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Can a third-party certification helps Hybrid companies to improve their economic performance while delivering better or equal social impact?

A quantitative and qualitative analysis of the short-term growth of certified B Corp

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Abstract

The goal of this thesis is to contribute to providing data-driven information on whether a third-party certification can help a hybrid company to successfully pursue both purpose and profit goals without sacrificing the first for the second one or vice versa. Through a quantitative and qualitative analysis, we want to provide information to entrepreneurs that want to certify firms as B Corp and inform them about the possible benefits they could expect.

Executive Summary

In recent years, companies have changed a lot and with them has changed their social role. Companies have always had the goal of creating money to sustain and grow their operations, but since the beginning of the industrial era, society has started asking companies to rethink their role, wider their objectives, and include more actors into the boundaries of their choices. The notion that companies have a social obligation is not a recent one. Starting from the 1930s and the 1940s an explicit link between the role of executives and the social performance of corporations appeared in the literature (Carroll, 1999). In 1979 Carrol proposed what is perhaps the first definition of CSR and from then on the debate regarding the social role of companies took a proper form (Carroll, 1979). The discussion has intensified in recent years following the adoption of international agreements on sustainable development such as the Paris Agreement. Following the collective and prompt action against the pandemic crisis of Covid-19, today more than ever people are asking companies a stronger and immediate commitment to fighting climate change and social challenges.

The change in society led to a change in the paradigm with which companies define their objectives, leading many to evaluate their strategic choices according to the Triple Bottom Line framework: People, Profit, and Planet. Adding the bottom lines of the People and the Planet to the economic dimensions led companies to face "a multi-nature" optimization problem, which is, by definition, more difficult to handle. Often the objectives to be maximized conflict with each other due to their different nature. The optimization of the goals is, therefore, more complicated due to the addition of several constraints arising from the multi-objective nature of the problem. It can happen frequently that serving one dimension may not satisfy properly another dimension leaving corporations with difficult trade-offs to solve. The ability in dealing with these trade-offs determines the overall success of companies. If traditional firms face the trade-offs in a paradoxical way, a new generation of companies called Hybrid companies uses holistic thinking to fulfill the Triple Bottom Line (Dhakal, 2020). Hybrids are *inter alia* objects, composed through the permanent recombination of existing elements. In the case of Hybrid companies, they combine elements of the two traditional paradigms: the business-focused companies which aim

at creating economic value and the charity-focused companies which aim at creating impact. The emergence of this new category of companies transformed what was for long a dichotomy into what is today a continuum. In this continuum, Hybrids lay in the middle and they are considered a “grey object” due to their peculiar position (Battilana & Lee, 2014). If from one side these companies have the potential to face the modern challenges with the creation of new business models that would not be possible in the two other paradigms, on the other side their very existence and survival is at risk because of the contrasting forces presented in these “locus of disorder” (Battilana & Lee, 2014).

Theories predict that Hybrids should experience unique external and internal tensions due to their unusual positioning and empirical studies have partially confirmed it. Externally they must deal with two main problems. The first is a legal one. Corporate regulation offers options that are aligned with the scope of the type of corporation. Traditional companies and non-profit organizations have a precise legal definition all over the world created to help them in reaching their goals. Business organizations can raise capital with the selling of equity and no-profit organizations can get donations tax-free. Hybrid companies have not had a specific legal form until recently. The one that exists is immature and present only in few countries thus preventing Hybrids to successfully achieve their goals. The lack of a specific legal framework for these companies is also linked to the second problem: access to capital. Hybrid enterprises may appeal to funding sources in both the business and charity sectors, but the absence of a proper valuation framework for this category of firms can prevent investors to put capital in these firms.

Internally speaking, trade-offs ask hybrid companies to adapt accordingly. The workforce composition and the organizational structure of these companies need to reflect the multi-nature purpose of these firms. Surely, the most challenging task is the decision of what activities should be prioritized between the ones that generate impacts and the ones that generate profit. The way these tensions are experienced by companies depends highly on the level of integration between social and commercial activities. Hybrids can be divided into four categories according to two dimensions: the degree to which companies can automatically generate impact through their economic operations and to which extent they manage to overlap the clients' target of the economic activities and the beneficiaries of the impact activities (Santos et al., 2015). Depending on which category they belong to, hybrids need to adopt business models of different complexity. For all of them, the key challenge is to be able to align the activities that generate profit with the activities that generate impact. The way these tensions are addressed is at the very bottom of what determines the success or the failure of this paradigm (Tracey et al., 2011). One solution proposed by the literature to overcome these conflicts is the recurrence to third-party certification.

The market offers different certifications, but very few are suitable to certify the holistic, systemic approach of Hybrid companies. The one that we believe is more appropriate for this study is the B Corp certification. Some key characteristics make the seal released by the B Lab ideal. Firstly, is the only one that asks companies to change their legal status and adopt the Benefit Corporation legal form. The fact of being legally accountable for the impact that it is promised to be generated place the social aspect of the companies' goals at the same level of the economic aspect and make sure that what companies pledge are not just claims but facts. The second key aspect is the way B Lab assesses the hybridity of a company. Performance measurement systems must include a combination of social and environmental KPIs, instead of monitoring conventional financial KPIs on one side and CSR-reporting processes on the other (Santos et al., 2015). The B Impact Assessment verifies the companies' social performances according to 5 dimensions: workers, community, environment, governance, customers. Hybridity is therefore evaluated at 360 degrees and verified B Corp are truly hybrid firms and not only for some specific dimension. Thirdly, the certification is costly in terms of effort and money. Cost-wise, companies that want to obtain the B Corp need to pay a yearly fee which amount is progressive according to the revenues of the firm. Effort-wise, corporations need to go through an exhaustive and long process of verification that pushes them to investigate and to document at a deep level all their practices and ways of doing business. The two combined prevent firms that are not truly committed to the cause to not even start the process of certification, leaving among certified companies only genuine Hybrids. The last fundamental characteristic is that the assessment is evolving. Since 2006 the B Lab has published 6 versions of the B Impact Assessment making sure that the definition of hybridity is constantly updated. Also, companies need to regularly update their status. Once you are a B Corp, you are not a B Corp forever, but you must retake the assessment at least every three years to confirm your status. All these characteristics combined make sure that B Corps are legally and regularly verified Hybrid companies committed to the creation of impact along with profit.

The goal of the study is to assess whether this certification can be beneficial for companies also in economic terms. Roughly speaking, to be economically advantageous for the company the benefits of getting the certification must exceed the costs. We have seen that the certification is costly, but many are the benefits we can theoretically expect.

Firstly, companies can improve their customer attraction. Today 80% of consumers show a preference towards products that have been labeled with some sort of certification. Corporations willing to serve those customers see then both an opportunity and a necessity to respectively expand or protect their businesses and sustain their growth. Firms that can effectively communicate that to customers will therefore experience a positive economic effect.

Secondly, certification is a boost in the attraction of capitals. We have seen that traditional capital providers are prevented from investing in Hybrids, but recently a new way of investing saw its rise. Social impact investing provides finance to organizations addressing social and/or environmental needs with the explicit expectation of a measurable social, as well as financial, return (OECD, 2019). This type of investing has grown 4 times in the last 20 years and always more investors are looking for companies with strong CSR claims. Firms showing the B Corp certification can have an advantage and a preferred way in securing these capitals. The third benefit covers the aspect of talent acquisition. Surveys show that the new generation of millennials strongly prefers to work for companies with a solid focus on the generation of impact. Also, the current generations of employees see CSR activities as core to the understandings of the purpose of their work (Bhattacharya et al., 2008). A certification can help companies successfully attract the new generation of talents and improve the satisfaction and productivity of current employees.

Lastly, companies that successfully obtain the B Corp status enter to be part of a strong community of firms and social entrepreneurs. They can easily create robust and long-lasting partnerships with like-minded corporations and grow their operations. B Lab also provides B Corps with a handful of tools and best practices that help Hybrids in improving their activities and aligning them with their impact goals.

Success in economic terms is, but not necessarily, translated into economic growth. If the certification of hybridity is a way to overcome hybrids' tensions and the benefits exceed the cost of getting the B Lab seal, we can expect B Corp to experience a better turnover growth. Literature provides us with two studies: a US-based study that claims that the certification has a negative impact on revenue growth and an EU-based study claiming the contrary. In our research, we analyze a panel of European B Corps, and we compare the year-over-year turnover growth before and after the year of certification. Through a statistical multi-regression, we want to estimate the impact of the certification on the revenues in the period 2010-2020. The results of the regression presented in the study show that the variable of interest is not statistically significant, meaning the act of certification is not related in any way with the behavior of turnover growth. If this can be at first an unsatisfactory result, it is however strongly linked with the scenario presented in the theoretical literature and enable us to solve the contradictory finding of the two quantitative studies already produced.

Companies certifying B Corp are very different in terms of size, business models, industry, and goals. The common factor that binds them is the same shared vision of using business as a force for good and that they used the B Corp certification to communicate it. Additionally, as we have already seen not all Hybrid companies are the same and we have detected 4 different categories.

Especially, the way they create social impact is different according to the category they belong to. Depending on their form the effect of the certification on the growth can be very different Companies that belong to the “Market Hybrid” category have business models in which the activities that generate impact are strongly aligned with the activities that generate profits. Those companies can focus on the scaling of their commercial activities because the scaling of the impact generated will be almost automatic. Investors will easily put money in those firms because they can forecast both an economic and a social return. This business model is the easiest to manage and we can expect them to have an economic improvement following the certification. Managing other categories of hybrids is not as straightforward. The two different activities are not always aligned, and companies need to put in place efforts and resources decoupled from the economic operations to produce impact. Since the B Lab pushes certified B Corp companies to be a true hybrid, the result of the certifications could be a refocus for those companies that had prioritized economic activities at the cost of the impact ones. Economically speaking, the act of certifying could even harm the revenues by asking those companies that have lost the focus of their purpose to degrowth. For all the other three categories of hybrid, the reaction to certification is unpredictable. Giving that we can expect different B Corps to move in different directions, the statistical insignificancy of our quantitative result is coherent with the context.

To confirm the validity of our theory and drift away from the quantitative approach, we reached out to two Italian B Corp of different nature Treedom and Mondora. We conducted interviews with them to discover how they see the certification and how it was important for their commercial activities. For Treedom, a “Market Hybrid”, the certification has a central role. An improvement or a deterioration of the certification score is expected to have respectively a positive or a detrimental effect on the economic activities, therefore the B Corp score is one of the central KPIs for the management of the firm. On the other hand, Mondora, a “Non-Market Hybrid” has an opposite view. The company cannot naturally generate impact with their business and need to rethink its processes and priorities to find a way to create social value. In Mondora the focus of the analysis is specular. Instead of analyzing how much more or less turnover I can make thanks to the certification, I should analyze how much impact I can create with the same turnover. The certification is not an opportunity to grow economically, but it has enabled them to create more impact.

The outcome of our research is clear. The answer to the certification is not univocal but differs among companies according to their Hybrid nature. Even though quantitative analysis is not flowless and scores are not entirely indicative, the analysis performed, and the interviews conducted can provide useful hints to companies willing to certify and investors willing to invest in B Corps. Before going through the process of certification it is important both companies, shareholders, and stakeholders comprehend the typology of hybrid they belong to and how their economic performance is related to their social missions. Understanding these elements would help the firms in forecasting the impacts that the certification will have on the firms and in defining the right resources and strategies to put in place in the process of certification. Predicting the outcomes would help managers and investors in crafting goals aligned with the possible expectation.

The research also opens space for future research. It will be interesting to improve the research in different directions. First, improve the quality of the input data of the statistical analysis. The companies analyzed are all small-medium size and the data used in the research was poor and not always reliable. The availability of more complex and more reliable data could give the possibility of deepening the specificity of the analysis and the quality of the results. Secondly, it will be interesting to divide the companies in the sample according to the four categories of hybrid presented. It is always subjective and debatable to place firms in some categories, but this could confirm or not the theoretical conjecture presented in the study.

Introduction

In recent years, companies have changed a lot and with them has changed their social role. The change in society and the challenges it faces have led to a change in the paradigm with which companies define their objectives, leading many to evaluate their strategic choices according to the 3P framework: people, profit, and planet. In the literature, companies that pursue objectives of different nature are identified as "hybrid companies". This change in company strategy led companies to face “a multi-nature” optimization problem which is, by definition, more difficult to handle. Often the objectives to be maximized conflict with each other due to their different nature and make the optimization of the choices more complicated by adding constraints arising from the multi-objective nature of the problem.

However, several studies consider certification by a third party to be an added value for the following reasons:

1. The possibility of becoming part of a community of people who share your values and create effective networks.

2. Attracting talent aligned with your mission.

3. Attract capitals

4. Benchmarking with other companies and improving performance.

In this research, we want to analyze whether these qualitatively theorized beneficial effects can have a significant quantitative impact on the short-term economic growth of the company that decides to become certified. Lastly, we aim to explain the links and correlation with the very nature of hybrid corporations.

Furthermore, focusing on the specific case of the Blab certification selected for the analysis, we want to analyze whether, among the different categories of the certification that want to represent the different aspects of social impact, some are more linked to economic growth than others.

Before asking ourselves, whether certification can be beneficial or not for a hybrid company it is important to focus on what is a hybrid company and how we have arrived in a moment in history where we need to certify we belong to that specific category of the firm.

History of CSR

Hybrid firms are the embodiment in company organizations of the relatively new role that firms have in terms of responsibilities towards the planet and the society at large. This role is studied under the macro field of Corporate Social Responsibility (CSR). In order to understand the real nature of Hybrid companies it is useful to have a quick review of the history of CSR and what does it mean today.

The notion that companies have a social obligation is not a recent one. Indeed, the business' concern for society can be traced several centuries back (Carroll, 2008). For Chaffee, the origins of the social concern in the organization of businesses can be traced back to the ancient Roman Laws when we see the rise of initiatives such as asylums, homes for the poor and old, hospitals, and orphanages (Chaffee, 2017). However, we had to wait until the 1930s and 40s to find an explicit link between the role of executives and the social performance of corporations appear in the literature (Carroll, 1999). From that moment to the present day, many scholars have been discussing the role of companies in society and what are the specific social responsibilities of firms.

After the introduction of the debate around social responsibilities of the private sector had been initialized in the 1930s, it is Bowen that in 1953 gave what we could define the first definition of CSR. In his writings, he defined what were the responsibilities of firms towards society explicitly linking the two by saying that "the social responsibility of business executives was to make decisions according to the values of society"(Bowen, 2013).

In the 1960s the scholars kept building on the relationship between corporations and society but limiting the perimeter of the analysis on the concerns of employee satisfaction, management, and the social welfare of the community. In this period the focus was still on the generation of economic profit. (Davis, 1960; Frederick, 1960; Walton, 1967).

The 1970s was an era where the discussions around the environment and human labor rights were boosted by the social momentum of the protests in the US. In those years customers started to have higher social expectations of corporate behavior which ended up with the statement of the Committee for Economic Development of the USA which acknowledge that the social contract between business and society was evolving and that the private sector was expected to assume broader social responsibilities than before (CED, 1971). In that decade, the concept of CSR grew in popularity and lead to an intense literature production by scholars. The focus remained still limited to the aspects of pollution, human and labor rights, and waste management. Along with the positive growing concern about social responsibilities of corporates, those years registered an uncontrolled use of the term CSR that contributed to the creation of a general confusion around the term that ended up meaning something different for everyone.

This unclarity led to a need for clarification which was partially solved in 1979 when Carrol proposed perhaps the first unified definition of CSR. In his findings he stressed the economic and social objectives of firms as an integral part of a business framework and not as incompatible aspects, placing specific responsibilities and expectations (economic, legal, ethical, and discretionary) upon corporations (Carroll, 1979). This introduced a new level of debate in CSR which was seen now as a decision-making process. The debate originated the early proposal of models and frameworks for its implementation in corporate operations. In 1991, Carroll presented the “Pyramid of Corporate Social Responsibility” to show what he defined as the four main responsibilities of any company and explicitly placing specific responsibilities on corporations (Carroll, 1991). It is also starting from the 1980s that the topic of environmental impact started to be included in the discussion around CSR, reflecting what was happening in international politics through the adoption of international agreements on sustainable development (Montreal Protocol in 1987, the creation of the IPCC in 1988, the creation of the European Environmental Agency in 1990 and the UNFCCC in 1992).

With CSR taking more and more a central role in corporate talks, in 1996 Burke and Logsdon gave birth to the discussion around the strategic implementation of CSR that characterized the late 1990’s. In their innovative view, they presented how the strategic use of CSR can result in identifiable and measurable value creation in the form of economic benefits for the firm (Burke & Logsdon, 1996). During the same years, alternative subjects such as corporate social performance and stakeholder theory attracted the attention of the public. This contributed to rising once again confusion around the term and the topic covered by CSR resulting in a blurred definition by the end of the millennium.

In the 2000s the definitions of CSR reflected the belief that corporations had a new role in society in which they need to be responsive to social expectations and should be motivated by the search for sustainability, which meant they would have to make strategic decisions to do so (Hallen, 2007; Porter & Kramer, 2007; Werther & Chandler, 2005). This brought back what had been introduced by Burke and Logsdon at the end of the 90s opening the discussion around the benefits of strategic CSR. By the early 2010s, its strategic role was so important that the term SCSR (Strategic Corporate Social Responsibility) was created to identify companies that can generate shared value while improving the firm’s competitiveness through a holistic implementation of CSR. In the 2010s the role of CSR reached what is perhaps its modern meaning. The Paris Agreement and the Sustainable Development Goals adopted in 2015 reflected the need for a new social contract in which corporations are expected to play a relevant role in the global efforts to achieve the social modern challenges summarized by SDGs. The literature contribution boomed following the renovated interest in the topic reaching the peak of contribution in 2015 (Chart 1). The focus of modern studies has evolved around the implementation of CSR, its strategic role, and the impacts on the different areas of performance. The main effort has been to link corporate goals to the global challenges creating as an outcome the generation of shared value.

