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INVESTIGATION OF THE RELATIONSHIP BETWEEN LOCATION AND SUCCESS IN VENTURE CAPITAL INVESTMENTS: EUROPEAN CONTEXT

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Abstract: Many academic studies explore the relationship between location and the likelihood of a successful outcome of venture capital investments. However, most of these studies are based in the United States. Nevertheless, the existing literature yielded contradicting findings. Some authors claim that the distance between venture capital and startup is crucial in explaining the latter's venture success. Others find that this is not necessarily the case. This article aims to contribute to the topic by investigating this relationship within the European continent, particularly the countries of Germany, Switzerland, Austria and The Netherlands. The empirical results from the logistic regression estimated using data from Crunchbase covering years 2007-2021, suggest that location's impact on the startup's probability of success is negligible. This could mean that the 'right' business opportunity can attract investors, despite the geographical distance. The article contributes to the ongoing scholarly debate by providing recommendations for European policymakers.

Keywords: Venture Capital; Location; Startup Success; Information Asymmetries.

JEL Codes: L26.

1. Introduction

Startups are critical for the well-being of societies, as they are a source of employment and are at the forefront of innovation (Pathak, 2020). Their smaller team

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sizes, flat structures, and higher risk tolerance allow for agile decision-making and increased speed in the innovation process (González-Cruz et al., 2020; Marin and Chitimiea, 2020; Rohanaraj, 2023). Moreover, it is believed that startups "embrace failure and risk-taking"; two successful components that foster innovation (KPMG, 2015). As innovation transforms into successful products that enter the market, other startups and more mature companies are forced to develop better features for their products or lower their prices to remain competitive. This is why startups are crucial to increasing economic competition, with end-users as the ultimate winners.

However, positive economic and societal outcomes result from only successful ventures. When startups fail, their positive contributions are not just gone, but this instead has an overall negative effect. Eisenmann (2021) points out two major drawbacks that failed startups have on society. First, the presumably large amounts of capital and resources have been tied up in the startup's operations and could have been better used otherwise. And second, anecdotes of unsuccessful endeavours could have a deterring effect on aspiring entrepreneurs. Considering the harmful toll failed ventures have, it becomes crucial to understand some of the reasons for this to occur to improve the odds of new businesses becoming lucrative corporations and large employers. Startups' chances of success stand at 1 out of 10, with odds favouring the unfortunate outcome (Aminova & Marchi, 2021).

One major factor leading to successful outcomes for startups is better performance in terms of liquidity (Fuertes-Callen et al., 2020). Therefore, lack of funding could, to some extent, be the root cause for poor cash availability in the company and, consequently, liquidity and solvency issues. These conclusions illustrate the critical role that organizations providing external financing, such as venture capitalists, have in the likelihood of startups' successful outcomes. However, these firms do not just provide risk capital to companies in the early stages. Some experts (Gompers et al., 2020; Maus et al., 2023) agree that a venture capitalist's role as a member of the board of directors in portfolio companies is a crucial factor that influences the successful outcome of the investment. Studies show that the involvement and guidance these investors provide in their portfolio companies can positively affect innovation and the chances of a successful exit (Bernstein et al., 2016). Moreover, according to Amornsiripanitch et al. (2019), investors are much more likely to have a seat on the board when these companies are geographically close to the venture capital firm. The implications of these findings on the general economy are sizable, as it has been widely documented that venture capital firms are heavily conglomerated into only a few geographical areas (Chen et al., 2009).

Publications researching this topic have a strong focus on the United States of America, where experts such as Chen et al. (2009), Florida & Mellander (2014), and Adler et al. (2019) have been studying the relationship between location and venture capital funding for decades. Nevertheless, the empirical findings are relatively scarce

in Europe. This could be attributed to the fact that, for many decades, Europe has lagged behind the United States in the venture capital industry (Boquist & Dawson, 2004). Nevertheless, this gap is narrowing down. A report published by the company Dealroom (2021) found that Europe is outpacing China and even the United States regarding venture capital investments.

The recent interest in Europe as a venture capital hub is further evidenced by large US-based VC firms backing startups in European cities. Some examples include American venture capital firms Sequoia Capital and Lightspeed Venture Partners (Shead, 2021). For this reason, studying *how geographical location affects the likelihood of startups getting funding from venture capitalists (VC)* became highly relevant for the European continent. Furthermore, the need for a solution is rooted in the understanding that successful startups are vital for healthy economies, particularly relevant for regulators and local authorities. Suppose location is a decisive factor when venture capital firms make decisions. In that case, regulators might want to create incentives to encourage V.C. firms to open new offices in their regions or try to mitigate the downsides that V.C. firms face when investing in startups not in their geographical proximity (Shearmur & Doloreux, 2022; Flögel et al., 2023; Hidayat et al., 2023).

This article aims to add to the existing literature and clarify the relationship between successful outcomes and location in the European context. Now that the European landscape of venture capital is taking shape, exploring this matter becomes imperative to shine light upon a topic that has been fairly neglected until now. Furthermore, European countries are on the verge of a transformative period of entrepreneurship and SME-promoting policy. Stam (2015) argues that for the past few decades, European entrepreneurial policy focused on setting the right incentives for creating new firms; however, more recent years have seen a shift from this ideology. Stam (2015) identifies that it is the existence of "quality" entrepreneurship, rather than "quantity" entrepreneurship, which is crucial for economic growth, and this finding has provoked a transition in policy attention to encourage more quality entrepreneurship. Following this logic, it becomes vital for policymakers to understand the factors behind success to design policies that would promote and support the "right" type of entrepreneurship. This article aims to explore some of these factors and present recommendations for regulatory authorities based on the results of the analysis.

Our article aims, therefore, to answer the following research question:

Does the location of the startup, in relation to the location of the venture capital firm, have an impact on the likelihood of a successful outcome?

In the next section, we further dive into the existing literature and summarize the most recent studies. Then, we introduce the collected secondary data for the so-called "Germanic Europe cluster" consisting of the DACH region (Germany, Switzerland,

and Austria) and the Netherlands and present findings from the logistic regression analysis. The last section provides recommendations for policymakers and the research community.

2. Literature review

Although startup companies inspire a vast amount of literature, there is no unanimous definition for this word. For this article, a startup is defined as a new business that was started from scratch. This definition follows Montani et al. (2020) and was initially published by Kolvereid & Isaken (2006). Furthermore, elements from Kollman et al. (2015), who state that startups aim for future rapid growth, are also included in the definition of startup used for this article. Since the startups in the sample resort to getting externally funded, it is assumed that they do so with this aim in mind.

Furthermore, many entrepreneurs introduce their venture-backed startup into the market to exit quickly through an Initial Public Offering (IPO) or M&A (Pisoni & Onetti, 2018). Many other authors, such as Silviera & Wright (2016), define the "end" of the cycle of a startup as the moment they achieve an exit. Even though not every startup strives to achieve a lucrative exit, the literature indicates that a successful exit is the general goal. For this reason, this article defines "success" as having completed an IPO or gone through a merger or an acquisition.

Diverging from the startup situation, experts are not as divided when it comes to defining what a venture capital firm is. Cornelius & Persson (2006) gave a generally accepted definition of venture capitalists as "financial intermediaries, collecting excess capital from those who have it, and providing it to those who require it for the development of a business venture". Nevertheless, such a definition can also be applied to other types of financing companies, such as private equity firms. Most of the ambiguity concerning which companies can be defined as venture capital firms comes when comparisons between venture capital and private equity are made. Generally, venture capital is considered a sub-type of private equity (Metrick & Yasuda, 2011). However, some authors might use both terms as if talking about two different types of entities due to the subtle differences among venture capital firms and "traditional" forms of private equity firms, such as Leveraged Buyout (LBO) private equity funds (Cumming & Johan, 2014). Following conclusions found by Da Rin et al. (2006), this article limits the VC firms included in the sample to only those with a seed and early-stage focus to navigate the ambiguous separations between private equity and venture capital.

