

A second reason, not necessarily consistent with market efficiency or with the value maximization behavior of issuers, is to allow insiders to cash in, possibly at the highest possible price, and perhaps diversify their holdings.

By elaborating on the two fundamental reasons outlined previously, along with their associated premises, it becomes feasible to identify ten distinct motivations for a company

to pursue a stock exchange listing. These motivations are depicted in Figure 1. The figure is derived from a 2006 study conducted by Brau J.C., which surveyed 336 Chief Financial Officers (BRAU J.C., 2006). Within this cohort, 87 CFOs represented companies that had successfully completed an Initial Public Offering (IPO) from January 2000 to December 2002. Another subset of 37 CFOs were from companies that had intended to go public within the same timeframe but ultimately retracted their offering. The remaining 212 CFOs were at the helm of sufficiently large companies that were capable of initiating a public offering but chose to stay private.

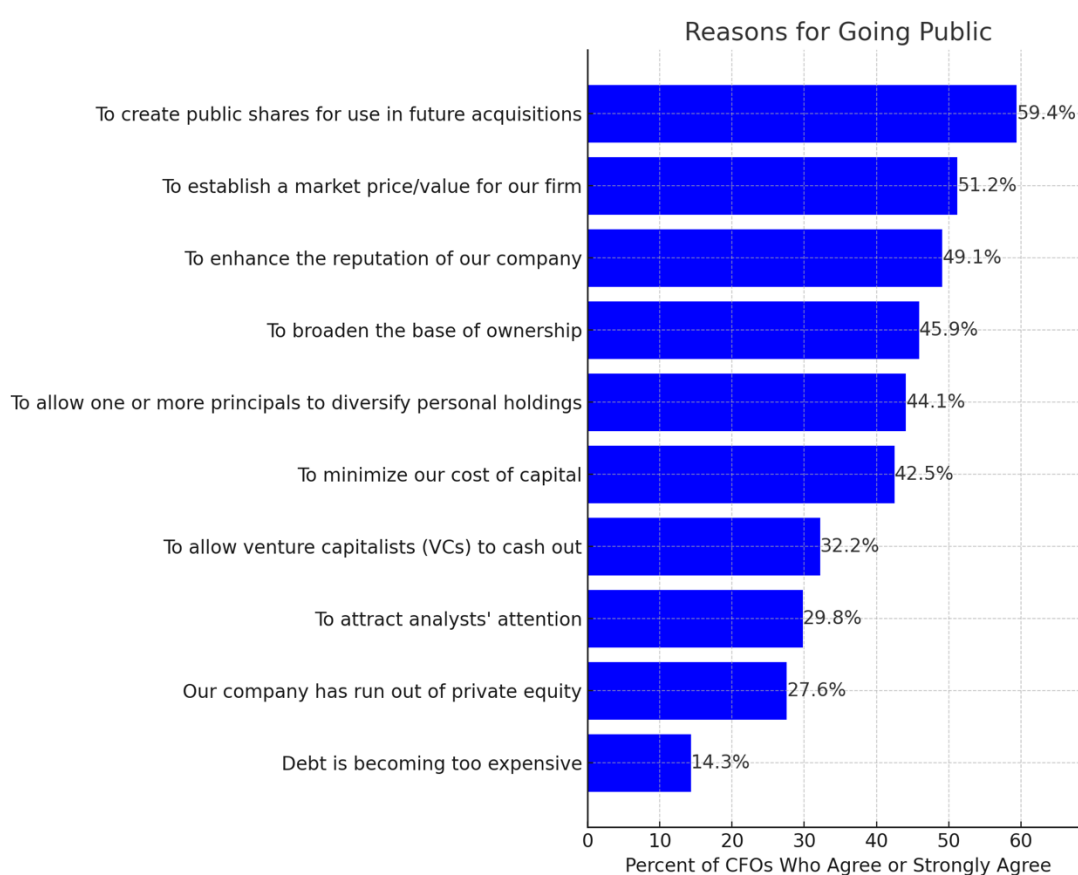


Figure 1: IPO Motivations, Brau & Fawcett, 2006, personal Excel elaboration

1.3. The timing of the IPO

A crucial consideration for gaining a comprehensive understanding of companies opting for public listings is determining the optimal timing for an Initial Public Offering. The aspect of timing is crucial in the context of an Initial Public Offering (IPO). Even with a well-structured IPO, fairly priced issue, and cost-effective support from agents, the

absence of appropriate timing—the optimal moment for execution—could lead to its failure. Thus, timing is acknowledged as a critical variable, pertinent to both the company's life cycle and prevailing market conditions. Concerning the former, the concept of "internal timing" is invoked. It necessitates an assessment of the company's current stage within its life cycle to determine whether it coincides with the optimal period for listing. This involves a discerning analysis as to whether the company should proceed with listing or defer it until a more suitable phase emerges. It is important to note that there is no universal set of rules for pinpointing internal timing; it varies from company to company.

Concerning the timeline influenced by market conditions, the term "external timing" is used, signifying a schedule that is more challenging to adhere to due to its exogenous nature, being beyond the direct control of the company. Compared to the "internal" one, the "external" timing is more difficult to obtain, as the best moment regarding market conditions depends on several variables connected to each other. In the process of an IPO, identifying the optimal timing for market entry represents a principal challenge. This complexity arises from the criticality of precise timing to the success of the listing, which necessitates a strategic assessment of market conditions.

In this regard, a study conducted by Deloitte on a sample of almost 3000 top executives of private companies belonging to different sectors, highlighted that almost a third of them recognize market timing as the greatest concern (DELOITTE, 2022).

Considering the importance of timing, the following discussion will focus on various determinants that contribute to identifying the optimal period for initiating an Initial IPO. These determinants are linked to established theoretical frameworks. Specifically, one prevailing theory underscores the imperative of aligning the IPO with a market phase characterized by the tendency to overvalue companies, suggesting that the broader historical market context is a critical factor. Those who advocate this approach, called "market timing", believe that companies successfully conduct their IPO during a temporary window of opportunity, usually characterized by an overvaluation of stocks at an industry or market level that results in a lower cost of own capital (DRAHO, 2004).

This overestimation regarding the prices of shares is based on the belief that the market is inefficient, i.e. dependent on the feelings of investors, and this is equivalent to an incorrect translation of the information available in the market, which is, consequently,

interpreted as more positive than they should be. This aspect means that, in certain periods, the valuation of the stock market rises above its actual value. To understand if the market is facing a period of share overvaluation, market participants need to carry out individual valuations of listed companies and compare their share value with the "fair" value resulting from analytical projections.

When the fair value of shares for a significant portion of firms listed on the analyzed stock market is below the price the market perceives as the trading value, this period is identified as a "favorable moment" for the company. Consequently, the entity is afforded the opportunity to leverage the prevailing circumstances to its benefit by establishing an issuance price that exceeds the fair value. This encapsulates the rationale guiding Chief Financial Officers' decisions regarding the issuance of new shares in the market. Such decisions are predicated on the perception that the market is assigning a higher valuation than warranted, thereby allowing the company to raise capital in excess of what is deemed justifiable. In essence, issuances are strategically timed to capitalize on a reduced cost of equity.

In order to identify the optimal timing, it is necessary to translate this logic into the pre-IPO process. The identification of the so-called "window of opportunity" by companies, from a historical perspective, translates into periods of high concentration of IPOs in a single market. This phenomenon is called "IPO clustering".

The following analysis of data from 2020 to 2023, elaboration based on Yahoo Finance data (Yahoo Finance, s.d.), clearly demonstrates this phenomenon, as observed in the varying concentration of IPOs across different months and years. The visualizations, particularly the heatmap (Fig 2.), distinctly show these clustering effects, where specific periods within each year exhibit notably higher IPO activity. For instance, the first quarter of 2021 shows a dense cluster of IPOs, suggesting a strong "window of opportunity" utilized by companies during this time. Such patterns are indicative of strategic market entry decisions made by firms, likely influenced by favorable macroeconomic conditions and investor sentiment.

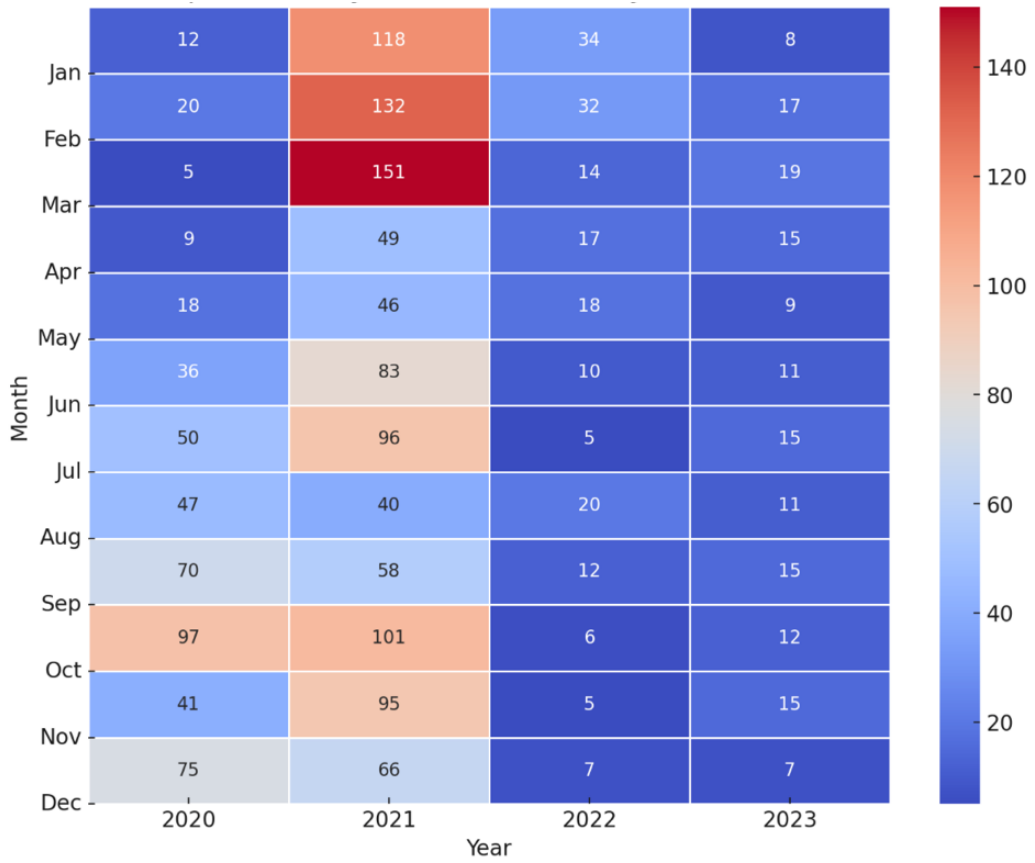


Figure 2: Heatmap of Monthly IPO Distribution by Year, 2020-2023, personal Phyton elaboration

Furthermore, the line graph also reinforces these findings by illustrating the monthly fluctuations and peaks in IPO activities over the years (Fig 3.).

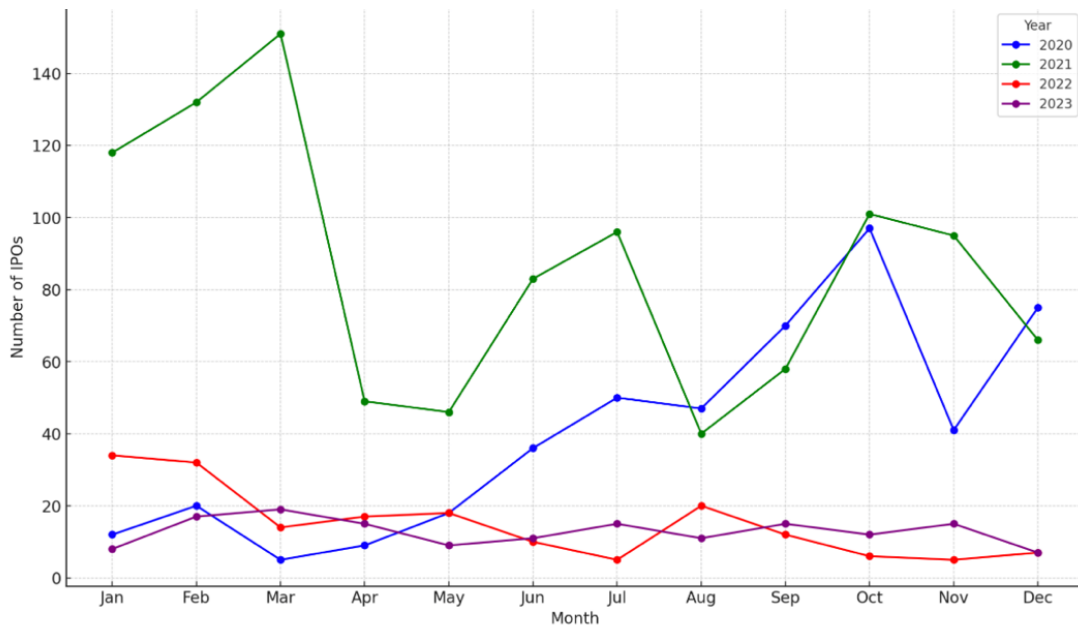


Figure 3: Monthly IPO Distribution by Year, 2020-2023, personal Excel elaboration

By cross-referencing these two visual tools, it becomes evident that each year presents its own unique periods of heightened IPO activity, aligning with external economic factors or sector-specific developments. This repeated seasonal clustering supports the importance of timing in the pre-IPO process, as companies aim to capitalize on the most opportune moments for market entry to maximize their outcomes. These insights into IPO clustering not only provide a historical perspective but also serve as a crucial strategic tool for future companies considering going public.

Another current of thought, however, believes that the key factor for timing inherent to market conditions is represented by the information asymmetry between potential investors and the management of the company about to be listed. To ensure that the broadcast is appreciated by the public and, consequently, represents a positive result, the asymmetry must be low. In fact, in case of high asymmetry, the information gap, which sees "insiders" in possession of more information than the generality of investors, would translate into a negative performance of the share price. This is due to the fact that a high information asymmetry arise the "lemons problem".

The proponent of this theory was Akerlof (AKERLOF, 1970) and it was taken up again in the 1980s by Myers and Majluf (MYERS S. C., 1984). This theoretical approach believes that for the market the issuance of new equity represents a signal of overvaluation of the issuing company when the degree of information asymmetry is particularly high.

The term “lemons” refers to goods of poor quality, the characteristics of which are known to the seller but not to the buyer. To contextualize the lemons, Akerlof uses an example: he takes into consideration the second-hand car market, in which the defective ones (the lemons) are not identifiable by potential buyers, and therefore do not identify any difference compared to the used cars of good quality. In this case, therefore, there is an information asymmetry between buyer and seller, resulting in a failure of the market. The described dynamic arises from a market mechanism where the price consolidates at a level reflecting the perceived average quality of used cars—this being the sole attribute known to purchasers. Consequently, owners of lower quality cars are motivated to sell, while buyers, anticipating this inclination, are reluctant to engage at such price points due to the sub-average quality of available cars. This cycle perpetuates, progressively removing higher quality vehicles from the market, ultimately leaving only the inferior ones, colloquially termed as "lemons."

Applying this principle to Initial Public Offerings (IPOs), the term "lemons" analogously refers to overvalued company shares that, due to market dynamics, appear more frequently within listings. Conversely, "good quality cars" symbolize those enterprises whose share prices accurately reflect their intrinsic value. Such companies might choose not to list their shares, deterred by the prevailing market sentiment which does not favorably accommodate the communication of their true worth in the context of an IPO.

1.4. The listing process

Historically, the minimum duration of an IPO process varies between four and six months. However, it can be lengthened if the operation is particularly complex, or when the value of the issue is in significant quantities.

In fact, in some particular cases, the IPO process could last up to two years.

The listing process, with regards to the phases and stages, is similar on a global level, but different with regards to bureaucracy, as the procedures follow the rules and regulations typical of each market (ESPINASSE, 2021). Therefore, the element that varies is represented by the necessary documents, the deadlines imposed, the rules that the company that intends to list must comply with (ANDERSON S., 2021).

That said, the process is almost completely identical. In fact, there is the first phase of preparation, in which the company that intends to go public is called to plan the operation in the all-hands meeting; due diligence is carried out in planning, with the preparation of the information prospectus which will conclude with the applications for admission to listing and trading.

Then, the phase in which the company is asked to follow the process established by the rules established on that market; this phase, essentially, can be defined as a stand-by phase in which the company waits for the applications to be accepted and in which it must comply with various bureaucratic and documentation requirements. Finally, the last phase starts when there is feedback from the competent body and the information prospectus is completed; at this point the operation is sponsored, the collection of institutional orders in the book-building begins, the price is set, and the stock is negotiated. At this point the private company becomes listed (FERRARO, *Le Ipo: dal processo di quotazione alla stima del pricing. Analisi del fenomeno e problematiche valutative*, 2021).

1.5. Those involved

1.5.1. Company

The decision to list on the stock exchange may be based on various objectives, both of a general and financial nature.

The most frequent reasons given by the issuing company are (WESTENBERG, 2018):

- the management of the financial structure: this aspect includes various considerations, including the need to raise risk capital in order to finance growth, or the search for conditions capable of making the level of the cost of capital more optimized.
- formation of a market for shares: thanks to the listing process it is possible to satisfy the need for disinvestment for shareholders, who, since they contribute to corporate growth, could show interest in realizing part of the value and, consequently, diversify your wealth.
- availability of "money" to proceed with acquisition operations: in this sense, listed shares act as a payment instrument for acquisition operations that are based on

share exchange. By virtue of access to the capital market, the company has greater possibilities to finance growth externally.

- improvement of corporate status: since it is listed, the company can enjoy greater benefits both in terms of image and reputation; this is particularly true when the listing market has evolved and is appreciated by investors.
- ability to attract managerial resources: listing allows the company to attract managerial resources by virtue of the greater visibility and the possibility of benefiting from remuneration packages also based on listed shares (stock options).

During the pricing stage of the listing process, a pivotal role is played by the issuing company and its shareholders. Their objective is twofold: to maximize the value of the stock and simultaneously to make the offering appealing to ensure the operation's success. To navigate this, a judicious price discount, known as underpricing, must be extended to investors. This underpricing is designed to deliver a return that aligns with investor expectations (FERRARO, 2021).

1.5.2. Financial Advisors

Another party involved in IPO operations is represented by the financial advisor. The latter, although not a mandatory figure, represents the person who usually assists the shareholders and the company throughout the listing process, coordinating and managing the relationships that are established with the other actors (OIV, 2017). The advisor is responsible for various activities: from the preparation phase to the listing, due diligence, pre-marketing, bookbuilding and pricing.

In particular, during the preparatory phase, advisors offer assistance to the company with respect to the preparation of the industrial plan, following the criteria and guidelines accepted by the market. It should be noted that, irrespective of whether the financial projections in the plan are disclosed to the market, they form the foundation upon which the Equity Story is constructed. This narrative outlines the issuer's profile, which will later be presented to potential investors to stimulate interest and encourage the offering of shares.

During this phase, the financial advisor carries out a preliminary feasibility study of the operation, carefully defining the characteristics of the securities to be issued, the

guidelines of the operation and the indicative structure of the offer; among other things, this figure also supports the company in the selection of other actors to be involved, such as the global coordinator, the sponsor, other consultants, and the communications company. In addition to this, the advisor has the task of carrying out an initial evaluation, through which the shareholders can judge the convenience or otherwise of the listing operation (FERRARO, 2021).

As regards the due diligence phase, the financial advisor is responsible for coordinating, in collaboration with the placing bank, the process of preparing the Equity Story which must be brought to the attention of the market; furthermore, it offers its collaboration with regards to the drafting of the information prospectus, assists the company in relations with the banks of the consortium and with financial analysts; finally, it promotes the company's image.

Once this phase is concluded, in collaboration with the placing bank, the advisor presents the company with an initial valuation hypothesis (which is called a preliminary valuation range).

During the pre-marketing activity, the financial advisor offers support to the issuing company in preparing the presentation to be submitted to the analysts of the consortium (analyst presentation), coordinates the pilot fishing and investor education activities, and sets the price range indicative and maximum price.

In the bookbuilding phase, the advisor helps the issuing company carry out the roadshow, as well as taking care of verifying the formation of the Book and assisting in defining the final price and allocating the securities to investors.

All this highlights the fundamental role of this figure in the IPO process.

1.5.3. Employment union

Another important entity involved in IPOs is the placement syndicate, i.e. the set of banks which, carrying out various functions, are responsible for carrying out all the activities useful for the placement of shares with investors.

In the presence of operations of a certain size, the structure of the syndicate takes on a pyramid shape: at the top there is the global coordinator and, as you go down, various ranks of banks who hold less important positions and with less responsibility.

The top part of the union carries out management and coordination functions; instead, the lower one deals with the distributive function.

Among the main activities carried out by the employment union are (OIV, 2017):

1. collection of preliminary feedback from investors.
2. ensure the reliability of the issuer.
3. perform placing and pricing activities.

These three activities are essential in order to reach the final definition of the terms of the offer, as well as for carrying out the order collection and pricing process.

Collection of preliminary feedback from investors:

Among the most important steps in the IPO process is the definition of the final allocation price of the shares offered. As the operation progresses, the pricing process is enriched in substance and content, as the company, little by little, offers data and information regarding both the activity and future prospects: therefore, starting from a preliminary estimate, the indications of investors during the pre-marketing activity, the research carried out by the analysts of the placement consortium, the performance of the stock markets, the size of the offer and the possible liquidity of the stock (FERRARO, 2021).

Ensure the reliability of the issuer:

Another very important function performed by the placement syndicate is to guarantee the quality of the issuing company and its Equity Story. Specifically, the global coordinator and the bookrunner support the issuing company also by virtue of the provision of the so-called guarantee clause.

The reputational aspect takes on particular importance as one of the main issues that investors have to deal with during an IPO is information asymmetry. Therefore, in most cases, investors take strictly into account, not only the validity of the Equity Story, but also the reputation enjoyed by the syndicate banks.

Perform placing and pricing activities:

Another function carried out by the placement syndicate concerns the placement activity, i.e. the maximization of investors' expressions of interest in the offer. The placement activities and all the preliminary marketing activities, by virtue of the distribution force implemented by the union, contribute to ensuring that investor demand develops in such a way as to create the basis for a successful offer. After having collected possible memberships, the syndicate, together with the financial advisor, will have to carry out a careful selection of potential investors so that the offer of securities can be fully satisfied. For retail investors, the criteria contained in the information prospectus are objective and transparent: they range from random drawing to pro-quota allocation. On the contrary, for institutional investors, there is wide discretion in the allocation of shares by the consortium.

Finally, the placement syndicate, again in collaboration with the advisor, is required to set the final price of the offer: in this phase, it finds itself facing a difficult trade-off, since, on the one hand, one should avoid setting a price that is too high (overpricing), and which could therefore benefit the issuer, and on the other hand, avoid setting a price that is too low (underpricing), and which therefore is aimed at rewarding only investors who to the detriment of the issuer.

1.5.4. Analysts

Finally, among the subjects involved in the IPO process there are the financial analysts of the banks in the consortium; the credibility of the latter and their reputation influences, in fact, the interest of the main institutional investors and consequently could influence the success of the operation.

Even if the analyst is part of the work group of the placing bank, he is a figure who must be considered as an independent third party called upon to carry out the task of studying and understanding the Equity Story, so as to be able, at a later time, to represent in an ad hoc document ("equity research"). Equity research is nothing more than a process of analyzing a company's market position aimed at evaluating available investment opportunities and helping investors obtain a clear picture of the company and organization before investing in it. The analyst is first called upon to analyze the

company's financial data, perform ratio analysis and make forecasts, in order to formulate a stock investment recommendation.

This document must then be disseminated among the target investors of the consortium banks, in such a way as to allow them to understand the profile of the proposed investment.

An essential element of an IPO, in this sense, is the reputation of the financial analysts of the consortium's banks, which, among other things, also finds expression through the public rankings prepared by specialized companies.