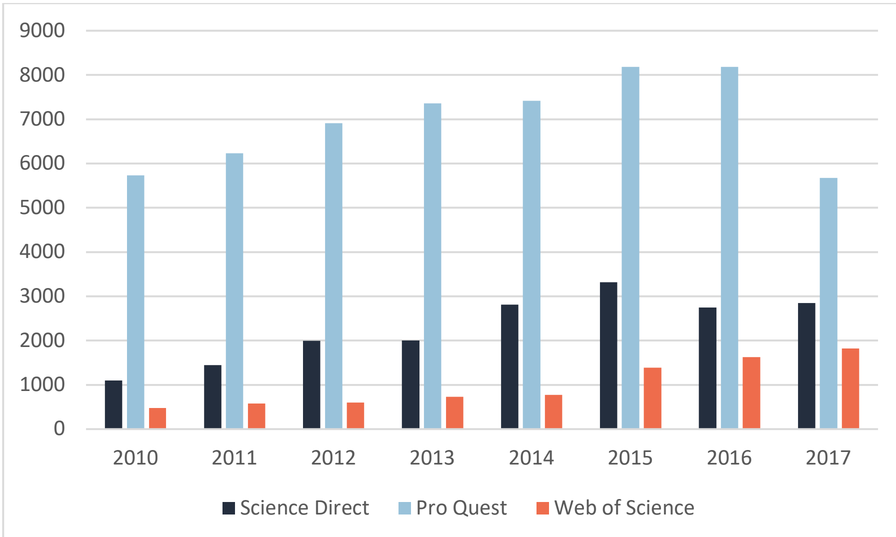

Chart 1: Number of Publication by year according to three journals (Latapí Agudelo et al., 2019)

Figures 1 and 2 summarize what we have just said regarding the evolution of CSR across the last 100 years. We highlight the parallel between the evolution of the concept of CSR and how the focus of the companies has changed accordingly. The definition of CSR evolved from being a personal decision of businessmen in the 1950s to be understood as a decision-making process in the 1980s and to be perceived as a strategic necessity by the early 2000s. Consequently, companies passed from being limited to the generation of economic profits in the 1950s and '60s to the belief that business exists to serve society as pointed out in the 1970s and to the belief in the 2010s that the purpose of corporations should be to generate shared value. The figures show also how CSR's understanding has been influenced by academic publications, governmental decisions such as the creation of legislations and entities, social movements, public figures, and international movements throughout time.

The findings show that there is a link between social expectations of corporate behavior and how CSR is understood and implemented. The fact that the centrality of CSR is directly linked to social expectation is an important brick in our argumentation. It can contribute to explaining why a certain company nowadays wants to go through a third-party certification to communicate effectively to their customers and the society at large that they are fulfilling their expectations.

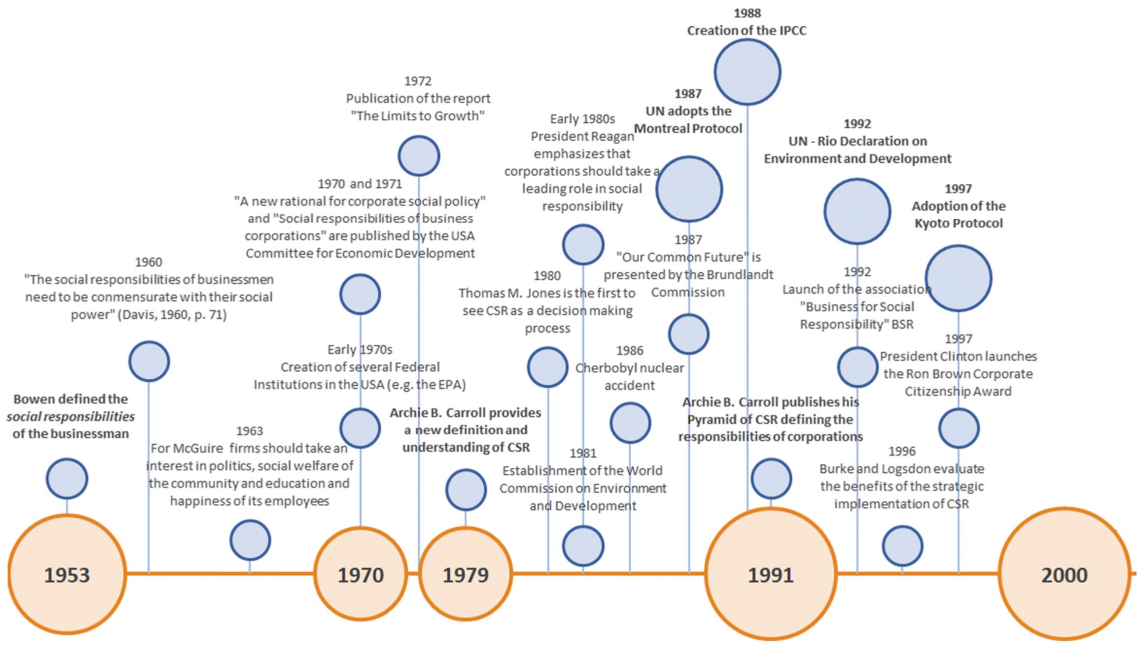

Figure 1: Timeline of the evolution of the CSR 1/2 (Latapí Agudelo et al., 2019)

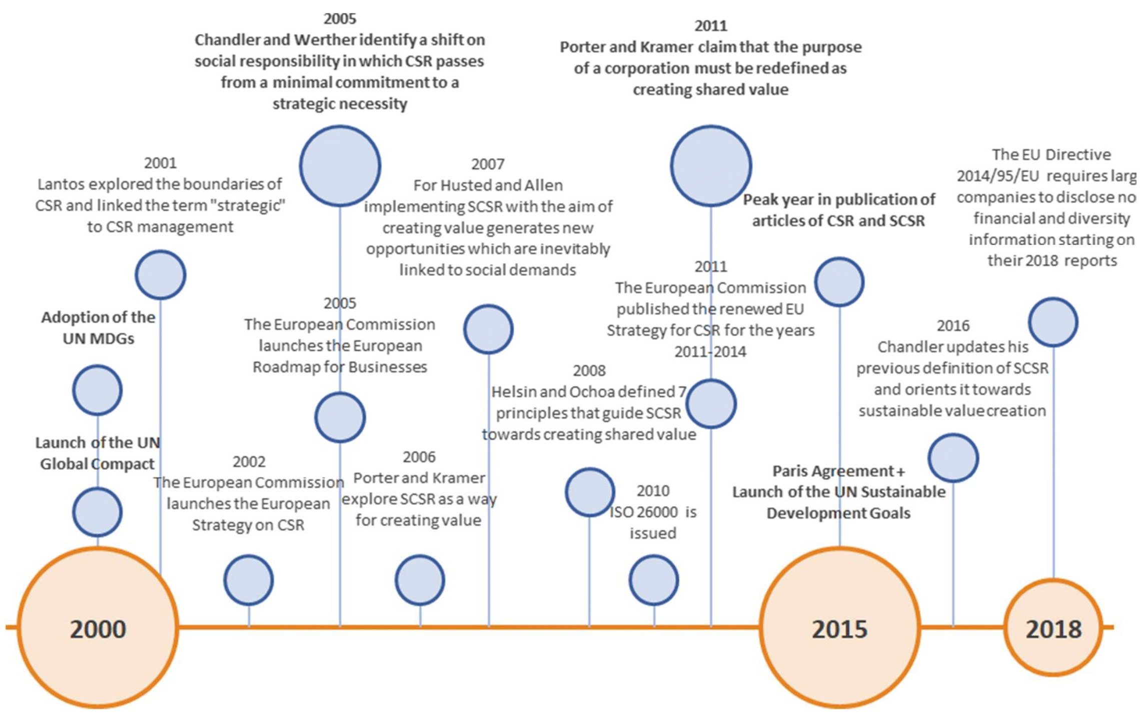

Figure 2: Timeline of the evolution of the CSR 2/2 (Latapí Agudelo et al., 2019)

Triple bottom line

As we have seen in the previous chapter, the global challenges such as the climate crisis that from 2015 with the Paris agreement started taking a more definitive shape, has consolidated what society expects nowadays from corporations. Those expectations have found in the triple bottom line framework a model that successfully translates them. The simplicity of the model in describing these beliefs has made it worldwide recognized and an industry-standard when it comes to drafting and evaluating a firm strategy. The idea comes from the fact that corporations cannot plan anymore their objectives relying only on the traditional "bottom line" of the profit and loss but have to include wider goals that take into account different stakeholders. The triple bottom line helps organizations look not only at the economic value that they generate but also to incorporate environmental and social values which constitutes the other two bottom lines that add up to the traditional economic one. Due to its focus on these triple perspectives of Profit, People, and Planet the model has been named also the "3P model" (*Annex 1*).

Again, the root of the model is quite ancient in time from the general acceptance of the same. The notion of "the triple bottom line" appeared first in an article of the California Management Review (Elkington, 1994). The author's opinion was that companies should be preparing three different (and quite separate) bottom lines. One is the traditional measure of corporate profit – the "bottom line" of the profit and loss account. The second is the bottom line of a company's "people account" – a measure in some shape or form of how socially responsible an organization has been throughout its operations. The third is the bottom line of the company's "planet" account – a measure of how environmentally responsible it has been (Hindle, 2008). In literature, we can find other definitions of the3P model. According to Savitz it "captures the essence of sustainability by measuring the impact of an organization's activities on the world... including both its profitability and shareholder values and its social, human, and environmental capital"(Savitz & Weber, 2006). Ultimately, the general idea registered by all the available definitions shows an emphasis on sustainable development and on the impossibility of focusing uniquely on an economic goal.

The 3P model is an interesting framework in our research because provides us with a distinction among companies based on how they face this multi-goal problem. While traditional companies are not able to step back from the intrinsic conflict between the different goals and use paradoxical thinking to fulfill the TBL, the leaders of social enterprises used holistic thinking to fulfill the triple bottom line (Dhakal, 2020). In the next chapter, we introduce what are hybrid companies and how they overcome the challenges posed by a multi-natural optimization problem.

Hybrid companies

At this stage of our introduction, we have extensively discussed how the expectation of society towards companies have evolved and how firms have changed and rethink their role over time. We have individuated, above the others, the triple bottom line as the framework that better translates the directions where society request companies to focus on. We can categorize companies accordingly to how much is their focus balanced towards the traditional economic bottom line or the other two of People and Planet. Previous research placed at one side of the extremity of the line the paradigm of the 100% business-focus company that can be identified as the "traditional company". On the other extreme the non-profit organization stigmatizes the 100% charity-focus company which is based on the People perspective. We believe that at this point in history the third element of the environment must be included in the distinction, as highlighted by the reference framework of the Triple Bottom Line. Without moving from the two-dimension analysis we will group the People's sphere and the Planet's sphere into a unique sphere that contains what is in the interest of the Society at large. As suggested by the current debate, the commitment toward preserving the environment and biodiversity has as ultimate scope the goal of preserving climate conditions that would ensure the habitability of the planet by human beings. For this reason, the effort towards planet protection is, in some ways, indirectly targeted towards human society at large. So, if on one side of the extreme there are the traditional companies and on the other side there is the non-profit organization acting towards society and to preserve the climate, what is in the middle?

In the past century, the two forms remained distinguished and well define. However, over the last three decades, the boundaries between these forms and their corresponding sectors have become increasingly blurred (Battiliana et al., 2012; Billis, 2010; Weisbrod, 1998). This blurring resulted in the rise of a third paradigm that lay in the middle of the two extremes, the hybrid companies. The very concept of "hybridity" is broad. Abstractly we can see hybridity as the mixture of different, but defined entities. In other words, hybrids are not *de novo* objects composed entirely anew but are rather *inter alia* objects, composed through the recombination of existing elements (Battilana & Lee, 2014). As in nature the mule is considered a hybrid and the chameleon it is not, to be a hybrid the combination of distinct elements does not have to be transitory but must be persistent in time. This continuity in time of coexistence of two elements is the second fundamental characteristic that defines hybrids. When translated to the study of organizations, the concept of hybridity begins with the premise that organizations do not originate independently of the external environment, but rather are products of a prevailing social context (Battilana & Lee, 2014). With this perspective, we can see how hybrid companies could be identified as the result of the pressures and changes that occurred in society expectations that we have presented above. In literature, many terms and in parallel many definitions have arisen of what is a hybrid company. In our research, we will define as "hybrid" a company that shares forms with both the two other paradigms and combine them in a way that, although unique, can be fitted in some sort of categories. Furthermore, we consider social enterprises and hybrid social organizations as synonymous because both types of organizations adopt the hybrid business model (Dhakal, 2020). Even though Battilana identifies them as an extreme case of hybridization which pursues a social mission while engaging in commercial activities to sustain their operations (Battilana & Lee, 2014).

As in every context, also in company organization the fact of being a "grey object" in the middle of two well-established paradigms pose to the hybrid companies both threats and opportunities. If from one side their very existence and survival is at risk because of the contrasting forces presented in these "locus of disorder" (Battilana & Lee, 2014), on the other side hybrid companies have the potential to face the modern challenges with the creation of new business models that would not be possible in the two other paradigms. Theories predict that social enterprises should experience unique external and internal tensions due to this unusual positioning and empirical studies have partially confirmed it. The way these tensions are addressed and, eventually, overcome is at the very bottom of what determines the success or the failure of this paradigm. Success in economic terms is, but not necessarily, translated into economic growth. If the certification of hybridity is a way to overcome these tensions, the fact of getting one can be translated into a better turnover growth which is the origin of our research. Indeed, following our argumentation we will present the tensions experienced by these companies, we will provide a classification of the hybrid companies based on the intensity of exposure to these tensions and explore how certification can theoretically help to overcome them.

External tensions

The first group of tensions comes from the external environment. Like every other company, hybrids are placed in a complex contest where different actors coexist. The success or the failure can be then determinate by the conditions of the market and how companies can exploit their resources in such context.

Legal Issues

The very definition of these companies is blurred and difficult. If the traditional companies and the non-profit organization have a precise legal definition all over the world, the hybrid companies have not had one until recently and only in few countries. This may seem a secondary problem, but it is instead at the very heart of the existence of these kinds of companies. Corporate regulation offers options that are aligned with the scope of the type of corporation. For example, charitable organizations (read non-profit) have the option to get donations tax-free, while instead business organizations can raise capital with the selling of equity, an option not available to a non-profit organization. In other words, regulatory regimes reward organizations for their correspondence to ideal types (Haigh et al., 2015). The problem of social enterprises is they fit in both paradigms, without corresponding totally to any of those while they should need options from the two legal types. Legislation has not created yet a paradigm that rewards both the joint production of financial and social value, leading to difficult trade-offs for social enterprises.

In 2010 a new legal form as been introduced in Maryland US under the name of the benefit corporation to provide a legal framework for social enterprises. The primary distinction of a BC is that it is legally obligated to pursue a public benefit in addition to its responsibility to return profits to the shareholders (Hiller, 2013). A company registered with the Benefit Corporation legal seal is in all the aspects a for-profit corporate form of business, with all the traditional corporate characteristics. What differentiates it from others is its status as a socially obligated company that on top of its traditional responsibilities towards the shareholders also required responsibilities towards the society at large. This legal framework, which was first present in 9 states, now expanded in 35 other US states, but it is still little present worldwide.

Capital Raising

The lack of a specific paradigm for these companies is also linked to the problem of access to capital. Failing to fit in an established form, hybrid companies face the problem of getting their legitimacy. Kraatz & Block say legitimacy is granted to organizations that fit institutionalized expectations, and resources are frequently awarded on this basis (Kraatz et al., 2008). Lee claims that social enterprises may appeal to funding sources in both the business and charity sectors, but this can lead also to potential disadvantages in appealing to each of these audiences (M. Lee, 2014). Not corresponding to any of the two categories, capital providers are not able to evaluate these entities properly. If a profit-seeker founder were to evaluate the hybrid companies as businesses, it would see them as riskier than traditional companies because of the unique pressures they experience and the additional constraints coming from their social missions which may one day prevail over the pure business aspect. On the other hand, if a donator were to evaluate them as non-profit, it would see its donations not used entirely for good causes, placing them in a secondary position compared to a non-profit organization. New forms of investing have started to appear with the aim of rewarding companies not only to seek a profit but the creation of social impact, partially overcoming the challenges of fundraising of hybrid companies. These ways of capital raise are unified under the name of Social Impact Investing and although is relatively new, it experienced impressive growth of almost 300% in the period between 2012-2018 highlighting the increasing importance of hybrid companies in our society (CoPeace, 2020)

Incumbent rejection

The last external tension that can be identified is the rejection of the two old paradigms towards hybrid companies. Both traditional and non-profit organization see their incumbent position threatened by this new type of organization since they erode part of their market. The risk of competing with a new competitor which can, in theory, benefits the key aspects of both previous paradigms lead the traditional and charity business to refuse and challenge the rise of hybrid companies. This poses an additional obstacle for the affirmation of these new companies in the market.

Internal tensions

The second group of tension comes from the internal. Having multiple identities at once may prove untenable and lead to internal conflict (Fiol et al., 2009; Pratt & Foreman, 2000). These tensions are multiple and space from the workforce organization, the organization design, and up to the activity prioritization.

Purpose and profit prioritization

The first internal tension which is relevant to explore is related to the field of the organization activity. Hybrid companies face the always persistent dilemma of what should be prioritized between business and social aspects. Consequently, hybrids must face routinely the decision on the number of resources to allocate to the business and the social goals pursued by the firm. The way these tensions are experienced by the companies depends highly on the level of integration between social and commercial activities. Literature is well documented on this topic. According to Nielsen, revenue-generating activities that share costs with the activities already undertaken to achieve the organization’s social mission are strategically beneficial, because they create new revenue without creating competing resource demands. However, Battilana argued that exists few models able to serve the poorest and get a profit (Battilana & Lee, 2014). In the scope of our analysis, we can note that if we consider the wider perspective of the “society at large” which include also company aiming to have a positive impact on the environment, the number of available business models increase. In his work, Jay explores how activity integration may imply for hybrid companies to sustain their very nature (Jay, 2012). When social and commercial activities are separate, social enterprises may experience a “service paradox” where serving one constituency may involve failing to adequately serve other constituencies. The latest research relevant to this topic has been made by Filipe Santos, Anne-Claire Pache, Christoph Birkholz where they provide a classification of hybrid companies. They recognize as well that at a certain point companies would have to make difficult decisions when the value capture by the company goes against the value captured by the society. The classic approach is to treat these trade-offs with a paradoxical approach. The new approach that successful hybrids are able to use is to deal with these trade-offs with a holistic view. This results in a win-win situation providing the hybrid firm with a competitive advantage compared with the other two traditional corporate models. The key challenge is to be able to align the activities that generate profit with the activities that generate impact (Santos et al., 2015). In order to do so an important step is to recognize under which category your hybrid companies are placed. The authors detect four types of hybrid companies named Market Hybrid, Blending Hybrid, Bridging Hybrid, and Coupling Hybrid. The classification of hybrids into these four categories is made on two dimensions. The first dimension is the contingent value spillover, which is based on the notion of market transaction. Classic market transactions create value mainly for the two counterparts of the transaction with limited value spillover, intended as the increases or decreases in value to economic agents outside a specific transaction. However, some transactions can have a value spillover which is considerable for society. If for example with my transaction I can sell food that will be otherwise thrown away, society is benefiting from it since I avoid waste. In this example, the value spillover happens automatically because the only existence of transactions creates value for society. In other situations, it is demanded an additional effort from the company providing the product or service. For example, in the case of microfinancing, the mere fact of lending money to someone that could not have access to loans otherwise does not create social value automatically. This will depend on how the beneficiary of the service will use this money. If our beneficiary is a poor farmer and will use the money to buy some alcohol, no social value spillover will be created as if he were buying a plow to improve the production of his farm. In other words, the transaction itself does not add value but requires additional effort to educate the counterpart in exploiting efficiently that transaction. This adds additional costs and complexity to the service provider. The second dimension is the degree of overlap between the Clients and the Beneficiaries of the value spillover arising from the transaction. In both the previous cases the beneficiary coincides with the client, but there are many situations in which inability to pays, unwillingness to pay or other obstacles do not make it possible for the beneficiary to be the client. One solution for example is to address a client segment that can provide money with which I can address a beneficiary segment. That is the case of Aravind Eye Hospital in India which provides high-quality cataract surgeries at market prices to rich and middle-class clients to gain a margin that allows offering cataract surgeries to low-income populations who cannot afford to pay and are being neglected by the public health systems (Natchiar et al., 1994). It comes without saying that these business models imply a higher degree of complexity and risk of mission drift. This classification is central in our research since knowing which type of hybrid your firm belongs to is the first important thing you should do.