2.1. Interactions and Dynamics between VCs and Startups

According to Chen et al. (2009), venture capital firms are actively involved in their portfolio companies' governance through board membership, advising managers and

dealing with the incentives given to managers. The authors also argue that these mechanisms are most likely sensitive to geographic proximity. A study by Riepe & Uhl (2020) further contributes to the topic by providing evidence regarding non-financial resources that startups demand from their venture capital investors. Seven demands were identified: creating commercial connections, fundraising, marketing-related demands, legal advice, product development, interacting with other startups and human resources.

The first activity, creating commercial connections, was identified in the study as startups' most common non-financial demand. This is particularly critical for this article since evidence indicates that creating commercial connections is the essential factor for startups in their earliest stages (Baum et al., 2000). Existing literature is divided when assessing if (and if so, to what extent) geographical proximity is crucial for business networking. On the one hand, studies like Audretsch & Feldman (1996) and Balland (2012) conclude that geographical proximity plays a vital role in developing collaborative networks. Other studies show the rather counterintuitive idea that geographical proximity might be detrimental to business networking. Letaïfa and Rabeau (2013) conducted a multilevel analysis of how the five types of proximity, which are cognitive, organizational, social, institutional, and geographic, affect collaboration and fostering innovation. The conclusions were:

1. Social proximity is the most critical factor in collaboration.
2. Geographical proximity can sometimes deter collaboration in the business context.

Boschma (2005) defined social proximity as "socially embedded relations between agents at the micro-level, which involve trust based on friendship, kinship and experience" (Boschma, 2005, p. 66). As individuals develop "trust" and "mutual commitment", the process of collaboration and knowledge transfer becomes easier (Letaïfa & Rabeau, 2013). The results of the analysis showed that social proximity is critical to collaborate effectively.

However, the study also found that geographical proximity does not facilitate social proximity in a business-related context. This is particularly true for regional clusters (Silicon Valley is used as an example in the study), which are highly competitive. "Interpersonal" and "inter-firm" rivalries are to blame for this. The results from the analysis showed that, with closer geographical proximity, entrepreneurs are less willing to collaborate with their peers, mainly because these are also their competitors.

Ultimately, facilitating commercial connections is only one of the value-adding activities that venture capital firms do. Another one, which is particularly important for startup companies, is monitoring. The existence of severe information asymmetries, which lead to high agency costs, has been heavily documented by researchers. This is mainly due to the lack of an extensive track record, uncertainties regarding their product offerings and unproven business models (Ibrahim, 2018). For

this reason, venture capital investors closely monitor their portfolio companies in various ways. Zhang & Gu (2021) explain that formal and informal frequent interpersonal interaction between VCs and startups involves board meetings and onsite visits. The author also mentions that these interpersonal interactions are crucial for VCs and startups because they are "superior conduits" that facilitate the flow of knowledge. Although advancements in communication technology could allow these interactions in a remote format, there is evidence that without regular onsite monitoring, venture capitalists might not get first-hand information about the startup (Zhang & Gu, 2021).

2.2. Global Historical Background of the Venture Capital Industry

Even four decades ago, some conglomeration in the locations where venture capital firms were located was documented. Some distinguished VC firms, which still exist today even though they were founded in the '60s and '70s, include Mayfield, Morgenthaler Ventures, Venrock, Fidelity Ventures, Charles River Ventures and Greylock, Kleiner Perkins Caufield & Byers, and Sequoia Capital. These firms were established mostly in the Boston area on the East Coast and Menlo Park in California on the West Coast (Venture Forward, 2023).

Boquist & Dawson (2004) cite cultural differences and the prevailing socialist environment in Europe as the leading causes for the delayed surge of the venture capital industry. The authors explain that during that period, European new business founders would instead seek financing from more traditional sources of capital, such as bank loans. One of the main reasons for this is that European entrepreneurs and business owners seeking funding to achieve growth were unwilling to renounce ownership in exchange for equity financing. Some further cultural differences, explain the authors, included a stigma attached to needing more financing rounds at later stages. Unlike the United States, where it was common to expect three or more financing rounds, Europeans saw the need for follow-on capital as a sign of failure (Boquist & Dawson, 2004).

Lastly, several governmental barriers, such as the marginal tax rate, discouraged potential European investors and entrepreneurs. In the United States, this rate could reach up to 70%. However, this tax rate was set at 83% and 87% in some European countries, such as the United Kingdom and Sweden, respectively (Boquist & Dawson, 2004).

Nowadays, the global outlook on the VC industry has an upward trend in the long run, and a sizable portion of this growth was driven by European countries, which attracted more than 49 million EUR in venture capital invested (Capolaghi, 2021). This figure means that Europe outpaced the US, China and the rest of Asia regarding VC investment growth. It is also important to mention that it diverges from the industry dynamics. Notably, this trend is not just being driven by the United

Kingdom but also by Germany, France, Sweden, and the Netherlands (Capolaghi, 2021).

2.3. Prior Empirical Studies and Research Objectives

Chen et al. (2009) aim to explore the conglomeration of the venture capital industry in the United States. This paper finds that geography is significantly related to startup outcomes, and venture capital firms in what the authors call a "venture capital centre" tend to outperform their peers regarding investment returns. However, most of this outperformance comes from investments not proximally located in these "venture capital centres", a finding that the authors deem contradictory to common sense. They initially expected that VC firms would add the most value and be the most involved in geographically close startups, and they later hypothesized that the results might mean that VCs demand a higher hurdle rate if the startup is geographically distant because of the higher agency costs.

Considering the implications of a sound VC ecosystem on a country's or region's general economic and social environment, understanding some factors that contribute to this success becomes critical. Yet, no similar study has been found for the European continent. For this reason, this article aims to contribute to closing this research gap by benefiting from the prior findings, focused mainly on the US context. Furthermore, another key finding from this paper is that venture capital firms base their decisions to open a new branch or relocate to an area on the success rate of all VC-backed investments in the location (Chen et al., 2009). Some of the recommendations to the policymakers section are rooted in this information. However, a limitation identified by Chen et al. (2009) is that this study considers a startup a "success" if they have either had an IPO or registered for an IPO. As mentioned earlier, not all VCs aim to exit by publicly listing the company. For this reason, this article uses a broader sense of success instead.

Furthermore, findings by Riepe & Uhl (2020) are also critical contributions to this article. The paper outlines some of the ideas that are the building blocks for believing that location might be a factor that significantly influences a startup's chances of success. Through a survey, Riepe & Uhl (2020) aims to shed light on startups' non-financial demands from their VC investors. This topic can be considered relatively obscure because this type of interaction happens privately and is not disclosed. The results from the survey suggest that the primary non-financial way venture capitalists help startups achieve success, according to entrepreneurs, is by creating commercial introductions.

Subsequently, Letaïfa & Rabeau's (2013) findings close the bridge between conclusions by Riepe & Uhl (2020) and this article's topic. This study analyses the literature exploring whether geographical proximity is favourable or detrimental to business networking and innovation in cities. The author's conclusions, combined

with Riepe & Uhl (2020), help develop the rationale for explaining this article's theoretical and practical contributions. Moreover, Letaïfa & Rabeau (2013) base their conclusions on data obtained from early-stage startups. This means her findings could apply to this article's sample, including only early-stage funding rounds.

Furthermore, another key finding from Letaïfa & Rabeau (2013) is that venture capital centres created by the governments "artificially" tend to be unsuccessful. Such are the cases of New Jersey's 'Silicon Valley East' and the state of Texas. New Jersey and Texas recruited Fred Terman, often called the "Father of Silicon Valley" (Giest, 2017). New Jersey, in the decade of the '60s, attempted to create their own version of Silicon Valley by following the model: create an institution with a focus on applied sciences modelled in the inspiration of Stanford University, which is often regarded as one of the reasons why Silicon Valley was possible in the first place. Terman, the university's dean in the 50s and 60s, is usually credited with turning the university into an "innovation machine" (Wadhwa, 2013). However, considering New Jersey was already considered a leading sector in technology, Terman's efforts to build Silicon Valley East never paid off (Giest, 2017). The establishment of the Stanford-like university turned out to be difficult, and efforts to cooperate with the nearby university, Princeton, were not fruitful, as this institution has a stronger focus on theory rather than applied sciences. Furthermore, it was noted that they could not convince companies to invest or relocate in the area. This would implicate convincing various firms, often competitors, to cooperate, which they were reluctant to do (Giest, 2017).