For the success of the IPO operation, the ability of analysts to stimulate the interest of the most important investors ("opinion leaders" or "price makers") is essential, who, in turn, could incentivize other investors, creating a real cascade effect.

The issuing company, consequently, should consider the analyst as an independent external entity who must be involved in the process, as his research constitutes one of the most relevant factors in influencing the opinion of investors regarding the competitive positioning of the issuer and the related evaluation.

In general, it can be observed that the research is structured on the basis of specific guidelines and is composed of the following paragraphs (OIV, 2017):

- “Investment case”, i.e. the main reasons for purchasing the security.
- analysis of the company's strengths and weaknesses.
- analysis of the sector and competitive positioning of the company.
- investment risk factors.
- company evaluation criteria and sometimes a range of values.
- history of the company and description of its activities.
- biography of management and shareholders.
- analysis of business units and business model.
- analysis of the company's product/service portfolio and brands.
- historical financial data and estimate of prospective financial data.

2. MECHANISMS FOR DETERMINING THE ISSUE PRICE OF AN IPO

2.1. Aspects of the pricing process of shares to be listed

The purpose of this paragraph is to analyze the pricing process of the shares that are intended to be listed and issued by a company that is not yet part of the capital market. This process cannot, in any way, be separated from the company evaluation process, although it has its own characteristics and has different objectives.

Some scholars, in this regard, have noted that the preliminary evaluation of a company that intends to move towards the listing process does not constitute “a different process from the evaluation of any other company” (IBBOTSON R.G., 1995); this consideration, however, seems to be only partially shared. First of all, in fact, it is necessary to distinguish between the share pricing process and the company valuation process (GUATRI L. B. M., 2009). In this regard, by illustrating some definitions of value, an authoritative scholar was also able to identify the concept of IPO, keeping it clearly distinct from the concept of standalone value and that of “probable market price” (GUATRI L. M. M., 1992).

Therefore, the price of an IPO satisfies the need to provide an estimate of the price level that, in the context of the listing of a company, may be requested. This price, therefore, can be considered as an essential function of the operators' expectations relating to the company's ability to be able to develop its results. This is why it cannot be considered as a standalone value (GUATRI L. M. M., 1992). Furthermore, the price of an IPO cannot even be compared to a concept of value. It is nothing other than what arises from an evaluation carried out by the sponsor of the operation or by the advisor responsible for assisting the company. In fact, at a later stage, the estimate is modified through some contracts with investors who guarantee the placement of the securities.

Given this, it can therefore be argued that analyzing the price of an IPO is equivalent to a delicate moment and closely connected to the negotiation process. When a price is set, many subjects come into play and it is necessary to take into account many external (PERRINI, 1999) factors and conditions which, in most cases, escape the control of the company being listed, which, especially in cases in which it is a small and medium-sized enterprise, risks being subject to pricing.

The pricing process underlying the listing process, therefore, is nothing more than the result of relative realities, which are influenced by the subjects involved and the objective set by them, to be achieved through the evaluation process (PERRINI, 1999).

Before moving on to the analysis of some methodologies that the company can follow to move towards listing, it is considered useful, also for greater completeness, to focus attention on some variables and factors that significantly affect the setting of the placement price (Fig. 4) (FASTERCAPITAL, 2023).

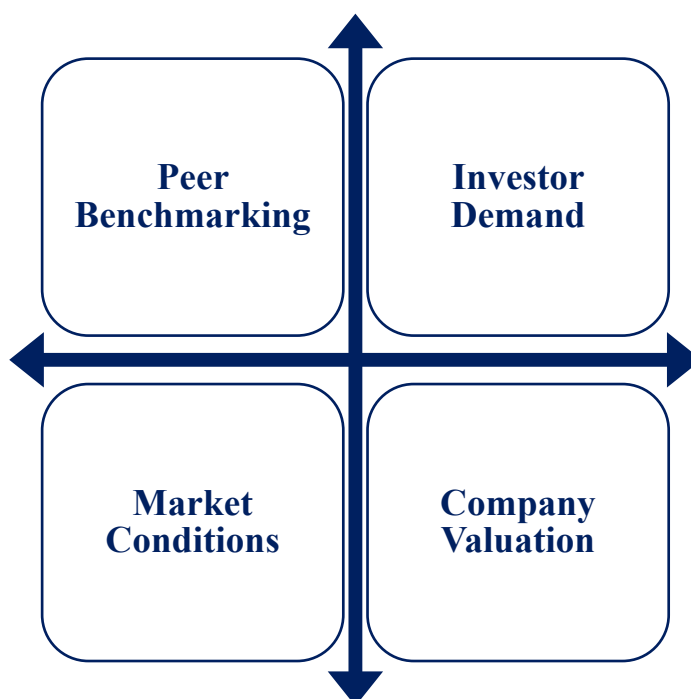


Figure 4: FasterCapital, 2023, personal Excel elaboration

As anticipated, the elements that contribute to influencing the pricing of an IPO are many, starting from the fundamental values of the company being listed, the qualitative judgments, the use of one evaluation methodology rather than another: the repercussions on the security market and the possible appearance of the underpricing phenomenon.

First of all, it is necessary to specify that the placement price must necessarily be such as to reflect the prospective and economic situation of the company. This phase is summarized in the evaluation carried out by the sponsor and the placer, who also takes into close consideration any qualitative judgments. Furthermore, it must be such as to

adapt, dynamically, with market judgments regarding potential comparable companies and the general situation of the financial markets.

Another important aspect that contributes to setting the price of an IPO concerns the need for it to be able to mediate the interests and assessments of the group that controls the company, the placement consortium, and the investors. In this sense, in fact, it can be considered that it is a price-value negotiated between multiple parties involved.

In setting the placement price, another important element is represented by potential investor subscribers.

2.2. Book-Building

The most widespread procedure for setting the pricing of an IPO is called book-building, which is characterized by the possibility for the underwriter and the issuer of pricing the shares at their own discretion and then proceeding with their allocation (SHERMAN, 2000).

In particular, this pricing methodology is widely used for IPOs based on an agreement between the investment bank and the issuer (“firm commitment” or “bought deal”), through which the investment bank is invested with the responsibility of proceeding with the subscription of all actions. Therefore, the main risk that could arise concerns the fact of being left with unsold shares in the portfolio.

Therefore, the IPO based on firm commitment is undoubtedly risky, however it represents the form that more than the others gives a large degree of pricing autonomy to the underwriter and, therefore, a particularly high potential profit.

This profit can be considered as equivalent to the spread, understood as the difference between the purchase price of the securities that the issuer supported and the selling price on the market during the first day of trading (this requires the addition of various commissions payable to the placement consortium in recognition of the risks it assumes, specifically the potential for retaining unsold shares in its portfolio, as well as for the consultancy services provided).

The underwriting fee is a commission paid to the members of the placement consortium as compensation for the risk they assume by potentially having to purchase any securities that remain unsold at the end of the offering period. (WANG, 2016). Additionally, management fees also come into play later, associated with organization and consultancy

activities in the consortium. The Management Fee (TORSTILA, 2001) is distributed among the co-lead managers and covers the costs of managing and organizing the consortium's activities. Additionally, there is the Praecipuum Fee, which specifically compensates the Lead Manager for their role. Lastly, the Selling Fee is directly linked to the number of shares each consortium member sells on the market. This fee compensates for the use of the consortium's sales network in distributing the shares.

In general, it can be stated that in this type of offer, the underwriter takes on the role of seller who also performs the function of intermediary.

The book-building takes a different shape during the road show phase, when the underwriter becomes aware of the interest of possible investors through their expressions of interest; usually, in the latter, the maximum amount willing to pay for a specific number of shares is indicated. Since there are no limits on the expression of interest, investors are completely free to make their hypothetical assessments and the investment bank can obtain truthful information from counterparties, thus sketching a demand curve. The book-building process is continuous, and its success depends both on the underwriter's ability to carry out a detailed analysis of the actual market willingness to pay and on his ability to maintain a high degree of interest from investors as the IPO approaches.

From a purely theoretical point of view, the method in question is considered the most efficient.

Firstly, as the information collection activity carried out by the investment bank allows, indirectly, the creation of a demand curve which can be based on for the purposes of determining the offer price.

The information provided by investors is not binding and for this reason they are encouraged to be as honest as possible. This aspect, consequently, involves an important reduction in information asymmetries, which, as is known, constitute one of the main problems, as well as the most recurring, when it comes to the efficiency of IPOs.

By virtue of this, the issue price is based above all on the information available (GOLDREICH, 2003).

Secondly, the literature on the subject widely recognizes the efficiency of the book-building method as it is believed that with it the underwriter can implement specific pricing techniques that allow maximization of the desired proceeds (SPINDT, 1989).

In particular, Benveniste and Spindt (SPINDT, 1989) were among the first to explore the book-building method as a potentially optimal mechanism. This approach assumes that the issuer, more than anyone else, knows the true value of their company. However, it is presumed that the issuer does not disclose this information to the investment bank. Consequently, the bank lacks direct knowledge of the company's real value. Despite this, the bank can estimate the value through a valuation analysis. Typically, though, the final valuation largely depends on the amount investors are willing to pay. The referenced investors are institutional, which implies they are well-informed and meticulously analyze corporate cases when considering significant share acquisitions. A significant issue arises in this context: these institutional investors possess a considerable advantage, knowing that the investment bank responsible for setting the share price will rely heavily on their assessments. Consequently, there exists a potential for these investors to understate values. This tactic is often employed with the aim of participating in underpriced initial public offerings (IPOs), allowing them to purchase shares at a low price that are expected to greatly increase in value post-issue.

The investment bank's objective is to obtain accurate information. To achieve this, the bank tends to allocate fewer shares to those who offer lower prices, giving preference to investors willing to pay more. Knowing that the underwriter employs this allocation strategy, investors are motivated to honestly declare the maximum price they are willing to pay for the shares. This honesty helps them avoid the risk of receiving fewer shares than they desire or, in the worst case, none at all. Moreover, while aiming for a lower price might increase the chances of buying shares at a reduced cost, it also risks not securing enough shares to maximize total profit. Thus, investors find it more advantageous to be truthful in order to obtain the desired quantity of shares (SPINDT, 1989).

The technique employed by underwriters to allocate assets effectively reduces information asymmetry between parties. This approach leads to two primary outcomes: it maximizes expected revenues and minimizes underpricing.

These considerations were resumed towards the end of the nineties (BUSABA, 1997), when the focus shifted to the ability of underwriters to adjust the offering price either upwards or downwards just before the IPO, it became clear that this flexibility is crucial

for comprehensively understanding how the strategy of equity allocation minimizes underpricing.

Similarly, in 2002, some scholars (BIAIS, 2002) focused on the analysis of the power of underwriters to discriminate against investors in the share allocation process.

Further studies conducted in this regard analyzed the situation from an ethical point of view. In particular, Maynard (MAYNARD, 2002) condemned the practice of spinning, i.e. the practice by which the underwriter allocates underpriced IPO packages to the top management of important unlisted companies, in order to obtain, in a future perspective, IPO mandates for quotation processes (CHINCARINI, 2012).

A further illicit practice connected to the use of book-building is the laddering, whereby underwriters allocate securities to institutional investors only if they were willing to purchase additional shares at a higher price in the aftermarket (HAO, 2007). This is a harmful practice for the entire market, as it is considered a form of market manipulation. Furthermore, it places investment banks in a position of absolute control, creating favoritism towards some institutional investors (CHINCARINI, 2007).

2.3. Fixed Price

Another method of setting the price is the one called fixed price, characterized in that the price is fixed, i.e. it is set before the completion of the IPO; therefore, with this method, investors are aware of the issue price prior to the first day of trading of the securities, since it already appears in the information prospectus. This is a methodology which, from a historical perspective, has found wide use in states whose legislation favors the supremacy of this pricing methodology, or in those which prohibited other procedures (FERRARO, 2021). This pricing method, unlike the previous one, is used for best-efforts commitment IPOs (CUMMING, 2018).

By adopting the fixed-price method, the underwriter does not run the risk of remaining with unsold shares in the portfolio, but rather he undertakes to do as much as possible to sell the shares. Therefore, he simply limits himself to promising the greatest effort in the operation.

Since this is a less risky operation than that envisaged for firm commitment IPOs, the underwriter's remuneration is lower and arises from a fixed fee for the consultancy provided (Flat Fee). Since, as anticipated, the price is set prior to the IPO, the underwriter

does not play an active role in the sale of shares and enjoys a limited degree of discretion in their allocation. Therefore, it can be considered that its function is essentially limited to the preliminary phase of the IPO; on the contrary, in the crucial phase of the operation, you will have a function aimed at monitoring and controlling.

During the preliminary phase, therefore the acceptance of pre-orders, the underwriter is required to treat them fairly, regardless of whether they derive from an institutional or retail investor. A single exception to this concerns the size of the order: in fact, there will be a tendency to favor orders for smaller share packages, therefore those originating from retail investors.

It is not uncommon to come across cases in which the fixed-price method coexists with that of book-building (BUSABA C. , 2010), since these methodologies, combined, are the most efficient solution for the satisfaction of all investors.

From a theoretical point of view, to understand the degree of efficiency of the fixed-price method it is necessary to take into account two direct consequences that often occur. Specifically, these consequences become apparent when the issued securities are subscribed which, as is known, represents the highlight of the IPO process and in which information plays a fundamental role.

However, it must be clarified that the consequences referred to concern a concept of market inefficiency. Having said this, the first consequence is the triggering of the “herding” phenomenon, i.e. a type of behavior adopted by investors in situations involving market news (DEHGHANI P., 2014), whether positive or negative. The phenomenon is equivalent to the so-called “herd effect” which occurs when a plurality of investors base their decisions on the basis of emotions and the behavior of others, precisely from the herd.

When a fixed-price IPO is subscribed, there is an important amount of information, which only comes into play at that moment, i.e. when investors show their interest or otherwise in the IPO. Therefore, they take into account the rumors of that moment.

Unlike what happens with book-building, which consists of a dynamic procedure, the fixed-price procedure is static, therefore there is a price that has been fixed for some time which is known only when the subscription takes place (YONG, 2011) (Fig. 5).

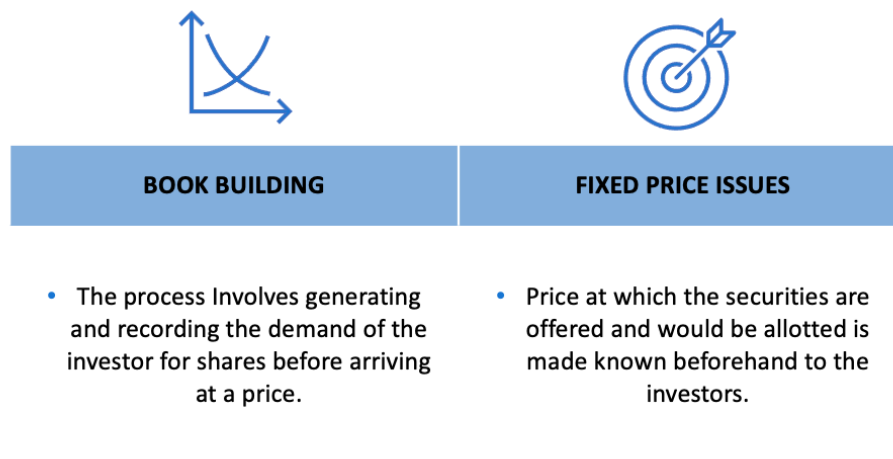


Figure 5: Book Building Process Vs Fixed Price Mechanism, personal elaboration

The second consequence referred to is represented by the emergence of the winner's curse phenomenon (HÜBNER, 2006).

Always keeping in close consideration, the information asymmetry between the various categories of investors, institutional investors, who appear to be the most informed, tend to avoid overpriced IPOs and participate in underpriced ones. Less informed investors, on the other hand, tend to participate in all offers; therefore, they are oriented, albeit unconsciously, towards allocating themselves shares of issuers that overprice the issue, as in the underpriced ones they will have to face a greater degree of competition.

Therefore, it can be argued that, from a statistical point of view, investors who do not have the right information will most likely lose large sums of money from investments made in share issues: in this case we speak of a winner's curse as they have the possibility to grab first-time share packages.

This "curse" can be minimized if the book-building procedure is adopted (FAUGERON-CROUZET, 2002). In fact, with the latter it is possible to gradually adjust the final price, depending on the information indirectly revealed by the investors who propose the offers and, therefore, they almost certainly do not at all reflect the market's willingness to provide sums of money for that issue; therefore, it is less likely that the IPO will be overpriced.

Precisely by virtue of this aspect, less informed investors are not particularly worried about incurring the winner's curse, since it is unlikely that, upon receiving shares, they will be part of an overpriced IPO. Instead, as regards the fixed-price methodology, which

is characterized precisely by the fixing of the price at a moment before the market becomes aware of the willingness to pay, the probability of an overpriced issue is much higher, and it is precisely in similar circumstances the winner's curse is revealed against the less informed (BENVENISTE, 1997).

2.4. Auction

The third methodology underlying the IPO process is represented by the auction mechanism (KANDEL S., *The demand for stocks: An analysis of IPO auctions*, 1999), which consists of an auction. To date, it is the least widespread type and, although in the past it has been adopted by more than twenty countries around the world, it has not met with particular success. Among the different methodologies, the auction mechanism stands out as it attributes a lower degree of control over the final output, both in relation to the underwriters and the issuer (WILHELM J.R., 2005).

The role played by the underwriter in determining the price is mostly passive, since it is the investors who decide. It is no coincidence that the main characteristic feature of an auction, present in all types of auctions that can take place as part of an IPO process, is the anonymity of the orders and the fact that the latter are made up of a price and an amount that an investor is willing to pay for that particular company. By virtue of this, this mechanism appears to be the most democratic.

The auction system undoubtedly represents one of the most efficient mechanisms for defining the price of an asset, however in the context of an IPO it loses much of this efficiency.

There is no denying that this is the fairest method, as it leaves total discretion to investors in defining the price. However, a good part of the literature in this regard believes that this does not always correspond to fairness: in fact, investors do not always determine the exact price, indeed most of the time the same is determined by the issuer and investment banks as they are in possession of more truthful and detailed information (LIN J.C. L. Y., *IPO auctions and private information*, 2007).

Precisely this aspect could be considered as the main reason why, over time, this method has proved to be “failure” (SHERMAN A.E., 2006).

Analyzing the auction system for IPOs in more detail, it is necessary to identify the main types. The main ones are the uniform price auction and the discriminatory price auction (BEIERLEIN J., 2003).

As regards the first, it is characterized by the fact that all bidders pay the same price per share. This price is determined through a fixed offer, in turn, deriving from the demand curve generated by the cumulative aggregation of orders; the reference issue price is that of the investor who wins the shares by offering the lowest price (ZHANG, 2009). Therefore, this investor is the last to receive the allocation of the last share available.

However, as regards the second type of auction, it differs from the first in that each investor pays what he offers. Therefore, orders are fulfilled in full, starting from the one with the highest price, and gradually continuing towards those with lower offer prices until the available shares run out (BENNOURI M., 2004).

Other types of auctions arise from these main types of auctions. For example, there are hybrid auctions which are nothing more than a combination between the auction system and the fixed-price method.

Other systems, however, give the underwriter a slight discretion in defining the price, aiming to neutralize inefficiencies through the adoption of some book-building qualities. Focusing on traditional auctions, must be underlined that each of them is associated with the possibility of incurring the phenomenon of underpricing, as it is not intentional, since the underwriter plays, as anticipated, a passive role.

The discriminatory price auction, in the literature, is considered as the type subject to greater underpricing and the reason for this must be identified in the concept, described in the previous paragraph, of the winner's curse (GOLDREICH D. , 2007). In this type of auction, in fact, the uninformed investor is concerned about paying more than the bid is due: the main consequence of this is that an attempt is made to offer a lower price than that resulting from the company valuation.

However, this logic does not exist in the uniform price auction, as the bid price will be equal to that of the last winning bid, i.e. the one with the lowest price. Therefore, in this case there is no fear that a share may be overpaid if a price is offered that reflects one's valuation. The incentive for honesty, in this case, concerns precisely the fact that you pay exactly what is communicated in the offer, or in any case a lower price than what you were willing to pay.

By virtue of the advantages and disadvantages of this methodology, it should be highlighted that, although auctions are the fairest mechanism for an IPO, they are very often not the most efficient.

In particular, focusing attention on uniform auctions, it emerges that if on the one hand all investors are incentivized to be honest, on the other hand it is possible that a mechanism is created in which a bidder offers more than what he thinks is the effective evaluation of the company, since in this way the chances that its offer will be satisfied increase and that it will pay, in any case, a lower price than the one declared.

Even from the point of view of information production, the auctions have not achieved enormous fervor. In fact, comparing them with the book-building system, it is clear that the latter is more efficient since there are no free-rider problems. Free riders are particularly harmful when it comes to the purity of information as they usually tend to distort the reliability of the population (SHERMAN A. , 2005).

Among other things, again in relation to the sharing of information, through the book-building method it is possible to obtain, in the road show phase, a greater diffusion of private information of the company, so investors become aware of what is the actual situation thereof. This does not happen in an auction-based IPO.

Two important studies (KANDEL, 1999) (LIN, 2003) carried out in this regard have analyzed the existence of underpricing in auctions caused precisely by the inefficiency of the dissemination of information. The authors of both studies, after having found an initial return of IPOs in the period considered, tried to offer explanations regarding the same, hypothesizing that the cause of everything should be identified in the elasticity of demand: in this sense, a high degree of elasticity of demand, i.e. a population of orders with high homogeneity and low uncertainty, implies significant underpricing.

In particular, Kandel, Sarig and Wohl (KANDEL, 1999) specified that, initially, investors' vision of the fair value of the company is heterogeneous and that this degree of insecurity translated into an upward correction of the price, which, albeit indirectly, entailed a reduction in the inhomogeneity of the order population. By virtue of this, the study demonstrated a strong positive correlation between initial return (underpricing) and elasticity of demand (KANDEL, 1999). A similar correlation was later confirmed in the other study (LIN, 2003).

Therefore, book-building is always the best method, as it is capable of achieving a greater degree of efficiency; efficiency which is defined on the basis of the meaning of price that maximizes profits and of method from which a more genuine source of information derives.

The information, in fact, represents an indispensable element for correctly estimating the fair value of the company that intends to start the listing process (SERVICE, 2013), as well as being necessary for a good performance of the company on the long run, which is strictly connected to the conception of the market in the pre-IPO period which should then find consolidation in the post-IPO period.

2.5. Underpricing

The phenomenon that occurs, in the context of IPO and OPV operations, when the placement price of the shares is lower than the market price of the securities on the first day of listing is called underpricing (PALMUCCI, 2011).

The expression “placement price” indicates the selling price of a security on the primary market; a synonym is also “issue price”.

In relation to an IPO operation, the expression “offer price” refers to the final value of the placement price of the securities within the IPO procedure.

The phenomenon of underpricing can be measured already at the beginning of the first day of trading (BARRY C. B., 1993), taking the opening price as the reference price.

Others, however, believe that the best time to consider the price on the company's listing day is at the end of the day: in this case, the reference price is the closing price of the first trading day (ACHARYA G., 2023).

Given this, underpricing can be defined as the typical phenomenon underlying IPO operations, which comes into play when the offering price is lower than the closing price of the stock recorded on the first day of listing.

Underpricing appears whenever the offer price is lower than its fair market value: therefore, there is an important upward difference between the offer price and that at the end of the first trading day.

When this phenomenon occurs, the stock is underpriced.

It is, therefore, a market inefficiency that can be summarized with the famous expression “leave money on the table”. The significance lies in the fact that the issuer could have

raised more capital in the issue if it had set a higher price, given that the market would have been willing to pay it.

There are many reasons why underpricing occurs. In particular, one reason could be strategic in nature. In this sense, in fact, companies could decide, voluntarily and consciously, to offer their securities to the public at a lower price than the market price, as by doing so investors would be incentivized to participate in the offer.