Depending on the typology of hybrids different actions can be implemented to sustain the growth, the focus, and the survival of your company. At the same time, the very same action can result in different outcomes depending on the type of hybrid.

Talent acquisition

Among the other internal tensions, it is worth mentioning what is related to the workforce composition. Talent acquisition is vital for every company since firms' ability in achieving goals is largely dependent on their workforce. This is more than ever true for hybrid companies since they do not only have to secure talent, but they have also to be sure they are aligned with their social mission. The perfect employee for this kind of company is a talented person, skilled in the activity required to pursue the business activity, but at the same time with a shared purpose aligned to the social mission of the firm. Since it is rarely possible to hire "hybrid individuals" companies need to pursue different strategies to attract and mix the right individuals (Battilana & Dorado, 2010). A wrong mix between business-driven talents and social-driven talents can strongly contribute to mission drift and ultimately end up into a failure.

As we have already mentioned the failed recognition and then the failed management of these tensions can ultimately end up in the failure of the company. The literature is rich in documented cases of company failures due to the inability of managing these tensions (Tracey et al., 2011) and companies need to put in place strategies to avoid mission drift. One possible solution presented in the literature is the recurrence of third-party certification.

We are going to investigate in the next chapter how certification can help companies to overcome these tensions, enable them to use the holistic approach to exploit the synergies arising from the above-mentioned trade-offs, and experience growth where traditional legal forms fail.

The benefits of certifications

There have been different studies and research that analyzed the benefits of getting a certification for the companies. In this section, we try to list the most important factors that could theoretically be positively affected by the recognition through a certification.

Attracting customers

The first reason why companies certify is to communicate to their customers and shareholders their intention in pursuing seriously their CSR claims. A Unilever survey suggests that 80% of consumers show a preference towards products that have been labeled with some sort of certification (Unilever Sustainable Business & Communications, 2017). Companies willing to serve those customers see then both an opportunity and a necessity to respectively expand or protect their businesses and sustain their growth. Firms that are able to effectively communicate that to customers will then experience a positive economic effect. The problem is that in this dazzling world of certifications it is difficult for consumers to analyze whether a label is credible or not, so it is in the interest of the organization that emits the certification to create a reliable assessment and to be considered trustworthy by the community. The characteristic of being reliable lets us introduce the first important characteristic that certification must have which is the cost (Bond & Devine, 2016). The fact of being expensive gives credibility to the statement of the companies. If all the firms were to have the possibility to get the certification effort-free, everyone would go through them to experience the economic benefit mentioned. In the long run, the positive effect will turn to be minimum or null since everyone will experience it. Adding the barrier of the cost instead makes sure that the companies which have no real intent in pursuing their claim will step back leaving into the group of certified companies only the one that has true genuine commitment. It is important to notice that this cost is not only on monetary terms but also in effort and consumption of time. It is exactly the latter one that often discourages firms from filling the assessment process since it can be quite demanding. The economic cost of certification must be weighted properly as well since a certification organization wants at the same time to earn through the release of seals and being able to certify all the possible clients regardless of their size. It is for this reason that often these certifications have a cost that is directly proportional to their ability to pay, often measured through the turnover amount.

Attracting capitals

The second reason why a company decides to go through certification is to attract capital. We have already mentioned the subject of the rise in the importance of social impact investing. According to the OECD "Social impact investing provides finance to organizations addressing social and/or environmental needs with the explicit expectation of a measurable social, as well as financial, return" (OECD, 2019). In his report of 2019, OECD analyzed that impact investors have multiplied by four in the period 1997-2017 assessing now to around 200 entities. The total assets under Social Impact Investment today currently represent more than 200B dollars and comprehend different spheres of investment such as green investments with the green bonds or social investments. As highlighted for the consumer's perspective, also the investors have today an increased risk of undergoing "impact washing". As often happen where there is a lot of money, in recent years companies has mobilized to secure those type of funding. They created projects and products to obtain social investments, but often without real commitments and by communicating biased and not clear information. The lack of internationally comparable data and diverse definitions of impact investing contributed to boosting the phenomenon of social investment being directed in the wrong bank accounts. Investing organization and authority then reacted by being more selecting and demanding for unbiased and reliable proof that the company is aligned for real with his social claim. Now more than ever companies with a certified commitment to their CSR claims can have an advantage and a preferred way in raising these capitals. Evidence of this claim has been given by the work of two Korean researchers that analyzed in an empirical study the ability of Korean companies in attracting foreign investments. It resulted that "foreign investors are likely to invest in firms with a high level of CSR engagement" (J. Lee et al., 2017), emphasizing how strong is the link between CSR and capital raise. Lastly, an additional argument regarding how much is the importance of CSR in securing financial capital comes from a demographic factor. Younger investors are entering the investment landscape with new priorities, and ESG (environmental, social, and governance) issues are a major focus (Fletcher, 2020). The shift of the modern role of the organization has been particularly welcomed by millennials and other investors looking to support companies that align with their values. Not only decision-makers but also capitals are moving from one generation to the other. According to a report amounting to more than $15 trillion in generational wealth move from baby boomers to millennials (Wealth-X, 2019). If companies want to sustain growth and survive, it is wise for them to align and satisfy new investors' needs and requests.

Attracting and retaining talents

The third identified reason why companies go through certification is to secure talent and improve workforce engagement. As we have seen in the previous chapter, attracting those talents who have proficiency skills in doing the required job and are aligned with the company mission is rare and difficult. However, hiring the correct mix of the workforce is pivotal if the company wants to successfully pursue its objectives. To do so companies need to face what are the workforce composition and the drivers people use to choose the company to work for. Evidence suggests that CSR activities are increasingly viewed as core to employees' understandings of the purpose of their work (Bhattacharya et al., 2008). Confirms of this evidence come from a survey released by the nonprofit Netimpact in 2012. This highlighted that already 10 years ago there was a strong concern of workers about the companies' commitments to social actions. Concerns came from both the already existing workers and the ones entering the job market. According to the study, 53 percent of workers said that "a job where I can make an impact" was important to their happiness, and that share rose to 72 percent if we look at the students approaching the first steps of their careers (Zukin & Szeltner, 2012). The importance of their claims is underlined by the fact that most would even take a pay cut to achieve that goal. The same study highlighted also a marked difference between millennials and the previous generation, showing how the second ones are more extreme in their answers and are more committed to finding a job that takes into account their social and environmental concern. Focusing on the millennials' generation, Cone Millennial Cause group found that 80% of a sample of 1,800 13–25 years old wanted to work for a company that cares about how it impacts and contributes to society (J. Meister, 2012). Moreover, they assessed that half said they would refuse to work for an irresponsible corporation. What makes this argument more pressing than ever is that if in 2012 the millennials were a relatively big share, in 2020 they accounted for almost 50% of the workforce according to "The 2020 Workplace"(J. C. Meister & Willyerd, 2010).

Recently, attention has been focused not only on workers' priorities but also on what engages people. One notable finding is that people that feel to work in a company that is contributing to creating social impacts aligned with their value are more engaged and productive overall. At the individual level, alignment between individual identity and organizational identity tends to improve organizational commitment, and thereby a range of valued organizational outcomes (Pratt & Foreman, 2000). Empiric evidence comes from an initiative of the company AMD. They created some "green team" with the goal to suggest concrete action to reduce the environmental footprint of the company for what regards their offices. After a survey, 96% of the workers agreed that being able to contribute to a cause while you are at work improves their commitment and level of engagement to their core job function and to the company. It follows that, as research highlights, with better engagement comes improved productivity. For this reason, company communication is important not only to sell more products to conscious customers but also to attract and engage talent. Like for consumers, also for workers a third-party certification can give the companies a better outlook and let the firm succeed in hiring a committed and engaged workforce.

Of the three reasons just presented, all potentially contribute to foster the economic performance of the company. Communication and brand positioning through certification can drive sales growth, secure specific capitals, and attract engaged and productive talents. However, certification also brings with it costs in terms of money and time effort which contribute negatively to firm economic performances. The firms have then to carefully balance the positive and negative contribution that getting a seal implies and carefully choose the certification that mostly represents its position.

The world of certifications

In the last decades has been documented an increasing demand for CSR certifications which reflects the trend followed by companies in recent years (Rothenberg et al., 2019). For what regard sustainability, for example, firms can now choose among more than 450 "seals" such as "Fairtrade". This is the result of the adaptation of the company to social expectations and market forces. We have seen in the previous chapter what are the theoretical benefits of getting a certification, however, the reasons behind the decision of approaching a certain type of certification are quite different (Dahlin et al., 2020). In literature, it has been documented a division based on the motives that move the firms to get these certifications (Vargo & Lusch, 2016). Companies following the "Goods-Dominant logic" see CSR as a way of increasing operational efficiency and lowering costs in parallel with becoming part of a firm's branding efforts. For such firms, the focus is often on short-term financial returns (represented by the dividends to shareholders), which are prioritized before the de facto CSR performance of the firm is generated. On the other hand, firms serving the "service-dominant logic" seem to be more aligned with the idea of going through CSR certification to create value for the entire ecosystem. Minor and Morgan distinguished between symbolic and substantive CSR indicating the first with the approach of "avoiding the harm" and the latter with the approach of "doing good" (Minor & Morgan, 2011). The first group of companies sees CSR as a branding tool to improve their image. This approach toward CSR is generally identified under the term "greenwashing". According to the Cambridge dictionary greenwashing is defined as a "behavior or activities that make people believe that a company is doing more to protect the environment than it is" (*GREENWASHING | Meaning in the Cambridge English Dictionary*, n.d.). Companies doing greenwashing are using CSR claims as a lever to pursue their traditional economic goals without dedicating real care to the social ones. Research has demonstrated that if that can be an efficient decision in the short-term horizon with companies experiencing a positive short time growth effect (Hockerts, 2015), it can turn to have a negative impact in the long run. Such symbolic use of CSR carries the risk of negative stakeholder reactions over time (Parguel et al., 2008). This use of CSR as greenwashing is widespread. A recent study of the 100 largest global firms revealed that CSR efforts mainly consisted of cosmetic greenwashing, stating that firms' existing business goals had merely been relabeled as CSR initiatives (Kramer et al., 2019). In order to reduce the risk of being accused of greenwashing, firms can today officially demonstrate their CSR commitments through different CSR certifications, according to the business area.

Given the multitude of certifications and the importance to communicate in a strong and trustworthy way the company position and commitment, the type of certification must reflect the needs and the goal of the company. We have introduced in the chapter on the hybrid companies the distinction between the established paradigm of the for-profit traditional company and the non-for-profit legal form. It Is now clear in our argumentation that the degree to which the companies combine elements of one form with the element of the other follows more a continuum rather than a dichotomy. We can use the same continuum, which sees the hybrid companies placed in the middle, to visualize the different types of certifications. If the side of the non-profit is not populated by any certifications since the commitment in the social mission is communicated through the legal form adopted, the side spacing from the traditional business company and the hybrid companies is enriched by many guarantees. According to Battilana the organizations in which business is core and social mission is peripheral are addressed in literature by classic CSR (Battilana & Lee, 2014). This category of firm groups all those companies that see the change in society and then adapt for mere business reasons. The ones that care the less about the social aspect of their business usually do not even go through any certification. Instead, they limit to do a clever and studied marketing to send the message to customers and community of their commitment, but without really placing the social mission in their priorities. These firms are the ones that end to be accused to do greenwashing in the long run. To differentiate from this first set of enterprises and show a true commitment in their social or environmental claims, some go through classic CSR certificates. Usually in these companies, even though they put money and resource to pursue their social goals, this remain peripheral in their strategy, and it is underprioritize compared to the main goal of fulfilling shareholders expectations. Often, they create products labeled as green products and get a certification to confirm it. But the mere development of a green product line, will not provide a company full entry into the hybrid market (Haigh & Hoffman, 2012). In addition, this green product line is often limited compared to the range of traditional products offered by the company and consists of a very little portion of their revenues. Depending on the communication strategy they use, they risk sending the message of being a company 100% committed to social and/or environmental issues while being true only in a marginal way. Also these companies, even though certified, risk manipulating consumer opinion and end up in phenomena of greenwashing.

Moving in our imaginary continuum towards the non-for-profit extremity, we can now introduce a set of companies that even though they are not considered a complete hybrid, give the social mission a more central relevance in their strategy. These companies approach the certification strategically and for this reason, they are grouped under the name of strategic corporate responsibilities (SCSR). In these firms, the strategy is drafted in a way that not only a marginal product line will be seen as responsible, but the image of the entire company. The level of commitment is definitely higher, and they have dedicated business units that manage this aspect of the company. They select meticulously the certifications to get and care to figure in the best ranking of the classifications released by certification providers. They compete with other companies in having the best awards to enter in the graces of consumers. These companies have a reduced risk of stumbling into greenwashing due to their central rather than peripherical approach to CSR and they are careful in providing facts and data to prove their integrity. However, these companies do not change their metric of measurement and evaluation and all the actions they take are aimed toward the achievement of traditional economic growth. CSR and social goals become central in their plans and strategies because social commitment fulfills the expectation of modern society. As we have highlighted above CSR can, if handled strategically, improve company financial performance, and so want the companies that place CSR into a central role of their strategy. But without switching to different performance parameters their goal remains to maximize profit, through social actions, but still profit maximization. These organizations use CSR to enhance competitive advantage after achieving their financial goals, not before or during the achievement of those goals (Uecker-Mercado & Walker, 2012). When it comes to face the trade-offs that we have mentioned before, they do not holistically solve them but keep using the paradoxical approach. If the specific situation can drive both economic and social goals this will not create problems, but if the trade-offs exist, they either refuse to face it or they give priority to the business goals. Their work is then focused on the selection of the more suited tradeoff rather than going towards a business transformation that could fulfill both social and business expectations.

The argumentation of this chapter leaves us with many findings. We have seen that according to theory and literature research the certification can have a positive impact on organizations and for these reasons many "seals" are available in the market. Unfortunately, none of the certifications mentioned before is suitable to certify the holistic, systemic approach of hybrid companies. In the next chapter we present the B Corp certification, we explain why we believe this is the more suitable one to assess the hybridity of the firm and we will see the positive impacts that a hybrid company can have going through the B Corp certification.

Blab certification

The B Corp certification saw its creation in 2006 from the idea of three friends Jay Coen Gilbert, Bart Houlahan, and Andrew Kassoy. The first two were the cofounders of AND1 a basketball shoes' company and the third one was a wall street private equity investor. AND1 was a socially responsible company before the concept became famous. To some extent, we can define their sneakers' company as the first B Corp even though the certification did not exist yet. The company had a basketball court at the office, on-site yoga classes, great parental leave benefits, and widely shared ownership of the company, and it gave 5 percent of its profits (totaling more than $2 million) to local charities promoting high-quality urban education and youth leadership development (Honeyman, 2014). They also worked with its overseas factories to implement a best-in-class supplier code of conduct to ensure worker health and safety, fair wages, and professional development. For the late 90s, it was a quite progressive way of running a business given that consumers were not that demanding in terms of social performances. Nevertheless, the company was quite successful and reached 250M in revenues before being sold. The original idea behind the creation of B Corp certification was the will of doing the best for as many people for as long as possible, but how doing so was not clear to them at first. Firstly, they thought about starting a new company that would have been the champion and a model for social impact. Secondly, they thought of creating an investment fund that would finance socially responsible companies. Both two choices did not allow them to have an impact at a systemic level, they could not lead a real change on how business was thought and conducted. After confronting other similar social entrepreneurs like them they understood that what was needed is to create an infrastructure that could give those responsible businesses the possibility to flourish and that could expand the entire socially and environmentally friendly business sector. To do so, they had to build the infrastructure on two pillars. The first one was a legal framework that would let them run their business and grow while protecting their social mission and generate value for society. The second one was the definition of a credible and strong set of standards that would differentiate these truly responsible companies in a market where everyone was increasingly claiming how "good" they were. It is clear how, from the very beginning, the founders of the B Corp certification have centered the core problems and anticipated what would have been the trend in the next future. Since the origin, they have chosen to differentiate themselves by addressing the issue of certificating in a unique and completely different way with respect to anything else we have seen until now.

The BIA Assessment

In 2006 they founded Blab. Blab is a Non-Profit organization with the ultimate aim of driving the change around the concept of business and create a world where people use business as a force for good (BLab, n.d.). They started by the creation of the second pillar of their infrastructure, and this meant to create that set of standards that would have defined if a company could have been considered socially responsible in a trustworthy and reliable way. They came out with a questionnaire of around 200 questions called B Impact Assessment that would investigate and eventually certify the social performance of the company. We have highlighted in the previous chapter how it is important that modern performance measurement systems should include a combination of social and environmental key performance indicators (KPIs), instead of monitoring conventional financial KPIs on one side and CSR-reporting processes on the other (Santos et al., 2015). The need for reliable social performance measurement was pointed also by Battilana who stated that was among the most prominent challenges for the affirmation of hybrid companies (Battilana & Lee, 2014).Since the beginning certifying as a B Corporation goes beyond product- or service-level certification. The BIA takes a company through a long process of assessing who their key stakeholders are and what kind of impact they are having on them. This analysis systemically investigates the company and gives as output a score which represents how good is the firm in generating social impact. B Corp Certification is the only certification that measures a company's entire social and environmental performance (*Certification | Certified B Corporation*, n.d.). The structure of the assessment reflects the fact that they want to give a systemic analysis of the companies. The assessment is divided into 5 parts which assess the social performance of the company in terms of governance, workers, community, environment, and customers. Each sub-part evaluates the social performance of the company through a sub-score. The sum of the 5 sub-scores gives the total score of the B Impact Assessment. To get the B Corp certification a company must score at least 80 points in a range that goes from 0 to 200. In 2006 they published their first version of the BIA and assessed the first set of companies of which 19 became B Corp for the first time in 2007. This first version of the BIA was created on an excel spreadsheet and was inspired by the best practices in socially responsible business which had been drawn by Ben Cohen and Mal Warwick's and presented their book "Values-Driven Business: How to Change the World, Make Money, and Have Fun"(Cohen & Warwick, 2006; Marquis, 2020b). The two authors worked closely with the Global Reporting Initiative (GRI) reporting guidelines that became since then a strong partner of Blab (Stammer, 2016). Since the creation of the BIA, more than 100.000 companies went through their impact assessment, which is freely available on their website to everyone. However, despite the B Corp movement has grown a lot in the past 15 years, only 3500 are now certified as such, and Blab registers a median result of 50.9 out of

200. The impressively low rate of success highlights the challenges behind the obtainment of that certification and makes it a suitable candidate as reliable seals for our study. First, the B Corp certification is costly. As we have seen previously, this is the first basic characteristic for a certification to be considered trustworthy. The fees that a company needs to deposit in the Blab bank account vary from the size of the company in terms of revenues. The annual certification fee range goes from a minimum of 1,000$ for the companies that have a turnover between 0 to 100,000$ to a maximum of 50,000$ for the companies that have a turnover range between 750 million and 999 million. For companies generating more than 1 billion in turnovers, the fees are based on the size and complexity of the business. Compared to other certifications costs the amount to get the B Corp logo seems not such an obstacle. However, the main "cost" the company needs to commit is related to time and effort. Even if you complete the BIA by getting a score above 80, this is nothing but the first step of a long validation process. Companies need to provide complete and specific documentation of their processes to demonstrate the claims made in the assessment and validate their social performance. This is a huge obstacle for many companies that must channel many resources into this process. For example, the CEO of Laureate claimed that to successfully complete the procedures they had to essentially "dropped everything to get this done" (Marquis, 2020a). Being that demanding, the assessment discouraged those companies that are not interested in assessing and eventually radically changing the way they do business.