Texas' case was similar. Letaïfa & Rabeau (2013) identify some of the reasons why these artificial high-tech venture capital clusters modelled after Silicon Valley often fail. Government-created clusters focus on "geographic, organizational, cognitive and institutional" proximity. However, "natural" clusters rely more on social proximity to boost innovation and cooperation (Letaïfa & Rabeau, 2013). This could also explain why competitors in New Jersey and Texas were reluctant to relocate and cooperate, as geographically close competitors often prefer to engage with foreign than local ones (Letaïfa & Rabeau, 2013). These findings are key to developing the recommendations to policymakers in the later sections of this article.

Finally, Cumming & Johan (2008) is presumably the most extensively referenced study in this paper. The study shows how information asymmetries can increase exit costs and reduce the odds of successful exits. This article's definition of a "successful" exit closely resembles the one used by this author rather than the one employed by Chen et al. (2009). Including "M&A" as a satisfactory exit option makes the definition less limiting. Furthermore, the selection of most of the control variables was based on Cumming & Johan (2008). Lastly, one control variable was fascinating. The authors controlled, in the form of a dummy variable, whether the startup is located in the same city as the venture capitalist investor. It is assumed that

the VC can better add value to the startup if they are geographically close. This final idea challenges the study by Chen et al. (2009) and partially contradicts the conclusions reached by Letaïfa & Rabeau (2013).

The conclusions reached by the studies presented help to construct the following ideas, which are the building blocks for the empirical section of this article: Geographical distance could be related to the odds of startup investments having successful outcomes. Academic literature supports the idea that greater information asymmetries arise with more distance; therefore, higher agency costs are expected. Other scholarly publications reinforce this idea by stating that, with greater distance, the typical value-adding activities and interactions that venture capital investors perform to support the entrepreneur in achieving a successful exit are hindered.

Furthermore, we note that there is no consensus when it comes to defining what a "successful outcome" is. Approaches to define "success" are divergent. However, as previously explained, using a broad definition of success makes sense, including all "positive" outcomes where venture capital investors can be satisfied. For this reason, this article defines success as having achieved an IPO or exited via M&A.

Notably, a myriad of factors can affect the chances of exiting successfully, and these factors are challenging to disentangle. They can occur at a macro-level, such as severe economic differences between countries. They can also have a longitudinal dimension to them, such as fluctuations in the capital markets. These factors can be present at the startup level, such as the industry they operate, or at the funding round level, such as the amount of money raised and the type of funding round the entrepreneur received. Finally, these factors can also occur at the venture capital firm level, such as the type of VC this firm is classified as. Therefore, a proper regression model must be controlled for as many factors as possible.

To sum up, this article aims to contribute to the existing literature in the following ways. First, we further researched a topic that yielded contradictory results. Second, data from the European continent, a region that has been neglected by previous researchers exploring this topic, will be used. In addition, this article also aims to provide policymakers with further clarity on the issue to support evidence-informed policymaking (Head, 2016).

Formally, we state the following research question to be answered by our study: *Does the location of the startup, in relation to the location of the venture capital firm, have an impact on the likelihood of a successful outcome?*

3. Methodology

Looking at the European context, the venture capital industry in the UK is the most prominent when measured in absolute terms (Tech Nation, 2021). However, observations from the DACH region (Germany, Switzerland, and Austria) and the Netherlands were preferred for this study. These four countries have been referred

to as the "Germanic Europe cluster" in the past and have been grouped in a multitude of studies such as Szabo et al. (2002), Gupta et al. (2002), Gupta et al. (2011) and Parry et al., (2021). By taking these four countries, the sample of VC firms can better represent the continent. Moreover, compared to the rest of the European countries, the sample size achieved was substantially large due to the high VC activity. Furthermore, due to the cultural, legislative, and economic homogeneity within these four countries (Parry et al., 2021), a more simplified model can be constructed without the need to include a plethora of control variables which would otherwise have to account for between-country differences at the investor level of the analysis. On the other hand, the location at the entrepreneur or startup company level was left unlimited to explore the geographical spread of these investments. Naturally, several control variables, which account for country-level differences, were included in the model at the startup level.

3.1. Construction of Dataset

The main explanatory variable used in this statistical analysis was the location. This variable can take any numerical value, starting from 0, and is in 1,000 Km units. The name of the city was first obtained from the database Crunchbase (2023), and the latitude and longitude of the cities in which both companies are based were initially obtained by converting the location into data types in Excel and later retrieving longitude and latitude information from this programme. Any missing data was complemented by extracting these values from the platform Google Maps (Google, n.d.). Finally, the Haversine formula was used to calculate the distance between both locations. This formula allows us to compute the distance between two points when there is a spherical surface. It has been used in a geographical context for studies such as Dauni et al. (2019). The resulting variable is the distance between both entities in kilometres.

$$d = 2r\sin^{-1}\left(\sqrt{\sin^2\left(\frac{\phi 2-\phi_1}{2}\right)+\cos(\phi_1)\cos(\phi_2)\sin^2\left(\frac{\psi_2-\psi_1}{2}\right)}\right) \quad (1)$$

As for the dependent variable, a new dichotomous variable was created, which takes the value of 1 if the current status of the startup is either "IPO" or "M&A" and 0 if the status is anything else.

As for the dependent variable, a new dichotomous variable was created, which takes the value of 1 if the current status of the startup is either "IPO" or "M&A" and 0 if the status is anything else.

Concerning the control variables, the inflation-adjusted capital raised amount in US dollars, which is available in the Crunchbase data, was included. A published

analysis by the company Dealroom uncovered that bigger rounds have higher probabilities of exiting (Dealroom, 2020). This approach was also followed by Cumming & Johan (2008). Furthermore, the chances of achieving a successful exit vary depending on the funding round stage the startup is undergoing (Li, 2008). For this reason, the authors argue that if the financing round is an early type, the probabilities of write-offs (non-successful outcomes for this study) were higher. The variable constructed can take three values: Pre-seed, Seed and Series A. Moreover, because the share of successful exits varies drastically each year, the data must be controlled based on the year when the first round occurred. This variable is numerical and discrete, taking any number between 1 and 15. For the purpose of model estimation, it was used to calculate a set of dummy variables for the respective years. Following Cumming and Johan (2008), this research also controls for the industry type, i.e., whether a startup is in the life sciences or high-tech industry, as it is argued that IPO investors generally have an enormous appetite for startups operating in these sectors. Both controls are dichotomous variables and can take the value of 1 if the startup's operations are related to high-tech or health and life sciences or 0 otherwise. Finally, a variable is included to control the type of investor the venture capital is. In particular, this variable controls for the instances when the venture capital is a governmental entity, i.e. a Government Venture Capital (GVC). Cumming & Johan (2008) find that startups which GVC funds tend to have a weaker governance structure. This increases the chances that the investment does not exist as IPOs or M&As but as write-offs, buybacks and secondary sales. The dichotomous variable can take the value of 1 whenever the investor is a GVC and 0 whenever it is not. The following Table 1 summarizes the descriptive statistics of the continuous variables in the dataset. Further variables included were the Economic Freedom Index published by the Washington-based Heritage Foundation (n.d.) and the MSCI World index obtained via Bloomberg (2023) for the years between 2007 and 2021. Table 1 below describes the statistical information of the continuous variables.

Table 1 Summary statistics of the continuous variables

Variable	Mean	Median	Minimum	Maximum
1000KM	2.5	0.50	0	18.73
Amount Raised (Inflation Adjusted)	7,480,025	3,376,960	13,432	284,931,000
Economic Freedom Index	74	74	44	90
MSCI World Index	1941	1969	1016	3017

Source: Authors' calculations

As for the sources of data, most of the information was taken from the online database Crunchbase (2023) and later complemented with further sources. den

Besten & Matthijs (2020) analysed academic literature created using data from Crunchbase and concluded that studies have utilised the database successfully when combined with supplementary data sources. Furthermore, a study published by the Organisation for Economic Co-operation and Development (OECD) concluded that the information in Crunchbase can be linked to other relevant data sources, further contributing to its accuracy. For this reason, several studies, some even published in top-tier journals, are using Crunchbase as a legitimate source of business information, and the body of literature using this source will most likely continue to grow in the future (Dalle et al., 2017).