Another reason why the company could choose a lower price is its aim, namely, to obtain a higher audience for its IPO and therefore bring it to the attention of many analysts and the market itself, which could perceive it as reliable. Such a strategy, although atypical, proves effective in some situations, such as in the case of a company struggling to consolidate its brand.

Another reason that is often taken into consideration when practicing underpricing concerns, the desire to avoid the risk of incurring disputes should the issue prove to be overpriced (BOUCHER C., 2023). In this circumstance, revising the price downwards could constitute a guarantee against possible complaints from investors.

In general, however, it should be noted that the IPO is underpriced when there is a climate of uncertainty and instability. In fact, uncertainty pushes us to opt for underpricing, which will be used as a tool aimed at reducing the risk of obtaining an overpriced and, consequently, bankruptcy issue.

Underpricing, although it can benefit the company, can still lead to negative results for it and its investors. In fact, underpricing can lead to (Fig. 6) (FASTERCAPITAL, 2023):

- reduction in the company's earnings: undervaluation means that the company is selling its shares at a lower price than its actual market value. This results in the company receiving less money than it might otherwise have. This reduced capital can lead to limited resources for future investment and growth.
- a negative signal: underpricing can signal to the market that the company is unsure of its future prospects. This can lead to a lack of investor confidence and can have a negative impact on the long-term performance of the company.
- to misaligned incentives: underpricing can create a misalignment of incentives between a company and its investors. If the company's stock is cheap, investors

may be more focused on short-term gains, leading to a lack of interest in the company's long-term success.

- increased volatility: underpricing can lead to greater volatility in the price of the security. This can make it difficult for the company to manage its stock price and can lead to a lack of stability for the company and its investors.

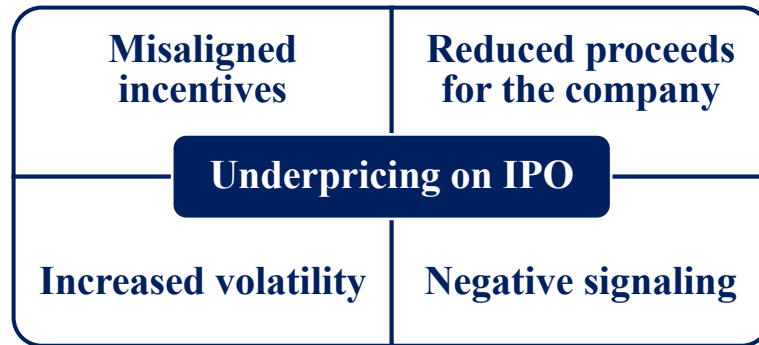


Figure 6: The impact of Underpricing on IPO, FasterCapital, 2023, personal Excel elaboration

2.6. The underpricing phenomenon for the Unicorns

In the forthcoming chapter, the phenomenon of unicorns within the startup landscape will be examined. In the realm of burgeoning startup enterprises, the concept of unicorns has garnered widespread attention, capturing the interest not only of scholars but also of investors on a global scale. Coined by A. Lee in 2013, the term "unicorn" refers to companies whose private valuations exceed one billion U.S. dollars. Noteworthy entities such as Facebook (Meta), Uber, and Airbnb have achieved unicorn status, among others. Within this context, many unicorns have opted for public markets as a means to fuel their expansion, leading them to pursue an Initial Public Offering (IPO) when private funding becomes inadequate or comparatively more expensive. However, like any other business, unicorns are confronted with two pivotal decisions: determining the timing of their public debut and establishing the share price for the IPO. Research indicates that unicorns consistently deliberate an intentional undervaluation of their IPO prices, often resulting in significant underpricing driven by robust investor demand. This hypothesis finds support in the study conducted, utilizing data from CBInsights' unicorn tracker (from 2020 to 2022) and the NASDAQ market index website. To compile data, companies that exited the unicorn club following their IPO were identified using the aforementioned sources. Financial information, crucial for analyzing unicorn IPOs, was sourced from

online databases including Datastream, Yahoo Finance, IPO Database, Seeking Alpha, and Macrotrends. Criteria for sample selection included consideration only of companies that underwent an IPO, specifically within the U.S. market indices (NASDAQ and NYSE), post-2020. The resulting sample comprised exclusively of unicorns. Analysis of the sample revealed that the average market value of unicorns stood at \$31 billion. At the time of IPO, this average increased to \$40,340 million, indicating a 26.69% rise from pre-IPO valuations. Post-IPO, unicorns experienced further market value escalation, with values reaching \$65 billion and \$53 billion at the end of the first trading day and the 22nd trading day, respectively—an increase of 104.12% and 69.08%. However, by the 125th day, market corrections led to an average unicorn value of \$56.81 billion, still reflecting a 78.41% increase over initial valuations. Investors enjoyed an average yield of 69.58% during the observed period.

Company	IPO Year	Stock Exchange	Market Value of Unicorn (\$B)	Market Value IPO (\$B)	Market Value in day 1	Market Value in day 22	Market Value in day 125	Trend
Airbnb	2020	Nasdaq	38	104	136	112	137	
Palantir Technologies	2020	NYSE	45	22	41	32	31	
Snowflake	2020	NYSE	33	33	77	61	78	
DoorDash	2020	NYSE	16	39	78	67	83	
Affirm	2021	Nasdaq	10	46	94	75	88	
Coimbase	2021	Nasdaq	86	86	112	85	86	
Roblox	2021	NYSE	42	38	82	69	82	
Coupang	2021	NYSE	35	39	64	56	77	
Rivian	2021	Nasdaq	66	86	99	82	69	
Robinhood Markets	2021	Nasdaq	8	32	38	32	23	
Bumble	2021	Nasdaq	15	17	70	58	58	
Wish	2021	Nasdaq	11	11	16	13	12	
Opendoor	2021	Nasdaq	12	20	32	26	23	
Affirm	2021	Nasdaq	10	46	94	75	69	
GitLab	2021	Nasdaq	11	11	17	15	26	
Coupang	2021	NYSE	35	39	64	56	73	
Rivian	2021	Nasdaq	66	86	99	82	69	
Robinhood Markets	2021	Nasdaq	8	32	38	32	23	
Bumble	2021	Nasdaq	15	17	70	58	58	
Wish	2021	Nasdaq	11	11	16	13	12	
Opendoor	2021	Nasdaq	12	20	32	26	23	
Coimbase	2021	Nasdaq	86	86	112	85	92	
Roblox	2021	NYSE	42	38	82	69	82	
Fisker	2022	NYSE	29	29	36	31	25	
Lucid Group	2022	Nasdaq	64	16	27	23	34	
Snowflake	2022	NYSE	122	122	139	128	105	
Robinhood Markets	2022	Nasdaq	8	32	38	32	23	
Bumble	2022	Nasdaq	15	17	70	58	58	
Opendoor	2022	Nasdaq	12	20	32	26	23	
Affirm	2022	Nasdaq	10	46	94	75	84	
Coupang	2022	NYSE	35	39	64	56	66	
GitLab	2022	Nasdaq	11	11	17	15	26	
			31.84	40.34	65.00	53.84	56.81	

Figure 7: Unicorn IPO Time Analysis, 2020-2022, personal Excel Elaboration

The study underscores a consistent undervaluation of unicorns pre-IPO compared to post-IPO and market values, resulting in favorable returns for investors. In conclusion, the underpricing phenomenon observed in unicorn IPOs reflects the intricate interplay of market dynamics, information asymmetry, and strategic behavior by issuers.

3. THE IPO PROCESS OF UNICORNS

3.1. Unicorns: Definition

The term "Unicorns" is commonly applied to those startups of exceptional innovation with valuations surpassing the billion-dollar mark. This nomenclature arises from their distinct ability to secure funds and escalate their market worth while maintaining a private status—an occurrence as infrequent as the legendary beast they are named after.

Observations in financial circles indicate an evolving pattern in capital accumulation methods. Where startups once sourced private capital through a variety of investors, such as venture capitalists and private equity firms, and eventually transitioned to public trading via an Initial Public Offering (IPO), they now have the alternative to harness what is termed as a Private Investment in Public Equity (PIPO). This method allows companies to garner funds beyond the million-dollar threshold without the necessity of a public market debut. This trend does not halt upon reaching the million-dollar landmark; the practice of funding a company off the stock exchange persists even after attaining a valuation that qualifies it as a "Unicorn." The journey of Uber serves as an illustrative case. The firm, which offers vehicular transportation via a smartphone app and was established in 2009, realized a valuation near the \$1 billion figure in 2013 after a succession of sizable venture capital infusions.

Despite the "objective achieved", the company decided not to carry out the public placement, reaching a value of 52 billion dollars in 2015 (PICKER, 2015).

To date, there are approximately 1000 Unicorns in the world. There are reasons to believe that one of the factors that mainly affects the choice to remain private in the long term can be linked to the companies' intention to avoid those risks that afflict public companies, including those attributable to oppressive regulatory environments, to the misalignment between incentives of managers and those of shareholders, agency costs.

Moreover, the pool of private financiers willing to pour funds into these entrepreneurial ventures they deem to have high potential is on the rise. Such an influx of investment enables these companies to amass increasing amounts of capital. In light of this advantageous financial position, they are inclined to sustain their private status for an extended duration. The inclination of private financiers towards this mode of investment stems partly from the preferential equity they receive — typically in the form of preferred

shares as opposed to common shares. Ordinary shares are shares of participation in the share capital of a company, which are distinguished from privileged shares since the latter enjoy pre-emption rights compared to ordinary shares, with regards to the distribution of dividends and the liquidation of capital (BREALEY, 2016).

Consequently, while venture capitalists are renowned for propelling start-up growth, there has been a shift in recent times with hedge funds and mutual funds stepping in significantly. They provide substantial financing to secure equity in the enterprise, thereby asserting a more considerable stake in the company's ownership and future.

For example, Fidelity Investments, one of the largest investment funds in the world, contributed \$425 million to increase the value of Uber (Entrepreneur, 2014). This growing interest is a consequence of the greater competitiveness and cost of purchasing shares once the company goes public.

3.1.1. Spread and distribution of unicorns

The advantages presented by remaining private have led to an increasing number of firms opting to stay private, amassing sufficient capital to be designated as "Unicorns".

As of 2023, there were over 1000 Unicorn companies worldwide (Fig. 8) (CBINSIGHT, 2023), 23 were born during the Q4'23 (Fig. 9):

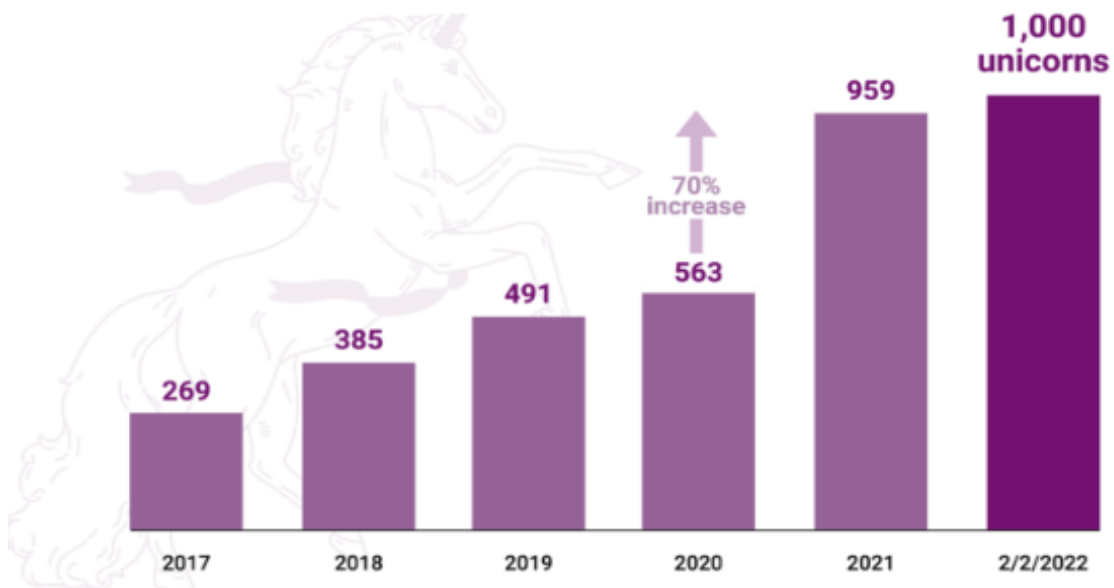


Figure 8: Billion-dollar companies in the world, CBInsight, 2022

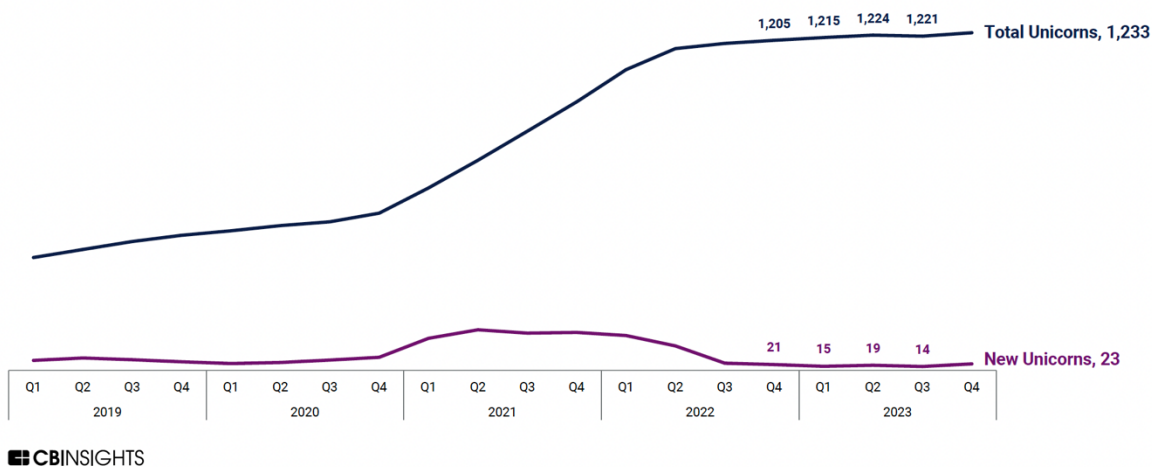


Figure 9: Quarterly new and total unicorns, CBInsights, 2023

In order for a company to be able to call itself Unicorns it is also necessary that it:

- has always been private.
- has been, at least once, financed by institutional capital (e.g. banks, finance companies, mutual investment funds).
- again, market valuation of at least one billion dollars.

The sector with the largest number of Unicorns is tech, whose main segments are internet, software, and e-commerce:

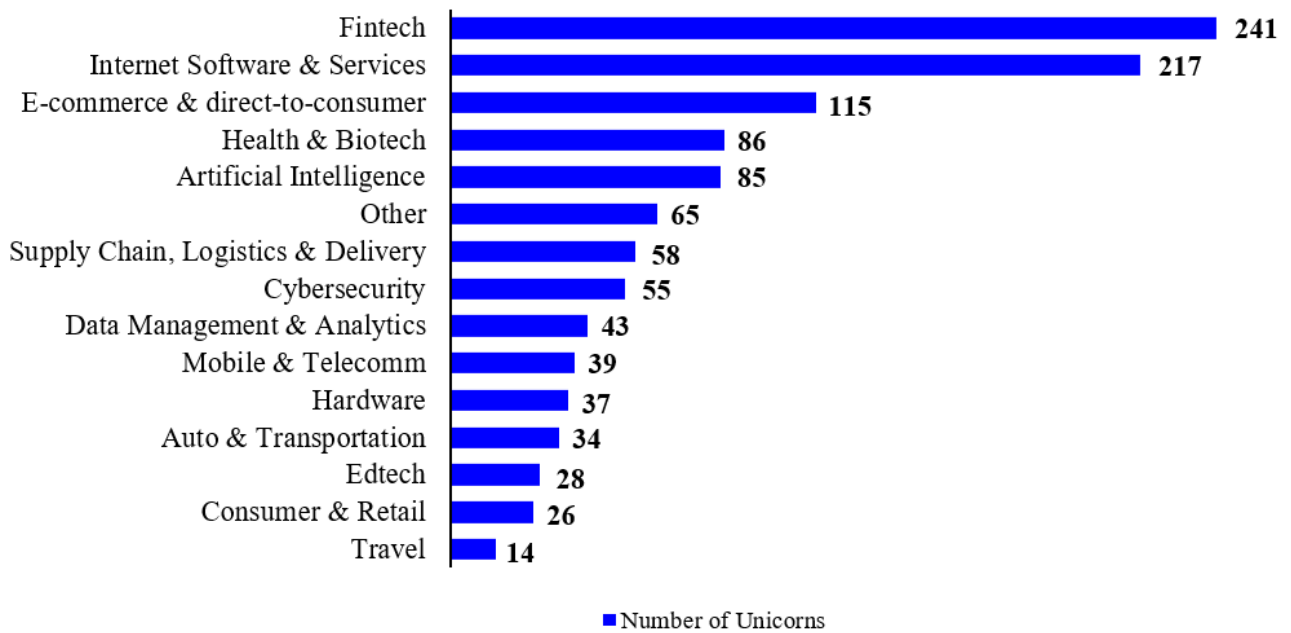


Figure 10: Number of Unicorns by industry, 2023, personal Excel elaboration

The emergence of the Unicorns initially took place in the Silicon Valley region of San Francisco, which is renowned as the birthplace of the world’s major high-tech corporations, ranging from Facebook and Google to Apple. The abundance of available support services and infrastructure made it the prime landscape for the emergence of new startup companies. VC investor Aileen Lee was responsible for coining the term Unicorns (LEE, 2013), referring precisely to the area of Silicon Valley where 39 billion-dollar companies were located at the time. Consequently, the United States may be regarded as the birthplace of this trend, which subsequently evolved into a global occurrence.

3.1.2. Top Valued Unicorns in Q4 2023

The final quarter of 2023 witnessed significant valuation surges among the leading unicorns—privately held startup companies with a value of over \$1 billion. The table derived from CB Insights (CBInsights, 2023) provides a comprehensive look at these unicorns, indicating a diverse array of sectors driving innovation and attracting investment on a global scale.

Company	Latest Valuation	Country	Sector	Industry Subindustry
1 ByteDance	\$225.0B	China	Internet	Internet Software & Services Social
2 SpaceX	\$150.0B	United States	Industrials	Aerospace & Defense Commercial Aircraft Manufacturing
3 SHEIN	\$66.0B	Singapore	Internet	E-Commerce Apparel & Accessories
4 Stripe	\$50.0B	United States	Internet	Internet Software & Services Payments
5 Databricks	\$43.0B	United States	Internet	Internet Software & Services Application & Data Integration
6 Revolut	\$33.0B	United Kingdom	Mobile & Telecommunications	Mobile Software & Services Accounting & Finance
7 Epic Games	\$31.5B	United States	Software (non-internet/mobile)	Gaming N/A
8 Fanatics	\$31.0B	United States	Internet	E-Commerce Sporting Goods
9 OpenAI	\$29.0B	United States	Internet	Internet Software & Services Application & Data Integration
10 Canva	\$25.4B	Australia	Internet	Internet Software & Services Multimedia & Graphics

CBINSIGHTS

Figure 11: Top Valued Unicorns in Q4 2023, CBInsights, 2023

The diversity in sectors such as internet, aerospace, fintech, and software underlines a broader trend of technological convergence, where the integration of various technological domains facilitates innovative business models and services.

Furthermore, the following Fig. 12 shows the geographical distribution of Unicorns companies (CBInsights, 2023). The United States holds the largest number of Unicorns (n.668), followed by Asia (n. 307) and Europe (n. 187).

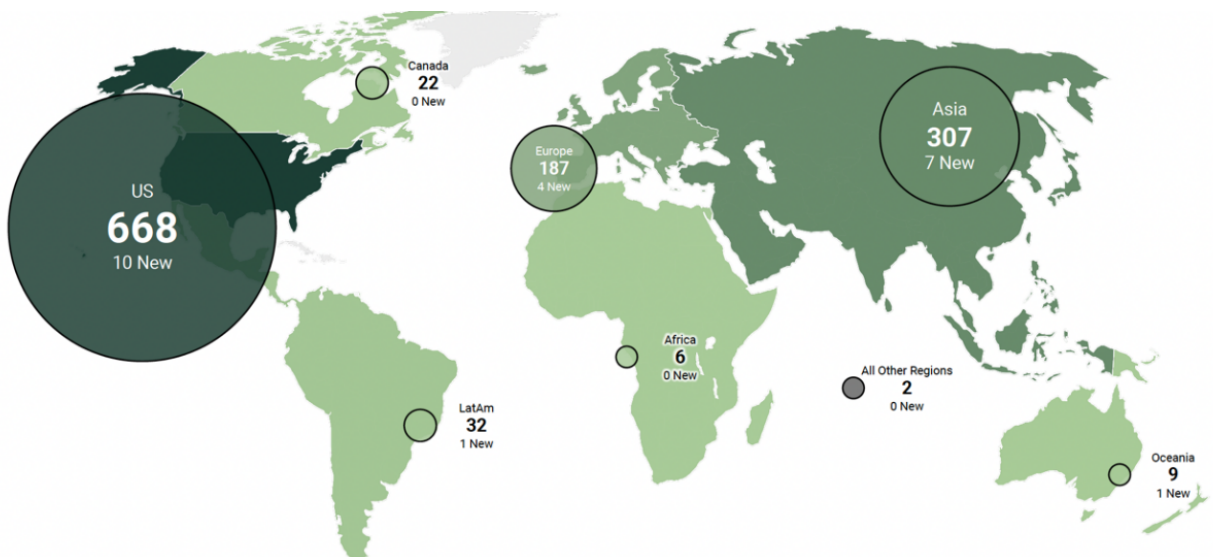


Figure 12: New & total unicorns by global region in Q4'23, CBInsights, 2023, personal Excel elaboration

3.2. Business models of unicorn companies

3.2.1. From pipeline model to platform model

Traditionally, the concept of economic worth is linked to the creation of goods and services. The core elements in establishing economic worth involve the methodologies employed in the output's generation (production) and its allocation throughout the economic system (distribution), along with the utilization of proceeds derived from said production (reinvestment). Wealth generation stems from the transformative process that converts raw resources into goods and services. Within this framework, the pivotal entities are the producers, consumers, and government entities, with the prime goal being the fabrication of goods and services. The foundation of production rests on a variety of inputs, predominantly those that can be physically quantified such as labor and various categories of capital, encompassing both material and intellectual forms. The changes that have characterized the digital transformation, such as new technological developments, global openness, access to repeatability volume of information and a faster development of economies, have led to the progressive evolution of business models from traditional ones having a structure called "pipeline", to the so-called innovative business models characterized by flexibility, scalability and an omni-channel approach, among which the "platform model" has taken on particular importance. The transition from linear interaction models, "pipelines", towards more ecosystem-based forms of transactions that use platforms is called "platformization".

The pipeline model is characterized by a linear value chain or by a vertical integration of the supply chain which provides for direct control by the company of the phases of transformation of resources from input to output. In pipeline models, goods and services are produced along a series of linear activities and “pushed” to the customer through a series of value-adding phases (“push” model). In traditional models, demand (and production) and supply (consumption) are considered two clearly separable processes where production consists of a linear supply chain of integrated businesses, each adding a piece of value to an output from which a passive consumer derives a private benefit.

The platform model provides a virtual infrastructure, represented by the platform, within which exchanges between two or more interdependent groups, usually producers and consumers, are facilitated. Parker et al. (PARKER G., 2016) they define the platform as "a business based on enabling interactions that create value between external producers

and consumers". The platform therefore provides an open and participatory infrastructure for these interactions, which "pulls" the creation of value towards the platform itself ("pull" model). The platform model works in a circular manner as a feedback loop where data and interactions (i.e. the network) are the main resource and source of value. In fact, in the digital economy, an omnichannel approach prevails. Both traditional companies, i.e. those that adopt the pipeline model, and start-ups that follow the platform model, aim to build economies of scale capable of guaranteeing them the reduction of costs and the increase in production volumes. But, while the former focus on the supply side, the latter focus on the demand side. Traditional companies that exploit economies of scale increase sales volume by decreasing the average cost of assets, which allows them to reduce sales prices and consequently further increase volume. The increase in size allows these companies on the one hand to reduce costs, and on the other to create price barriers to the detriment of competitors who are unable to align their prices to the lower threshold. Start-ups exploit economies of scale on the demand side, i.e. increasing interactions with external actors, users, and customers, and therefore the size of the community. In other words, they achieve their competitive advantage by creating network economies.