The second important characteristic is that the Blab impact assessment is evolving over time. Since 2006 when the first version of the assessment has been created, Blab has launched 6 versions of his BIA with the last one being released in January 2019. The reason behind the updating of the versions is that the environment of corporations is continuously evolving, and it is doing so at an increasing pace. The BIA is updated every three years and is designed so that companies can manage their impact on all stakeholders as they and the market evolve (*Version 6 of the B Impact Assessment: A Year in Review | Certified B Corporation*, n.d.). The continuous modification of the assessment makes the B Corp certification reliable and ensures that the social performances are defined in the most updated way possible.

Thirdly the companies need to retake the assessment every three years to verify that the social performances of the companies are maintained over time and reflect the new definitions of social performance stated in the BIA. As Vital Farms' CEO, Russell Diez-Canseco says "The bar keeps moving and They continually revise the criteria. So, what's great is you can't rest on your laurels" (Visram, 2020). This places ulterior pressure on B Corp companies that need to continuously keep their company strategy and structure aligned with their social missions. If that were not the case the company can be de-certified losing its status of B Corp.

All these characteristic makes the B Corp certification the most suitable and significant in assessing the ability in creating social impact at a systemic level. What contributes even more to this claim is the fact that not all companies can get the certification. Nowadays it is usual to see companies exhibit certification assessing their responsibilities even though the nature of their business is the opposite of what is considered good for society. Energy companies mining coals that show labels of green energy while having only 1% of their energy mix made by renewables. Private universities celebrating the creation of a couple of university loans addressed to poor students but using aggressive marketing to convince others in taking debt to pay studies not fitted for them. Those are just some of the examples we can find in the market. The strictness of the BIA alone is will probably reject such companies from obtaining a minimum score, but there is more to regulate such extreme cases. The Blab publish in a specific section of its website an updated list of additional rules for those business categories where the definition of social impact can be controversial (*Controversial Issues | Certified B Corporation*, n.d.). Such categories include for example Energy companies, For-Profit higher education, Cannabis-Related Products, Bottled Water Companies, and many mores. For example, an Energy company that wants to get the B Corp certification, must not have any involvement whatsoever with coal and have at least a 50% of its energy portfolio made by carbon-free energy sources. The judgments on these particular issues are determined by B Lab's independent Standards Advisory Council and add even more value to the validity of the certification.

The benefit corporation

The creation of the B Impact Assessment has been a huge leap forward for the social enterprise movement, especially in 2007 when the market of certifications was definitely not as big as the one we have today. The innovative structure of the assessment also introduced a rigorous way to analyze the social impact of firms in a systemic way, but the problem was that the BIA alone was not completing the infrastructure that the social enterprises much needed to prosper. It was a meticulous and extremely diligent certification, but still, a certification that was not differentiating much in nature from the other already present. It was not solving the key existential problem of hybrid firms that we have introduced and placed at the center of our research: hybrid companies still did not have a legal definition that would have let them operate as such. You can have the highest impact score in the world, but at the end of the day if you are a for-profit company incorporated under the traditional legal form of corporation you need to answer to your shareholders. At Blab they had in mind since the beginning that the capitalism conceived by Milton Friedman in 1970 with his shareholder theory was by then broken and that was not repaying anymore the society at large (Friedman, 1970). They knew that they needed to provide to social enterprises a new legal form, but they also knew that would have been lengthy and problematic. They had to wait four years to see that in place in the first country. In 2010 Blab lobbed with corporate lawyers from Delaware to draft a proposal for a benefit corporate legal structure. On April 14, 2010, the Maryland State Senate voted 44-0, followed soon after by its General Assembly, which voted 135-5 to ratify the bill before them. Maryland's governor, Martin O'Malley, quickly signed it into law and established the first benefit corporation legislation in America and the world. The second pillar has been built and the framework that Blab was willing to create was completed. From that day companies had the possibility of being incorporated under the benefit corporation legal structure stating their will of serving both their shareholder and their stakeholders in the same way. The creation of the benefit corporation marked a pivotal moment in the history of hybrid companies because now firms willing to truly follow the balanced purpose and profit goals could state it in their statement of incorporation.

Since Blab has been in the frontline of the battle to provide a legal definition of the social enterprises, it is often misinterpreted the link between the B Corp certification and the benefit corporation. Many believe that the two coincide, but despite being strongly correlated and aiming at the same goal, the two have separate nature. The benefit corporation is a legal structure, and its existence depends on the country's adoption of such form. After 2010 other US countries adopted the benefit corporation status and the USA has now 37 countries that have adopted it and 4 are pending. Outside the USA only Puerto Rico and Italy (2015), Colombia (2018), and Ecuador and British Columbia have introduced Benefit corporations into their corporate law. Even though many other countries are on track to introducing these forms, if you are not incorporated in one of the mentioned countries you cannot fill such a company declaration. Conversely, B Corp certification is available to every business regardless of corporate structure, state, or country of incorporation (*Benefit Corporations & Certified B Corps | Benefit Corporation*, n.d.). The two differ also in terms of costs since you must contribute to the state filling fees to incorporate your benefit company and to the Blab fees if you want to get the B Corp certification. In terms of accountability and transparency, they have the same constraints. Regarding accountability, both benefit corporations and B Corps require directors to consider the impact on all stakeholders, even though the benefits corporations are legally bounded in doing so while the second are not. Regarding transparency, under both cases, the company must publish a public report of overall social and environmental performance assessed against a third-party standard. Obviously, in the case of the B Corps, the third-party standard is the B Impact Assessment. Currently, in the world, we register almost 10,000 benefit corporations and 3,500 B Corp. It comes without saying that the perfect form of social enterprise is the one that adopts both the benefits corporations legal form and it is certified as B Corp. For this reason, now Blab demands companies willing to get the B Corp certification to meet specified legal requirements: adopt benefit corporation structure or equivalent within 2 years of certifying and amend governing documents to include specific mission-aligned language within 90 days (*Legal Requirements | Certified B Corporation*, n.d.). For companies with less than 10 employees, the legal requirement must be met prior to achieving Certification whilst for companies with 10 or more employees, extra time is granted post Certification. In the case that the region of incorporation of your firm does not have a designated legal framework, there is no additional legal requirement, but the company must actively support B Lab's public policy objectives of passing benefit corporation legislation in its region.

The commitment of Blab in lobbying and expanding Benefit Corporation legal form in all the world show how B Corp is more than a certification, but rather a movement that wants to actively collaborate with government and professional for expanding and changing the way business is done and conceived. As one of the founders released in an interview the "reason we founded B Lab was not so that we could drive every company to be a B Corp, or to build an empire of B Corps. It was to create a model and a credible community of leaders who are using that model so that everyone else can follow and we can change the economic system" (*Declaration of Interdependence: B Lab Global's Andrew Kassoy*, 2020). In their dreams one day B Corp certification will not exist anymore because all the companies in the world would have switched to a social model and not running a business conceived in this way would be unnatural for the economic market. Their dedication to the cause has been clear in recent times when the Business Roundtable in 2019 released a new Statement on the Purpose of a Corporation signed by 200 CEOs claiming that: "Each of our stakeholders is essential. We commit to deliver value to all of them, for the future success of our companies, our communities, and our country" (*Business Roundtable Redefines the Purpose of a Corporation to Promote 'An Economy That Serves All Americans'','* 2019). 10 years later from the first benefit corporation, the American lobbying group which has the goal of identifying the role of the company in society and it is composed of the nation's leading CEOs, including Apple's Tim Cook and Amazon's Jeff Bezos, highlighted the need of switching from the Milton Friedman's shareholder-based theory to a new stakeholder-centered theory. Blab soon after bought a page on the New York Times to greet the statement and candidate itself as a partner for working together to create real change (*Dear Business Roundtable CEOs: Let's Get to Work*, 2019). They said that what Business Roundtable claimed was not new to them and that the statement alone was just a change to a new message. Blab highlighted that was time to commit to making those changes, adding that unless we make ourselves legally accountable by changing the rules of the game, we are not likely to significantly change outcomes for stakeholders. Recently Blab published a white paper in which they showed how the economy needs to switch from shareholders' to stakeholders' capitalism. The involvement of the Blab in all these questions makes clear how a company getting a B Corp certification is promising to commit itself to the cause at the highest possible level.

Why do companies certify b corp

We have seen how Blab certification is unique among all the other ones present in the market. It is the only one that goes behind the mere fact of assessing by asking companies to take a corporate form that guarantees value for all stakeholders. By doing so, this certification is the only one that solves the legal issues faced by hybrid companies that we have introduced in the previous chapter of our research.

We have previously seen what are the theoretical positive effect that a general certification might have on a company willing to pursue social impact. Now, we investigate how the specific B Corp certification can add value to the companies that become B Corp.

Legal Issue

The overcoming of the legal problem can generate a positive impact for the directors. Being incorporated as a Benefit corporation reduces the liability of directors since Benefit corporation status provides legal protection to balance financial and non-financial interests when making decisions (*Why Is Benefit Corp Right for Me?*, n.d.). If for example, you take a decision to pursue your social mission that might affect shareholder value, as a Benefit corporation you have legal protection from their claims. As a result, directors in these companies are freer of taking decisions that generate impact than would have been in other companies with a traditional legal status where shareholders could block such actions. This freedom of initiative is something that no other certification can guarantee to social enterprises' directors. However, we need to recognize that this benefit is not present in all the B Corp in the world since we have already mentioned that this legal status is far from being worldwide spread. To this extent, the benefit of this certification is different depending on the country of incorporation of the company.

Communication

Becoming a B Corp is a strong claim for a company. We have described how difficult and demanding it is to get that certification and how few firms complete the process with success. Being able to show the B Corp logo put the company in a strong position by differentiating itself from the competitors. We have seen how other certifications with less developed infrastructure can end up in corporate greenwashing and affecting consumers' trust. After the financial crisis of 2008 trust of customers has been slow to recover. Gallup surveys monitor every year the levels of confidence in different institutions and in 2021 only 18% of Americans had trust in big companies (*Confidence in Institutions | Gallup Historical Trends*, n.d.). However, trust is more than ever essential and aligned with companies' financial value since intangible assets, including brand value by consumers, made up 84 percent of the S&P 500's market value in 2015 (*Annual Study of Intangible Asset Market Value from Ocean Tomo, LLC*, 2015). Following famous scandals such as the "Volkswagen emission gate", research has shown how consumers would take actions such as boycott companies that have misled them (Rahman et al., 2015). Blab certifications assure consumers and improve trust with them. It communicates that you are a good company, and not just good marketing. In the wake of recent consumer analysis showing how customers are willing to spend more on companies that they trust, owning a B Corp certification is a strong asset.

Attract capital

As we have seen a third-party certification can be very helpful in capital raise. As society's concern over companies has increased, "it is hard to find a big investor that is not talking about ESG these days" (*Al Gore Quizzed on Election Regrets, Greening UK Pensions, ESG Investors Grill Companies | Financial Times*, 2020). The pressure comes not only from what we have introduced as Social Investment Fund but also from all over the financing institutions. According to a survey from Citigate Dewe Rogerson, almost 80 percent of companies surveyed reported an increase in ESG-related questions from investors in 2020 (*12th Annual Investor Relations Survey - Citigate*, 2020). The survey also highlighted a divergent behavior regarding the country, identifying an average of 30% in Europe compared to just 10% in the US. Regardless of the country, being able to show your investor the label of the Blab is an incredible advantage. Trust is important not only on the customer's level but also to boost investor relations. For example, Benefit corporation status can make your company more attractive to long-term investors as they see a company with increased legal protection, accountability, and transparency around its mission. Social impact investors are more inclined in investing in B Corps too. They find in these companies a strong reassurance of seeing their stockholders' rights expanded as investing in a benefit corporation assures impact investors that they will be able to hold a company accountable to its mission in the future. The shift has also touched Venture Capital Investors. In fact, not only are mainstream VC firms such as Andreessen Horowitz (AltSchool), Union Square Ventures (Kickstarter), and Sequoia Capital (Lemonade) now funding B Corporations, but some are also becoming certified B Corporations, such as real estate investor Fifth Wall and tech investor Foundry Group (Visram, 2020). The reason many financial institutions are placing their money in B Corps is not just to create impact, but also because it is economically convenient. A survey of 200 academic studies found that "88% of reviewed sources find that companies with robust sustainability practices demonstrate better operational performance, which ultimately translates into cash flows" (Viehs et al., 2014). This is exactly what they found at the Business Development Bank of Canada (BDC) which is the first Canadian financial institute to get the Blab certification. According to Craig Ryan, director of Social

Entrepreneurship at BDC, bankers see in B Corp many positive things (*How B Corps Are Transforming Corporate Social Responsibility*, n.d.). First, they see innovation. B Corp companies have been able to create a proven mode where they prosper including people and respecting the environment. They see rigor. Due to the challenges of the BIA, a poorly managed company will not pass the assessment leaving among the certified ones only well-managed companies. Thirdly they see advantages such as brand identity differentiation, powerful social media appeal, line-ups of potential millennial employees, and membership in a club. Lastly, the combination of those shows to an investor the ability to have success. They see that B Corp companies are as profitable and resilient as traditional companies. For all these reasons BDC placed 80M$ to fund B Corps in Canada which adds up to the already 3B$ already raised by B Corp according to the Blab.

B Corps are resilient

If the BIA output allows the market to distinguish between B Corp (Overall impact score above 80) and not B Corp (Overall impact score below 80), the first goal of the assessment is not to certify the companies. The Impact Assessment is tough, and few pass it. The main objective is in fact to give to firms a tool to analyze in-depth their practices, analyze gaps and help them in aligning their strategies with their mission. If from one side can be demanding and absorbs a lot of resources from the company, on the other side it leaves the company with a deep understanding of their processes and a focused mission. The first tool that Blab has created and made freely available on its website is the SDG Action manager (*Welcome to the SDG Action Manager | Certified B Corporation*, n.d.). This instrument helps companies in understanding how their operations are aligned with the Social Development Goals (*THE 17 GOALS | Sustainable Development*, n.d.), understand the ones in which they can create more social impact, set goals, and track their improvement on tailor-made dashboards. A second tool is B Analytics, a software developed to aggregate and analyze B Impact Assessment data of the companies. BLab collects data from all the companies that take the assessment and use this software to provide B Corps with benchmarks. Many social entrepreneurs that went through the assessment thinking to do everything in the right way, then discovered how poor were their social performance and how they could have improved them. Companies deciding to go through the assessment need to know that in advance because if they "don't want to expose the weaknesses in your business, B Corp will be a negative" (*Why More Brands Are Seeking out B Corp Certifications | Vogue Business*, 2020). On the other end, if you are truly committed to improving your performances, the Blab environment offers to you viable and concrete suggestions to improve what you are neglecting by offering best practices implemented by the top social enterprises in the world. The transparent and detailed comparison between social companies creates a virtuous cycle in which B Corps races to get the highest scores and figures in the top performers of their categories. For example, when Patagonia, one of the pioneers and herald of the movement, discovered that Dr. Bronner's organic skincare scored 177.8 in the BIA beating their score of 151 they wanted to improve to fill the gap that was created (*Why More Brands Are Seeking out B Corp Certifications | Vogue Business*, 2020). The continuous improvement of these companies makes them resilient. The COVID-19 epidemic hit hard the economy and showed the businesses that were prepared and the ones that were not. One study identified that in the last downturn, B Corps were 63 percent more likely to survive compared to other companies of similar size and industry which were not B Corp dec(*Declaration of Interdependence: B Lab Global's Andrew Kassoy*, 2020). The pandemic crisis highlighted how fragile is our economy and how many companies were not prepared in facing such extreme events. B Corp, believing in a stakeholder economy rather than a shareholder economy, offers a solution that in the years to come can prove to be even more effective and successful. Indeed, when we look at the climate crisis B Corp seems more prepared and ready to take the actions needed to face this huge challenge. At the COP25 Madrid talks in 2019 more than 500 B Corps announced they would commit to becoming net-zero by 2030, meaning that they would reach the target 20 years in advance compared to the Paris agreement timeline (*The B Corps Movement Starts Recruiting Multinationals*, 2020). Looking at the data collected by the Blab it is clear how B Corps were truly concerned about the environment way before the outbreak of the sanitary crisis. B Corps are 87% more likely to monitor their emission thus outperforming by a factor of three ordinary businesses in the implementation of low-impact renewable energy, 98% of B Corps have implemented energy efficiency measures and 77% of those companies in the agricultural sector introduced water conservation practices.

B Corps certification brings with it the proof of being resilient. This is one of the characteristics that allow you to improve your performances in the long run and additional motivation for an investor to put capital in your company.

Attract talent

The ability to attract talents thanks to certification is another benefit that we have already introduced. Also, B Corp certification provides a signal to potential job seekers that a company is committed to its social mission and its employees. As a result, the values fit between employees and the company's social mission leads to reduced turnover, reduces costs, and enhances profitability. But B Corp certification not only gives a signaling effect about the centrality of the company's mission but also provides the potential job seeker with a standard of employee's treatment. Since workers are one of the five parts of the assessment, the certification states that the firms are providing social values also to their employees. The figure confirms it. Other data show also how B Corps are more inclined in promoting diversity inside the company acting on topics such as gender-equal pay and hire workers from chronically underemployed populations (*The Power Of Purpose: How B Lab Is Leading The Transformation Into 'Stakeholder Capitalism,'* 2019). As a result, the lion's share of B Corp employees is highly satisfied with where they work with 4 out of 5 B Corps scoring more than 80% of their employees as "Satisfied" or "Engaged" in their surveys. Blab too shows, with its Impact assessment data, how B Corp has double the level of employee engagement compared to ordinary businesses. It is though without surprise that we can register many B Corp leaders stating that the main reason why talents joined their companies was because of the certification.