Nevertheless, Crunchbase is a self-reported database, which is not further curated. Due to this, certain authors have identified this flaw as an area where one must take cautious measures. Weking et al. (2019) overcame the potential success bias, which could arise from venture capital firms only reporting successful investments, by ensuring that at least 50 per cent of the observations included in their sample were "failed". This methodology was also previously utilised by Antretter et al. (2018).

For this reason, the total number of observations with a successful outcome was compared to the total number of observations that did not have a successful outcome. A cut-off date was established in 2007, which was the year when the Crunchbase database was created. Accordingly, and also considering that the number of observations before this year was generally low, all data before 2007 was excluded from the analysis. Moreover, the assumption was made that venture capital firms were presumably not so keen on logging in past data on funding rounds, particularly if the investment outcome was not favourable. From 2007, as shown in Figure 1, generally more non-successful outcomes can be observed per year, effectively overcoming the abovementioned bias.

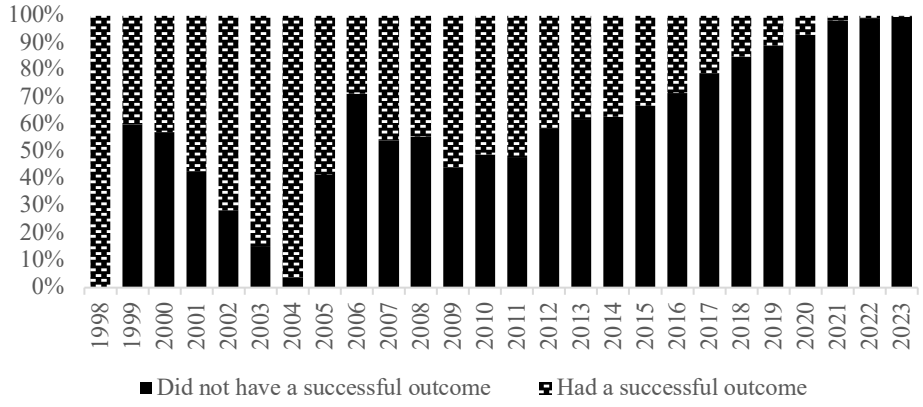

Figure 1 Share of success in the sample over the studied period of years
Source: Authors' elaboration of the data from Crunchbase (2023)

Other adjustments to the dataset included the industry's reclassification and the addition of the variables mentioned above. Following Cumming & Johan (2008), a variable specified whether the startup operated in an industry related to life sciences or another high-tech industry. Industry groups, defined by Crunchbase (2023), were used for this purpose.

It is important to mention another remark concerning the years for the financing rounds. The data contained information on several startups' pre-seed, seed and series A rounds. However, for econometric analysis, only the first funding round recorded for each startup in Crunchbase was needed. The reason is derived from conclusions published by Li (2008). The author found that venture capital firms delay investing in a startup when market uncertainties are high. It can be deduced from this idea that venture capital firms bear more risk when investing in earlier funding rounds rather than later ones due to information asymmetries. Zhang & Gu (2021), as mentioned earlier, concludes that agency costs are higher with information asymmetries.

For this reason, choosing the earliest round available becomes useful to accentuate the effect that longer distances have on the chances of success. Moreover, according to Barg et al. (2021), when there is a lower number of venture capital investors for a startup, such as in earlier rounds, the monitoring of this startup is higher than if the startup has many investors (due to smaller fractions of ownership). This is another reason why choosing earlier rounds is beneficial for this article, as the real effect on distance can be perceived.

Therefore, if the startup had more than one early-stage financing round recorded in Crunchbase, only the first one was kept, and the rest of the rounds were excluded from the dataset. Furthermore, further observations were excluded depending on the year in which this round occurred. Cumming & Johan (2008) mention that VC firms typically exit between two and seven years after investing. For this reason, observations were excluded from the sample if the following criteria could be applied to them:

- If the funding round was labelled as pre-seed, the observation was excluded if it happened seven or fewer years ago. Since this is a very early stage, it cannot be expected that the startup will take less than seven years to exit. Therefore, only rounds from 2016 and before were included.
- If the funding round was labelled as seed, the observation was excluded if it happened 4 (as to having a middle ground between 7 and 2) or less years ago.
- Finally, if the funding round was labelled as Series A and occurred less than two years ago, it was excluded from the dataset, as this startup could still exit in the near future.

This dataset aims to include only observations which could have, in theory, exited

by 2021 to correctly isolate the effect that location can have on their success chances. Moreover, because the most recent observation occurred in 2021, this year was used as the base year to adjust the amount raised for inflation1. The final number of observations after all adjustments is 2,856.

3.2. Methodological Approach

This article uses a logistic regression model to assess the relationship between location and successful exits. This statistical method, as opposed to linear regression, was chosen due to the nature of the dependent variable. Since the outcome of the variable can only take one of the two possible values (having achieved a successful exit and not having achieved a successful exit), a logistic regression is appropriate for this case. This is a common approach in these types of studies (Ross et al., 2021; Fuertes-Callén et al., 2020), allowing control within a multivariate model for a range of variables described in the previous section. Formally, we estimate the following equation (1):

Equation (1): $Successful\ Exit_i = \beta_0 + \beta_1 * 1000KM_i + \beta_2 * Amount\ Raised\ (Inflation\ Adjusted)_i + \beta_3 * MSCI\ World\ Index_i + \beta_4 * Startup\ Round\ Stage_i + \beta_5 * Life\ Sciences\ Startup_i + \beta_6 * Technological\ Startup_i + \beta_6 * Investor\ Belong\ to\ GVC_i + \beta_7 * Investor\ Belong\ to\ GVC_i + \beta_8 * Year_i + u_i$, where u_i is the random error and $i = 1, 2, 3..., 2,856.$ (2)

4. Findings and Results

The final dataset used for constructing the regression model has 2,856 observations from the period between 2007 and 2021, which recorded equity-only financing rounds for different startups. Out of this number, 674 startups had a successful exit. In this section, we present several interesting descriptive findings and then proceed towards the multivariate logistic regression analysis results.

4.1. Descriptive Findings

Regarding the conglomeration of venture capital firms, it can be observed from the data analysed that venture capital firms are highly concentrated in only a few cities. Studies mentioned in the literature review section of this article, such as Chen et al. (2009), reached similar conclusions for the United States. For every investor country observed, over a third of all the VC firms were located in only one or two cities, namely Munich, Berlin, Zurich, Vienna and Amsterdam (for details, see Figure 3). Berlin is the sample's most common combination of investor–startup location. Furthermore, on average, those VCs that invested outside their own city travelled more than 3 thousand kilometres to the cities where their investments were

made. For illustration, this is as far as the distance between Barcelona and Moscow (Google, n.d.). As for the conglomerative aspect of startup's locations, the top 15 cities which host the largest number of startups in the sample are visible in the following Figure 2.