More interactions allow startups to provide better service to their customers. This attracts new participants who contribute to increasing the size of the community and the volume of interactions. A virtuous circle is therefore created which, in turn, generates value for the company.

The choice to achieve economies of scale on the supply or demand side reflects the way in which the company decides to relate to the external environment. Traditional companies are closed to external actors, often seen as threats and potential obstacles to business growth. They are, in fact, characterized by direct control and organizational boundaries that make the company a well-defined entity separated from the outside. The strategy revolves around building barriers. Start-ups, on the contrary, are characterized by having an attitude of absolute openness and consider external forces as accretive, capable of adding value to the company and necessary for its growth. The strategy's emphasis transitions toward the removal of obstacles hindering production and consumption in order to optimize the generation of value through beneficial customer interrelations. The procurement of new value is associated with gathering data and fostering innovation that arises from engagement with customers, as well as the

integration of customer interactions on the platform into the production processes. Viewed through this lens, the platform framework additionally allows for the broadening of outsourcing as well as the assimilation of customers within the system.

The shift from pipeline businesses to platform-based models encompasses three principal transformations:

- from the control of resources to the orchestration of them.
- from optimizing operations internally to engaging dynamically with external entities.
- from concentrating on delivering value to individual customers to enhancing the value of the entire ecosystem.

3.2.2. The creation of value in the digital age

In contemporary digital economy business structures, the genesis of value is principally influenced by two interconnected and ascending dynamics: the establishment of platforms and the financial capitalization of the swiftly proliferating data in the digital realm. Entities that operate these digital platforms are pivotal in this economic sector, and digital information has ascended to a critical asset in the economic machinations that can culminate in value generation. The synergy between these platforms and digital information plays a crucial role in the appropriation of the generated value.

Digital platforms are increasingly important for the world economy. The combined value of platform companies with a market capitalization of more than \$100 million was estimated at more than \$7 trillion in 2017 (up 67% from 2015) (ROBINSON, 2020).

Worldwide digital entities have secured formidable positions in various industry segments. Google commands nearly 90% of the internet's search segment. Facebook possesses over two-thirds of the global social network sphere. Amazon holds a commanding near-40% stake in global e-commerce transactions and mirrors this in its dominance of the worldwide cloud infrastructure service domain with Amazon Web Services. In China, WeChat, Tencent's prodigy, engages over a billion active accounts, and together with Alibaba's Alipay, dominates the entirety of the Chinese mobile payment ecosystem. Concurrently, Alibaba commands a staggering 60% of the e-commerce landscape in China.

Several dynamics contribute to these digital behemoths' swift ascension to preeminence. Primarily, this is attributed to the phenomenon of network effects—the more extensive the user base, the greater the platform's utility magnifies. Secondly, these platforms possess an unparalleled capability to harvest, govern, and scrutinize vast data volumes. Just as with network effects, a larger user pool equates to more extensive data, which in turn translates to an amplified capacity to eclipse competition and leverage early entrant benefits. Tertiarily, the moment a platform gains momentum and initiates a suite of integrated services, user switching costs to alternate providers become increasingly prohibitive. To entrench their market positions, global digital platforms have implemented strategies, including acquiring emerging rivals and venturing into ancillary products or services.

Notable amalgamations within the digital platform sector include Microsoft's assimilation of LinkedIn and Facebook's integration of WhatsApp. Alphabet (Google) and Microsoft have penetrated the telecommunications hardware arena through the acquisitions of Motorola and Nokia. Concurrently, tactical alliances are being forged between Multinational Enterprises in conventional industries and leading digital platform corporations. Noteworthy collaborations include Walmart's alliance with Google for Google Assistant utilization; Ford and Daimler's engagement with Baidu's Apollo project; Google's partnership with Volvo and Audi to forge the Android Automotive platform; GE's alliance with Microsoft harnessing Azure cloud offerings; and the cooperative endeavor between Intel and Facebook to innovate a novel AI processor. To encapsulate, it is thus discernible that digitization is transforming the economic paradigm principally via two core conduits: digital platforms and the data they wield.

3.2.3. Digital platforms

Digital platforms can be considered an ecosystem always having the same basic structure, in which different actors take part, namely (Fig. 13) (CALDERINI, 2020):

- the owners of these digital platforms, who manage their intellectual property rights and steer their rule-setting.
- suppliers, who act as the conduit to the clientele.
- the producers, responsible for crafting the services provided.

- consumers, who reap the advantages of these services.

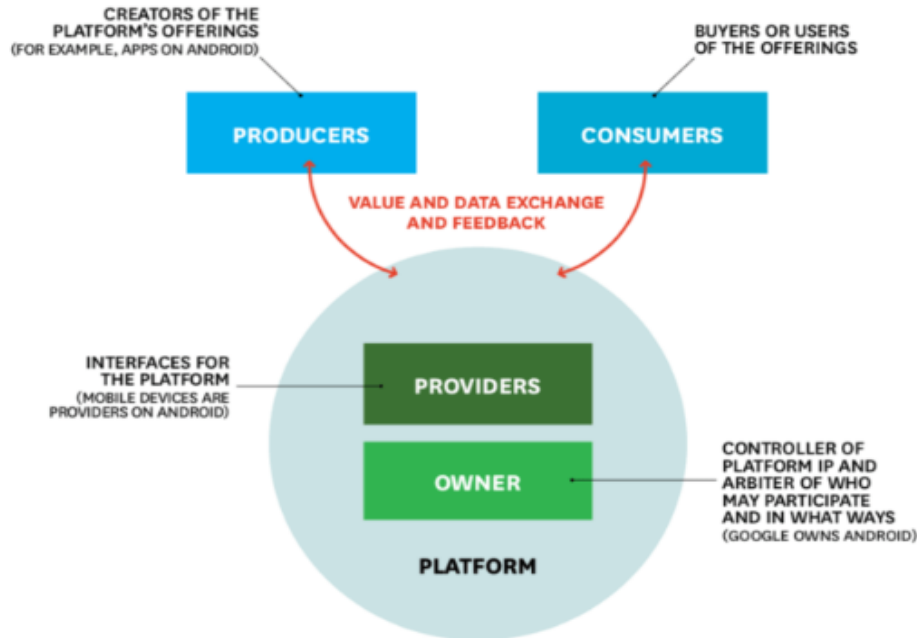


Figure 13: Digital platforms structure, Calderini, 2020

Platforms are intermediaries when they connect different groups of people (e.g. Uber which connects pilots and drivers) but they can become infrastructures when they provide the possibility for different parties to build on them (e.g. Facebook which allows its users to develop their own pages on the platform). However, digital platforms can also be divided taking into account the monetization strategies adopted and the type of service offered. As regards monetization, a distinction is made between a subscription platform, i.e. a platform that monetizes by making its users pay for the subscription, and a freemium platform, i.e. a platform that does not monetize in this sense. This last category includes advertising platforms (including Facebook and Google), e-commerce platforms (including Amazon and Alibaba), product platforms (including CarToGo) and cloud platforms (including Alibaba Cloud and Google Cloud Platform). A further distinction considers the type of main transaction performed. Therefore, a distinction is made between exchange platforms (or transaction platforms), i.e. platforms that offer an infrastructure aimed at supporting exchanges between a series of different parties, and market platforms (or innovation platforms), i.e. platforms aimed at developing

applications and software in the form, for example, of operating systems (e.g. Android) or technological standards (e.g. MPEG video).

While transition platforms create value through direct exchange between consumers and producers, innovation platforms create value through the creation and distribution of complementary products to the public. The undoubted complementarity between the two types of platforms has in fact contributed to the overlap of the two, which has led to a set of innovation platforms that have intersected with transition platforms, giving rise to strategic partnerships of great economic value (e.g. Google with Android). Driving the growth of the platforms is the so-called "network effect", this consists of a set of benefits that derive to users of a platform from the membership of other users. However, the network effect is also a harbinger of negative effects that put the survival of the platform or the correct functioning of the market at risk. If managed correctly, however, the network effect can exponentially increase both the size and value of the platform, classifying it as an important asset.

3.2.4. Characteristics of the IPO and the origins of the Unicorns

Choosing to go public is perhaps one of the strategic choices that can be important and have an impact on the future of a company. In fact, in addition to being able to modify the company's founding project from various points of view, it has the potential to become both a source of success for a company and a source of its failure. Obviously, this last case is the result of a wrongly conducted listing process (BORSA ITALIANA, 2001).

An IPO, as stated in the Chapter 1, is nothing more than a type of public offering in which a company's shares are sold for the first time on the market on a stock exchange. Thanks to IPOs, companies can:

- increase capital expansion (primary IPO).
- monetize the investments of the first private investors (secondary IPO).
- go public on the stock exchange.

For the unicorns, the IPO has several pros and cons. As regards the pros, they can be divided by different nature, namely:

- **Financial:** Going public via a stock exchange listing enables firms to tap into a broader and more varied spectrum of capital resources. Moreover, this process prompts organizations to consistently disclose information regarding their operational endeavors and the subsequent outcomes. Also, the influx of funds from an Initial Public Offering (IPO) bolsters a corporation's own capital reserves, which in turn enhances its capacity to secure additional financing through debt and equity channels.
- **Company profile:** An Initial Public Offering (IPO) not only enhances a firm's visibility and draws more focus from the investment community, but it also boosts its standing and prominence over its private counterparts. The stature of the company elevates with an IPO, empowering it to bolster its capacity to attract and retain talent by offering equity-based incentives, such as stock options.
- **Liquidity:** IPO is capable of increasing both the market value and valuation of any company. This increase allows shareholders to have greater negotiating power with the hypothetical buyers of their shares.

As regards the cons for unicorns deriving from an IPO, however, it is worth underlining that they are attributable to the obligations that concern it, the loss of share control, its dilution and the higher costs deriving from management and general expenses.

Shares purchased by a company's shareholders make them partial owners of the company. In the case of an IPO, however, the greater number of shares in circulation has the direct consequence of reducing the value represented by each share.

In the course of transitioning to a public entity via an Initial Public Offering, the expertise of the governing board, the competency of the management crew and consulting parties, along with the readiness to function within the public sphere, are the pivotal elements that most significantly influence the ease of the shift to a publicly traded corporation.

Management has the task of dedicating the right attention to public relations, which are necessary to inform the investment community about the developments and performances that the company is undergoing.

Opting for an Initial Public Offering (IPO) is a deliberate strategic move that necessitates the formulation and execution of a comprehensive operational strategy. In addition, entities that are publicly traded are obliged to adhere to the regulations of securities legislation and the stipulations of stock exchange requirements. Oversight bodies dedicate their attention to the management of publicly held firms, with increasing anticipations for the roles and responsibilities of corporate boards and their committees. Such companies bear the onus of fulfilling rigorous and continual disclosure obligations.

Attaining a valuation of one billion dollars is often set as an objective by the management of private companies, aiming to reach a relatively uncommon stature within the private sector. On the other hand, as stated by Stewart Butterfield, founder of a start-up in the technology sector, “a billion dollars or nothing” (GRIFFITH E., 2015). In this scenario, the psychological factor plays a fundamental role, this is because it pushes individuals towards personal fulfillment. The peculiar characteristic of Unicorns companies is, without a shadow of a doubt, their private nature. Suffice it to say, in this regard, that previously, the achievement of a state of international importance inevitably passed through the listing on the stock exchange through the classic IPO method.

In the scenario of a Unicorn enterprise, funding is garnered via what is termed as a PIPO, that is, private Initial Public Offerings that enable these firms to retain their private status for extended durations, thereby circumventing the hazards and expenses linked to becoming a public entity.

The array of advantages that the private marketplace offers has played a substantial role in the widespread proliferation of the Unicorns phenomenon internationally.

3.3. PIPO

PIPO, or “private IPO”, is the process of raising capital through private placement. The process appeared for the first time in the financial markets in 2012 and since then its impact has been such as to surpass the classic IPOs in terms of the number of transactions carried out (Fig. 14) (SILICON VALLEY BANK, 2016) from Q3’14.

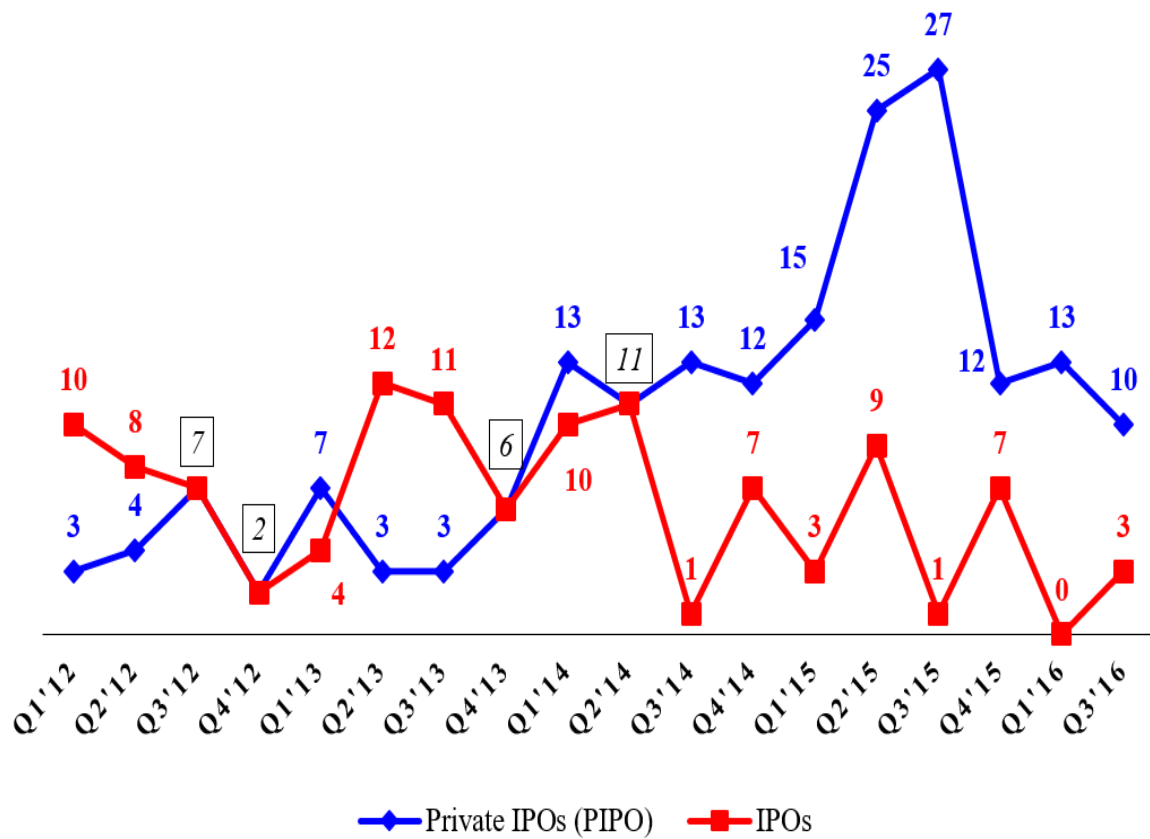


Figure 14: Number of IPO and PIPO Transactions for US Technology Companies, SVB, 2016

PIPOs have been broadly backed by unconventional venture investors like private equity (PE) firms and major asset managers (crossover investors) (Silicon Valley Bank, 2019). Crossovers feature prominent names such as BlackRock, Coatue Management, Fidelity Investments, Franklin Templeton Investments, T. Rowe Price, The Hartford Financial Services Group, Tiger Global Management, and Wellington Management.

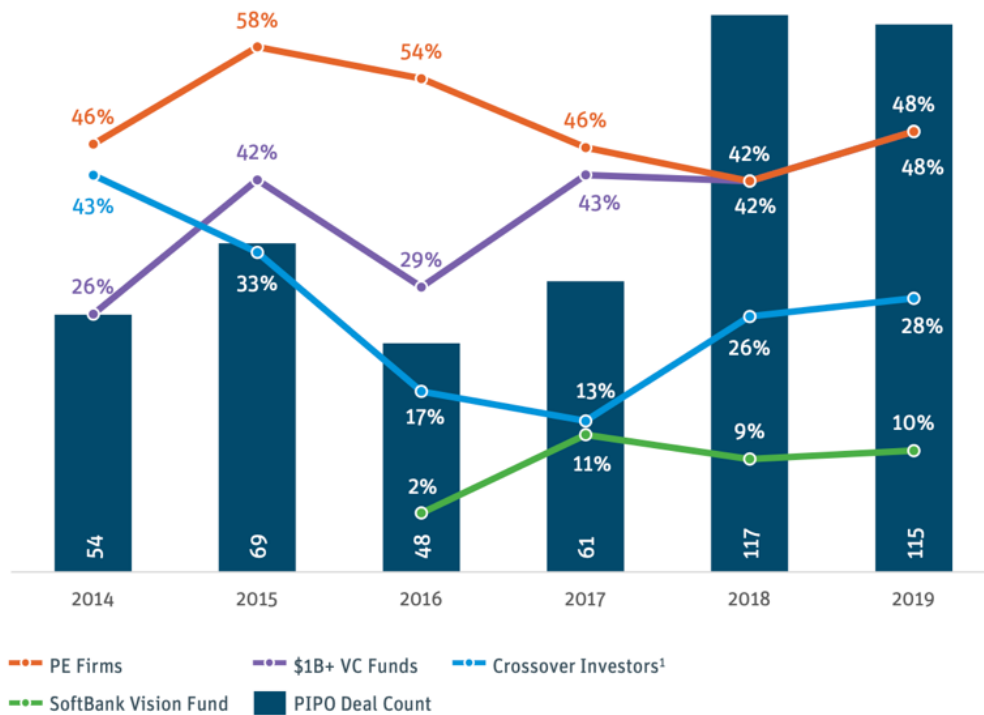


Figure 15: Participants in US Tech PIPOs, SVB, 2019

What sets a Private IPO (PIPO) apart from a traditional IPO is that the former does not lead to a listing on a public stock exchange, allowing the enterprise to retain its privacy. Essentially, businesses attain a stage of growth at which they are capable of initiating a public offering of their shares. The offering can be primary or secondary: a primary offering is realized when the objective is to sell shares to raise liquidity for the company, a secondary offering when existing shareholders choose to sell part of the securities held in order to monetize their holdings (BREALEY, Principles of Corporate Finance, 2012). Actually, a multitude of elements incentivize leaders to favor maintaining a company's operations within the private domain, encompassing the burdens of red tape and the expenses related to generating information for dissemination to the investors. It should be emphasized that the private-to-public process is not one-way, and it is not uncommon for listed companies to choose to take on a private ownership form. Private Equity (PE) is the capital of external investors used primarily to finance start-up companies. However, it can also be used for renovation and other operations (BREALEY, 2016). The process involves the provision of venture funding by institutional backers to companies that are

not publicly traded, often referred to as the target entities. Through this infusion of capital, the financier aims to yield substantial returns upon the divestment of the majority interest that has been obtained through the investment.

Investors in Private Equity (PE) typically channel their funds into businesses via two main avenues: venture capital and leveraged buyouts (LBOs).

Firms operating within Venture Capital (VC) focus their resources on enterprises that are in the nascent stages yet display considerable prospects for expansion. The myriad of financing activities undertaken are geared towards bolstering the enterprise, achieving enhanced credibility, and generating a revenue stream that facilitates its eventual acquisition. Leveraged buyout operations, on the other hand, have the objective of acquiring highly indebted companies (KAPLAN, 2008). Following a period of restructuring, the objective of the funds is to divest from the investment through the sale of the company to a different private entity or, as another option, by transitioning the company from a privately held to a publicly traded entity. Private Equity (PE) funds establish a governance framework that serves to mitigate the agency costs frequently associated with public corporations. Incentive schemes, monitoring mechanisms, and regulatory compliance are among the measures that investors utilize to circumvent such expenses.

The entry of LBO funds, in addition to revolutionizing the methods of market control, has significantly impacted both the governance structure of companies and current and potential targets. The steadfast nature of funding provided by Leveraged Buyouts (LBOs) mandates a reassessment of the expertise of those tasked with pinpointing businesses that exhibit poor financial results. Consequently, this calls for the recruitment of managers with exceptional acumen. In reaction to such a requirement, publicly listed companies are now incorporating governance protocols traditionally seen in enterprises managed by Private Equity (PE) firms. This shift has effectively led to a corporate overhaul: should an organization be marked by a frail governance framework; it is probable that its focus has veered away from enhancing company value—as it ideally should—to merely expanding the company's size and rate of growth.

Inevitably, the company's performance will be negative enough to lead to market pressure.

An organizational reorganization is therefore necessary based on the PE governance model, according to which performance must focus on the value of the company and not on its size. Furthermore, the presence of incentives and bonuses should help to raise performance and, therefore, create value (LESLIE P., 2008).

The governance structure of PE companies is characterized by:

- reduced number of members forming part of the board of directors (from 5 to 7).
- concentrated ownership and control.
- Board members and management with significant equity incentives.

This type of structure, especially by virtue of an extremely fair incentive system, better aligns the interests between shareholders and management compared to what happens in public companies. Although it is extremely complex to evaluate the performance of a PE fund, due to the limited data available on the fund's assets, there is nevertheless empirical evidence (GRUENER A., 2022) demonstrating the ability of PE funds to provide superior returns compared to publicly traded companies. Acknowledging that enterprises harnessing Private Investment in Public Equity (PIPO) are inherently private entities, it is crucial to recognize that PIPO's function is to prolong the duration of a company's private status. This extension permits the enterprise to reap the advantages of a Private Equity-like administrative and governance structure for an extended period, a scenario unequivocally advantageous since these aspects are pivotal for enhancing corporate performance.

Typically, an emergent corporate entity necessitates a couple or more modest capital injections within the private sector. As the business evolves, these funds become insufficient, necessitating a substantial increase in liquidity to fuel its growth, expansion, and to enhance shareholder value; this demand is traditionally met by executing a conventional Initial Public Offering (IPO).

The considerable capital influx that an IPO introduces to an organization can also usher in a slew of management challenges characteristic of publicly traded companies. An IPO inaugurates additional responsibilities, such as instituting organizational and governance

overhauls, fortifying the administrative and financial departments through a robust control and reporting mechanism, and adhering to mandatory statutory frameworks. Consequently, PIPO's role emerges as beneficial by allowing an enterprise to sustain its private standing before transitioning to public capital sources becomes imperative. For a typical company, the period from its inception to the execution of an IPO spans between 3 to 5 years—a timeline that can extend up to 11 years with the aid of PIPO. Thus, PIPO serves as an ancillary financial strategy that decelerates the company's natural trajectory of graduating from small-scale private investments to the public marketplace, while concurrently circumventing the challenges inherent in public company structures for as long as feasible.

3.3.1. PIPO market: supply, demand, and implications

The trend among numerous firms to opt for a privately held structure over a public listing underscores the capacity of Private Equity (PE) investments to make inroads into a company's governance, embedding the distinctive attributes of a privately-run entity. IPO financing is instrumental in sidestepping the issues commonly associated with public companies, facilitating a longer duration of private management. This utility has propelled the practice into a widespread, international pattern. The recent surge in the prevalence of PIPOs merits particular attention. To understand this rise, scrutinizing certain economic elements, such as the dynamics of private capital supply and demand, may yield insights. Indeed, just as enterprises might exhibit a proclivity for sourcing capital privately rather than through public avenues, investors similarly might display an increased inclination to allocate funds to private firms.