If all these statistics alone should sufficiently prove how the B Corp certification can boost a company's ability to easily hiring the right individuals, Blab once again goes beyond in proving its uniqueness among the certifications. In 2016 Blab launched in partnership with Fitzii, a division of the B Corp Ian Martin Group, the "B Work" platform to create a job platform to help B Corp managing their hiring processes. Today B Work hosts the world's largest impact job site and offers an array of tools and services that help B Corps connect with purpose-driven jobseekers. Give workers an easy and trustworthy way to apply for socially responsible companies it's even more important as the share of social concerns workers grow. A Deloitte research focused on the workforce composition highlighted how the "Millennials will grow to 75% of the workforce by 2025", a generation which 77% of their components say their "company's purpose was part of the reason they chose to work there" (*Big Demands and High Expectations The Deloitte Millennial Survey*, 2014). The B Corp certification and the B Work tool, in particular, could give B Corps an incredible advantage in the years to come for what concerns hiring the right talents and retain motivates employees.

B economy

An initiative such as B Work shows how the B Corp certification rather than a third-party seal is more of the entry ticket for a community of social businesses of the highest standards. The goal of Blab of creating a community is manifest also in the number of tools and practices offered to the certified corporations. Additional to the already mentioned tools is B Hive. B Hive is a portal created by the Blab in which the social entrepreneurs can connect among peers. The possibility of connecting with like-minded people that are part of the same community is an enormous business facilitator since being part of the same "family" contributes to creating strong and reliable collaboration which boosts the performances of the B Corp. Performances are enhanced also by the possibility of having access to valuable resources at a competitive price. Through the B Hive portal, B Corp can get a list of assets that have been made available by other B Corp with a discount. Companies in the community can though obtain software licenses such as Salesforce or get courses at top universities such as Yale at a reduced price compared to the one offered to the market. This gives B Corp a significant competitive advantage compared to the other companies that do not have the certification or chose another seal. As we have seen the Blab was created in the USA, but it is now worldwide spread. To build and strengthen the community at a global level, Blab has created a series of global partners in other countries in the world. While the certification standards are centralized and administered by B Lab, all other aspects of the B Corp movement are executed through these partners that are responsible for enlarging the communities at a local level. Global Partners organize the champions retreat, gatherings in which B Corp leaders get together, share stories, and foster the purpose of the community. B locals instead act more at a regional level. They are independently-run organizations or committees often led by volunteers that have the goal of organizing events, building partnerships, and providing learning opportunities for companies and people in their region.

Competitive advantage through key resources at discounted prices and the ability to creating a solid network is another reason that supports the theoretical economical benefit of entering into the B community.

B Movement

The next frontier Blab is facing is to facilitate the entrance in the B Corp community to big and publicly traded corporations. As for now the vast majority of the B Corp is made by small-medium size companies which account for over 95% of the total corporations (*Danone CEO Emmanuel Faber Is Building the World's Largest B Corp — Quartz at Work*, 2019). Big corporations are facing difficulties in getting the certifications and two main obstacles prevent those companies from getting the B Corp status. The first obstacle is related to the legal aspect. Small companies can relatively easily change their incorporation status into Benefit Corporation. The same is not true for big corporations that are publicly traded. "Directors have discretion under the business judgment rule, but they cannot make a blanket statement that they are being held legally accountable to consider their stakeholders" (*Declaration of Interdependence: B Lab Global's Andrew Kassoy*, 2020). To make such statement companies have to convince their shareholders to make them accountable to balance the interest of stakeholders and shareholders. In the past, there have been though some examples of companies that tried to be B Corp and listed on markets. Natura has been the first traded company to became B Corp while the already mentioned Laureate has been the first to have an IPO when already was a B Corp (Marquis, 2020a). If these are successful examples, the market became skeptical about listed B Corp in 2017 when Etsy, a B Corp since 2012, went through an IPO. According to the legal requirement of the BIA, it would have been required to change its corporate structure from a C Corporation to a benefit corporation, but soon after the quotation in the stock exchange, facing pressure from shareholders, the company decided to give up its certification of B Corp "because converting is a complicated, and untested process for existing public companies" (*Etsy Gives Up B Corp Status to Maintain Corporate Structure*, 2017). If the first "experiments" of listed B Corps did not go well, a new generation of publicly traded B Corp such as the already mentioned Lemonade gives hope to see the movement take place also in the trading markets.

The second problem is related to the high standard of the certification. As we have extensively discussed the bar to enter into the B Corp community is placed very high and companies need to go through long and complicated processes to validate their social performances. Legacy companies that have been created a long time ago find difficulties in meeting these standards. They have operations all over the world often characterized by complicated, global, and interconnected supply chains. They have low-wage workers and big environmental footprints. Changing these processes is not as simple and quick as for small companies and so they do not even start the process. To address these problems and onboard big players in the movement of the B Corp, Blab has recently created the B Movement Builders "to help large multinationals engage with the movement in a concrete and incremental fashion." The target of the B Movement Builders program are publicly traded companies with at least $1 billion in revenue and that are committed to the principles of the B Movement and take individual and collective actions that bring those principles to life (*What Is B Movement Builders? | Certified B Corporation*, n.d.). To join the Movement, the companies need to do three things. First, it needs to publicly communicate its dedication to transforming its business to create value for all stakeholders by signing the Declaration of Interdependence. Secondly, it needs to take concrete action starting using the BIA to assess part of its business and to identify the area of improvement. Thirdly, it needs to select at least three aspirational goals tied to the UN's Sustainable Development Goals (SDGs) and bind itself for the collaboration to create collective impact. As for now, Bonduelle, Gerdau, Givaudan, and Magalu have joined the B Movement Builders program with Danone and Natura & Co, which have already certified at least 30 percent of their global business, that will have the role of mentors.

B Movement Builders marks an important evolution for the B Corp certification movement because it acknowledges that not all companies are able to become B Corp all of a sudden and certain big players need to be walked through the process. Together, B Movement Builders leverage their size and influence to accelerate towards a new way of doing business by creating shared and enduring prosperity for all while driving their individual growth, culture, and impact.

Can purpose and profit go hand in hand?

In the last chapters, we have pictured a complete and exhaustive background concerning hybrid/social enterprises. We have seen how the role of businesses has evolved over time and how it is now more than ever required to companies to create value for society at large. We have introduced the Triple Bottom Line framework and analyzed how hybrid companies fulfill it holistically. We explored the world of certifications and analyzed the theoretical benefit that a third-party seal can have on a hybrid company. Lastly, we have shown how B Corp is the reference certification to assess the hybridity of a firm at 360 degrees. We have explained in detail how it works, all the benefit a company can theoretically get from the B Corp seal and how compared to other guarantees is more of a Movement rather than a certification. At this point of our research, we can now ask ourselves whether is true that certification can improve the economic performance of a company as theoretically deemed. To do so we introduced our experimental studies.

Previous studies on correlation short term growth and certification

In conceiving our experimental research model, we took inspiration from two studies published in the literature. Not surprisingly both the studies took as reference certification the B Corp seal, confirming once again its validity in the assessment of the hybridity of a company.

The first paper was published in 2017 in the journal Academy of Management (Parker et al., 2019). The researchers hand-collected a dataset of 249 North American certified B Corporations over the period 2011–2014. They then built a difference-in-difference framework to analyze the impact of the certification on the year-over-year turnover growth and they identified a short-term growth slowdown, arising from certification. The author of the paper extended the study by also analyzing the impact of the BIA scores and sub-scores on the growth slowdown and found that "neither the B score itself nor its components have any statistically significant influence on growth".

The second paper is very recent and was published in 2020 on the open-access journal Sustainability by researchers at Ghent University (Paelman et al., 2020). The scholars built on the previously mentioned US study and analyzed with a difference-in-difference model the impact of the B lab certification on European B corp. They collected financial data about 128 companies through the Bureau van Dijk's database Orbis Europe and highlighted a positive correlation between the certification and the year-over-year growth.

The two studies seem to offer a contradictory explanation of the effects of the certification on short-term growth. Our goal is to create an experimental study that, building on the theoretical infrastructure that we have provided, could explain the inconsistencies present in the literature and gives a new perspective on the two central questions of our research:

1) Does the B Lab certification have a short-term impact on year-over-year growth?
2) How do the BIA overall score and sub-scores relate to the relationship between certification and turnover growth?

The Study: Research, Design, and Results

In this section of the study, we will explain the process that led us to the statistical design used in our research. First, we introduce the methodologies used in the two papers present in the literature already mentioned. Secondly, we explain our process of data collection and we analyze the final dataset obtained for the analysis. Lastly, based on the data available for our study, we question the feasibility of the models already introduced in the first part of this section and we propose our methodology.

Literature Methodologies – DiD

The two studies in the literature used a Difference-in-Difference design. In creating our own methodology, we studied the structure and the characteristic that this method requires to analyze the suitability of applicability of such method in our research analysis.

The difference in difference (DID) design is a quasi-experimental research design that researchers often use to study causal relationships (Wing et al., 2018). It has been used for the first time in the 19th century in research by Jhon Snow to show that cholera is transmitted through the water rather than through the air (Snow, 1855). Since then, it has been widely used by researchers in many fields and especially in economics, public policy, health research, and management. Due to its intuitive appeal has now become one of the most frequently used methods in impact evaluation studies (Fredriksson & Oliveira, 2019). The goal of the method is to analyze whether a specific treatment creates a measurable and significant effect on the group that experiences it. The study demands for the division of the population into two groups, the one that went through the treatment, usually named “treatment group”, and the one that did not which is referred to as “control group”. The variable of interest is then measured for both and the difference between the two groups is calculated in two different moments in time, a period before the treatment and a period after. This cross-check difference is what makes the study heavily reliable. If the difference were to be computed by time and for the entities going through the treatment only, the results could be biased. In fact, in this situation, a registered difference between the after and the pre-treatment period could be the consequence of the time-only evolution of the variable leaving no impact for the treatment on the sample. On the other end, considering only a specific moment in time and comparing companies that went through the treatment with the ones that did not, could mistakenly assign an impact to the treatment effect, since not having the evolution of the two groups in time we cannot say how the treatment made evolve one with respect of the others. The cross-check in time and for two different groups makes it reliable to say that, if a difference is registered, this can be assigned to the treatment effect. The classic and more exhaustive example is the use of the DiD design in studying the effectiveness of a new drug. Researchers give to a group of patients a drug they want to test, and to the other group a placebo. They analyze the effect of the variable of interest before and after the treatment and register whether there has been an effect on the group that took to the drug. In case the effect was provided the study concludes that the drug was responsible for the different behavior of the variable between the two different periods. However, all the findings would hold true only if the two groups were considered comparable. If the DiD analysis is easy to understand and the design is relatively simple, the central requirement of the comparability of the treatment and control group is what makes it difficult to apply it in some specific context. For a drug test could be somewhat intuitive to create a random sample for both the treatment and the control group since humans are relatively simple to compare from a biological point of view. Yet, in other circumstances where the terms of comparability between entities are broader, this became quite a difficult and questionable task. Literature has provided requirements and best practices to define the comparability of the two groups.

Common trend assumption

The Difference in Difference design relies on the parallel trends hypothesis. This states that for what regards the outcome variable of interest, “the treatment group, absent the reform, would have followed the same time trend as the control group” (Fredriksson & Oliveira, 2019). The behaviors of the trend of the analyzed variable of interests depend on many factors of which some are measurable, and some are not. Therefore, “DID designs rely on the assumption that the important unmeasured variables are either time-invariant group attributes or time-varying factors that are group invariant” (Wing et al., 2018). Those two characteristics make the groups comparable in terms of trends. If group-specific attributes are not measured by any variables and change with time, these will create a fluctuation of the trend that will be mistakenly assigned to the effect of the treatment. On the other hand, if time-variant variables were to be different between the two groups, this will create different behavior of variables of interest in time. Time-variant attributes must then be the same for the two groups.

The hypothesis of parallelism of the trends is the most important one and it is the satisfaction of such that makes the finding of the DID reliable (*Annex 2*).

Need of pre-treatment historical

As we have seen it is important to identify all the variables that are linked to the outcome variable to established whether they are time-invariant or group-invariant. However, it is clearly impossible to identify and measures all these variables also because among them there can be observable and unobservable factors that influence the variable of interest. This can partially be solved by the study of the pre-treatment periods. Disposing of long enough time series, we could identify entities that are comparable and entities that are not, thus having a better selection of who should compose the control group. The need for a certain number of historical series creates an additional constraint to the applications of the study since not always we have this availability of data. Pre-trends cannot be checked with pre-trend of only one period and make therefore these studies less robust (Card & Krueger, 1994, 2000).

There are different ways to check the parallelism of trends. One formal approach in the literature is to do a placebo regression. With this expression, we mean to use the DiD method applied for the analysis of the treatment to the pre-treatment series. Whether the study where well conducted, there would not be any difference among the control and treatment group given that no treatment had been applied yet. If that placebo regression confirms the parallelism, then the finding of the study should hold.

Common support

Another characteristic needed to make DiD analysis reliable is that treatment and control groups must have common support. The “dimensions” of the entities forming the two groups must be comparable otherwise the findings would be biased. Those dimensions are usually expressed by the control variables used in the study. If a group includes only high values of a control variable and the other group only low values, one is comparing incomparable entities. Before starting the research, it is then important to check that the components of the two groups that have been identified show an overlap in the distribution of the control variables.

Simple and Generalized design

Lastly, we need to differentiate between classic and generalized DiD. The classic version is the simple one. It has one fixed treatment group and one fixed control group opportunely selected and compare them on two-time intervals. This design is intuitive, but it does not accommodate the complexity encountered in real applications, which often involve treatment exposures in multiple groups and multiple periods (Wing et al., 2018). This second configuration is identified under the terms of generalized DiD and it is exactly the situation encountered in the study of the EU B Corps where the treatments were multiples and the treatment and control groups changed with time. If the generalized approach is more suitable for real cases, its design is more complicated and its findings more blurred.

Data and method

Data collection

The origin of the research has been the collection of the list of the companies from all over the world that certified B Corp since the creation of the certification. This has been easy and straightforward since the source has been provided by the Blab itself. The data is freely available on the website "data.world" where Blab itself publishes and maintains a dataset that tracks the record of all the companies going through the certification (*B Corp Impact Data*, n.d.). There is a quite large community that studies the subject of the B Corp and a quite collaborative one. The resources are open source and there is a forum on which different people hold a discussion and publish their studies based on the B Corp Impact Data dataset. The dataset included much critical information and kept track also of the different certification cycles (as we have already said a company has to renovate the certification every 3 years in order to maintain the status of B Corp). Other elements presented in the dataset are the industry of the company, the size of the company, the assessment version of the certification, the current certification status of the company (certified/de-certified), and the score of the certification. This last one is provided in different granularity: the overall score and the 5 different scores of the five different subcategories environment, workers, community, governance, and customers. Also, the details of the sub-scores that add up to give the subcategory scores are provided.

Once retrieved the list of the certified companies and their assessment scores, we had to obtain the key financial information for the European B Corp. As we have highlighted during our work, these companies are almost in their totality small-medium size and private, thus their characteristics make it difficult to find access to their financial data. If big and listed companies must provide detailed information about their key financial data, this is not the same for private companies. The US-based research succeeded in collecting the data by asking directly to companies through research. The EU-based research collected data through the Orbis database (*Orbis Bureau van Dijk*, n.d.). Due to that, the university provided access to the same database, we opted to go for the second way. Orbis - Bureau van Dijk is a for-a-fee database that contains information about more than 400M private and listed companies around the world of which the 10% include detailed financial information with an anteriority of a maximum of 10 years. Of all the available information in the database, for each firm we were interested in retrieving the following: the turnover from 2011 to 2020, the date of incorporation, the industry sector, the total assets, and total debts. The database did not offer the possibility of researching detailed queries but allowed to do a bulk insert of a maximum of 500 companies and to specify the country of incorporation of the firm. Unfortunately, we did not have the detailed incorporation name or the incorporation number of the companies, but only the names specified in the B Corp Impact Data

CSV file. The database engine of Orbis can recognize and select the companies through the name entered even though it is not the legal name, but whenever it finds multiple possible matches, it's not returning as output a single company but provides a list of all the possible matches. We then went through all these un-assignments, and we have manually selected the right company by searching on the companies' websites for their correct legal names. Out of 100 requests to the database 40 to 50 were automatically matched and 20 to 30 were manually matched, leaving around 20% of the firms without a match in the Orbis database. This was the first of many other constraints that left us with a reduced sample compared to the original. Decision impacting the narrowing of the sample has been taken also regarding the variables retained for the model. Total assets and total debts were retrieved in order to calculate the financial leverage of the different companies, which was suggested by literature in the modeling of the analysis design. Unfortunately, such information was not provided for the vast majority of the companies and so we remained with no choice but to leave out leverage from the modeling to preserve the numerosity of the sample. Other reasons that affected sample reductions will be explained in the next chapter.

The last data collection performed was related to the date of incorporation. 138 companies extracted from the Orbis database did not have the information about the year of the company creation. The information was extremely important since it was needed for the model suggested by the literature that we intended to use, and it was relatively easy to manually retrieve it. For this reason, we collected the dates of incorporation by browsing the companies' websites or Linkedin profile and add this information as the third source of data for our research. After this process, we were able to collect 133 out of 138 companies' incorporation dates.

ETL process

The process of Data transformation and data cleaning was handled through a proprietary python code created for the specific purpose. The modeling of the process is outlined in *Annex 3*. We started by cleaning the two original datasets *"B_Corp_Impact.csv"*, containing Blab information, and *"EU_Orbis_Output.csv"* containing the financial information of the companies. A first process of data cleaning has been necessary since the structure of the original databases was not code-friendly and used many characters that did not allow data processing. The second step has been to join the two databases in order to create a dataset with both the financial and certification details necessary to perform the statistical analysis. Unfortunately, another structural problem related to the Orbis database output is required to perform additional coding. As we have said the inputs of the research were the names of the B Corp (not the legal ones) and the outputs were the financial information of the B Corp companies named with their legal name. The output did not give the possibility to store the inputs into the outputs thus eliminating the links between the input dataset and the output dataset. In order to overcome this problem, we used the "FuzzyWuzzy" python package (*Fuzzywuzzy* , n.d.). This library created by Adam Cohen provides the user with a ready-to-use function to perform string matching. The functions are based on the "Levenshtein Distance" which is an algorithm created by Vladimir Levenshtein to calculate the difference between sequences (*Understanding the Levenshtein Distance Equation for Beginners*, 2019). The package offers different functionality that measures the similarity of two strings through scores that goes from 0 to 100. The different scores measure similarity according to different criteria and allowed us to use a combination of those to easily match the two datasets (*Fuzzy String Matching Python*, n.d.). We thus created with this package a function that compared the Blab file names with the Orbis file names and matches the best ones. Since the size of the first dataset was larger than the second one, giving that some companies were not present on the Orbis database, a minimum threshold of similarity had to be set to avoid that companies were wrongly matched. In turn, this brought us to leave out some correct matches that had scores below the threshold set. We estimate to have lost around 2% of the companies returned by the Orbis database. The joined dataset counted 672 companies. 309 companies were lost because either not present in the Orbis database or were left out by the matching algorithm. The third step consisted of the cleaning of the joined dataset. To have a consistent database we acted on three filters. We had to eliminate the companies that 1) did not have any financial data for the period 2011-2020, 2) had only one occurrence of financial data, and 3) presented gaps in the historical financial data. The fundamental reason behind such action is that since the goal of our research diverted towards the calculation of the growth rates, in any of the three circumstances we could not have been able to calculate such information. The first filter found 349 companies that did not have one single financial data in the period 2011-2020. The second action filter out 38 companies that did not present more than one occurrence of financial data in the period 2011-2020. The third refinement applied to the remaining companies did not filter out any occurrence.