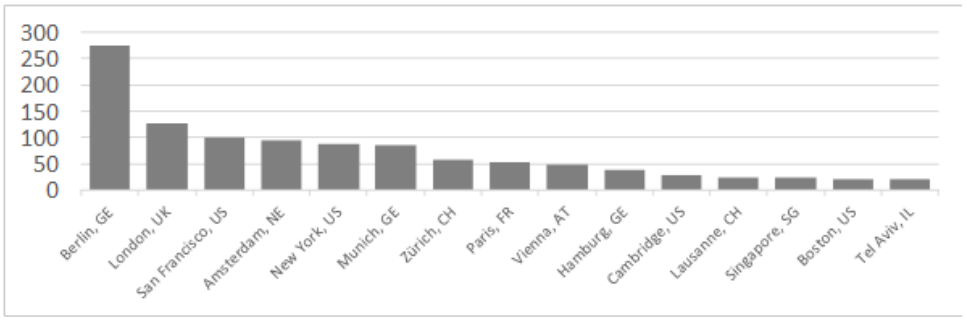

Figure 2 Top cities with the highest concentration of startups in the sample, measured in the number of startups
Source: Authors' elaboration of the data from Crunchbase (2023)

Even for a sample of startups financed by European venture capital firms, cities from the United States were the most commonly observed, taking 4 out of the top 15 places. Moreover, three out of the four cities are also precisely the ones identified as "venture capital centres" by Chen et al. (2009), namely San Francisco, New York and Boston. Cambridge, a city in Massachusetts, was the fourth US-based city with the largest number of startups in the sample. This city is neighbouring Boston. They are so geographically proximate that the city of Cambridge is included in (Harvard Business School, n.d.). Since the "venture capital centres" identified by Chen et al. (2009) also include the cities' peripheries, it is assumed that "Boston" also encompasses Cambridge. Moreover, it is vital to notice that almost half (48%) of all startups are located in these 15 cities. Furthermore, it can be observed that the cities of Berlin, Munich, Zurich, Vienna, and Amsterdam, previously identified as the cities with the most concentration of venture capital firms from the sample, are also in the top ten cities with the highest number of startups.
This is a critical remark, as it once again demonstrates that the sample gathered is congruent with the findings from the theoretical section of this article. To sum up, it is valuable to notice that the cities of Berlin, Munich, Zurich, Vienna, and Amsterdam are the cities with the highest number of venture capital firms, included in the top 10 cities with the highest concentration of startups, and also in the top 10 of most common cities in which the venture capital firms invest in startups within the same city. This evidence further supports the ideas presented by Chen et al.

(2009) that the location of the VC greatly explains the location of their investments, which is usually in its immediate proximity. This means that venture capital firms usually invest in startups in the same cities in which they are located. This is particularly true for VCs located in cities with a high concentration of other VC firms.

4.2. Logistic Regression Results

Logistic regression results are presented in Table 2. The model's predicting power was assessed with various tests. The bottom part of Table 2 presents a series of values referred to as pseudo R^2. They are called "pseudo" because, unlike R^2, these values do not exactly represent the proportion of the variance that the model explains. However, Nagelkerke R-Square is scaled from 0 to 1.0, which closely resembles R^2, as opposed to Cox & Snell R-Square, which can only reach up to 0.75. For this reason, Nagelkerke R Square is presumably used more often. However, there is no consensus regarding which metric is better (Tabachnick & Fidell, 2013). That said, it can be interpreted from the table that the model constructed does have some predicting power. Furthermore, the Hosmer and Lemeshow test results are presented in Table 2. A good model would show a statistically insignificance result. In the table, it can be observed that the significance at a 95% significance level is over 0.05. This means that the model, for the purpose of this test, is insignificant, which indicates a high-quality model in this case (Hosmer et al., 2000). Finally, the table in Appendix 1 explains how many observations were assigned to the correct group. It compared the proportion of correctly predicted outcomes based on the model that uses real data. Overall, the model was able to predict 77% of the outcomes correctly (UCLA, 2021).

For the key variable 1000KM, the model yielded an estimate of 0.033. Since this figure is significant and positive, it can be said that with one unit increase in values of 1,000 kilometres (distance between VC and Startup), there is a 3 per cent increase in predicted log odds of successful exit of a startup (M&A or IPO = 1), if all the other predictors are held constant. In order to put this into a more interpretative form, this coefficient can be exponentiated to get the odds ratios (UCLA, 2021). For a one-unit increase in the variable 1000KM (for every 1,000 Km increase in the distance between VC and startup), an observation would be more likely to exit successfully by a factor of 1.033. In other words, distance only had a very small effect on the chances of exiting successfully.

The regression table also informs us on the role of other explanatory variables. We find a positive and statistically significant effect of the *Amount Raised (Inflation Adjusted)*, a negative effect of the control variable representing *MSCI World Index,* and the highest chance of M&A or IPO associated with *the Startup Round Stage Series A*. From a time perspective, it is unsurprising that the lowest likelihood of

successful exit was linked with 2008, corresponding to the respective global economic crisis.

Table 2 Logistic regression output

	Estimated Coefficient	p-value
1000KM	0.033	0.013*
Amount Raised (Inflation Adjusted)	0.000	0.000*
MSCI World Index	-0.003	0.000*
Startup Round Stage Pre-Seed (reference)		
Startup Round Stage Seed (=1)	0.323	0.497
Startup Round Stage Series A (=1)	1.045	0.029*
Life sciences startup (=1)	-0.269	0.084
Year 2020 (reference)		
Year 2007	-0.886	0.072
Year 2008	-1.109	0.029*
Year 2009	-0.707	0.127
Year 2010	-0.673	0.134
Year 2011	-0.725	0.066
Year 2012	-0.278	0.402
Year 2013	0.330	0259
Year 2014	-0.011	0.970
Year 2015	-0.123	0.658
Year 2016	0.238	0.379
Year 2017	0.145	0.606
Year 2018	0.209	0.482
Year 2019	-0.532	0.170
Technological Startup (=1)	0.141	0.271
Investor belongs to GVC (=1)	0.246	0.319
Economic Freedom Index	0.008	0.416
Constant	2.800	0.017*
Number of observations	2,856	
Hosmer and Lemeshow test results	Chi-square =14.81, p-value = 0.06	
Nagelkerke R-Square	0.208	
Cox & Snell R-Square	0.138	

Notes: Dependent variable = 1 for a successful exit of a startup; otherwise, it is 0. (*) indicates statistical significance at least at the 5% significance level.
Source: Authors' calculations in SPSS

4.3. Discussion

Our study presents two main findings. The first finding, related to the state of conglomeration in European venture capital firms, shows that, just as Chen et al. (2009) discovered in the United States, some cities could be considered "venture capital centres" in Europe. As previously discussed, these cities are Munich, Berlin, Zurich, Amsterdam and Vienna. This was a collateral finding, as the core purpose of this article is not to explore the conglomeration in the venture capital industry in Europe but to investigate the relationship between location and successful exits. However, since conglomeration is highly related to the topic, it was briefly discussed in the literature review section of this article. Chen et al. (2009) suggest that conglomeration might result from labour market pooling and knowledge spillovers.

The second finding is that geographical distance is only imperceptibly positively related to the odds of achieving a successful exit. The logistic regression's results suggest that for every increase of 1,000 Kilometres in the distance between a startup and its VC investor, there is only a 3 per cent increase in the chances that this startup exits successfully if all other variables are held constant. This finding is counterintuitive based on the theories described previously in this paper, such as information asymmetries and transaction costs. These theories concluded that the interactions between the startup and its investors are sensitive to distance, including value-adding activities such as making introductions to create commercial connections and other activities related to the monitoring of the startup. With this in mind, one can expect the empirical test to show different results. If the startup is not in its investor's proximity, then the value of such activities is forgone, and agency costs, such as travel costs, will increase.

However, this is not entirely unexpected, as these conclusions moderately resemble findings from Chen et al. (2009). These authors identified that venture capital firms in the United States tend to see higher returns from their investments which are not geographically close to them. Reflecting on this, they suggest that this situation arises because startups that are further away might generally result in higher monitoring costs due to higher information asymmetries. Therefore, venture capital firms will only invest in these distant startups if they can realise higher returns than usual. Furthermore, Fritsch and Schilder (2008) conclude that spatial proximity does matter when it comes to the formation of a VC relationship, however, they state that the importance of this factor is greatly overrated. From their conducted interviews, they uncovered that most VCs do consider spatial proximity as an advantage when it comes to making investment decisions, but the results from their empirical section show otherwise. They explain that spatial proximity is not as relevant as one might expect, especially in Germany, where the study was carried out, due to its well-balance and highly accessible spatial structure. The authors also stated the limited availability of good investment opportunities, which encouraged them to ignore

factors such as a long geographic distance in the event of spotting a good investment. In essence, Fritsch and Schilder (2008) conclude that VC managers would certainly prefer to invest within their proximity, but due to limited good opportunities, they are willing to forgo the benefit that proximity might bring and invest in more remote startups if they signal more promising outcomes.