In delving into the demand side, a multitude of aspects come into play, sufficiently influential to sway companies towards seeking capital via PIPO routes, specifically:

- ***Overregulation of Public Companies:*** The United States has experienced a variety of regulatory modifications in the past few years that have substantially influenced publicly traded companies. It is enough to mention in this context, that in 2002 the Sarbanes-Oxly Act (SOX) (U.S. SECURITY AND EXCHANGE COMMISSION, 2002) was introduced, among whose clauses there exists a particular clause mandating that the CEO and CFO of a corporation must attest to

the complete conformity of their financial disclosures and operational outcomes with legal requirements, subject to punitive measures and monetary redress. What weighs most heavily on enterprises are the burdensome expenses required to ensure adherence to these provisions. In this regard, it is reported that in 2014 large companies spent more than a million dollars to comply with the SOX clauses (HELLER, 2015);

- ***IPO analysis and activities:*** Fair Disclosure (FD) was introduced in the United States in 2000, the main consequence of which was the decrease in the number of analysts following smaller companies. The production of information involves fixed costs, which are excessive for small businesses to the point of forcing them to reduce the disclosure of information. The reduction of analyzes inevitably implies the reduction of information available on the market, which in turn is responsible for a loss of interest in making investments in small public companies.
- ***Costs and risks of the IPO:*** the transition from a private company to a public company involves direct costs (e.g. subscription fees for bank investments, legal costs, etc.) and indirect costs (e.g. loss of discipline on the part of management).

From the supply point of view, the deterrent factors towards IPOs prove to be equally incisive, including:

- ***Low interest rates and the search for yield:*** In the wake of the 2008 financial downturn, the Federal Reserve slashed the interest rates applicable to bank borrowings, consequently diminishing the yields on financial instruments. This situation compelled both institutional and individual investors to look for more lucrative prospects in alternative investment avenues, including those in the private sector.
- ***Diffusion of PE investments:*** this type of investment has become essential for the capital market, with more and more institutional investors preferring it, taking it as the main strategy in the distribution of their funds.

The impact that a PIPO can have on a company could be to strengthen it by making it more resistant to market volatility. Typically, a Unicorn firm, bolstered by the

organizational and managerial frameworks provided by private equity, is well-endowed with the capital buffers needed to persevere in its operations, regardless of external market fluctuations that do not mirror its internal state. Contrarily, the success of a public IPO can hinge on internal attributes like managerial competence, as well as on extrinsic elements that are outside of the company's sphere of influence, such as prevailing market climates. Consider the plight of numerous burgeoning enterprises that had significant growth prospects but succumbed to insolvency in the wake of the financial downturn in 2008. Venturing into the public domain via an IPO can therefore expose the entity to a plethora of expenses and hazards linked to its ambitions to penetrate the public market. With a PIPO, however, a firm is equipped to amass ample capital to fuel its progression while retaining the advantage of remaining privately held for an extended period, deferring its market debut.

3.3.2. The emergence of PIPO transactions and the anatomy of Unicorns

Before PIPOs appeared, private equity investors used to focus on early-stage investments, all through venture capital funds or LBO funds. The growth capital needed to develop a company from an early-stage business to a more mature one has traditionally been provided either by larger companies that have acquired smaller ones, or from the public market through IPOs. Today's scenario turns out to be a completely different one, where more and more emerging growth companies choose to raise significant amounts of capital in private financing cycles, or PIPOs, which allow them to remain private until they become more consolidated and with the highest ratings. Fig. 16 reports the results of a study conducted by McKinsey&Co. in 2016 (ERDOGAN B., 2016) and analyzed a sample of 35 software companies founded starting from 1980 and which between 2004 and 2015 reached a valuation of 10 billion dollars.

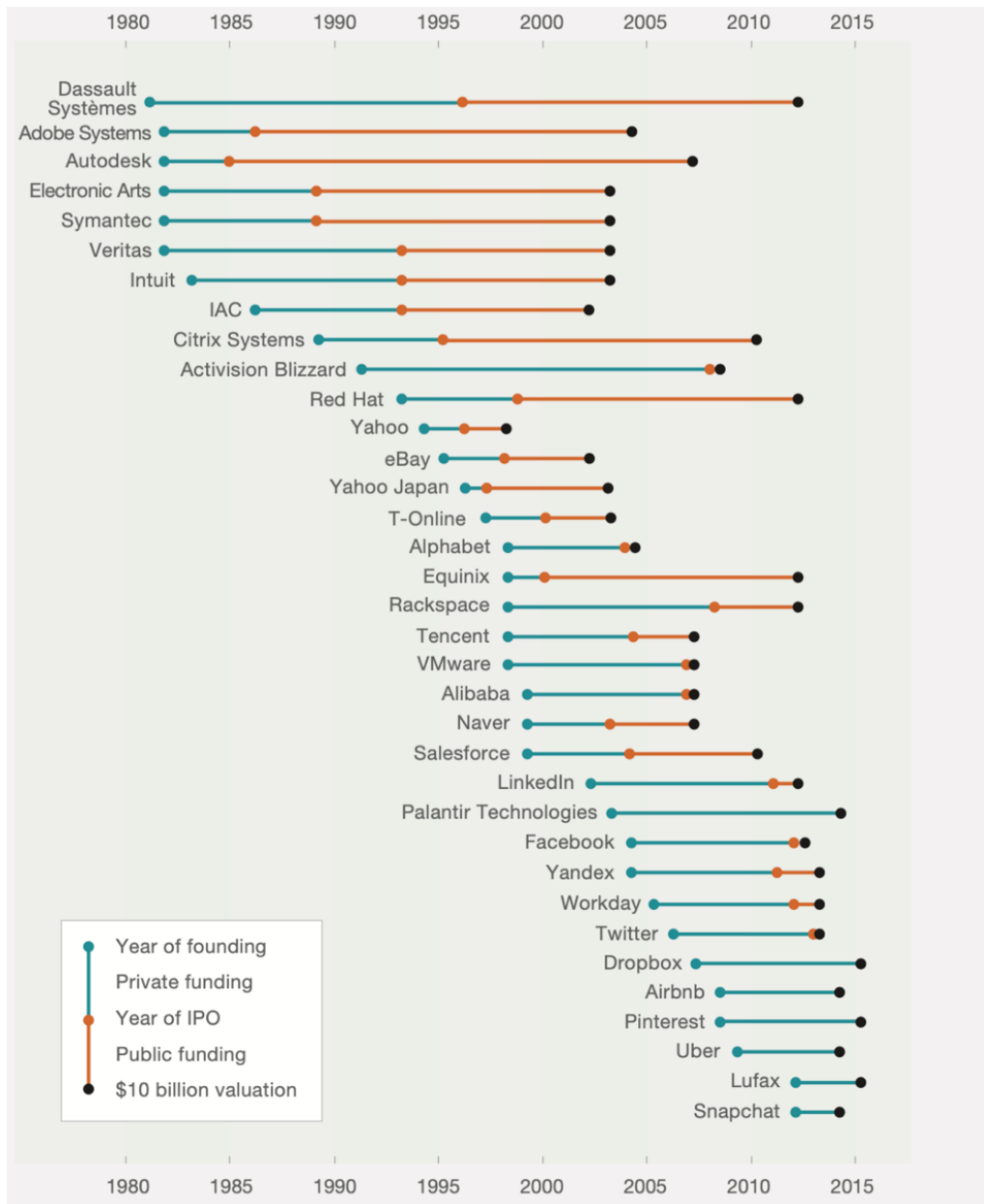


Figure 16: Software companies are increasingly reaching \$10 billion in value without going public, McKinsey&Co, 2016

What first emerges from the image above is that from 1980 to the early 2000s none of the companies considered reached a valuation of 10 billion without becoming public. Since the 2000s, however, the greater use of IPOs has actually speeded up the achievement of this valuation, this is because companies arrived at the IPO when they had already assumed larger dimensions than in the past. It should be noted that if it were not for the PIPO transactions, companies that had retained their private status and accumulated capital in excess of \$100 million, it is probable they would have required entry to market

avenues to amass that level of funding. The analysis of companies that have used PIPO financing to the extent that they qualify as unicorns allows to highlight how they have managed to remain private for an average of 7 years. Furthermore, in recent years they have also been able to raise total funds far exceeding the median amounts raised through global technology IPOs. The study by Erdogan et al. (ERDOGAN B., 2016), in fact, highlights that during the period of analysis (ending in mid-2015), the median proceeds of technology-based IPOs globally were \$265 million, while the median amount of the total capital raised by unicorn businesses through PIPO financing was \$287 million. The capacity of firms funded through private means to sustain or surpass their present market assessments hinges on their operational performances as well as their aptitude for producing robust forthcoming revenue streams. Enterprises that fall short in reaching their functional goals consequently leave themselves vulnerable to the peril of devaluation and an intricate process of securing capital.

3.4. The evaluation of the unicorns

“Maybe those companies (the Unicorns) seem more valuable than they actually are” (STREBULAEV, 2018).

The former president of the Security and Exchange Commission Mary Jo White expressed herself in these terms regarding the Unicorns companies. What do investors think? Specifically, do they consider Unicorns overvalued, fairly valued or undervalued? From a survey (STREBULAEV, 2018) conducted at Stanford University it clearly emerges that the majority of investors interviewed (98%) consider unicorns overvalued. An example of overvaluation can be found in the company Square, which was valued at 6 billion dollars before going public. One study, however, found that late-round investors had inflated the valuation. According to calculations, Square was actually worth 2.2 billion dollars. Startups in the private sector commonly engage in multiple stages of capital raising, where investors infuse financial resources into the enterprise in return for equity stakes. Each successive round of financing serves to set a fresh valuation benchmark for the business. These ratings are based on several factors, including market size, revenue, and management. Several investors and analysts argue that the above process tends to bring with it a propensity towards higher prices, this is because private markets are saturated with investors intent on seeing their shares appreciate. What

distinguishes private markets from public ones is the optimism that rages in them. Optimism given by private investors who, unlike public investors, are limited in their ability to sell their stake in the company and cannot bet against the shares by shorting them.

The valuation in the VC sector is called Post-Money Valuation, this is because it takes into account the money raised in the last round of financing by calculating the value using the relationship between "price paid by the VC or investor/invested capital" and "shares received". In private Venture Capital, an additional formula is used, which multiplies the price of preferred shares by the total number of ordinary shares. This presents a problem, however, as common stocks are completely different from preferred stocks, making any attempt to compare market capitalization valuation to VC valuation futile.

Wanting to focus on the evaluation of high-tech Unicorns, it is fundamental to have a precise estimation of their future performance and competitive dynamics, as this type of company is characterized by the dynamism and turbulence of the market. Suffice it to say, in this regard, that until a few decades ago there were no companies that today are worth tens, if not hundreds, of billions of dollars (e.g. Facebook, Uber, Google, etc.). The core challenge of appraising a start-up stems from its nascent nature. Although historical records are not infallible predictors, they provide a gauge for assessing a company's associated risk level, which can be telling of its prospective stability and profit potential. As highlighted earlier, Unicorn companies are often subject to overvaluation. Damodaran, in an attempt to identify the factors that lead to obtaining values that are sometimes discordant with reality, highlights the 6 main characteristics of young companies that could lead to overvaluation, namely:

- ***No history***: the lack of an extensive history for a company prevents from comprehending how it will respond to the inevitable external and internal pressures it will face.
- ***Little or zero revenues/operating losses***: this component elevates the risk aspects of the valuation, which relies on an extensive array of forecasts.
- ***Strong dependence on equity investments***: it is essential for start-up founders to find new venture capital or private equity capital, otherwise the startup will not survive.

- ***Many companies do not survive***: this factor represents a risk factor for investors.
- ***Clauses imposed by equity investors***: these can bind the company to certain behaviors in the event of a sale to new investors.
- ***Illiquid investments***: A critical consideration for those investing in a start-up is the exit strategy, which can often be challenging due to the illiquid nature of the stake in the company.

What makes the evaluation process of a high-tech company even more complex is its life cycle, which is much faster than that of a traditional company. When evaluating a company of this type, it is therefore essential to take into account the phase of the life cycle in which it is located. In this regard, the life cycle of start-ups has been divided into 5 phases (Fig. 17) (BELLANCA, 2022), namely:

1. ***Conception of the business idea***: this phase is characterized by the first investments and a moderate combustion rate.
2. ***Development and study of the project***: this phase is characterized by more substantial investments, zero sales and a high capital intensity.
3. ***Launch of the initiative***: this phase is characterized by the start of sales.
4. ***First adjustment phase***: this phase is characterized by the notable increase in sales and the reduction in investments.
5. ***Consolidation of the company***: this phase is characterized by a generated cash flow that exceeds the financial resources spent.

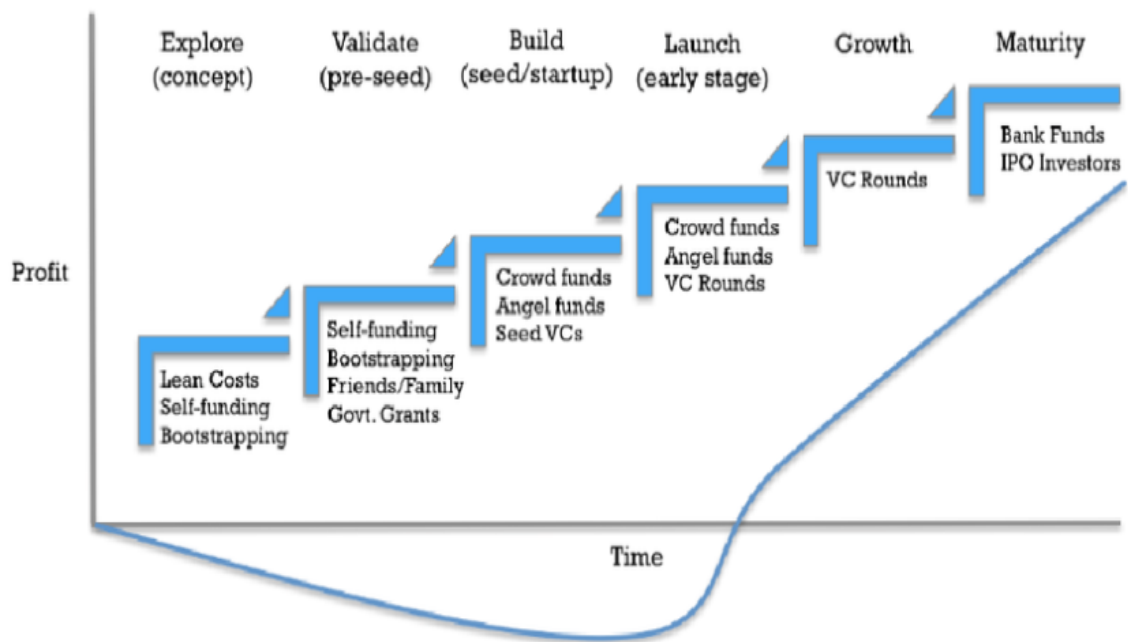


Figure 17: Start-up life cycle, Bellanca, 2022

A McKinsey study (McKinsey & Co, 2016) concerning the appraisal of advanced technology firms recognizes the Discounted Cash Flow (DCF) as the foremost trustworthy method for valuation. The rationale for this preference is attributed to its capacity to balance various potential outcomes, incorporate an assessment of potential risks, and provide an accurate forecast of forthcoming cash flows, which is further supported by the details laid out in the business plan. In conclusion, it can be reported, in accordance with the findings of Gornall and Strebulaev (GORNALL W., 2019), that “Despite the growing importance and accessibility of VC investments, the valuation of these companies has remained a black box. This is partly due to the difficult nature of valuing high-growth, illiquid companies. But to a large extent, this is due to the extreme complexity of the financial structures of VC-backed companies. These financial structures and their valuation implications can be confusing and are seriously misunderstood not only by outsiders, but also by sophisticated insiders.

4. THE AIRBNB CASE STUDY

4.1. Company Overview

Airbnb operates as a digital platform facilitating the rental of various accommodations, such as houses, cabins, treehouses, boats, castles, and luxury villas, by connecting guests seeking lodging in specific locations with hosts willing to rent out their spaces. This service allows for seamless booking through both mobile devices and online interfaces, categorizing its hosts into two main types: individual and professional. Individual hosts typically list their properties directly via Airbnb's app or website, whereas professional hosts usually manage multiple properties or hospitality services and often employ application programming interfaces for listing on the platform. Founded in 2007 and headquartered in San Francisco, California, Airbnb was conceived by Brian Chesky and Joe Gebbia, who were roommates and former schoolmates at the time. They initiated the venture by placing an air mattress in their living room to transform it into a makeshift bed and breakfast. By February 2008, Nathan Blecharczyk, a former roommate of Chesky, joined as the Chief Technology Officer and third co-founder. The original website, Airbedandbreakfast.com, launched on August 11, 2008. The brand name was simplified to Airbnb in March 2009, and the scope of accommodations was broadened from merely air beds and shared spaces to include a diverse array of lodging options such as entire homes, private rooms, and various unique properties. Airbnb Inc.'s initial public offering (IPO) on Dec. 10, 2020, left the hotel industry preparing for significant disruptions as the digital marketplace broke records and secured its status as “one of the most valuable IPOs in history” (Mancini, 2023).

4.2. Business Model

Airbnb adopts a platform-based business structure, where it enhances value through enabling interactions among interdependent parties, primarily involving consumers and producers. This business framework is underpinned by the principles of the shared economy, or peer-to-peer (P2P) model, where the transaction of acquiring, distributing, or sharing goods and services is facilitated by a community-driven online platform. Rather than directly supplying goods and services, companies within the shared economy generate revenue by bridging buyers with sellers. This concept of asset sharing among community members dates back millennia, evident from ancient marketplaces that

provided a venue for merchants to sell goods, alongside offering regulatory and protective measures. In the shared economy model employed by Airbnb, there are five principal stakeholders identified (Fox, 2020):

Airbnb's Stakeholders:

1. ***Hosts:*** Property owners who list their spaces on Airbnb, detailing the property and setting prices independently. They have the autonomy to approve or reject bookings based on guest reviews.
2. ***Guests:*** Users who reserve spaces through Airbnb, filtering options by location, price, amenities, and more.
3. ***Photographers:*** Freelancers hired by Airbnb to take high-quality photos of listings, which help increase bookings and aid guests in their decision-making.
4. ***Experience Providers:*** Local experts who offer specific activities like classes, tours, or events, also subject to guest ratings.
5. ***Hotels:*** Hotel chains that list their rooms on the platform, expanding their visibility and customer base.

Economic Relationships and Fees: The economic interaction within Airbnb involves service fees and commissions. Guests are charged a service fee ranging from 13% to 20%, while hosts pay a fixed 3% commission. Freelance photographers are compensated directly by Airbnb, and experience providers contribute a commission of up to 20% on booked activities.

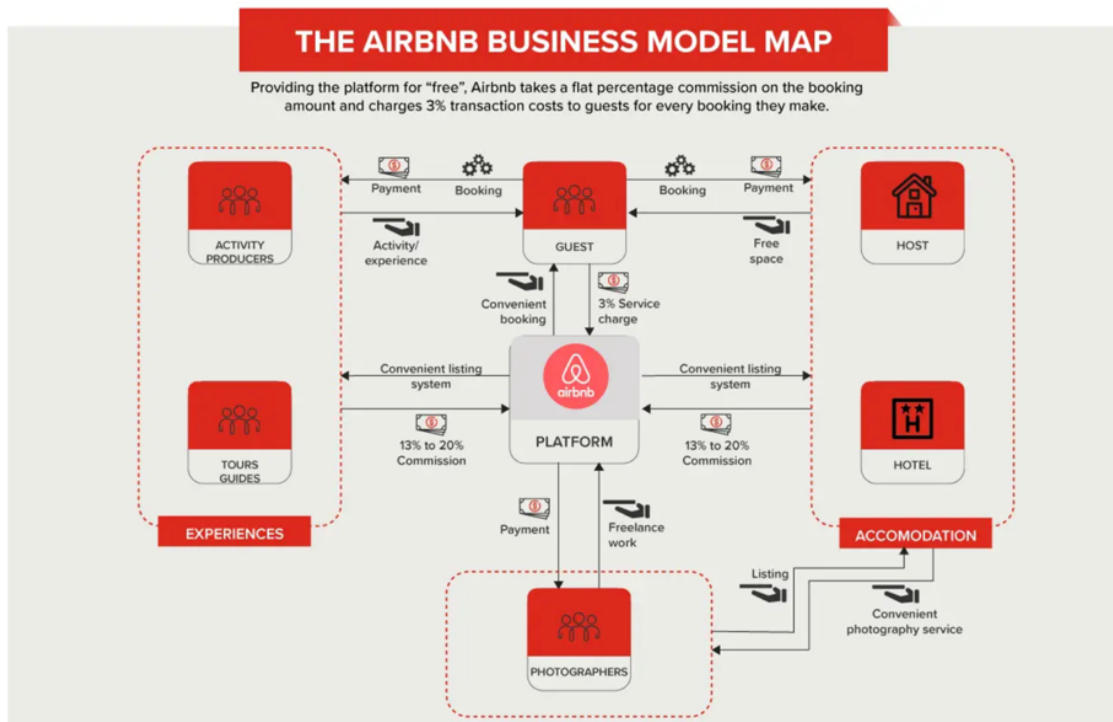


Figure 18: Fox, Gary – Airbnb Business Model Map: How Airbnb Makes Money

Airbnb's business strategy notably includes various customer acquisition methods. A significant portion of the company's budget is dedicated to marketing, which involves advertising through online platforms like Google and various social media channels, as well as through promotional campaigns and an affiliate system where existing customers can earn rewards for referring new users to the service. In terms of value offered, Airbnb allows property owners to list their spaces and earn revenue, providing insurance for properties while they are being rented out. For travelers, it offers a cost-effective and convenient lodging option, accompanied by a secure payment process. Furthermore, the platform enhances trust and service quality through a robust system of ratings and reviews that benefits both property owners and guests. This dual-sided approach not only boosts user confidence but also improves the overall reliability of the service.

KEY PARTNERS 🤝 <ul style="list-style-type: none"> • Hosts • Hotels • Experience providers • Corporate travel partners • Travel managers • Investors/ Venture Capitalists • Lobbyists • Photographers • Maps • Cloud hosting - AWS 	KEY ACTIVITIES 🔄 <ul style="list-style-type: none"> • Platform and technology development • Sales and marketing • Maintaining trust and brand reputation • Customer service/ experiences • Partner management 	VALUE PROPOSITIONS 💎 HOSTS <ul style="list-style-type: none"> • Income generation • Ease of listing • Calendar, booking system • Access to photographers GUESTS <ul style="list-style-type: none"> • Low cost accommodation • Variety of choices/ locations • Variety of prices/budgets • Unique options 	CUSTOMER RELATIONSHIPS ❤️ <ul style="list-style-type: none"> • Self-service • Own the relationship • Trust through verification • Tailored • Manage bad behaviour and risks 	CUSTOMER SEGMENTS 🎯 GUESTS <ul style="list-style-type: none"> • business travel guests • leisure travel guests HOSTS <ul style="list-style-type: none"> • Room unit/condo/house • House owners * Country/city/suburban/ city
	KEY RESOURCES 🧰 <ul style="list-style-type: none"> • Airbnb platform and mobile app • Platform architecture • Patents • Brand • Employees 	HOTELS <ul style="list-style-type: none"> • Access to guests • Booking system EXPERIENCE PROVIDERS <ul style="list-style-type: none"> • Income from guests • Platform/system 	CHANNELS 📡 <ul style="list-style-type: none"> • Digital ad campaigns • Social media • Word of mouth • PR - media coverage • App store 	EXPERIENCE PROVIDERS <ul style="list-style-type: none"> • Specialists * Tour companies PHOTOGRAPHERS <ul style="list-style-type: none"> • Freelance photographers HOTELS <ul style="list-style-type: none"> • Independent hotels • Hotel groups
COST STRUCTURE 📉 <ul style="list-style-type: none"> • Cost of acquisition • Weighted average cost of capital • R&D platform • Payment processing • Payroll/contractors • Infrastructure • Legal/insurance • Lobbying/PR • Customer support 		REVENUE STREAMS 💰 <ul style="list-style-type: none"> • Service fee per transaction • Hosts commission charge • Hotel commission charge • Experience commission charge 		

Figure 19: Airbnb Business Model Canvas, Gary Fox (Fox, 2020)

4.3. Financial Situation

To gain a comprehensive understanding of Airbnb's financial health, it is beneficial to examine the key metrics from the company. As reported on Airbnb's official website, the platform boasts 5.6 million listings across 100,000 cities in over 220 countries and territories, culminating in over one billion guest arrivals to date. Additionally, the platform supports more than 4 million hosts who have collectively earned over \$150 billion, with the average annual earnings per host now exceeding \$9,000. These figures highlight strong performance, despite the adverse effects of COVID-19. The progression of Airbnb can be tracked through various essential business indicators, including the aggregate of nights booked for stays and seats booked for experiences, adjusted for any cancellations and changes within the period (Airbnb, 2024).