The performing of these processes of data cleaning just explained, left us with 247 companies, and 5 additional companies were left out because we did not find the date of incorporation. Of the 981 European B Corps that were registered in the Blab file, we were reduced in analyzing 243 companies, slightly less than the 25% of the original sample. Once we had created and cleaned the joined dataset, we had to shape it in the format of a panel to be suitable for statistical research.

Panel data, sometimes referred to as longitudinal data, is data that contains observations about different cross-sections across time (*Introduction to the Fundamentals of Panel Data* , n.d.). Different from the traditional dataset, like the one we have created, which has one row per entity and store the information time occurrences in distinct columns, Panel data is a collection of quantities obtained across multiple individuals, that are assembled over even intervals in time and ordered chronologically. Panel data has one column per variable and stores time-occurrences of the variables in an ordered way, replicating the entity in as many rows as the time occurrences registered. Another characteristic of the Panel data is that there are two types of data. One type is the continuous variables such as the revenues or the time-series, the second type is the categorical variables such as the name of the country of the company which does not evolve with time and is static. For this reason, to create the Panel data we performed a kind of matrix transposition. In our specific case, we switched from a data frame where every company had the 2011 to 2020 revenues information stored in 10 columns, to a data frame where every revenues-year was stored in a single row for every company. Consequently, we passed from 243 rows dataset to a 2430 rows dataset, being 10 occurrences for each company.

Dataset descriptive analysis

Before going into the process of model selection and statistical analysis we study the composition of our datasets before and after the process of ETL to understand what the composition of the final sample was and how it was related to the total population of EU B Corp.

EU B Corp Analysis

The dataset provided by the Blab counted 981 companies that, starting from 2012, obtained the certification. We analyzed the dataset according to 4 elements.

1) the number of companies per country

The vast majority of B Corps is located in the United Kingdom that with 370 units accounts for more than one-third of all the European certified companies. 50% of the all-time B Corp are situated in Italy, France, Netherlands, and Spain which account respectively for 127, 119, 112, and 71 units. In the remaining 18% figure all the other EU countries with Germany and Switzerland leading this group with 45 B Corp each.

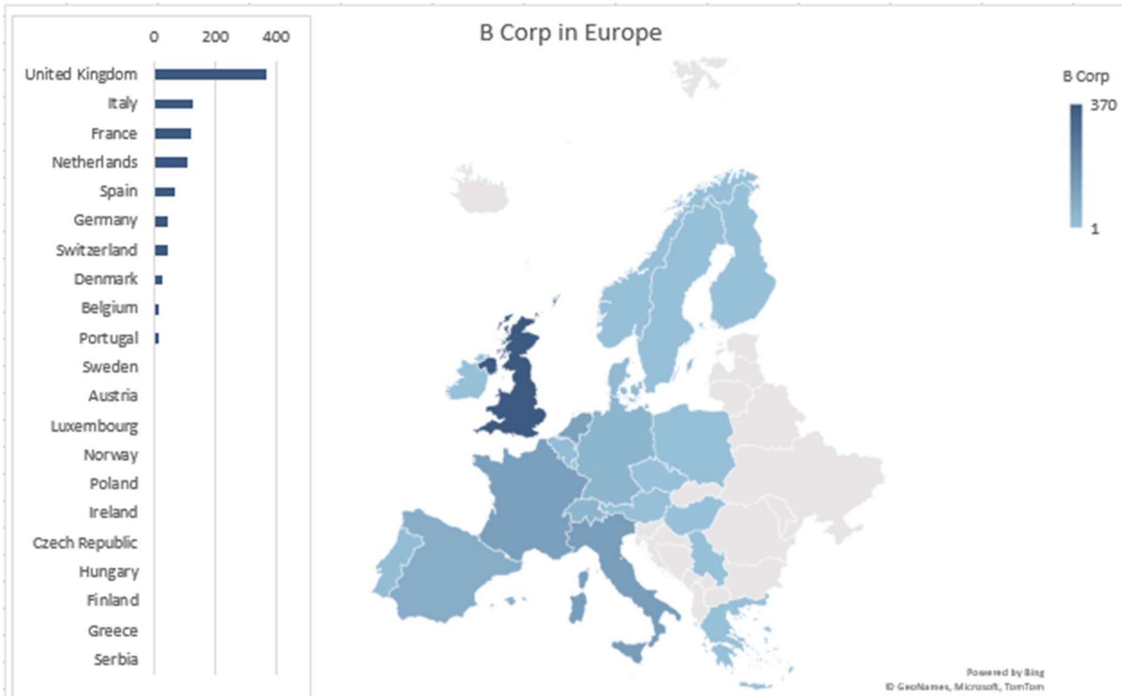

Figure 3: European B Corp Density

2) the number of certifications per year

After the country distribution, it was interesting to analyze the distribution of the certifications by year in the period 2012-2020. The trend partially followed what we introduced in the first chapter when we studied the history of CSR. After the first company being certified in 2012 in the Netherlands, the certifications slowly ramped up in 2013 and 2014. In 2015, the year of the Paris Agreement, the certification skyrocketed from 30 to 138, marking the affirmation of the certification in the European market. The figures for yearly certification remained the same between 2015 and 2018. In 2019 and 2020 it is registered a new acceleration which can be explained by the renovated interest in sustainability pressured by the climate change crisis.

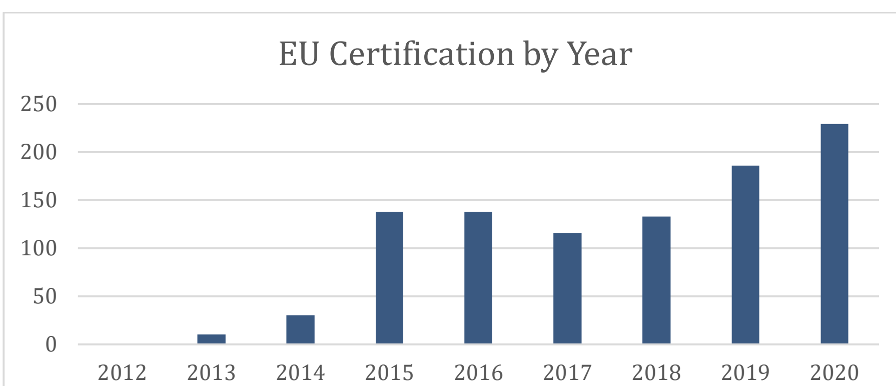

Chart 2: Number of yearly European B Corp certifications

3) the share repartition of the yearly certification by size

As we have highlighted in the previous section, also the European B corp market is mainly characterized by small-medium companies. The distribution of the yearly certification by company size reflects this aspect with almost 90% of new addition being composed by companies that, at the time of certification, counted at most 50 employees. The medium companies started weighing more and more in the mix, but at a very low pace, and with companies with 50 to 999 employees accounting for 20-25% of the total by 2020. The big corporation with more than 1000 employees, even though have increased, have always been of insignificant number.

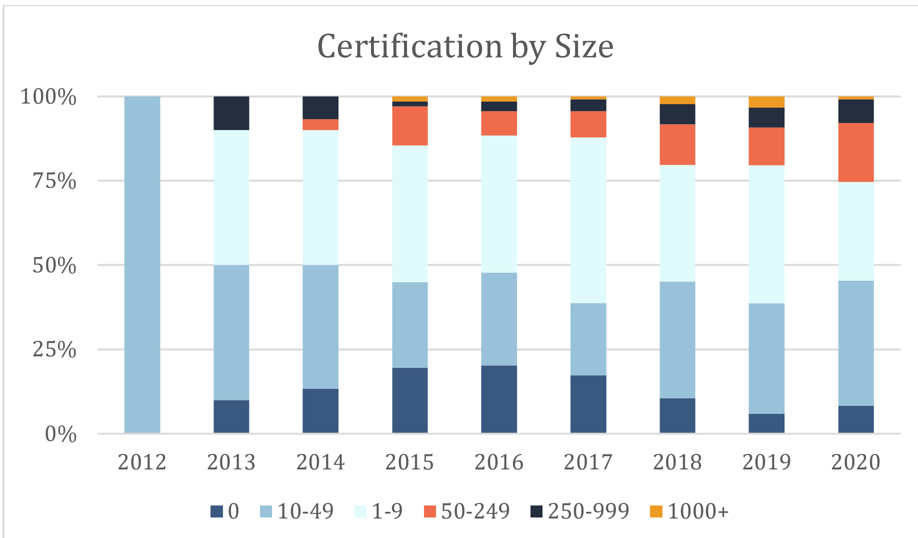

Chart 3: Yearly certification by Size (Size=Number of Employees)

4) the share repartition of the yearly certification by country

The last metric we need to analyze is the repartition of the yearly certifications. Differently from the one related to the size, the share of yearly certification by country is far from homogeneous. Uk normally counts between 30% to 50% of the new addition even if in 2014 practically did not count new B corp. 2014 is peculiar also because the Netherlands accounted for 50% of the new addition while normally it does not overcome the 10% share. This random rather than homogeneous distribution of the B Corp addition by countries reflects the different moments in which the B Corp movement has expanded in the different countries and could pose some constraint for punctual analysis focused on singular year.

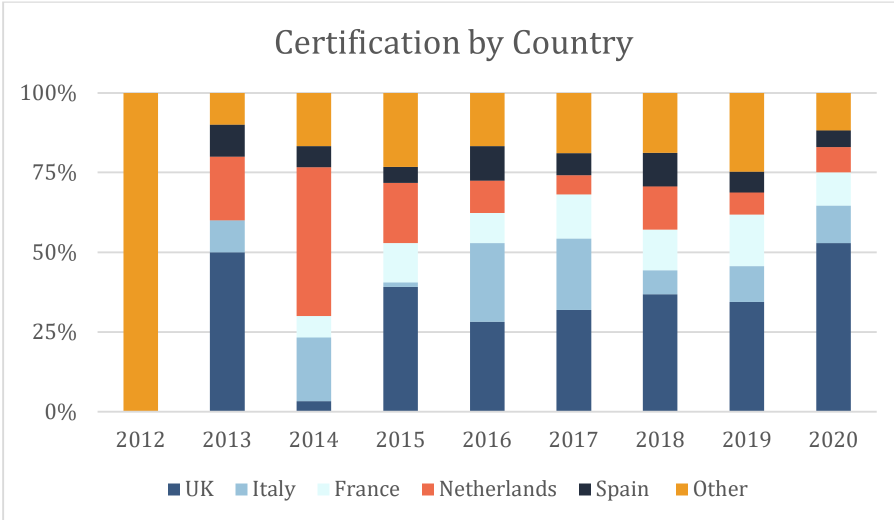

Chart 4: Yearly certification by country

Full Panel Analysis

After the ETL process, we had a panel of data that had been cleaned. Of the 981 EU B Corp of the original dataset, we remained with 247 companies. To make affirmations about the EU B Corps by using this sample, it is important to verify if the dataset obtained is a good proxy of the European population of B Corp according to the metrics we have already introduced.

1) the number of companies per country

The comparison of the distribution of the certification by country is not very satisfactory. It is clear from figure 4 how some countries are underrepresented in our sample. UK which was by far the leader in B Corp in Europe has only 60 companies compared to the 371 of the initial source. This figure accounts for one-sixth of the original one while Italy for example has only a reduction of 50%. We can conclude that the 75% reduction of the number of companies has not been homogeneous in the different countries. The overrepresentation and underrepresentation of some countries in our sample make it a not good representation of the original population in these terms.

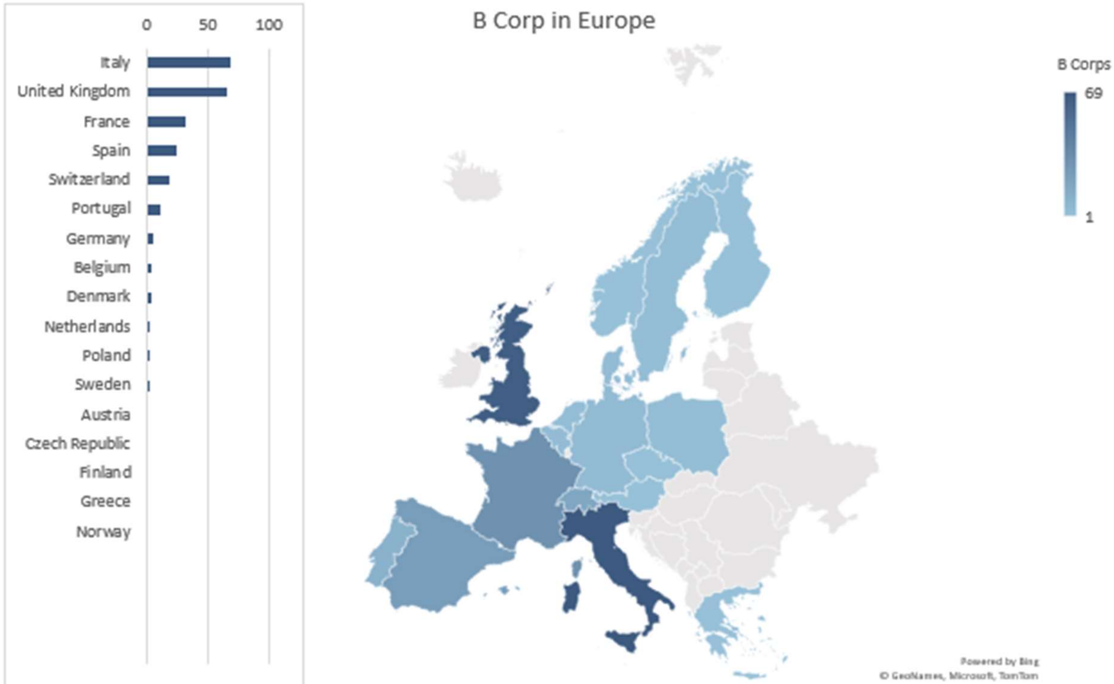

Figure 4: European B Corp Density - Cleaned Sample

2) the number of certifications per year

The distribution of the certifications by year corresponded extremely well to the trend of the number of certifications highlighted in the original dataset including all the EU B Corps. As we can see in chart 5, we have only 6 companies of the sample getting the certification. In the period 2015-2018, we registered on average 30 to 40 yearly certifications, with a clear increase in 2019 and 2020 when the certifications amount to 50 per year. The number of certifications by year is between 20% and 25% of the original population, but with no strange behavior for specific years. It is important to notice though that no companies in our sample got the certification before 2014, differently from the Eu B Corp population that started counting B Corps as soon as 2012. This could create a kind of bias since in our study we are not taking into consideration all the very first generation of B Corps, but overall, in terms of the number of certifications per year, the sample is a good representation of the population.

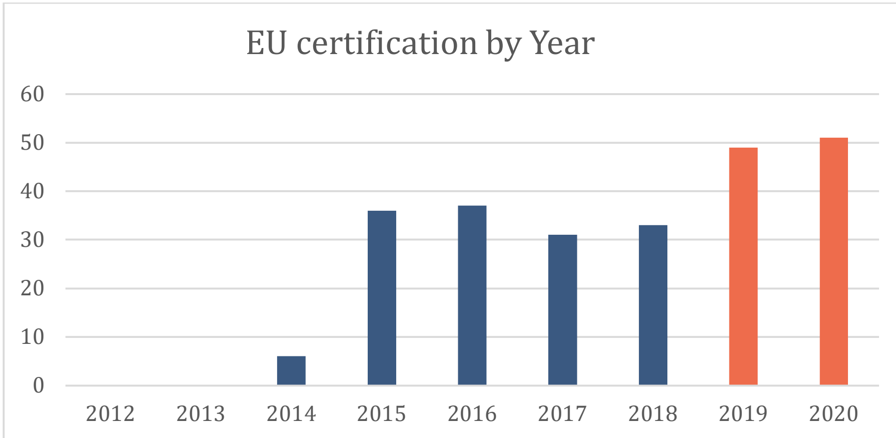

Chart 5: Number of European yearly certifications – Cleaned Sample

3) the share repartition of the yearly certification by size

Also according to these metrics, we have a different behavior compared to the original dataset. The share of medium size companies is generally larger especially in the years 2015 and 2020. This could be explained by the fact that larger companies have more chances to be found on the Orbis database. In our analysis, the larger companies are overrepresented with respect to the original dataset

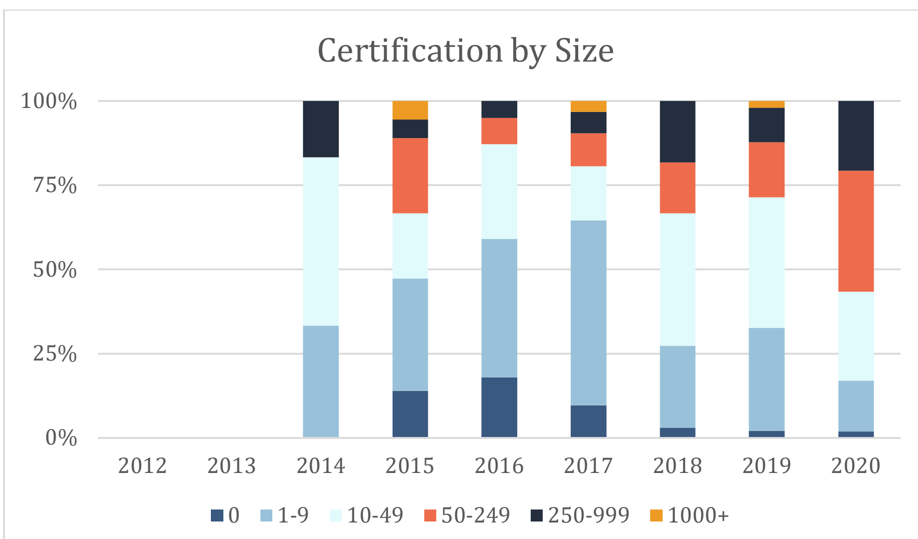

Chart 6: Yearly certification by Size – Cleaned Sample (Size=Number of Employees)

4) the share repartition of the yearly certification by country

This analysis is affected by the considerations that we have done regarding the over/under-representation of countries in the sample. Accounting for this fact, we do not notice a particular difference in the share of addition by country.