Despite the fact that the ideas from Fritsch and Schilder (2008) explain the decision-making process of choosing a VC investment, while ours focuses on the successful outcomes of such, it is important to include them in the discussion as they are considerably aligned with the results from our empirical section. Based on our statistical results, one might be more inclined to conclude that the distance between the VC and the startup is negligible in the chances of achieving a successful exit. After all, the model indicates that, even though distance is significant in explaining variation in the odds of success, its effects are rather immaterial, as it only increases the likelihood of success by 3% if the distance increases by 1,000 Kilometres.

Nonetheless, these findings could mean good news for startups outside these cities with high VC activity. As it was determined that location does not affect the odds of success greatly, if some of the adversities tied to investing in marginally more remote locations could be alleviated with evidence-informed policymaking, then it means that the more distant startups still have a chance to be funded and offered funding.

5. Limitations

The regression model is not able to control for more variables. One of them includes the type of startups described in this article's theoretical section. Unfortunately, the data from Crunchbase (2023) did not provide enough information to construct such a variable. Including this control would have accounted for the differences in final objectives and the inability to account for venture capitalists opening new branches in different locations. Also, only the location of the headquarters can be obtained through Crunchbase, and the sample is too large to complement this data by searching individual VCs. However, if a VC has a branch in a different city other than their headquarters, which is located in the same city as some of their startups, then this will yield incorrect results in the model.

Furthermore, adding some additional proxies, such as VC reputation, would be beneficial, as it is an important factor in determining whether a startup will have a successful exit (Escobari & Serrano, 2016). However, the data did not allow for this. Moreover, the model assumes that IPOs and M&A are always success stories. Yet, the startup owners may not consider some unfavourable IPOs and disadvantageous M&A deals (Wang & Sim, 2001). Another limitation is the variable for the distance between VC and startup, which is based on geographical proximity as opposed to spatial accessibility, which considers more accurate travel times and, although fairly

complicated to calculate for a large dataset, is believed to be a better metric for studies like this one (Zhang & Gu, 2021).

Lastly, two final limitations were also identified: First, this article occasionally uses data gathered from Google Maps, which is not often used in academic environments. And second, the sample only includes venture capital firms in four European countries. Ideally, an even larger sample containing data from all European VCs would be even better at providing insights for the whole continent.

6. Recommendations for Policymakers

Startups' positive economic impact has been extensively documented for various decades (Davis & Zhao, 2019). Consequently, many governments have attempted to recreate innovation and venture capital hubs in their region, such as the United States' Silicon Valley. They do so, hoping that this would encourage investment in new ventures in their locale (Stolz, 2020; Dvouletý, 2023). Nevertheless, many of these "government-created" or "artificial" venture capital centres have failed. For these reasons, policymakers could better support their local entrepreneurial ecosystems (Stam, 2015) by focusing on increasing the amount of external venture capital in their local startups instead of promoting the creation of new VCs in their region or city. As mentioned in the methodology section of this article, venture capital firms tend to open new offices in cities with a high success rate among startups (Chen et al., 2009). If legislators encourage more investments in their region, they will improve their local startups' chances of success while improving the odds that venture capital firms will relocate there. Some examples of smaller peripheral countries which deployed this strategy successfully are Finland and Estonia (Owen & Mason, 2019).

Circling back to findings by Chen et al. (2009), Escobari & Serrano (2016) and Cumming & Johan (2014), some of the reasons why venture capital firms prefer to invest locally and only do so if the foreign startup is expected to bring extraordinary returns, are the higher agency costs associated with investing in geographically remote startups, and extra costs related to conducting value-adding activities.

By tackling these two adversities, policymakers can attract foreign investors. First, agency costs can be mitigated by introducing policies supporting better transparency practices to reduce information asymmetries between venture capital investors and entrepreneurs. An example of a policy which yielded good results is the 2015 Jumpstart Our Business Startups (JOBS) Act of 2012 in the United States (Ibrahim, 2018). This might initially sound counterintuitive, as this act aimed to reduce regulation for startups to make it more accessible for them to raise money. With less regulation, higher information asymmetries might arise (SEC, 2016). However, this act also permitted the establishment of funding portals, which closely resemble a junior stock exchange, and authorized these portals to screen and curate startups

before they could be listed in their portal (Ibrahim, 2018). According to Ibrahim (2018), this "expert curation" resulted in less asymmetries for the public.

Finally, the second complication related to investing in foreign startups can be mitigated by implementing solutions that would reduce the cost of personal travel. Owen & Mason (2019) pointed out one great example. The author suggests that policies encouraging VC syndicates can boost international VC connections, which would break down distance barriers. Owen & Mason (2019) also suggests that supporting better connectivity with peripheral regions in the transport systems would also help this cause.

7. Conclusions

Most of the venture capital firms within the so-called "Germanic Europe cluster" consist of the DACH region (Germany, Switzerland, and Austria) and the Netherlands, which are in Berlin, Munich, Zurich, Vienna, and Amsterdam. These cities are also featured in the top 10 cities with the highest concentration of startups. Moreover, they are also the most common cities where venture capital firms invest in startups in the same city. Therefore, it is suggested that there is some degree of conglomeration in the venture capital industry in Germany, Austria, Switzerland and The Netherlands. Furthermore, most academic publications suggest that some of the value-adding activities and monitoring-related tasks are sensitive to location. However, more recent studies indicate that this might not necessarily be true. Such is the case for creating commercial connections for networking, which is deemed the most important non-financial contribution by VC investors to entrepreneurs. Networking relies more on social proximity than geographical proximity since the latter can be detrimental to forming commercial connections, as companies are reluctant to cooperate with local competitors and prefer to do so with foreign ones, impeding knowledge sharing.

The results of this research support this idea. The impact that the location of the startup, concerning the location of the venture capital firm, has on the probabilities of success of the startup is, at best, negligible. The results from the regression analysis show that an increase in geographical distance has a minimal positive effect on the probabilities of a successful outcome. Furthermore, this minimal positive effect can better be explained by other factors, such as venture capitalists requiring a higher hurdle rate from firms based in distant locations and incurring higher monitoring costs. This implies that policymakers located in regions where venture capital is scarce can introduce legislation encouraging foreign venture capital investment into their region, rather than establishing local government-led VCs or planning the development of an artificially-made venture.

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Author Contributions
Ana Milena Montesdeoca Breilh (AMMB) and Ondřej Dvouletý (OD) conceived the study and were responsible for the design and development of the data analysis. AMMB was responsible for literature review, data collection and analysis, and data interpretation. OD was supervising the methodology, data analysis and interpretation. Both authors contributed to the writing and editing of the original draft and approved the final version.

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References

1. Adler, P., Florida, R., King, K., Mellander, C., (2019), The city and high-tech startups: The spatial organization of Schumpeterian entrepreneurship, Cities, 87, 121–130. https://doi.org/10.1016/j.cities.2018.12.013.
2. Aminova, M., Marchi, E., (2021), The Role of Innovation on Start-Up Failure vs. its Success, The International Journal of Business Ethics and Governance, 41–72. https://doi.org/10.51325/ijbeg.v4i1.60.
3. Amornsiripanitch, N., Gompers, P. A., Xuan, Y., (2019), More than Money: Venture Capitalists on Boards, The Journal of Law, Economics, and Organization, 35(3), 513–543. https://doi.org/10.1093/jleo/ewz010.
4. Antretter, T., Blohm, I., Grichnik, D., (2018), Predicting Startup Survival from Digital Traces: Towards a Procedure for Early Stage Investors, International Conference on Information Systems. https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1368&context=icis2018.
5. Audretsch, D.B., Feldman, M.P., (1996), R&D Spillovers and the Geography of Innovation and Production, The American Economic Review, 86(3), 630–640.
6. Balland, P., (2012), Proximity and the Evolution of Collaboration Networks: Evidence from Research and Development Projects within the Global Navigation Satellite System (GNSS) Industry, Regional Studies, 46(6), 741–756. https://doi.org/10.1080/00343404.2010.529121.