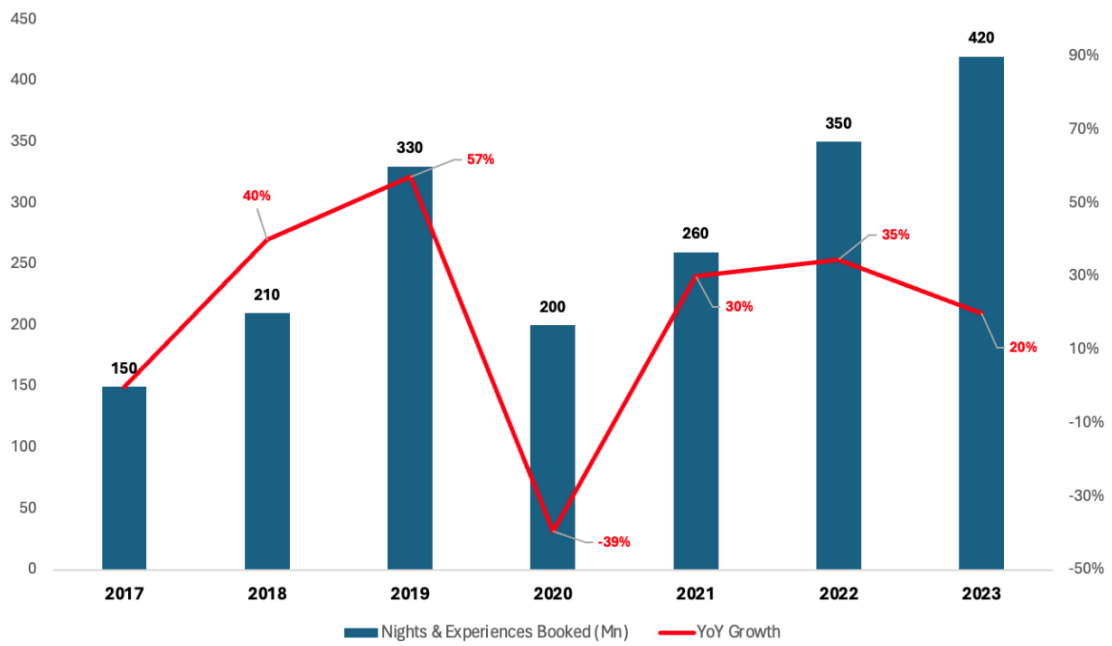


Figure 20: Airbnb, Nights & Experiences Booked (Mn), personal Excel elaboration

Another key metric for the accommodation services industry is the Gross Booking Value (GBV), fundamental as business indicator. It reflects the total dollar amount of reservations made through a platform over a specific timeframe. This metric includes the earnings of hosts, service charges, cleaning fees, and taxes, but is adjusted for any cancellations and modifications that took place during the period.

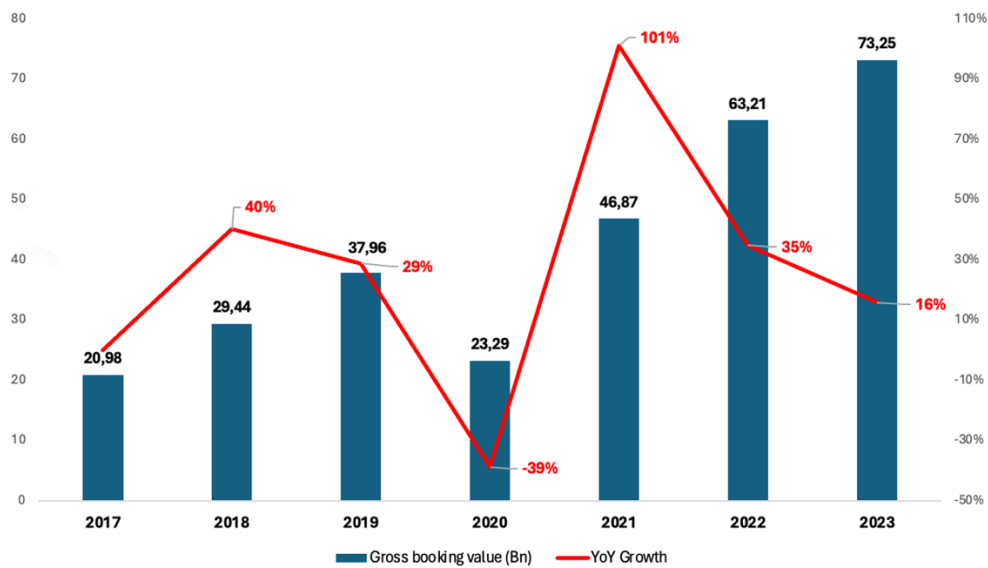


Figure 21: Statista, Airbnb Gross Booking Value (\$ Bn), personal Excel elaboration

The resurgence of the tourism industry, following the easing of its constraints, is mirrored in Airbnb's financial outcomes. As depicted in Figure 22, there is a clear upward trajectory in their quarterly income data. A comparative analysis (from Q3 2019 to Q4 2023) reveals that Airbnb's present quarterly revenue (ycharts, 2024) streams surpass those recorded in the years preceding the pandemic.

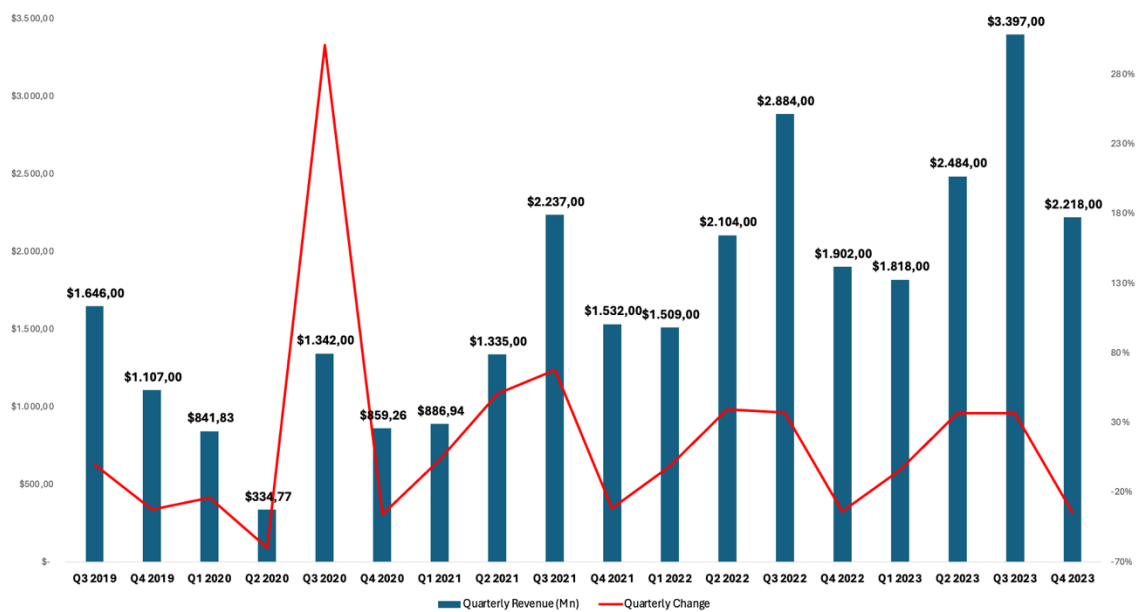


Figure 22: ycharts, Airbnb Quarterly Revenue (\$ Mn), personal Excel elaboration

Airbnb's evolution into a major enterprise with billions in annual revenue has been marked by a gradual path to profitability that mirrors the experiences of other unicorns. For a considerable time, the company grappled with the challenge of attaining favorable financial results, hindered by persistent high expenses. Up until 2021 (Macrotrends, 2024), Airbnb had not attained a positive EBITDA. Following this, both EBITDA and Net Income experienced downturns, with the COVID-19 pandemic exerting a significant adverse effect. The trajectory of these financial indicators has been positive, suggesting an uptick in Airbnb's independent profit generation capabilities. This trend is expected to maintain its momentum moving forward. The IPO in 2020 stands out as a pivotal moment for Airbnb, occurring amidst a financially strenuous year due to the pandemic. Despite the downturns in EBITDA and Net Income during the pandemic, by 2022, the company displayed a significant recovery, with EBITDA and Net Income reaching \$1.883 billion and \$1.562 billion, respectively. This revival continued into 2023, with EBITDA surging to roughly \$4.792 billion. This rebound may have been facilitated by the IPO, which could have provided crucial capital that allowed the company to navigate through the pandemic and set the stage for subsequent growth. The positive financial performance in the post-pandemic era, particularly after the economic challenges of 2020, indicates that Airbnb has not only rebounded but is also thriving, hinting at a solidified financial position and potential for sustained profitability in the future.

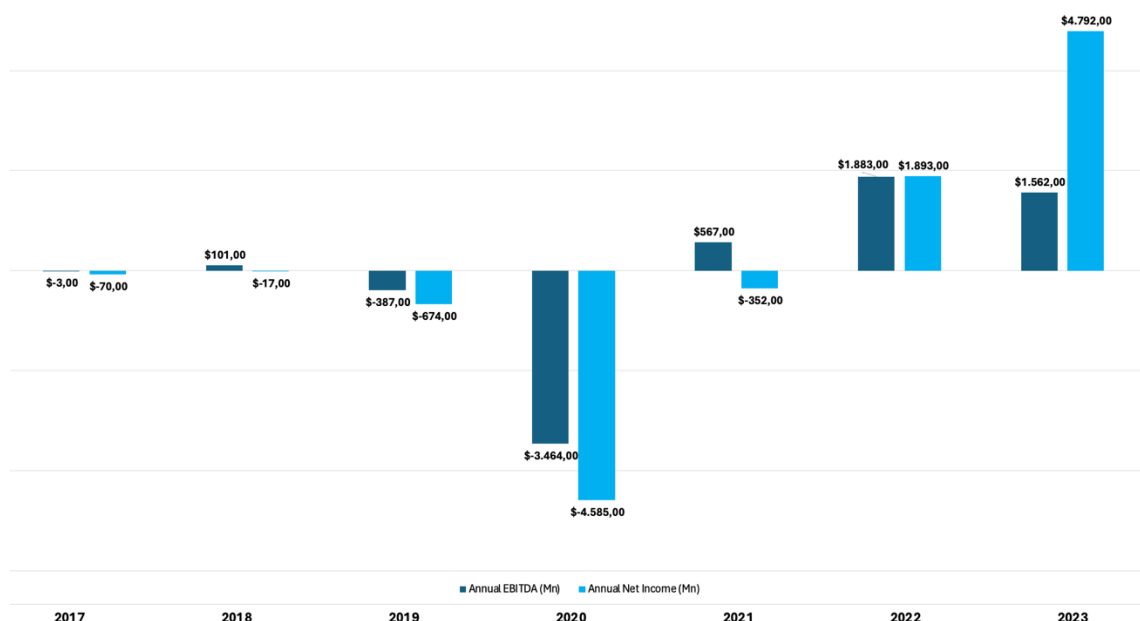
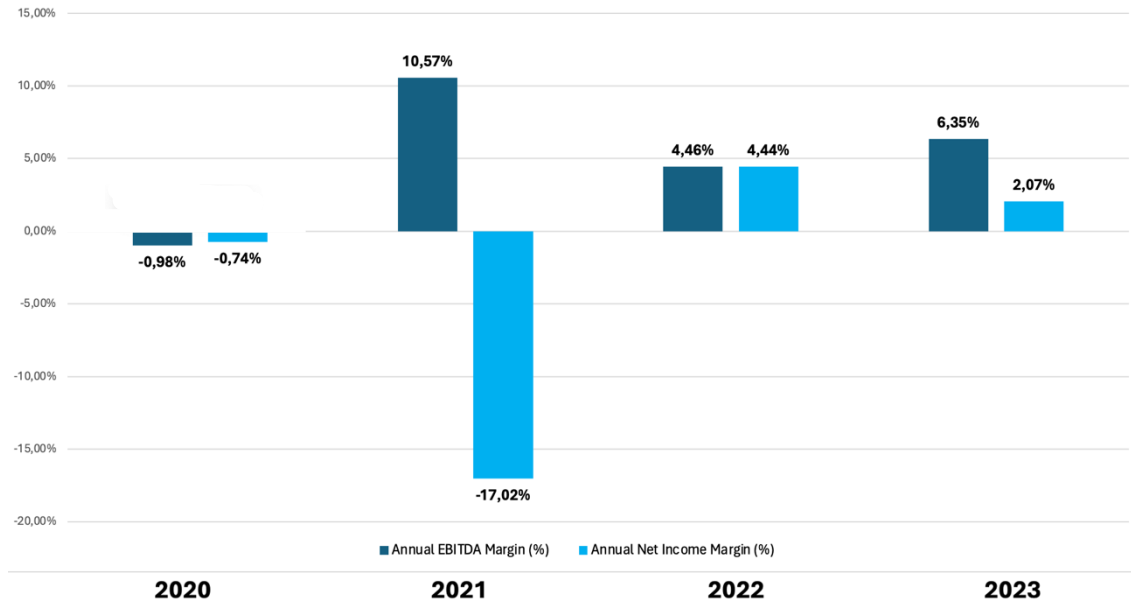


Figure 23: Macrotrends, Airbnb EBITDA e Net Income (\$ Mn), personal Excel elaboration

The enhancement of Airbnb's profitability is also evident in the increased percentage margins of EBITDA and Net Income relative to the Revenues (Margins):



these financial metrics are showing signs of improvement, indicating that Airbnb is starting to generate profits independently. It is anticipated that this trend of growth will persist in the future. This pattern suggests the company's earnings are closely tied to the fluctuating travel restrictions and consumer confidence levels. Despite these variations, a general trend of growth is observable, with the latest quarter showing a substantial rise in revenue, reaching a zenith not seen in the earlier periods reported.

4.4. Funding Rounds

As an established unicorn, Airbnb has effectively navigated numerous funding stages over its existence. Specifically, the company secured \$6.4 billion across 30 separate funding events from 2009 to 2010, according to Crunchbase (Crunchbase, 2024). Their latest funding was raised on Jun 3, 2020, from a Secondary Market round. Initially, to secure necessary startup capital, Airbnb employed a unique fundraising approach by selling themed cereal boxes. By marketing cereal boxes themed around Barack Obama and John McCain, Airbnb successfully raised \$30,000, selling 800 boxes at \$40 each.

4.4.1. Early Funding and Development of Airbnb

- **Seed Round and Acceleration:** In January 2009, Airbnb's innovative funding strategies, including their cereal box initiative, helped them gain entry into Y Combinator's winter session, where they received \$20,000. Despite initial skepticism about the business model, Paul Graham, co-founder of Y Combinator, was impressed by their creativity in funding. This led to an additional seed investment totaling \$615,000 from Sequoia Capital and Y Ventures, bringing the company's valuation to \$2.4 million.
- **Growth and Series Funding:** By November 2010, during their Series A round, Airbnb raised \$7.2 million from various investors such as Y Ventures, Sequoia Capital, and celebrities like Ashton Kutcher. This funding phase coincided with a significant growth spurt where 80% of the 700,000 nights booked on their platform occurred in just the preceding six months, bringing their valuation to \$70 million.
- **Expansion and Increased Valuation:** In subsequent funding rounds through July 2011 (Series B) and October 2013 (Series C), Airbnb continued to attract substantial investments from a mix of venture capital firms and notable individual investors, including Jeff Bezos and additional funds from Ashton Kutcher. By Series B, the company's valuation had escalated to \$1.3 billion, and by Series C, it reached \$2.9 billion.
- **Maturity and Global Recognition:** In April 2014 and June 2015, during Series D and E, Airbnb secured significant investments, enhancing their global market presence and technological infrastructure. Noteworthy investors included T. Rowe Price, Dragoneer Investment Group, and China Broadband Capital. By the end of Series E, the company was valued at an impressive \$25.5 billion. The final post money valuation was \$31 Bn.

The presented charts illustrate the progression of funding obtained by Airbnb across its various financing stages, alongside the company's valuation over time. This information provides an overview of Airbnb's financial growth and market valuation during these rounds.

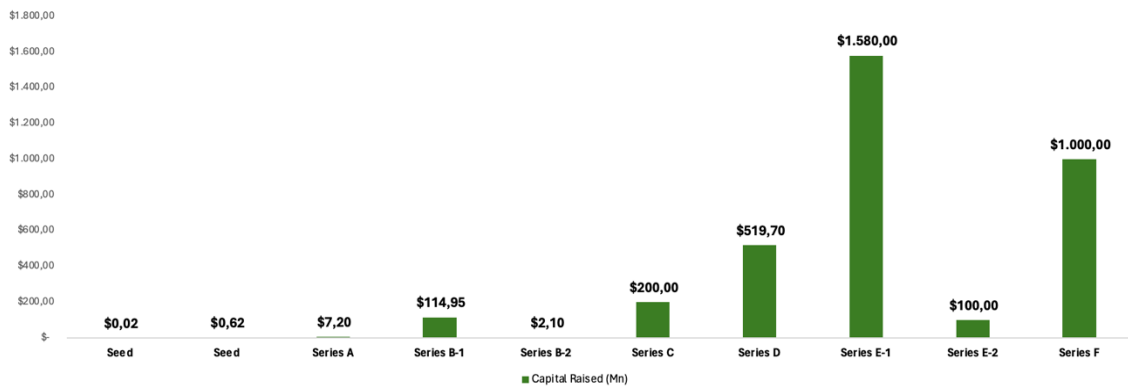


Figure 24: Crunchbase, Airbnb Capital Raised, personal Excel elaboration

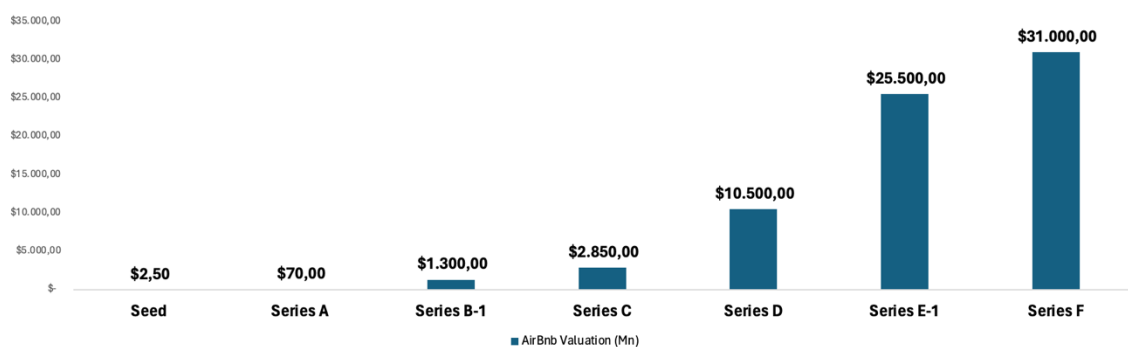


Figure 25 Crunchbase, Airbnb Valuation, personal Excel elaboration

Airbnb has strategically allocated a portion of its raised capital to acquire various companies, enhancing its service offerings and market reach. Notably, in 2019, Airbnb acquired HotelTonight for \$400 million. HotelTonight operates as a travel agency and a metasearch engine that facilitates last-minute accommodations primarily in the Americas, Europe, and Australia through its website and mobile application. In 2017, Airbnb expanded into the luxury market by purchasing Luxury Retreats for \$300 million, a platform offering high-end vacation rentals. That same year, Airbnb also bought Accomable, a travel service from London catering to individuals with mobility challenges, and Trooly, a software company based in Los Altos. Additionally, in 2016, Airbnb acquired Proprly, a company that provided specific services for short-term rentals like cleaning and guest care, further diversifying its portfolio. Earlier, in 2015, Airbnb purchased Vamo, a service aiding in the booking of multi-city trips, though it later discontinued the product. Lastly, in 2012, Airbnb acquired DailyBooth, a startup from Y Combinator that specialized in chronicling users' life events through photographs. These

acquisitions demonstrate Airbnb's commitment to offering a varied and comprehensive range of services to its users.

4.5. Initial Public Offering

Airbnb went public on December 10, 2020, through an initial public offering (IPO) on the Nasdaq stock exchange under the ticker symbol ABNB. The IPO was priced at \$68 per share, below the expected range of \$75-\$82. Despite the underpricing, the stock surged 36% on its first trading day, closing at \$92.80.

4.5.1. Impact of COVID-19

The COVID-19 pandemic drastically impacted the entire vacation rental and broader tourism industry. Specifically, Airbnb suffered significantly during the peak of the pandemic in the second quarter of 2020, marked by numerous cancellations and reduced bookings that led to considerable revenue losses. To mitigate these losses, Airbnb implemented cost-reduction strategies including a 25% reduction in its workforce, a decrease in marketing expenses, elimination of 2020 bonuses, and a temporary reduction in executive salaries for six months. One of the most notable impacts of the pandemic was the deferment of Airbnb's planned Initial Public Offering (IPO) in 2020. Despite initial reluctance from CEO Brian Chesky, pressure from investors and the imminent expiry of employee stock options, which would become worthless if not exercised before early 2021, compelled Airbnb to declare an impending IPO in September 2019. However, the onset of the pandemic in March 2020 prompted the company to postpone the IPO due to the prevailing economic uncertainty and potential undervaluation of the company. Despite these challenges, in August 2020, Airbnb confidentially proceeded with its IPO filing, planning to go public later that year.

4.5.2. Final decision

On November 16, 2020, Airbnb filed its IPO S-1 with Morgan Stanley and Goldman Sachs managing the process. The filing highlighted the resilience of Airbnb's business model despite severe disruptions caused by the pandemic. By mid-2020, recovery signs were evident as travel restrictions eased, showcasing the robustness of Airbnb's market position. Airbnb's market opportunity was significant, estimating its total addressable

market at \$3.4 trillion, which included various segments like short-term and long-term stays. In 2019, Airbnb's revenue was \$4.8 billion, indicating a minimal penetration into its potential market, thus presenting a substantial growth opportunity. Notably, Airbnb was among the few profitable tech companies to go public at that time, contrasting with others like Uber. On December 9, 2020, Airbnb launched its IPO, selling 51,551,723 Class A shares at \$68 each, above the initial set range of \$56 to \$60 and well over early estimates of \$44 to \$50. This pricing followed the surge in DoorDash's share price on its first trading day. The offering valued Airbnb at \$47 billion, significantly higher than its last private valuation of \$18 billion in April 2020 and its pre-pandemic valuation of \$31 billion. The gross proceeds from the IPO were approximately \$3.4 billion. The IPO was among the three largest of 2020, alongside DoorDash and Snowflake. On November 16, 2020, Airbnb filed its IPO S-1 with Morgan Stanley and Goldman Sachs managing the process. The filing highlighted the resilience of Airbnb's business model despite severe disruptions caused by the pandemic. By mid-2020, recovery signs were evident as travel restrictions eased, showcasing the robustness of Airbnb's market position. Airbnb's market opportunity was significant, estimating its total addressable market at \$3.4 trillion, which included various segments like short-term and long-term stays. In 2019, Airbnb's revenue was \$4.8 billion, indicating a minimal penetration into its potential market, thus presenting a substantial growth opportunity.