Overall, the sample is a bad to average proxy of the entire population. If the trend of certification by year is well reproduced, we have a strong difference in terms of geographic distribution and a medium difference in terms of company size. If those variables were to turn out to be relevant in our statistical analysis, we should keep that in mind before extending the possible conclusion found in the study to the overall EU B Corp market.

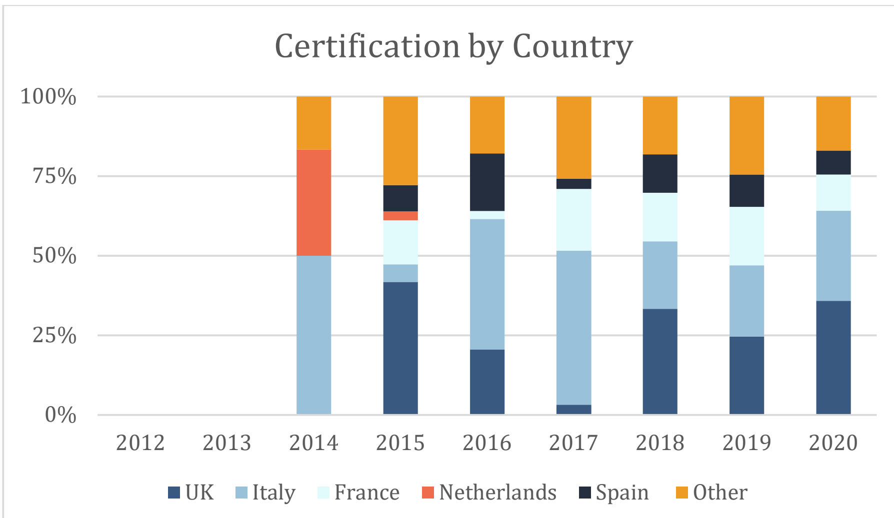

Chart 7: Yearly certification by country – Cleaned Sample

Data availability and consideration on model feasibility

The analysis taken in the previous part was linked to the investigation of how the sample and the original dataset were related with respect to the information contained in the B Lab dataset. We now need to investigate the results obtained after the cleaning process for what regards the financial data extracted from the Orbis database. The parameters on which we focus are the ones contained in the model of the EU-based study that we have selected also for our study. The model proposed in the literature is the following:

$$\begin{aligned} Growth_{it} = {} & \beta_i + \beta_t + \beta_1 Certified_{it-1} + \beta_2 \ln\,(Revenues)_{it-1} + \beta_3 (\ln(Revenues)_{it-1})^2 \\ & + \beta_4 \ln(Age)_{it-1} + \beta_5 (\ln(Age)_{it-1})^2 + \beta_6 [\ln(Revenues)_{it-1}\, x \ln(Age)_{it-1}] \\ & + \beta_7 Leverage_{it-1} + \varepsilon_{it} \end{aligned}$$

The variable of interest is the Year-over-Year growth transformed in logarithmic. It is computed as the difference between the logarithmic of the turnovers in year t minus the logarithmic of the turnovers in year t-1. The logarithm of turnovers in year t-1 is also used as a control variable along with the tenure of the company (represented by the logarithmic age) and with the leverage. The leverage is calculated as total assets over total debts and as we already mentioned in the explanation of the cleaning process was left out because of many empty data. The only important variable we are left to investigate is the turnovers and their availability year by year. Being that the variable of interest "Growth" is calculated as the difference of the transformed data of two consecutive years, the missing presence of one of the two year makes impossible to perform such calculation. Consequently, we expect to have a maximum of 9 occurrences of the year-over-year growth being unfeasible to calculate it for the first year 2011. The distribution of such data is key also for the structure of the difference in difference analysis and to evaluate its feasibility.

Chart 8 shows the number of void records by year. The graph clearly shows the poor results obtained with the Orbis database. Only in the years 2017 and 2018 did we have little impact on the sample, with already 2016, third-year by least number of void records, to leave out one-fifth of companies from the sample because of missing financial information. In the cleaning process we have filtered out all the companies with financial records available for just one year and that assures us that for every revenue record show in the graph there is at least one other record either before or after that specific year. If that makes us comfortable in calculating at least one growth rate per year, it makes it more troublesome to perform a difference in difference analysis. According to the model of the US-based research, we need at least 4 years of records for each company, two years before the certification year to compose the *t-1* growth rate, and one year after the certification year to compose the *t+1* growth rate. The need of having 4-year consecutive records of financial data, the fact that needs to be disposed of in a precise way around the year of the certification, and the sample's distribution of certifications by year put huge constraints on the utilization of the model.

Table 1 shows the distribution of the "zero-records" of companies. The average "zeros" by company are 3.75 and the 50^{th} and 75^{th} percentile are respectively 3 and 6. This means that only a share between 50% and 75% of the companies can be taken into consideration for a DiD analysis. Precisely only 168 companies were virtually suitable for such analysis accounting for 69% of the sample. The disposition in time of these at-least-4-years long historical records additionally reduced the number of companies that were considered feasible for a DiD. All the companies certifying in 2020 cannot be considered in the treatment group since the observation of financial data covers only the period 2011-2020, making it impossible to calculate the growth rate 2021 on 2020. For this reason, the company certifying in 2020 should function, according to the US paper model, as the last control group for the treatment group getting the certifications in 2019. Theoretically, we can calculate the growth rate 2020 on 2019 but, 240 out of the 243 companies of the sample do not have a financial record for the year 2020 because at the time of the data extraction the balance sheets of that year were not closed yet. This makes it impossible to perform the difference in difference analysis on this group of companies. The DiD analysis could then be performed only in the certification cycles 2014-2018, with the control groups, again as per the US-paper model, being the companies certifying in the years 2015-2019. Additionally, all these companies must have at least a 4-years-long record around the certification year.

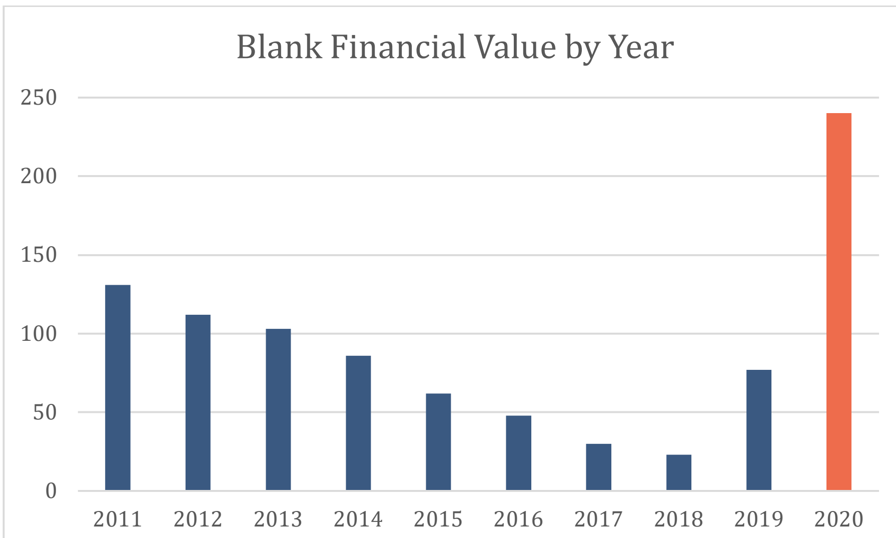

Chart 8: Blank financial values by Year

Occurences	Mean	Std Dev	Min	25^{th}	50^{th}	75^{th}	Max
243	3.75	2.62	1.00	1.00	3.00	6.00	8.00

Table 1: Distribution of the "zero records"

Feasibility of DiD

At this point of our analysis, it is clear that the application of a Difference-in-Difference analysis is very ambiguous. The financial data in our sample does not allow us to create homogeneously and enough populated groups to make such an analysis. The presence of different treatments at different times on different companies makes the analysis fall under the category of the generalized difference-in-difference which is more complicated to handle and the findings more debatable. Furthermore, the choice of the two previous studies on the drivers used to compose the control group is quite arguable. The argumentation of using the companies that get the certification one year after is understandable from a conceptual point of view, given that the certification process is long, with an average length of one year. The year in which the company gets the certification is then quite random, allowing us to assume that companies getting the certification in two consecutive years started the process at almost the same time. They can be considered to be at the same stage of their journey toward hybridization and then, qualitative speaking, they can be considered comparable. The central problem is that the Difference-in-Difference analysis is a quantitative analysis and requires the two groups to be comparable in terms of quantitative rather than qualitative terms. In the two previous studies, there has not been any control whatsoever on the parallelism of the trends of the treatment and control group. If can be accepted that companies are approaching the certification with a comparable level of hybridization, this says nothing about the trends of their growth. Getting to the time of the certification with the same "mindset" does not mean that they arrive with the same growth trend. We have seen that this assumption is at the core of the DiD design and the refusal of such a hypothesis makes the design construction fall. Whether effects in the analysis are registered, if the parallelism of the two groups is not confirmed, it is impossible to distinguish between the effect caused by the certification and by other not observable or not measured time-variant variables.

In conclusion, we do not believe to retain the difference-in-difference design central in our argumentation.

Proposed Methodology

The study is divided into two parts. The first one addresses the first research question investigating the impact of the certification on the year-over-year growth. The second part of the analysis extends this analysis by showing the impact of the overall and subscores of the B Lab certification on the year-over-year growth.

For the two parts of the study, we first apply a statistical regression on the entire panel, and we investigate the impact of the certification.

The tool

All the analysis has been made with the help of the python library "linear models" which is an extension of the "stats model" library (*Introduction — Statsmodels*, n.d.; *Linearmodels v4.24 Documentation*, n.d.). "Stats model" was written in 2009 and since then the guiding principle is that all numbers have to be verified. For this reason, most results have been verified with at least one other statistical package such as R, Stata, or SAS making the package a good proxy of other statistical software. "Linear models" package was used because it simplifies the use of the initial library and shapes it appositely for panel regressions. All the regressions have been made using the classic Ordinary Least Squared (OLS) method. Ordinary least squares (OLS) regression is a statistical method of analysis that estimates the relationship between one or more independent variables and a dependent variable; the method estimates the relationship by minimizing the sum of the squares in the difference between the observed and predicted values of the dependent variable configured as a straight line.

Panel model

Our panel model is based on the generalized model which can be described as

$$Y_{it} = x_{it} * \beta + \alpha_i + \epsilon_{it}$$

where *i* indexes the entities and *t* indexes time. *Yit* is the dependent variable. β is the array that contains the coefficients for the independent variables of the study. αi are entity-specific components that are not usually identified in the standard setup, and so cannot be consistently estimated and ϵit are idiosyncratic errors uncorrelated with αi and the covariates *xit*.

The models require two inputs:

- dependent - The dependent variable to be modeled represented by Y*it* in the model
- exog - The regressors or the independent measured variables that influence Y*it*. In the model are represented by *xit*

The presence and expression of the entity-specific components αi are calculated with different techniques. In our study, we explore the results coming from 3 different types of regression.

- **PooledOLS** ignores the entity effect and is consistent but inefficient when the effect is independent of the regressors.
- **RandomEffects** uses a quasi-difference to efficiently estimate β when the entity effect is independent of the regressors. It is, however, not consistent when there is dependence between the entity effect and the regressors.
- **PanelOLS** uses fixed effect (i.e., entity effects) to eliminate the entity-specific components. This is mathematically equivalent to including a dummy variable for each entity, although the implementation does not do this for performance reasons.

PanelOLS is somewhat clearer than the other estimators and can be used to model 2 effects: the entity and the time effects. For this reason, its results are preferred with respect to the other methodologies.

Panel multi regression – Question 1

The model used for this analysis is the one suggested in the study on Europe B Corp with some modifications. The independent variables vector is composed of the variable of interest and a set of firm-specific control variables that have been taken from the literature.

$$y_{it} = \alpha_i + \alpha_t + x_{it} * \beta + \varepsilon_{it}$$

The different variables are explained below:

- $y_{it} = Growth_{it}$: it is the dependent variable that measures the growth year-over-year of the entity *i* in time *t*. It is calculated as $Growth_{it} = \ln(Turnover_{it}) - \ln\,(Turnovers_{it-1})$
- α_i: is the fixed entity effect. It absorbs all the variance related to the fact of being a specific company. It can be present or not depending on the type of regression methodologies used
- α_t: is the fixed time effect. It absorbs all the variance related to the fact of being in a specific year or not.
- $x_{1i} = Certified_{it}$: the first independent variable is also the variable of interest. $Certified_{it}$ is a Boolean variable that takes value 1 if the company has obtained the certification in the year previous of t, otherwise it takes value 0.
- $x_{2it} = \ln\,(Turnovers_{it-1})$: this is the first of a set of firm-specific control variables and represents the logarithm of the turnovers of the company I lagged by one year.
- $x_{3it} = \ln\,(Age_{it-1})$: the second control variable is the logarithm of the age of the company again lagged by one year. Age has been calculated as the year under study t minus the year of incorporation plus one.
- $x_{4it} = \ln\,(Turnovers_{it-1})^2$
- $x_{5it} = \ln\,(Age_{it-1})^2$
- $x_{6it} = \ln\,(Turnovers_{it-1}) * \ln\,(Age_{it-1})$

The last three control variables have been included to account for the non-linear relationships between turnovers, age, and growth which have been demonstrated in preceding studies.

The panel data has been cleaned by eliminating all the rows where the value for variables included in the model was not available. As we already mentioned the source of the problems has been the yearly turnover information. With an average of 3.75 void years per company, the panel has been reduced by 912 units and counted now 1518 rows. Other 243 rows have been removed because they consisted in the first occurrence for the turnover. In the end, the dataset count 1275 rows, meaning 1275 growth rates.

After cleaning the dataset from the empty values, we had to spot outliers and identify the correlation between the variables of the regression.

Outliers

The process to handle the outliers has been iterative. We focused on the visual analysis of "log_growth", "log_last_rev", and "log_age" variables analyzed by year. Additionally, we studied the parameter of skew. The "log_growth" variable scored mainly in the range 2.5, -2.5 with some values detected above and below those limits. The "log_last_rev" variable was pretty much continuous with some clear outliers represented by the company "Investir&+". log_last_age variable shows instead how in the sample we have 3 categories of companies: very old companies, just incorporated companies with only one year of life, and a third group that lay in between. The final dataset has been retrieved by eliminating the 99th and 1st percentile of the log_growth data series and by eliminating the problematic companies, "Investir&+". Discontinuity in age has been considered normal since providing three types of companies. The dataset is definitely skewed to the right with a skew value of 2.25. This has been considered normal since there is no upper limit to growth, while there is for degrowth.

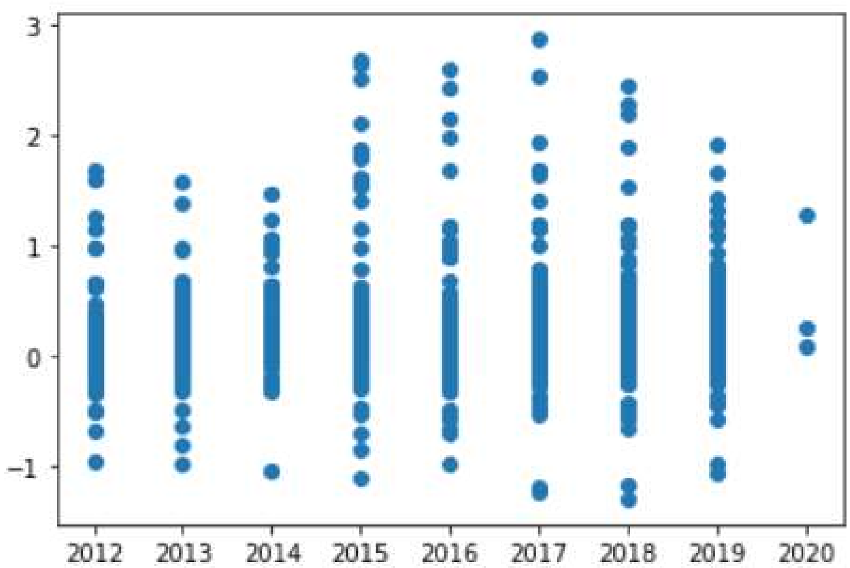

Figure 5: Logarithmic distribution of YoY turnover Growth

Correlation

A correlation analysis has been done through the three main methods existing in the literature: Pearson, Spearman, and Kendall (*Correlation (Pearson, Kendall, Spearman) - Statistics Solutions*, n.d.). All three evidenced that the "log_growth" was negatively correlated with the two other control variables "log_last_rev" and "log_last_age" with a very high statistical significance (p-value less than 0.01). This was anticipated and expected. Same was for the positive correlation (p-value less than 0.01) between "log_last_rev" and "log_last_age". That showed that on average older companies should have higher revenues. The "is_certified" variable was negatively correlated with "log_growth" according to the Pearson method and positively correlated according to the other two methods. However, none of the findings was statistically significant, as it was no the correlation between "is_certified" variable and the other two.

	Log_Growth	Log_Last_Revenue	Log_Last_Age	Is_Certified
Log_Growth	1.000	-0.339	-0.353	-0.010
Log_Last_Revenue	-0.339	1.000	0.600	-0.103
Log_Last_Age	-0.353	0.600	1.000	-0.009
Is_Certified	-0.010	-0.103	-0.009	1.000

Table 2: Correlation with Pearson

Descriptive statistic

Table 3 shows the descriptive analysis of the final dataset which now counts 1244 occurrences with 239 remaining distinct companies. The growth of the sample is on average 17% with a standard deviation of 43% and a median of 8%. According to the age and the revenues the logarithmic figure is on average 2.38 and 15 respectively, with both showing a higher standard deviation. With an average value of 0.24, the "is_certified" variable shows how only 25% of the record in the sample comes from companies that had already previously obtained the certification. This highlights how the supporting data is not the same for certified companies and not certified ones in terms of sample size.

	Mean	Std Dev	Min	50^{th}	Max
Log_Growth	0.1717	0.4326	-1.3038	0.0811	2.8817
Log_Last_Revenue	15.036	2.4996	6.8734	15.218	20.618
Log_Last_Age	2.3826	1.0332	0.0000	2.3978	5.0238
Is_Certified	0.2371	0.4254	0.0000	0.0000	1.0000

Table 3: Descriptive Statistic Panel 1

Regression results

Once cleaned, we have run the model on the dataset and analyzed the results of the regression according to the three main techniques which were considered robust for the analysis: Pooled OLS, Random Effect, and Panel OLS.