7. Barg, J.A., Drobetz, W., Momtaz, P.P., (2021), Valuing start-up firms: A reverse-engineering approach for fair-value multiples from venture capital transactions, Finance Research Letters, 43, 102008. https://doi.org/10.1016/j.frl.2021.102008.
8. Baum, J.a.C., Calabrese, T., Silverman, B.S., (2000), Don't go it alone: alliance network composition and startups' performance in Canadian biotechnology, Strategic Management Journal, 21(3), 267–294. https://doi.org/10.1002/(sici)1097-0266(200003)21:3.
9. Bernstein, S., Giroud, X., Townsend, R.R., (2016), The impact of venture capital monitoring, The Journal of Finance, 71(4). 1591–1622. https://doi.org/10.1111/jofi.12370.
10. Bloomberg, L.P., (2023, April 30), MSCI World Index, 2007 to 2021. Retrieved on April 30th 2023 from Bloomberg terminal.
11. Boquist, A., Dawson, J., (2004), U.S. Venture Capital in Europe in the 1980s and the 1990s, The Journal of Private Equity, 8(1), 39–54. http://www.jstor.org/stable/43503396.
12. Boschma, R., (2005), Proximity and Innovation: a Critical assessment, Regional Studies, 39(1), 61–74. https://doi.org/10.1080/0034340052000320887.
13. Capolaghi, L., (2021, September 22). European Venture Capital's resilience through a global pandemic. EY Luxembourg. https://www.ey.com/en_lu/private-equity/european-venture-capital-s-resilience-through-a-global-pandemic.
14. Chen, H., Gompers, P.A., Kovner, A., Lerner, J., (2009), Buy Local? The geography of successful and unsuccessful venture capital expansion, Social Science Research Network. https://doi.org/10.2139/ssrn.1420371.
15. Chopde, N., Nichat, M., (2013), Landmark Based Shortest Path Detection by Using A* and Haversine Formula, International Journal of Innovative Research in Computer and Communication Engineering. Retrieved from: https://www.rroij.com/open-access/landmark-based-shortest-path-detection-byusing-a-and-haversine-formula.pdf.
16. Cornelius, B., Persson, O., (2006), Who's who in venture capital research, Technovation, 26(2), 142–150. https://doi.org/10.1016/j.technovation.2005.05.009.
17. Crunchbase, Inc. (2023, April 1). Crunchbase. San Francisco, California, Unites States. Retrieved on April 1st 2023, from https://www.crunchbase.com/.
18. Cumming, D.J., Johan, S., (2008), Information asymmetries, agency costs and venture capital exit outcomes, Venture Capital, 10(3), 197–231. https://doi.org/10.1080/13691060802151788.
19. Cumming, D., Johan, S., (2014), Venture Capital and Private Equity Contracting: An International Perspective. London: Elsevier.
20. Da Rin, M., Nicodano, G., Sembenelli, A., (2006), Public policy and the creation of active venture capital markets, Journal of Public Economics, 90(8–9), 1699–1723. https://doi.org/10.1016/j.jpubeco.2005.09.013.
21. Dalle, J., den Besten, M., Menon, C., (2017), Using Crunchbase for economic and managerial research. OECD Library. Retrieved from: https://www.oecd-ilibrary.org/industry-and-services/using-crunchbase-for-economic-and-managerial-research_6c418d60-en.
22. Dauni, P., Firdaus, M.D., Asfariani, R., Saputra, M.I.N., Hidayat, A.A., Zulfikar, W.B., (2019), Implementation of Haversine formula for school location tracking, Journal of Physics, 1402(7), 077028. https://doi.org/10.1088/1742-6596/1402/7/077028.

23. Davis, C., Zhao, L., (2019), How do business startup modes affect economic growth?, Canadian Journal of Economics/Revue Canadienne D'économique, 52(4), 1755–1781. https://doi.org/10.1111/caje.12417.
24. Dealroom, (2020). Probability-2. Retrieved from: https://dealroom.co/uploaded/2020/08/Probability-2.pdf.
25. Dealroom, (2021). Europe's venture capital market booming in 2021. Private Equity Wire.
26. den Besten, M., Matthijs, L., (2020), Crunchbase Research: Monitoring Entrepreneurship Research in the age of Big Data, Social Science Research Network. https://doi.org/10.2139/ssrn.3724395.
27. Dvouletý, O., (2023), A note on the effects of start-up competitions: experience from the Czech Business Plan Contest "Idea of the Year.", Journal of Innovation and Entrepreneurship, 12(1). https://doi.org/10.1186/s13731-023-00282-3.
28. Eisenmann, T., (2021), Why Start-ups Fail, Harvard Business Review. Retrieved from: https://hbr.org/2021/05/why-start-ups-fail.
29. Escobari, D., Serrano, A., (2016), Reducing asymmetric information in venture capital backed IPOs, Managerial Finance, 42(6), 553–568. https://doi.org/10.1108/mf-03-2015-0059.
30. Florida, R., Mellander, C., (2014), Rise of the Startup City: The changing geography of the venture capital financed innovation, RePEc: Research Papers in Economics. https://econpapers.repec.org/RePEc:hhs:cesisp:0377.
31. Flögel, F., Schepelmann, P., Zademach, H., Zörner, M., (2023), Injecting climate finance into SME lending in Germany: Opportunities for and limitations of regional savings and cooperative Banks, ZFW - Advances in Economic Geography, 0(0). https://doi.org/10.1515/zfw-2022-0011.
32. Fritsch, M., Schilder, D., (2008), Does venture capital investment really require spatial proximity? An empirical investigation, Environment and Planning A: Economy and Space, 40(9), 2114–2131. https://doi.org/10.1068/a39353.
33. Fuertes-Callén, Y., Cuéllar-Fernández, B., Serrano-Cinca, C., (2020), Predicting startup survival using first years financial statements, Journal of Small Business Management, 60(6), 1314–1350. https://doi.org/10.1080/00472778.2020.1750302.
34. Giest, S., (2017), Overcoming the failure of 'silicon somewheres': learning in policy transfer processes, Policy and Politics, 45(1), 39–54. https://doi.org/10.1332/030557316x14779412013740.
35. Gompers, P.A., Gornall, W., Kaplan, S.N., Strebulaev, I.A., (2020), How do venture capitalists make decisions?, Journal of Financial Economics, 135(1), 169–190. https://doi.org/10.1016/j.jfineco.2019.06.011.
36. González-Cruz, T.F., Botella-Carrubi, D., Martínez-Fuentes, C., (2020), The effect of firm complexity and founding team size on agile internal communication in startups, International Entrepreneurship and Management Journal, 16(3), 1101–1121. https://doi.org/10.1007/s11365-019-00633-1.
37. Google. (n.d.). [Google Maps various locations coordinates]. Retrieved on May 15th 2023, from https://www.google.com/maps.