4.6. Airbnb Stock Performance

Trading under the ticker symbol "ABNB," Airbnb's stock opened at \$146 on December 10, significantly higher than the IPO price, peaking at \$165, and closing the day at \$144.71. The fully diluted valuation of Airbnb rose to \$100.7 billion, over five times its April valuation. Subsequently, Airbnb's share price saw a peak of \$219.9 by February 8, 2021, though it later declined to a low of \$137 by May 17, 2021, after the release of its first-quarter financial results for 2021. The performance of Airbnb's stock from 2022 to 2023 reflected strong growth, with about a 34.6% increase in 2022 driven by a resurgence in tourism and robust financial performance, including a 34% increase in revenue to \$63.2 billion and net earnings of \$2 billion. Key developments in 2022 included exiting Russia due to the Ukraine invasion, launching Airbnb Luxe for luxury rentals, and partnering with Wyndham Hotels. In 2023, despite economic uncertainties and rising inflation,

Airbnb continued to grow, marking a 3.7% (Yahoo Finance, 2024) increase in its stock price by the first quarter, with notable launches like Airbnb Experiences to expand its service offerings. This period demonstrated Airbnb’s resilience and capacity for innovation in response to shifting market dynamics, although economic headwinds pose potential challenges ahead.



Figure 26: Yahoo Finance, Airbnb Share Price Evolution (\$)

4.7. Airbnb Valuation

This section aims to assess the share price using various valuation methods to evaluate if the market is appraising the company accurately and if the initial public offering (IPO) price was justified. Before proceeding with the valuation, it is crucial to review how the market values the company. An examination of the share price trends over the past year (from March 2023 to April 2024) reveals significant data. As of April 26, 2024, the closing price of Airbnb's shares stood at \$164.23. During this period, the highest and lowest share prices recorded were \$170.10 and \$103.55, respectively. The stock exhibited a beta of 1.25, indicating its volatility relative to the market. Price changes recorded over various intervals show a decrease of 0.44% over the past month, an increase of 7.55% over three months, and a notable 37.24% rise over one year. However, over three years, the share price saw a decline of 4.91%. The price has risen by 13.49% since the IPO, although no data is available for the five-year change. Furthermore, the assessment of Airbnb's stock price by leading financial institutions reveals a considerable spectrum of valuation forecasts. By aggregating eight target prices provided by top-tier investment

banks and buy-side analysts (Airbnb Analyst Ratings, 2024), the data indicates a target price range from \$127 to \$200, with an average value calculated at \$167. This broad range aligns closely with the most recent closing price recorded for Airbnb's stock. The variability in these target prices underlines the heterogeneity in the financial sector's outlook on Airbnb's future market performance. Such divergence may be attributable to differing analytical models, assumptions about market conditions, and expectations of company performance. Notably, the extent of the range suggests that while there is consensus on the stock's potential for value growth, there is less agreement on the magnitude and timing of such growth.

Institutions	Analysts	Date	Target Price
Mizuho	James Lee	Apr 24, 2024	\$ 200,00
Wedbush	Scott Devitt	Apr 18, 2024	\$ 160,00
Benchmark	Daniel Kurnos	Apr 11, 2024	\$ 190,00
Tigress Financial	Ivan Feinseth	Apr 5, 2024	\$ 195,00
Wells Fargo	Kan Gawrelski	Apr 1, 2024	\$ 127,00
UBS	Stephen Ju	Feb 14, 2014	\$ 148,00
JP Morgan	Doug Anmuth	Feb 14, 2014	\$ 140,00
Susquehanna	Shyam Patil	Feb 14, 2014	\$ 180,00
	Min		\$ 127,00
	Max		\$ 200,00
	Average		\$ 167,50
	Median		\$ 170,00

Figure 27: Stockanalysis, Airbnb Target Price, 2024, personal Excel elaboration

The IPO was priced at \$68 per share, below the expected range of \$75-\$82. Despite the underpricing, the stock surged 36% on its first trading day, closing at \$92.80.

4.7.1. Discounted Cash Flow (DCF)

For the Discounted Cash Flow approach, the initial step involves calculating the Unlevered Free Cash Flow for the analysis period of the company. Here, the analysis spans from 2023 to 2031, with financial data sourced from Capital IQ and Bloomberg as of April 26, 2024. All subsequent calculations are expressed in millions of dollars.

	Estimates										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
EBIT	1518	2715	3218	3931	5110	6643	8304	10380	12456	14948	17190
<i>Growth Rate</i>		79%	19%	22%	30%	30%	25%	25%	20%	20%	15%
(-) Taxes on EBIT	(-380)	(-679)	(-805)	(-983)	(-1278)	(-1661)	(-2076)	(-2595)	(-3114)	(-3737)	(-4297)
NO PAT	1139	2036	2414	2948	3833	4983	6228	7785	9342	11211	12892
(+) D&A	131	128	126	117	96	111	129	187	194	202	210
(-) CapEx	(-90)	(-95)	(-97)	(-80)	(-97)	(-116)	(-135)	(-200)	(-208)	(-216)	(-225)
(-) ΔWC	(-439)	(-458)	(-476)	(-706)	(-829)	(-960)	(-1098)	(-1198)	(-1246)	(-1296)	(-1348)
Unlevered FCF	741	1611	1966	2279	3003	4018	5124	6574	8083	9901	11530

Figure 28: Airbnb Unlevered FCF, 2024, personal Excel elaboration

To determine the Terminal Value, obtaining the WACC and the perpetual growth rate is essential. The WACC calculation involves averaging the results from its standard formula with figures derived from various financial institution to align with market perceptions. Initially, the WACC computation requires calculating the Cost of Equity using the CAPM formula. In this instance, the Risk-free Rate stands at 1.19% (Damodaran, 2024), and the Equity Risk Premium is set at 4.60% (Damodaran, 2024). Considering that Airbnb is a listed entity, its Levered Beta, which is publicly accessible, is recorded at 1.25 (Yahoo Finance, 2024).

Cost of Equity:	
Risk-free Rate	1,19%
Beta Levered	1,25
Equity Risk Premium	4,60%
Cost of Equity:	6,94%

Figure 29: Airbnb Cost of Equity, 2024, personal Excel elaboration

Once the Cost of Equity is calculated, the WACC formula also demands the inclusion of the Cost of Debt, which is pegged at 12.5% for Airbnb according to Bloomberg in 2024. Additionally, the formulation requires specifying the weights of equity and debt. For this scenario, the equity weight is 98.00% and the debt weight is 2.00%, both derived from Alpha Spread (Alpha Spread, 2024) as of April 2024.

WACC:	
Cost of Equity	6,94%
Cost of Debt	12,50%
Equity Weight	98,00%
Debt Weight	2,00%
WACC:	7,05%

Figure 30: Airbnb WACC, 2024, personal Excel elaboration

The next step involves acquiring the average WACC from leading investment banks and determining the perpetual growth rate. Once all necessary data for calculating the WACC are gathered, the resulting WACC, which serves as the discount rate, is determined to be 8.60%.

WACC & g (Estimates from IB)	Date	WACC	g
Stiffel	14/04/24	10,0%	4,0%
Bank of America	12/03/24	9,5%	3,0%
Goldman Sachs	03/03/24	10,5%	4,0%
JP Morgan	11/02/24	11,0%	4,2%
Average		10,25%	3,8%

Figure 31: Airbnb WACC e g, 2024, personal Excel elaboration

WACC	
WACC from internal analysis	6,94%
WACC from external analysis	10,25%
Average	8,60%

Figure 32: Final Airbnb WACC, 2024, personal Excel elaboration

The Terminal Value can now be calculated using the forecasted Free Cash Flow (FCF) for the final year (2033), the perpetual growth rate provided by financial institutions, and the previously estimated WACC.

Terminal Value (TV)	
FCF 2033	11530
Growth Rate	3,8%
WACC	8,60%
Terminal Value (TV)	249599

Figure 33: Terminal Value, 2024, personal Excel elaboration

The subsequent phase involves discounting all the Unlevered Free Cash Flows using the discount rate derived from the WACC. Ultimately, this process yields Airbnb's Enterprise Value, from which the Equity Value is determined by subtracting the net debt reported by Bloomberg for April 2024. The resulting Share Price is calculated as the remaining equity value divided by the total number of shares in circulation, which equates to \$169.9.

	Estimates										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
EBIT	1518	2715	3218	3931	5110	6643	8304	10380	12456	14948	17190
<i>Growth Rate</i>		79%	19%	22%	30%	30%	25%	25%	20%	20%	15%
(-) Taxes on EBIT	(-380)	(-679)	(-805)	(-983)	(-1278)	(-1661)	(-2076)	(-2595)	(-3114)	(-3737)	(-4297)
NO PAT	1139	2036	2414	2948	3833	4983	6228	7785	9342	11211	12892
(+) D&A	131	128	126	117	96	111	129	187	194	202	210
(-) CapEx	(-90)	(-95)	(-97)	(-80)	(-97)	(-116)	(-135)	(-200)	(-208)	(-216)	(-225)
(-) ΔWC	(-439)	(-458)	(-476)	(-706)	(-829)	(-960)	(-1098)	(-1198)	(-1246)	(-1296)	(-1348)
Unlevered FCF	741	1611	1966	2279	3003	4018	5124	6574	8083	9901	11530
<i>Period</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
Unlevered FCF	741	1611	1966	2279	3003	4018	5124	6574	8083	9901	11530
TV											249599
<i>Discount Factor</i>	<i>1,10</i>	<i>1,22</i>	<i>1,34</i>	<i>1,48</i>	<i>1,63</i>	<i>1,80</i>	<i>1,98</i>	<i>2,18</i>	<i>2,41</i>	<i>2,65</i>	<i>2,93</i>
DCF	672	1326	1467	1543	1843	2237	2588	3012	3359	3732	89267

Figure 34: Airbnb DCF, 2024, personal Excel elaboration

Enterprise Value	111044
(+) Net Debt	2300.0
Equity Value	113344.4
Total outstanding shares	640.0
Share Price (\$)	\$ 177.10

Figure 35: Airbnb Share Price, 2024, personal Excel elaboration

The share price derived from the DCF method aligns precisely with Airbnb's current stock price, indicating that the company, as a well-established and sizable unicorn, is now suitable for assessment using conventional methodologies. After estimating the stock price using the DCF method, it becomes pertinent to examine how variations in the

WACC and the perpetuity growth rate might impact this value. For this purpose, the most effective tool is the sensitivity table:

		WACC					
		7.50%	8.00%	8.60%	9.00%	9.25%	9.50%
g	3.00%	184.7	170.6	157.1	149.5	145.3	141.4
	3.50%	203.1	185.4	168.8	159.7	154.6	150.0
	3.80%	216.6	196.0	177.0	166.7	161.1	155.9
	4.00%	226.8	203.9	183.0	171.9	165.8	160.2
	4.50%	258.3	227.7	200.8	186.8	179.3	172.5
	5.00%	302.4	259.3	223.4	205.4	195.9	187.5

Figure 36: Airbnb Share Price, Sensitivity, 2024, personal Excel elaboration

4.7.2. Relative Valuation: Comparable Companies

Valuing unicorns through relative valuation proves challenging due to their typically innovative business models, making it hard to locate comparable market players. In Airbnb's scenario, while several companies provide similar services, many are either not publicly traded or have only recently gone public, like Airbnb. This valuation method utilizes 16 peers, including Online Platform Aggregators (OPAs), vacation rentals, and hotel brands offering comparable services. Additionally, companies in different sectors, such as Uber with a similar platform business model, are included to gauge future potential and developments. All data is sourced from Bloomberg as of April 2024.

Company Name	Country	Multiples				
		Mkt Cap (USD)	Last Price (USD)	EV	Sales TTM	EBITDA TTM
Airbnb INC.	U.S.	104.99 B	164.2	97.22B	1.56 B	9.92B
Booking Holdings INC.	U.S.	120.10 B	3514.8	121.92B	7.28B	21.37B
Expedia Group INC.	U.S.	18.63 B	136.7	22.26B	2.25B	12.84B
Marriot International, Inc.	U.S.	67.75B	234.7	79.88B	4.11B	24.08B
Hilton Worldwide Holdings Inc	U.S.	49.95B	197.8	59.06B	2.69B	10.52B
Trip.com Group Ltd	China	263.43B	385.4	236.98B	13.42B	49.21B
Wyndham Hotels & Resorts, Inc	U.S.	5.94B	73.3	8.07B	582M	1.39B
Accor SA	France	9.97B	41.3	12.39B	1.00B	5.06B
TripAdvisor, Inc.	U.S.	3.62B	26.3	3.47B	237M	1.79B
Vacasa, Inc	U.S.	164.8M	7.5	161.18M	7.97M	1.12B
eDreams ODIGEO SA	Spain	824.56M	6.4	1.15B	69.24M	631.82M
Sonder Holdings Inc	U.S.	43.15M	3.9	1.66B	94.92M	573.81M
Uber Technologies INC	U.S.	140.30B	67.4	148.00B	2.22B	37.28B
Doordash INC.	U.S.	53.38B	132.1	49.25B	77.00M	8.64B
HomeToGo SE	Luxembourg	238.13M	1.9	127.62M	-14.65M	162.03M
Alphabet INC - CL A	U.S.	2.08 T	166.2	2.00T	117.74B	318.15B

Figure 37: Airbnb Comparable Companies, Bloomberg, personal Excel elaboration

As illustrated in Figure 38, Airbnb Inc. demonstrates notably high EV/EBITDA multiples compared to its peers, with a current multiple of 60.1, significantly exceeding the group average of 37.5. This elevated multiple underscores Airbnb's pronounced valuation on an enterprise value to EBITDA basis relative to most of its peers, indicating robust market confidence in its future growth and profitability. Further emphasizing this perspective, Airbnb also maintains high multiples in EV/EBITDA for 1-year and 2-year forecasts, as well as EV/Sales TTM (trailing twelve months), all of which point to high expectations for future growth and revenue generation in relation to its earnings before interest, taxes, depreciation, and amortization. Despite these high multiples, Airbnb's Price to Earnings (P/E) ratio stands at 22.4, which is below the group median of 45.2 but slightly below the group average of 22.8, suggesting a premium pricing by the market though not as extreme as some of its tech peers like Doordash or Uber. Airbnb's EV/Sales multiples reveal a more conservative stance when considering sales, aligning more closely with industry averages. The variability in multiples across different metrics, such as EV/EBITDA versus P/E, within this group reflects a broad spectrum of business models and growth expectations. Compared to its direct competitors in the online travel and accommodation sector, Airbnb's premium valuation may reflect its unique market position and its potential to disrupt traditional accommodation markets.

Company Name	Multiples						
	EV/EBITDA	EV/EBITDA 1Y	EV/EBITDA 2Y	EV/Sales TTM	EV/Sales 1Y	P/E	P/E 1Y
Airbnb INC.	60.1	24.1	20.9	8.0	7.8	22.4	35.4
Booking Holdings INC.	16.0	15.4	13.8	5.8	4.8	24.7	20.2
Expedia Group INC.	9.4	7.4	6.6	1.9	1.5	18.5	11.3
Marriot International, Inc.	19.4	16.1	14.9	3.6	3.0	23.9	24.7
Hilton Worldwide Holdings Inc	22.0	17.4	16.0	6.0	4.9	35.5	27.9
Trip.com Group Ltd	17.5	14.9	12.5	3.4	3.6	21.6	19.1
Wyndham Hotels & Resorts, Inc	13.9	11.8	11.2	6.1	5.4	21.3	17.2
Accor SA	12.3	11.2	10.3	2.2	2.2	17.4	17.8
TripAdvisor, Inc.	13.9	8.7	7.7	1.6	1.7	22.8	17.9
Vacasa, Inc	20.2	6.7	3.8	0.2	0.2	0.6	N/A
eDreams ODIGEO SA	16.7	15.6	8.0	2.1	1.5	N/A	78.4
Sonder Holdings Inc	17.4	N/A	N/A	3.0	2.4	N/A	N/A
Uber Technologies INC	61.3	23.9	17.7	3.6	3.4	312.6	41.0
Doordash INC.	245.0	28.2	21.1	4.1	4.8	40.8	65.7
HomeToGo SE	N/A	N/A	44.3	1.2	0.5	N/A	N/A
Alphabet INC - CL A	17.0	13.9	12.7	5.6	6.9	25.1	23.1
Average	37.5	15.4	14.8	3.6	3.4	45.2	30.7
Median	17.4	15.1	12.7	3.5	3.2	22.8	23.1
Average EV	58524.0	24006.8	23057.2	36079.3	33730.2	216403.0	147313.5
(+) Net Debt	2300.0	2300.0	2300.0	2300.0	2300.0	2300.0	2300.0
Average Equity Value	60824.0	26306.8	25357.2	38379.3	36030.2	218703.0	149613.5
Total outstanding shares	640.0	640.0	640.0	640.0	640.0	640.0	640.0
Average Share Price:	95.0	41.1	39.6	60.0	56.3	341.7	233.8

Final Price	\$ 123.93
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Figure 38: Airbnb Comparable based Share Price, Bloomberg, personal Excel elaboration

4.7.3. Relative Valuation: Precedent Transactions

The alternative method of relative valuation is the Precedent Transactions technique (all data is sourced from Bloomberg as of April 2024.). Here, 23 transactions conducted by the primary competitors of Airbnb over the past 15 years are examined. Included in these transactions are two of Airbnb's funding rounds. It is also important to determine whether the acquiring party is a competitor or a financial institution, as this would classify the transaction as either strategic or financial.

Date	Acquirer	Target	Price/Valuation	Sector	Notes
2022	Hilton	Diamond Resorts	\$2.7 billion	Hotel Chains	Timeshare acquisition by major hotel chain
2022	HomeAway (Expedia)	Novasol	Undisclosed	Short-Term Rentals	HomeAway's European market expansion
2021	Booking Holdings	Rentals United	€470 million (approx. \$550 million)	Short-Term Rentals	Booking.com's push into vacation rentals
2021	TPG Pace Solutions Corp	Vacasa, LLC	\$3.651 billion	Vacation Rentals	Financial acquisition
2021	Gores Metropoulos II, Inc	Sonder Holdings Inc.	\$2.047 billion	Alternative Accommodation	Financial acquisition
2021	Vrbo (Expedia)	Elite Vacation Rentals	Undisclosed	Vacation Rentals	Vrbo's continued growth strategy
2020	Despegar.com.ar SA	Best Day Travel Group	\$57 million	Online Travel Agencies	Strategic acquisition
2019	Booking Holdings	Apartments.com	\$6.1 billion	Vacation Rentals	Booking.com's entry into alternative accommodation
2019	AccorHotels	HotelInvest	€4.4 billion (approx. \$5 billion)	Hotel Chains	European hospitality company acquisition
2019	Airbnb	HotelTonight	Undisclosed (est. \$400 million)	Short-Term Rentals	Strategic acquisition of competitor
2018	Platinum Equity, LLC	Awaze	\$1.3 billion	Vacation Rentals	Financial acquisition
2018	Wyndham Worldwide	Dolce Hotels and Resorts	\$1.7 billion	Hotel Chains	Smaller acquisition within traditional hotel space
2017	Expedia	Orbitz Worldwide	\$1.6 billion	Online Travel Agencies	Large OTA acquisition
2016	Several VC & PE funds	Airbnb, Inc.	\$31 billion	Short-Term Rentals	Financial round of funding
2016	Trip.com Group Ltd	Skyscanner Holdings Limited	\$1.77 billion	Online Travel Agencies	Strategic acquisition
2016	Hilton Worldwide Holdings	Hilton Grand Vacations Inc.	\$3.298 billion	Hotel Chains	Strategic acquisition
2016	Marriott International	Starwood Hotels	\$13.6 billion	Hotel Chains	Traditional hotel chain acquisition
2015	Expedia, Inc.	Orbitz Worldwide Inc.	\$1.49 billion	Online Travel Agencies	Strategic acquisition
2015	Expedia, Inc.	HomeAway, Inc	\$3.929 billion	Vacation Rentals	Strategic acquisition
2014	Expedia, Inc.	Wotif.com Holdings Limited	\$571 million	Online Travel Agencies	Strategic acquisition
2014	HomeAway	Vacation Rentals by Owner (VRBO)	\$1.3 billion	Vacation Rentals	Major merger within vacation rental space
2012	Booking Holdings Inc.	Kayak Software Corporation	\$1.475 billion	Online Travel Agencies	Strategic acquisition
2012	Expedia, Inc.	Trivago N.V.	\$1.001 billion	Online Travel Agencies	Strategic acquisition

Figure 39: Airbnb Precedent transactions, 2024, Bloomberg, personal Excel elaboration

The valuation metrics employed in this analysis are EV/Sales and EV/EBITDA. Nevertheless, firms exhibiting negative EBITDA are excluded from this evaluation, as their financial performance does not permit a meaningful application of these multiples.

Date	Acquirer	Target	Price/Valuation (M/\$)	Sales (M/\$)	EBITDA (M/\$)	EV / Sales	EV / EBITDA
2021	TPG Pace Solutions Corp	Vacasa, LLC	3651	492	-45	7.42	N/A
2021	Gores Metropoulos II, Inc	Sonder Holdings Inc.	2047	116	-220	17.65	N/A
2020	Despegar.com.ar SA	Best Day Travel Group	57	140	8	0.41	7.13
2018	Platinum Equity, LLC	Awaze	1300	745	141	1.74	9.22
2017	Expedia	Orbitz Worldwide	1600	932	137	1.72	11.68
2016	Several VC & PE funds	Airbnb, Inc.	31000	900	N/A	34.44	N/A
2016	Trip.com Group Ltd	Skyscanner Holdings Limited	1770	177	26	10.00	68.08
2016	Hilton Worldwide Holdings	Hilton Grand Vacations Inc.	3298	1500	373	2.20	8.84
2015	Expedia, Inc.	Orbitz Worldwide Inc.	1490	932	137	1.60	10.88
2015	Expedia, Inc.	HomeAway, Inc	3929	447	71	8.79	55.34
2014	Expedia, Inc.	Wotif.com Holdings Limited	571	142	68	4.02	8.40
2012	Booking Holdings Inc.	Kayak Software Corporation	1475	225	23	6.56	64.13
2012	Expedia, Inc.	Trivago N.V.	1001	64	16	15.64	62.56
Average:						8.63	30.62
Median:						6.56	11.28

Figure 40: Relevant Precedent transactions, 2024, Bloomberg, personal Excel elaboration

The share price is determined by employing the average multiples. Observations indicate that the multiples applied to Airbnb during its two financing rounds, specifically in terms of EV/Sales, exceed the average. Consequently, a lower outcome than Airbnb's current market price is anticipated. Additionally, during the periods of these financing rounds, Airbnb was privately held, resulting in the unavailability of EBITDA data. Therefore, a comparative analysis using the EV/EBITDA multiple is not feasible.

Multiple	EV / Sales	EV / EBITDA
Average EV	85579.87	47835.68
(+) Net Debt	2300.00	2300.00
Average Equity Value	87879.87	50135.68
Total outstanding shares	640.00	640.00
Average Share Price:	137.31	78.34
Final Price	\$	107.82

Figure 41: Transaction based Share Price, 2024, personal Excel elaboration

4.7.4. The VC (Venture Capital) Approach

For the valuation employing the Venture Capital methodology, which is predicated on an investment executed in the firm, it is postulated that this valuation pertains to the Initial Public Offering (IPO) conducted in December 2020. Furthermore, the investment timeframe considered spans six years, encompassing the period from the conclusion of 2020 to the termination of 2026. The capital amassed during the IPO amounted to \$3.5 billion (Griffith, 2020). Concurrently, the total number of shares issued was 540 million (Griffith, Airbnb prices I.P.O. at \$68 a share, for a \$47 billion valuation., 2020). The cost of equity employed is consistent with that utilized in preceding analyses (6.94%).

Assumptions	
Investment Required	3500.00
Exit Time	6.00
Cost of Equity	6.94%
Total outstanding shares	540.00

Figure 42: VC Approach Assumptions, personal Excel elaboration

Considering that the target exit year is 2026, the projected financial metrics, specifically Revenues and EBITDA for that year, have been sourced from Capital IQ.