38. Gupta, V., Hanges, P.J., Dorfman, P.W., (2002), Cultural clusters: methodology and findings, Journal of World Business, 37(1), 11–15. https://doi.org/10.1016/s1090-9516(01)00070-0.
39. Gupta, V., Levenburg, N.M., Moore, L.L., Motwani, J., Schwarz, T., (2011), The spirit of family business: A comparative analysis of Anglo, Germanic and Nordic nations, International Journal of Cross Cultural Management, 11(2), 133–151. https://doi.org/10.1177/1470595811399187.
40. Harvard Business School. (n.d.). Student Life. Retrieved from Harvard Business School: https://college.harvard.edu/student-life/residential-life/cambridge-boston.
41. Hidayat, S.E., Bamahriz, O., Hidayati, N., Sari, C. A., Dewandaru, G., (2022), Value drivers of startup valuation from venture capital equity-based investing: A global analysis with a focus on technological factors, Borsa Istanbul Review, 22(4), 653–667. https://doi.org/10.1016/j.bir.2021.10.001.
42. Head, B., (2015), Toward more "Evidence-Informed" policy making?, Public Administration Review, 76(3), 472–484. https://doi.org/10.1111/puar.12475.
43. Heritage Foundation. (n.d.). Index of Economic Freedom. Retrieved on April 1st 2023, from https://www.heritage.org/index/about.
44. Hosmer, D.W., Lemeshow, S., (2000), Applied Logistic Regression. https://doi.org/10.1002/0471722146.
45. Ibrahim, D., (2018), Public or Private Venture Capital?, 94 Washington L. Rev. 1137 (2019). Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3266756.
46. Kollmann, T., Stöckmann, C., Linstaedt, J., Kensbock, J., (2015), European Startup Monitor. Retrieved from: https://startupverband.de/fileadmin/startupverband/mediaarchiv/research/sonstige_studien/20160303_European_Startup_Monitor_2015.pdf.
47. Kolvereid, L., Isaksen, E.J., (2006), New business start-up and subsequent entry into self-employment, Journal of Business Venturing, 21(6), 866–885. https://doi.org/10.1016/j.jbusvent.2005.06.008.
48. KPMG, (2015), Why are big businesses looking to startups for innovation? Retrieved from: https://assets.kpmg.com/content/dam/kpmg/pdf/2015/02/big-business-start-ups-innovation.pdf.
49. Letaïfa, S.B., Rabeau, Y., (2013), Too close to collaborate? How geographic proximity could impede entrepreneurship and innovation, Journal of Business Research, 66(10), 2071–2078. https://doi.org/10.1016/j.jbusres.2013.02.033.
50. Li, Y., (2008), Duration analysis of venture capital staging: A real options perspective, Journal of Business Venturing, 23(5), 497–512. https://doi.org/10.1016/j.jbusvent.2007.10.004.
51. Metrick, A., Yasuda, A., (2011), Venture Capital and Other Private Equity: a Survey, European Financial Management, 17(4), 619–654. https://doi.org/10.1111/j.1468-036x.2011.00606.x.
52. Marin, A.A., Chitimiea, A., (2020), Entrepreneurial Knowledge and Digital Competencies–Keys for a Success of Students Entrepreneurship, Studia Universitatis „Vasile Goldis" Arad–Economics Series, 30(2), 57-69.

53. Maus, C., Greven, A., Kurth, N., Brettel, M., (2023), How do investor characteristics of business angels and venture capitalists predict the occurrence of co-investments?, Journal of Business Economics, 1-49 (online first).
54. Montani, D., Gervasio, D., Pulcini, A., (2020), Startup Company Valuation: The state of art and future trends, International Business Research, 13(9), 31. https://doi.org/10.5539/ibr.v13n9p31.
55. Owen, R., Mason, C., (2019), Emerging trends in government venture capital policies in smaller peripheral economies: Lessons from Finland, New Zealand, and Estonia, Strategic Change, 28(1), 83–93. https://doi.org/10.1002/jsc.2248.
56. Pathak, S., (2020), Contextualizing Well-Being for entrepreneurship, Business & Society, 60(8), 1987–2025. https://doi.org/10.1177/0007650320927688.
57. Parry, E., Morley, M., Brewster, C., (2021), The Oxford Handbook of Contextual Approaches to Human Resource Management. Oxford Academic.
58. Pisoni, A., Onetti, A., (2018), When startups exit: comparing strategies in Europe and the USA, Journal of Business Strategy, 39(3), 26–33. https://doi.org/10.1108/jbs-02-2017-0022.
59. Riepe, J., Uhl, K., (2020), Startups' demand for non-financial resources: Descriptive evidence from an international corporate venture capitalist, Finance Research Letters, 36, 101321. https://doi.org/10.1016/j.frl.2019.101321.
60. Rohanaraj, T.T.A., (2023), A Systematic Literature Review on the Transformation of Entrepreneurial Intention to Entrepreneurial Action, ECONOMICS-INNOVATIVE AND ECONOMICS RESEARCH JOURNAL, 11(Sp. issue), 121-139.
61. Ross, G., Das, S.R., Sciro, D., Raza, H., (2021), CapitalVX: A machine learning model for startup selection and exit prediction, The Journal of Finance and Data Science, 7, 94–114. https://doi.org/10.1016/j.jfds.2021.04.001.
62. SEC, (2016, December 9th), JOBS Act. Retrieved from SEC: https://www.sec.gov/spotlight/jobs-act.
63. Shead, S., (2021, October 22), Big-name U.S. tech investors are moving in on Europe in increasing numbers, CNBC. Retrieved from: https://www.cnbc.com/2021/10/22/general-catalyst-bessemer-lightspeed-expand-start-up-hunt-to-europe.html#:~:text=Tech-,Big%2Dname%20U.S.%20tech%20investors%20are%20moving,on%20Europe%20in%20increasing%20numbers&text=Veteran%20investor%20Alex%20Ferrara%2C%20a,capitalist%20familiar%20with%20the%20matter.
64. Shearmur, R., Doloreux, D., (2022), Innovation, scaling-up, and local development in peripheral regions: do establishments scale-up locally?, ZFW - Advances in Economic Geography, 66(4), 185–200. https://doi.org/10.1515/zfw-2022-0028.
65. Silveira, R., Wright, R., (2016), Venture capital: A model of search and bargaining, Review of Economic Dynamics, 19, 232–246. https://doi.org/10.1016/j.red.2015.06.002.
66. Stam, E., (2015), Entrepreneurial Ecosystems and Regional Policy: A sympathetic critique, European Planning Studies, 23(9), 1759–1769. https://doi.org/10.1080/09654313.2015.1061484.
67. Stolz, L., (2020), Startup Competitions and their Role in Entrepreneurial Ecosystems: A Conceptual Attempt, Zeitschrift Fur Wirtschaftsgeographie, 64(4), 233–246. https://doi.org/10.1515/zfw-2020-0009.

68. Szabo, E., Brodbeck, F.C., Hartog, D.N.D., Reber, G., Weibler, J., Wunderer, R., (2002), The Germanic Europe cluster: where employees have a voice, Journal of World Business, 37(1), 55–68. https://doi.org/10.1016/s1090-9516(01)00074-8.
69. Tabachnick, B., Fidell, L., (2013), Using Multivariate Statistics (6th ed.). Pearson.
70. Tech Nation, (2021), Tech Nation Report 2021. Tech Nation. Retrieved from: https://stagetechn.wpengine.com/report2021/.
71. UCLA, (2021), LOGISTIC REGRESSION | SPSS ANNOTATED OUTPUT. Retrieved from UCLA: Statisitcal division: https://stats.oarc.ucla.edu/spss/output/logistic-regression/.
72. Venture Forward, (2023, March 05), VC History. Retrieved from Venture Forward: https://ventureforward.org/resources-for-emerging-vc/vc-history/#:~:text=The%20first%20modern%20VC%20firm,Doriot.
73. Wadhwa, V., (2020, February 11), Silicon Valley can't be copied, MIT Technology Review. https://www.technologyreview.com/2013/07/03/177476/silicon-valley-cant-be-copied/.
74. Wang, C.K., Sim, V.Y., (2001), Exit strategies of venture capital-backed companies in Singapore, Venture Capital, 3(4), 337–358. https://doi.org/10.1080/13691060110060664.
75. Weking, J., Böttcher, T., Hermes, S., Hein, A., (2019), Does Business Model Matter for Startup Success? A Quantitative Analysis. Twenty-Seventh European Conference on Information Systems (ECIS 2019). Retrieved from: https://www.researchgate.net/publication/332986741_Does_Business_Model_Matter_for_Startup_Success_A_Quantitative_Analysis.
76. Zhang, J., Gu, Q., (2021), Turning a curse into a blessing: Contingent effects of geographic distance on startup–VC partnership performance, Journal of Business Venturing, 36(4), 106108. https://doi.org/10.1016/j.jbusvent.2021.106108.

Appendix

Appendix 1: Predicted outcomes from the logistic regression

Observed			**Predicted**		
			M&A or IPO = 1		**Percentage Correct**
			0	**1**	
Step 1	M&A or IPO = 1	0	2076	106	95.1%
		1	551	123	18.2%
	Overall Percentage				77.0%

Source: author's calculations