IS Forecasts (2026)	
Revenue	16468.00
EBITDA	6026.00

Figure 43: Airbnb IS forecasts, Capital IQ, 2024, personal Excel elaboration

Utilizing the financial projections for the year 2025 and applying the valuation multiples derived from the Comparable Companies analysis, the Exit Value can be determined. In this scenario, the calculation employs the average of the Enterprise Values ascertained through the application of these two distinct multiples.

Multiples		Exit
EV/Revenue	3.64	59912.64
EV / EBITDA	37.47	225778.15
Average		142845.40

The final step involves discounting the Terminal Value back to the year of investment. Specifically, this value must be discounted over a period of six years, from 2026 to 2020, utilizing a cost of equity of 6.94%. This calculation yields the post-money valuation. To arrive at the pre-money valuation, one deducts the investment made from the post-money figure. Subsequently, by integrating the amount of money invested with the post-money valuation, one can ascertain the venture capital ownership percentage, which is instrumental in determining the number of shares issued. This process ultimately establishes the share price at \$176.86. This valuation method is deemed appropriate for startups that are in a more advanced stage of development. Moreover, by applying contemporary multiples that reflect Airbnb's operational performance, the resulting valuation is rendered more accurate and dependable.

Assumptions	
PV of Post-money	95504.79
Pre-money Value	92004.79
Total outstanding shares	540.00
VC Portion	3.66%
VC outstanding shares	19.79
Final Price	\$ 176.86

Figure 44: VC Approach based Share Price, 2024, personal Excel elaboration

It is also important to determine whether the acquiring party is a competitor or a financial institution, as this would classify the transaction as either strategic or financial.

4.7.5. Scorecard

The Scorecard Valuation approach, meticulously crafted by Bill Payne, who was honored as the 2009 US Angel Investor of the Year by the Angel Capital Association, is comprehensively delineated in his publication, “The Definitive Guide to Raising Money from Angels” (Payne, 2006). This methodology is highly regarded by the Ohio TechAngels, who have aptly renamed it the Bill Payne Valuation Method. Within the industry, it is also commonly referred to as the Benchmark Method. The Scorecard Methodology employs a sophisticated system of individual weighted percentages that are calculated based on a comprehensive array of both quantitative and qualitative factors across various categories, thereby capturing the intrinsic value of a startup. In applying a unicorn enterprise performance evaluation framework akin to the Balanced Scorecard (Gao, 2019), it is crucial to acknowledge that while these enterprises may not initially exhibit stellar financial performance, they typically possess high valuation potential and are characterized by rapid growth, a technology-driven focus, and substantial capabilities in technological innovation. These attributes stem from efforts aimed at optimizing short-term performance, fostering long-term growth, enhancing enterprise value, improving team innovation, and bolstering research and development capabilities. The method involves analyzing seven prevalent factors among nascent ventures, attributing varying weights to these factors based on their significance. The preliminary phase of utilizing the Scorecard method involves assessing the average or median pre-money valuation of pre-revenue companies within the specific region and sector of the target startup, providing a solid foundation for establishing the startup’s baseline value. Regarding Airbnb, the quality of internal leadership and management is recognized as superior compared to its industry counterparts. In terms of revenue potential, Airbnb ranks among the top when juxtaposed against its peers. Nonetheless, despite its status as a market leader with numerous competitive advantages, its product innovation and technological advancements do not significantly distinguish it from other startups assessed, hence it is considered superior but not exceptionally. In the area of strategic partnerships, Airbnb still has considerable opportunities to develop, which precludes it from being categorized as outstanding relative to other firms. Moreover, Airbnb's current revenue generation alleviates the necessity for additional capital to sustain its operational activities. The primary challenge for Airbnb are under the heading "Other," for example its heightened

susceptibility to regulatory and litigation risks, which could jeopardize its primary revenue streams and fundamental business model due to stringent regulations in the vacation rental sector.

Factor	Weight	Score	W x S
Board, entrepreneur, the management team	25%	200%	0,50
Size of opportunity	20%	200%	0,40
Technology/Product	20%	115%	0,23
Marketing/Sales	15%	120%	0,18
Competitive Environment	10%	135%	0,14
Need for additional financing	5%	150%	0,08
Others	5%	85%	0,04

1,56

Figure 45: Airbnb Balance Scorecard, personal Excel elaboration

According to the CB Insights State of Venture 2023 report in the Sector Spotlights section focused on Fintech, the median pre-money valuation for companies in the specific region and sector relevant to Airbnb is estimated at \$39.2 billion (CBInsights, 2023). Taking into account the various scores and their corresponding significance, an adjustment factor of 1.56 has been derived. This factor will be applied to the average valuation to determine the pre-money valuation, which precedes the calculation of the Share Price.

Valuation	Weight
Average Fintech Pre-Money Valuation	39200
Final Factor	1,56
Airbnb Pre-money Valuation	61250,00
<i>Total outstanding shares</i>	640,00
Final Price	\$ 61,25

Figure 46: Airbnb Balance Scorecard based Share Price, personal Excel elaboration

In this alternative valuation approach, the share price is determined to be approximately half of the current market value, stemming from the foundational valuation based on the average of peer companies, which is notably lower than that of Airbnb. Despite this, should the company under analysis exhibit performance comparable to its industry

counterparts, this method provides a viable means of evaluating a unicorn, taking into consideration several of its key metrics.

4.7.6. *First Chicago*

The First Chicago Method represents a sophisticated, situation-specific approach to business valuation predominantly utilized by venture capital and private equity firms when assessing unicorn companies. This methodology integrates aspects of both market-based and fundamental analysis techniques, primarily targeting companies characterized by rapid growth dynamics. A distinctive feature of the First Chicago Method is its comprehensive consideration of various potential future scenarios for startups, incorporating these projections into the overall valuation process. In this application, the valuation spans a forecast period extending to 2033, utilizing scenarios derived from different investment bank analyses. The foundational scenario, previously established through Discounted Cash Flow (DCF) analysis, is deemed the most probable outcome. This scenario is supported by projections from Capital IQ and Bloomberg. For the optimistic scenario, projections from a Mizuho report dated April 24, 2024, are adopted, presenting the most favorable future outlook for Airbnb among the reports examined. Conversely, the pessimistic scenario utilizes forecasts from a Wells Fargo report dated April 1, 2024, which sketches the most conservative outlook for the next 10 years. The likelihood of occurrence is quantitatively assessed with the base scenario assigned a 60% probability, reflecting its status as the most plausible outcome. The downside scenario, influenced by ongoing uncertainties such as the COVID-19 situation, is assigned a 30% probability. The upside scenario, considered exceptionally optimistic, is attributed a lower probability of 10%, emphasizing its relative improbability compared to the other scenarios.

Pessimistic <i>Wells Fargo</i>	Base <i>Internal Model</i>	Upside <i>Mizuho</i>
19652	\$177,1	43421
9776		19477
30%	60%	10%

Figure 47: Airbnb Scenario Analysis, personal Excel elaboration

Utilizing the projected Revenue and EBITDA for 2033 across various scenarios and employing the EV/Sales and EV/EBITDA multiples derived from the Comparable Companies analysis, it is possible to determine the Enterprise Value. As with prior methodologies, an average of the results obtained from these two multiples is used to compute the final value. Additionally, to discount these values to their present worth, the cost of equity, as previously established, is applied. The share price for the base case remains consistent with the calculations performed in the designated DCF model section.

	Multiples	Pessimistic Wells Fargo	Upside Mizuho
EV / Revenue	3,64	71496	157971
EV / EBITDA	37,47	366281	729751
Average		218889	443861
<i>Discount Factor</i>		<i>1,96</i>	<i>1,96</i>
Present Value EV		111898	226906

Figure 48: PV EV Scenario Analysis, personal Excel elaboration

In this instance, due to the highly analytical nature of the method, which incorporates future financial projections and the likelihood of various scenarios occurring, the Share Price derived is notably higher than Airbnb's current share price. This suggests that the First Chicago method provides a robust valuation approach for a company like Airbnb, which has significant potential for growth, market penetration, and exponential increase in financial performance.

Valuation	Before Base Case
Average EV	140650
(+) Net Debt	2300
Weighted Average Equity Value	142950
<i>Total outstanding shares</i>	<i>640</i>
Average Share Price:	223,4
Share Price Base Scenario	177,1
Weighted Final Price	195,60 €

Figure 49: Weighted Share Price, personal Excel elaboration

5. Airbnb Valuation Recap: The Football Field

After evaluating Airbnb’s share price using various valuation approaches, including both traditional and alternative methods, several insights emerge. The valuation results are quite diverse, making it crucial to understand the reasons for these differences and determine which methods are most applicable to Airbnb’s case. A particularly useful tool for comparing results from different valuation methods is the Football Field chart. This chart consolidates all the share price ranges derived from each approach, providing a comprehensive overview of the valuation model. It helps in estimating a fair bid price

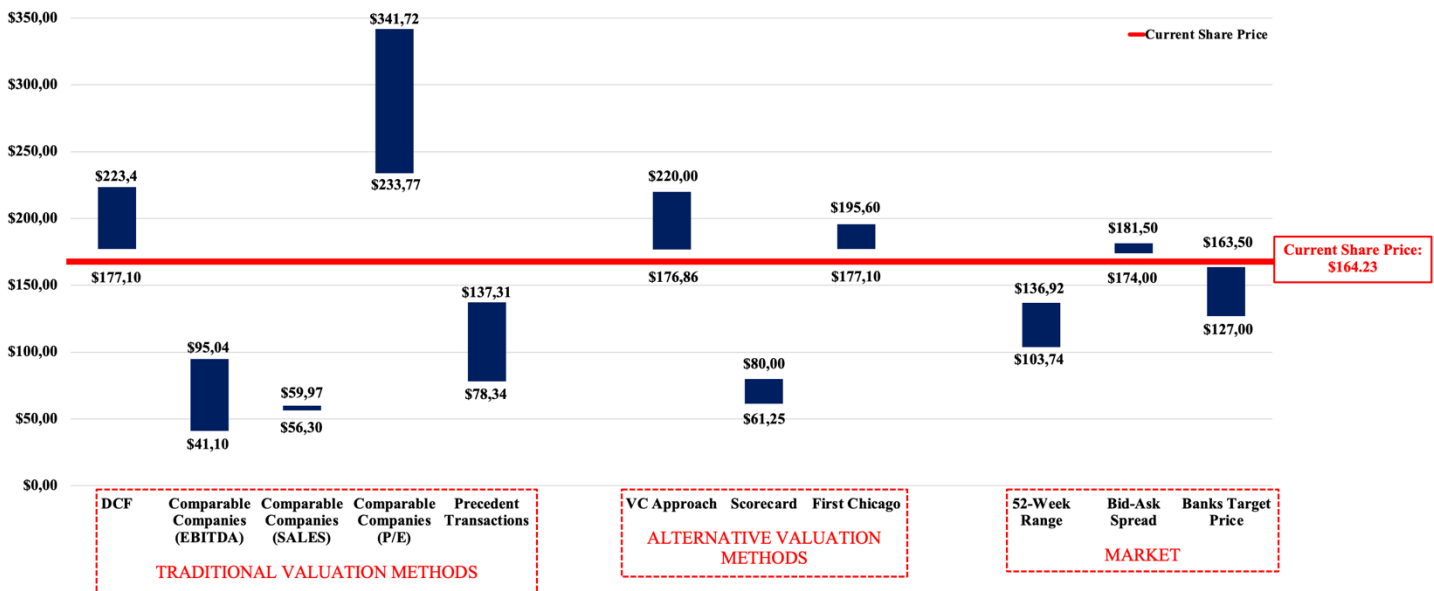


Figure 50: Airbnb Valuation Recap, the Football Field, personal Excel elaboration

for the company and allows for a comparison with the current share price.

Among the traditional methods, the outcome of the study is very acceptable considering that it is a very young company, only two years after losing its unicorn status. The significant drawback in this case, beyond its startup nature, is the impact of COVID-19, which has led to a substantial drop in revenues and profitability in the sector. This is particularly evident in Airbnb's EBITDA results, which started to become reliable and perform well, making them usable for valuation purposes only at the end of the examined period. Since this is a widely used indicator in the valuation of companies, there are results that are not as reliable as they should be.

Going into more detail about each method, the DCF approach provides a satisfactory result that aligns with the reality of the company. This is because the analysis extends until 2033, when the effects of the pandemic have been mitigated. Additionally, the values used for the study are shared with many of the most important brokers, so their numbers are considered highly reliable. This is why the result obtained with this methodology is taken as a good reference.

In regard to the Relative Valuation, the share price obtained should be higher than the previous two methods, especially in the Precedent Transactions, as it accounts for the premium paid for the company. However, the Comparable Companies analysis, which implies the Enterprise Value instead of the Price, returns significantly lower values. This is because Airbnb's Revenues and EBITDA are still recovering from the coronavirus effects and are far from what a company of this size should have. The same applies to the Precedent Transactions approach. However, for the Comparable Companies analysis that uses the Price, the results are satisfactory, indicating that the market is pricing Airbnb fairly.

Regarding the alternative valuation methods for startups, some of them fit Airbnb's case well, as they take into account the company's financial forecasts. However, some are designed for younger companies, so they have limited valuation maximums or only consider factors that are relevant at the earliest stages of a startup, which are less significant for the stage Airbnb is currently in. Methods that evaluate business factors such as the quality of the management team or the scalability of the project, like the Scorecard approach, return lower share values than what the market is paying for Airbnb. This is because they start from the average startup valuation of several companies comparable to Airbnb, all being tech-related, market leaders, and recently public.

Finally, the Venture Capital and First Chicago methods are more appropriate for startups with Airbnb's maturity. They use its financial forecasts and industry multiples to value the firm, also considering factors relevant for startups such as the necessary investments and different possible scenarios. Hence, these two methods have the highest reliability for estimating Airbnb's share price (as illustrated in Figure 50, both methods return a

value in line with the current share price). Taking into account that the most accurate valuation methods are the DCF, the Venture Capital, and the First Chicago, these should be considered the most reliable for estimating Airbnb's share price.

Conclusion

This thesis provides a comprehensive analysis of the Initial Public Offerings (IPOs) process, focusing on the distinct challenges and intricacies involved in valuing unicorn companies such as Airbnb. Unicorns, by their nature, play a pivotal role in shaping economic landscapes due to their rapid growth and innovative business models. However, their valuation is complicated by their unique characteristics and the volatile environments in which they operate.

- **Hypothesis 1: The Underpricing Phenomenon for Unicorns**

The first hypothesis posits that unicorn companies intentionally underprice their IPOs to stimulate strong investor demand. Our study, utilizing data from sources like CBInsights' unicorn tracker and the NASDAQ market index, analyzed unicorns that went public in the U.S. post-2020 (until 2022). The analysis highlighted significant underpricing trends: the average market value of unicorns rose from \$31 billion pre-IPO to \$40.34 billion at the time of IPO—a 26.69% increase. Post-IPO values further escalated to \$65 billion by the first trading day and \$53 billion by the 22nd trading day, marking increases of 104.12% and 69.08%, respectively. By the 125th trading day, the average value corrected to \$56.81 billion, reflecting a 78.41% increase over the initial valuation.

Company	IPO Year	Stock Exchange	Market Value of Unicorn (SB)	Market Value IPO (SB)	Market Value in day 1	Market Value in day 22	Market Value in day 125	Trend
Airbnb	2020	Nasdaq	38	104	136	112	137	
Palantir Technologies	2020	NYSE	45	22	41	32	31	
Snowflake	2020	NYSE	33	33	77	61	78	
DoorDash	2020	NYSE	16	39	78	67	83	
Affirm	2021	Nasdaq	10	46	94	75	88	
Coinbase	2021	Nasdaq	86	86	112	85	86	
Roblox	2021	NYSE	42	38	82	69	82	
Coupang	2021	NYSE	35	39	64	56	77	
Rivian	2021	Nasdaq	66	86	99	82	69	
Robinhood Markets	2021	Nasdaq	8	32	38	32	23	
Bumble	2021	Nasdaq	15	17	70	58	58	
Wish	2021	Nasdaq	11	11	16	13	12	
Opendoor	2021	Nasdaq	12	20	32	26	23	
Affirm	2021	Nasdaq	10	46	94	75	69	
GitLab	2021	Nasdaq	11	11	17	15	26	
Coupang	2021	NYSE	35	39	64	56	73	
Rivian	2021	Nasdaq	66	86	99	82	69	
Robinhood Markets	2021	Nasdaq	8	32	38	32	23	
Bumble	2021	Nasdaq	15	17	70	58	58	
Wish	2021	Nasdaq	11	11	16	13	12	
Opendoor	2021	Nasdaq	12	20	32	26	23	
Coinbase	2021	Nasdaq	86	86	112	85	92	
Roblox	2021	NYSE	42	38	82	69	82	
Fisker	2022	NYSE	29	29	36	31	25	
Lucid Group	2022	Nasdaq	64	16	27	23	34	
Snowflake	2022	NYSE	122	122	139	128	105	
Robinhood Markets	2022	Nasdaq	8	32	38	32	23	
Bumble	2022	Nasdaq	15	17	70	58	58	
Opendoor	2022	Nasdaq	12	20	32	26	23	
Affirm	2022	Nasdaq	10	46	94	75	84	
Coupang	2022	NYSE	35	39	64	56	66	
GitLab	2022	Nasdaq	11	11	17	15	26	
			31.84	40.34	65.00	53.84	56.81	

The provided analysis and related trends allow us to identify instances of underpricing among the unicorns listed. Underpricing occurs when the market value on the first trading day (Day 1) is higher than the IPO price, indicating a deliberate strategy to stimulate investor demand.

- **Synthesis of Findings**

- Timeframe: 2020 - 2022
- Total Number of Unicorns Analyzed: 32
- Number of Instances of Underpricing: 21

The 65.63% of unicorns in the provided data set exhibits underpricing, with the percentage of underpricing ranging from a low of 13.93% (Snowflake, 2022) to a high of 683.33% (Affirm, 2021).

- **Additional Key Insights**

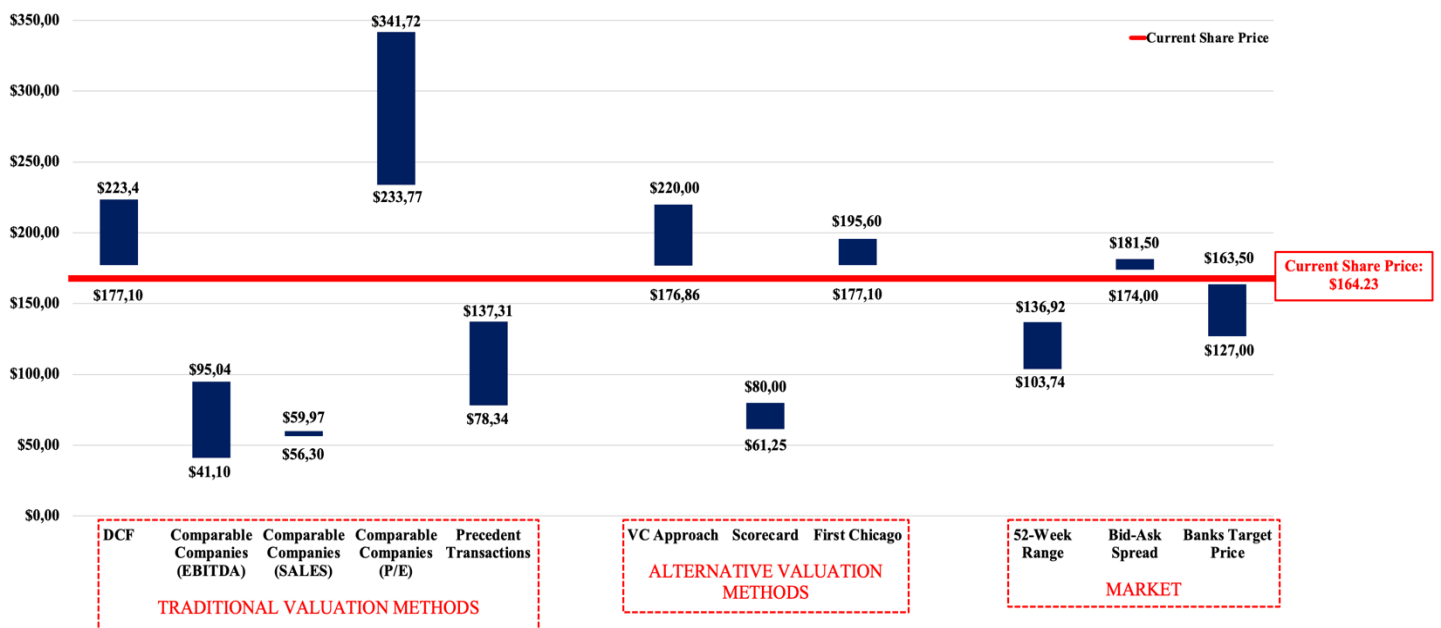
- Affirm (2021) shows the highest underpricing at 683.33%, indicating a significant strategy to drive investor interest.
- Fisker (2022) and Robinhood Markets (2021) also show substantial underpricing with increases of 375.00%.
- Snowflake (2020), a high-profile IPO, demonstrates substantial underpricing of 133.33%, supporting the hypothesis that even well-known unicorns leverage underpricing strategies.

These results validate the hypothesis that unicorns strategically underprice their IPOs to maximize market entry success. This underpricing acts as a catalyst for investor enthusiasm, ensuring a robust market debut despite potential market corrections over time.

- **Hypothesis 2: Valuation Challenges for Unicorns – The Case of Airbnb**

The second hypothesis explored the feasibility of traditional valuation techniques for unicorns, using Airbnb as a case study. Traditional methods such as Discounted Cash Flow (DCF), Comparable Company Analysis, and Precedent Transactions often fail to capture the true value of high-growth startups due to their reliance on historical financial data, which unicorns typically lack. In Airbnb's case, alternative valuation methods like the Venture Capital (VC) approach and the First Chicago method were found to be more effective. These methods incorporate financial forecasts and industry multiples, accommodating the unique characteristics of unicorns. For instance, the DCF analysis of Airbnb considered a Weighted Average Cost of Capital (WACC) of 8.60% and forecasted Free Cash Flows (FCF) up to 2033. This approach yielded an enterprise value aligning closely with Airbnb's market valuation, highlighting its suitability for established unicorns.

Comparative analyses of traditional and alternative valuation methods showed that while traditional methods provide a baseline, they often underestimate the value due to conservative assumptions. In contrast, methods tailored for startups, like the VC approach, offer a more dynamic assessment by factoring in the high-risk, high-reward nature of unicorn investments. For Airbnb, the VC and First Chicago methods provided valuations that were more in line with market expectations, demonstrating their reliability under volatile conditions.



▪ **Synthesis of Findings**

The findings of this thesis underscore the need for adaptive valuation frameworks that blend traditional and innovative methodologies. Unicorns' rapid growth and market potential necessitate approaches that can accommodate their unique business models and the volatile market environments they operate in. Traditional methods, while useful, must be complemented by techniques that factor in future growth potential and market dynamics.

- **Implications for Investors and Future Research**

For investors, grasping the intricacies of unicorn valuations is essential for making informed investment decisions. By acknowledging the strategic underpricing in IPOs, investors can gain crucial insights into optimal market entry strategies and anticipated post-IPO performance. Furthermore, employing a blend of traditional and startup-specific valuation methods can offer a more nuanced and comprehensive perspective on a unicorn's potential.

Future research should aim to refine these hybrid valuation models by integrating real-time market data and advanced forecasting techniques, thereby enhancing their accuracy. Investigating the long-term performance of unicorns post-IPO, alongside evaluating the efficacy of different valuation methods across varying market conditions, will provide valuable insights. The complex nature of unicorn valuations necessitates a multifaceted approach, leveraging both established and innovative methodologies.

This thesis contributes to a deeper understanding of these challenges, offering a robust framework for more accurately assessing the true value of transformative companies. By advancing the knowledge and tools available for valuation, both investors and researchers can better navigate the dynamic landscape of unicorn investments.

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