Pooled OLS (*Annex 4*)

This regression has been performed by introducing among the control variables a dummy variable for every year to absorb the effect of the macroeconomic trend. Other effects were not introduced, and the remaining variance is allocated to the variable of interest and the control variables. According to this regression, the certification has a negative output on the company growth. The p-value is 0.053 making the parameter estimation quite significant. The regression also confirmed what has been introduced highlighting how both the last revenues and the age are negatively correlated with the growth. A part of the is_certified and the interaction term variable, all the others are statistically significant at more than 99%. The R-squared of the regression scored a value of 0.26 meaning that the variable introduced can explain just the 26% of the total variance of the sample. The R-squared parameter is an important indicator of how explanatory is the regression and improves when the value goes towards 1. However, a drawback of this indicator is that the more parameter I introduce in the model, the higher is the value of the R-squared. This means that the efficacity of the model in explain the results cannot rely on that value only. Overall, even if the value is not entirely satisfactory, it can be considered statistically acceptable.

Random OLS (*Annex 5*)

The second regression performed has been the random effect analysis. In this regression, a random dummy variable has been introduced to absorb the variance not explained by the variables of the model. The output is in general as the one of the first regressions with both the certification variable, the last revenues variable, and the age variable which have a negative impact on the company growth. However, what changes is the statistical significance of the parameters. In this case, the is_certified term is not statistically significant, meaning that with this model the reason behind a company's growth cannot be attributed to the act of certifying. The R-squared value improved to 0.30 meaning that the random effects can explain more variance of the model. This improvement is nevertheless not clear since the variance it is not linked to some expected result such as for the economic trend, but it is allocated to a random dummy.

Panel OLS with fixed effect (*Figure 6*)

The last regression performed is the Panel regression with the introduction of both a fixed entity and a fixed time effect. Both the two fixed effects are introduced to allocate the variance to either the period or the specific entities responsible for a value. The fixed time effect creates a dummy variable for every period analyzed and works as we have explained in the Pooled regression. In parallel, the fixed entity effect creates a dummy variable for each entity of the sample, 239 in our case. In this case, the regression can say whether a specific value is explained by the fact that was produced by a specific entity at a specific time. According to this regression, the certification has a slightly positive contribution to the firm's year-over-year growth. However, as for the random effect regression, the statistical significance is extremely bad, and the result cannot be accepted as statistically funded. The other variables follow the same path found in the previous analysis with their statistical significance acceptable at either 99% or 95%. The R-squared term scored 0.48, meaning that almost 50% of the variance is explained by the model.

Both the R-squared value and the logic behind the last model make it the best regression suitable to explain the impact that certification can have on short-term growth.

```
                          PanelOLS Estimation Summary
================================================================================
Dep. Variable:             log_growth   R-squared:                        0.4895
Estimator:                   PanelOLS   R-squared (Between):             -5.3801
No. Observations:                1244   R-squared (Within):               0.4969
Date:                Sun, Jun 20 2021   R-squared (Overall):             -4.6314
Time:                        13:27:14   Log-likelihood                    28.673
Cov. Estimator:            Unadjusted
                                        F-statistic:                      158.39
Entities:                         239   P-value                           0.0000
Avg Obs:                       5.2050   Distribution:                   F(6,991)
Min Obs:                       1.0000
Max Obs:                       8.0000   F-statistic (robust):             158.39
                                        P-value                           0.0000
Time periods:                       9   Distribution:                   F(6,991)
Avg Obs:                       138.22
Min Obs:                       3.0000
Max Obs:                       202.00

                              Parameter Estimates
====================================================================================
                  Parameter  Std. Err.     T-stat    P-value    Lower CI    Upper CI
------------------------------------------------------------------------------------
const                11.381     0.7856     14.487     0.0000      9.8391      12.922
is_certified         0.0095     0.0294     0.3237     0.7462     -0.0481      0.0671
log_last_rev        -1.1572     0.1182    -9.7894     0.0000     -1.3892     -0.9253
sqr_log_last_rev     0.0240     0.0049     4.9109     0.0000      0.0144      0.0336
log_last_age        -0.1513     0.0797    -1.8998     0.0577     -0.3077      0.0050
sqr_log_last_age     0.2216     0.0471     4.7007     0.0000      0.1291      0.3141
interaction         -0.0003     0.0002    -1.8924     0.0587     -0.0006   1.084e-05
====================================================================================

F-test for Poolability: 6.1243
P-value: 0.0000
Distribution: F(246,991)

Included effects: Entity, Time
```

Figure 6: Panel OLS Output

Panel multi regression – Question 2

In the second regression, we address the second research question and so whether the score of the B Impact Assessment can have an impact on the company growth. The model used for the regression is the same as the one used for the first research question. The control variables remained the same, with the variable of interest that changed according to the analysis. At the place of the boolean variable is_certified we included in the model the variables storing the overall score and the 5 subscores. We performed one analysis at a time examining the impact of the different scores on the YoY growth variable, meaning 6 regressions in totals. However, we are going to present only the regression results for the analysis of the "overall_score". At the end of the section, a general comment will be added for each analysis where the different subscores took the role of the variable of interest.

To analyze whether the score has an impact or not on the company growth we compared only the company that had already obtained the certifications. The cleaned panel used in the previous analysis has been filtered by the Boolean variable is_certified. Given that only 25% of the companies showed a value of 1 for that variable, of the 1244 initial rows we remained with 295 rows, a process that significantly affected the size of the dataset analyzed. Since the output sample is a sub-sample of the original dataset, we did not have to clean the dataset again. The analysis of the distribution of the logarithmic growth, revenues, and age proved to be consistent with the original source. The descriptive statistics of this dataset showed that:

- on average the companies have an overall score of 96 with a minimum of 80, a maximum of 147, and a median of 93.
- of the five sub-scores, the one that on average contributed more to the overall score is the impact area community indicator, while the one in which companies score the less is in the area of governance.
- All these sub-scores present a quite high standard deviation up to the average amount for the subscore on the environment, highlighting how the points that add up to the overall score are distributed differently from company to company.
- The financial indicators are more or less aligned with the ones of the original samples.

	Mean	Std Dev	Min	50th	Max
Log_Growth	0.1637	0.4211	-1.1945	0.0792	2.8816
Log_Last_Revenue	14.572	2.5667	6.8734	14.300	19.618
Log_Last_Age	2.3657	0.8902	0.0000	2.3025	5.0238
Overall_Score	96.445	15.531	80.000	93.000	147.60
Community_Score	29.146	12.795	11.600	25.000	74.600
Customers_Score	15.856	16.857	0.0000	11.400	61.700
Environment_Score	16.788	12.854	0.0000	12.000	67.400
Governance_Score	11.640	4.2057	4.3000	10.900	22.700
Workers_Score	22.965	10.508	0.0000	23.700	59.200

Table 4: Descriptive Statistic Panel 2

Regression results

Here we present the regression result for the variable Overall_score using all the three regression models already presented before.

Pooled OLS (*Annex 6*)

According to the Pooled OLS, the impact of the variable overall_score is slightly positive, but it is not statistically acceptable. The parameter and the statistical significance of the other control variables are the same as for the other regression of the first research question. Finally, the R-squared value is very low with a score of 0.1374 making the analysis not acceptable.

Random OLS (*Annex 7*)

The results of the random effect regression are the same as the Pooled OLS. The impact is slightly positive on the year-over-year turnover growth, but the result is not statistically acceptable. Even if the R-squared value improves to 0.1567, the value is still too low to make the regression acceptable.

Panel OLS with fixed effect (*Figure 7*)

The panel regression with both time and fixed entity effect returns for the third time the same result of the other two, individuating in the "overall_score" a parameter that slightly improves the turnover growth of the companies. However, differently from the other two in this regression, the value is statistically acceptable. With a statistical significance of 92% the company obtaining a higher overall score in the B Impact Assessment should experience also a higher growth in turnovers. Additionally, the R-squared score improved to 0.6358 showing how this regression is solid and acceptable.

Before moving to the conclusions, we will briefly present the findings regarding the regression on the different subscores. We used as regression the Panel OLS with fixed time and fixed entity effect which proved to be the most solid one. The panel for the analysis is the same as the one used for the overall_score and in each regression, we change the variable of interest with the selected one.

The relation between the different subscores and the year-over-year growth is the following:

- The community score shows a similar behavior as the overall_score variable. It has a positive impact on turnover growth and the result is statistically acceptable. Consequently, companies scoring high scores in this area should experience higher turnover growth compared to the benchmark.
- The customer score has a positive impact, but it is not statistically significant.
- The environment score has a positive impact, but it is not statistically significant.
- The governance score has a negative impact, but it is not statistically significant.
- The workers score has a positive impact, but it is not statistically significant.

The situation represented by the different analyses is kind of twisted. The certification seems not to have an impact on turnover growth. However, when comparing only the companies in the years post certifications, look like the overall score obtained in the BIA can affect slightly positively the year-over-year growth of the company. Lastly, if it is true for the aggregated score, it is not true for all the different subscores with only the community area score that has a statistically funded impact on turnover growth.

```
                          PanelOLS Estimation Summary
================================================================================
Dep. Variable:             log_growth   R-squared:                        0.6385
Estimator:                   PanelOLS   R-squared (Between):             -26.662
No. Observations:                 295   R-squared (Within):               0.6413
Date:                Sun, Jun 20 2021   R-squared (Overall):             -15.193
Time:                        13:35:26   Log-likelihood                    93.201
Cov. Estimator:            Unadjusted
                                        F-statistic:                      45.625
Entities:                         129   P-value                           0.0000
Avg Obs:                       2.2868   Distribution:                   F(6,155)
Min Obs:                       1.0000
Max Obs:                       5.0000   F-statistic (robust):             45.625
                                        P-value                           0.0000
Time periods:                       6   Distribution:                   F(6,155)
Avg Obs:                       49.167
Min Obs:                       2.0000
Max Obs:                       93.000

                              Parameter Estimates
====================================================================================
                  Parameter  Std. Err.     T-stat    P-value    Lower CI    Upper CI
------------------------------------------------------------------------------------
const                16.164     1.5974     10.119     0.0000      13.009      19.320
overall_score        0.0068     0.0040     1.7144     0.0885     -0.0010      0.0147
log_last_rev        -1.8217     0.1977    -9.2145     0.0000     -2.2123     -1.4312
sqr_log_last_rev     0.0395     0.0083     4.7351     0.0000      0.0230      0.0559
log_last_age         0.0547     0.3781     0.1446     0.8852     -0.6922      0.8015
sqr_log_last_age     0.3650     0.2077     1.7576     0.0808     -0.0452      0.7752
interaction         -0.0008     0.0006    -1.2471     0.2143     -0.0019      0.0004
====================================================================================

F-test for Poolability: 4.7051
P-value: 0.0000
Distribution: F(133,155)

Included effects: Entity, Time
```

Figure 7: Panel OLS Output – Panel 2

Considerations

In this section, we try to explain these results, provide reasons for the behaviors of the company turnover after certification, and define possible next steps for future research. Lastly, we will integrate our analysis with the opinion of some B Corp companies that we have interviewed and to whom we exposed our findings.

There are different typologies of hybrid companies

The B Corp certification certifies somehow the hybridity of the company thus placing it under the institutionalized form of the social enterprise. A part of the documents that regulate the release of certifications for companies in peculiar markets, the only requirement to have the B Corp seal is to reach the minimum score in the BIA and to prove what has been stated. There is no specific track based on the industry or type of company and there is no distinction whatsoever among companies once they get the seal. Under the "cap" of the B Corp exists very different companies in term of size, business models and goals, with the only common factor that bind them that is the same shared vision of what is the purpose of doing business. However, as we have already seen, not all hybrid companies are the same. In the literature we have detected 4 different types of hybrid companies: Market Hybrid, Blending Hybrid, Bridging Hybrid, and Coupling Hybrid. As we have seen previously in our study the structure of these companies is very different from one to another and especially is different in the way they create social impact. Depending on their form the effect of the certification on the growth can be very different. Let's take for instance two Market Hybrids such as Treedom (Italy) a company that allows people and/or companies to buy trees to reduce their carbon footprint and TooGoodToGo (Denmark) that sells food that would be waste another way. As we have already seen this type of hybrid is the easiest to manage and the social impact the company creates is directly and strongly connected with the business they generate. If Treedom sells more trees, it directly improves the amount of carbon sequestered. If TooGoodToGo sells more meals, it avoids more food not being wasted. In other words, thanks to their specific business model, the more money they do, the more social impact they generate. For this kind of companies, the impact of the certification can create a boost in their year-over-year growth. The money collected through specific and dedicated channels, the above the average productivity and commitment of the employees, the ability to create strong partnerships and networks, all contribute to scale the business and achieving higher goals. This is possible because the scaling of the economic operations has as a direct result the scaling of the social impact, leaving managers, investors, and stakeholders at large without a trade-off to manage. As presented in "Making hybrids work", companies that are able to more closely align profit and impact will strengthen their long-term sustainability and survival, as well as the sustainability of the societal context and communities on which they depend. The proof that B Corp can grow at faster rates has been highlighted in different articles and papers which compared B Corps either with the national growth index or other non-B Corp peers in the same category (*B Corp Analysis Reveals Purpose-Led Businesses Grow 28 Times Faster Than National Average*, n.d.; *The Business Case for Caring – A Helio Analysis of Certified B Corps*, n.d.). But not all the B Corp are Market Hybrid and for the other three types of hybrids, the effect of the certification could be not as simple and straightforward as for companies such as Treedom and TooGoodToGo. Let's take for example the already mentioned Indian medical company that provided top-tier services for eye's operation and that with those revenues provides services to the low-income population not able to pay for such interventions. This company is clearly not a Market Hybrid and the impact of the certification is unpredictable. For this company, the people managing the profit-making part could be different from the one developing the social service provided. The certification can help the firm in refocusing their priorities so as not to neglect the very purpose of their business and avoiding prioritizing the profits over the impact created by the companies. In the situation in which the scaling of the business is decoupled from the scaling of the social impact, the effect of the certification can also result in degrowth. Battilana presented the case of the WISEs companies, firms that help unemployed people reintegrate into the workforce. "During periods of lower market demand, WISEs may face tradeoffs between keeping their beneficiaries employed and lowering staffing levels accordingly. Some grow more slowly than they otherwise might, in order to avoid the need to fire their employee-beneficiaries" (Battilana & Lee, 2014). B Corp certified companies of this kind can get from the process done to obtain the certification a new way to handle their priorities. This could lead them in preferring more purpose over money and keep a balance between shareholders' and stakeholders' satisfaction. Different companies admitted that their choice of hybridity prevented them from experiencing faster growth. For example, "Guayakı's CEO acknowledges that his company, which supplies the market with organic Yerba mate´, could expand faster if he were willing to compromise the mission" (Haigh & Hoffman, 2012). The missions that hybrids adopt often drive them to operate on longer time horizons than traditional for-profit business models making them ''grow slower, grow better and stick around longer'' (Haigh & Hoffman, 2012). One possible outcome of the certification for these companies can then be de-growth (Parker et al., 2019).

Under the hypothesis that the reaction of a company to the certification is linked to its type of hybrid, the findings are completely aligned with the expectation. Given that into the group of the B Corp there are multiple companies, and that there is no provided division into the different categories, the result could not be different that not statistically significant. The behavior of each company is different, and the results are polluted by the existence of different typologies of hybrids. Research showing B Corp that grow faster than a benchmark could be the result of the analysis of a specific set for B Corp (Market Hybrids) and vice versa could be demonstrated by selecting a different set. Notably, is not easy to place companies into categories, but it will be interested in future research to categorize the hybrid companies and do an analysis based on that to see if it is true that for a certain type such as commercial hybrid the certification can boost short term growth.

A Blurred measurement

A lot of low scores

We have already seen that many companies go through the BIA but only 3500 got the certification. It is interesting to see how the scores are distributed. As we see in *Annex 22* the majority of EU B Corp's score is around the minimum score of 80 with almost 90% of total scoring less than 100 points. In our final sample, the trend is partially reproduced with only 41 companies out of 247 above 100 and 206 below it. This can partially explain why the impact of the overall score, though statistically significant, is almost neglectable on the growth of the companies. To impact investors, employees, and the stakeholders it is not interesting the score provided by the Assessment, but only the fact of being a B Corp. A B Corp with the maximum score and a B Corp with the minimum score seem to make no difference in the eyes of many. This could suggest that many companies do the certification for "marketing" purposes and to have a timber that says that you are good since there is no real economic incentive in improving their social performances and to get higher scores. If this were true, the certification fails in measuring something since it is not an indicator of improvement and performance.

Measuring everything means measuring nothing

Another element that points to the meaningfulness of the scale of the BIA score is the structure of the assessment. The assessment is very broad, and the goal is to assess at 360 degrees all the companies. If that is important to assure that a company claiming to care about society at large is doing so as a mission and not as a complementary goal, the problem is that it is incredibly difficult to create a measurement system that is reliable and suitable for a large variety of entities, businesses, and social goals. Companies are very different from each other’s, and it is difficult to find a common driver of measurement. Blab says that the “B Impact Assessment is customized to a company's size, sector, and geographic market, but recognize that, within those parameters, there are still questions included in the B Impact Assessment that might not be relevant to a particular company”. Many sub-scores do not apply to all the companies, and even when they are, the way the scores are added up is different from business to business. “In cases where a question is not applicable, the potential points available for that question are instead earned based on the performance of the company on the other topics relevant to the stakeholder and summed up as "N/A points." Likewise, a score of N/A for Workers means that the company is a sole proprietor or partnership with no full-time staff, and a score of 0 or N/A for Customers means that the company does not have a specific Customer-focused Impact Business Model." As a result, two companies that have the same BIA score can be evaluated on completely different drivers, making the total score to some extent meaningless. This situation is reflected in the statistical analysis of the sub-scores that we have presented earlier. The only variable which is statistically relevant is the community and this is logical because we can model in a pretty standard way the extent to which the companies are giving back to their communities. For the other 4 sub-scores (environment, workers, governance, and customers) the way each company can create impact is too broad to be standardized and that is reflected in the not statistically significant of results.

One assessment for all the world

Another problem of the measurement is that the B Impact Assessment has been drafted for US companies. If the criteria to define what is a B Corp is the same for everybody in the world, this is not true for general legislation. Among the interview conducted, Mondora gave us interesting elements on this topic. People from Mondora told that many questions that were asked during the assessment were focused on topics that had already to be covered by the company to comply with the Italian labor law. Especially in the workers' impact area. So for example, if in the US it is valuable to give assurance to employees since it is not mandatory by law and this is rewarded by points in the assessment, in Italy or other countries the same thing is mandatory by law and so does not provide a difference between what should be considered a B Corp and a normal company. The decision of providing a uniform questionnaire to all the companies in the world gives to the BIA integrity but also can create some biases. Hypothetically, if the weights of the different areas are not well balanced, some companies in some countries can be certified even though they are not very different from the traditional ones of that country. The only reason that would make them B Corp companies would practically be that they are incorporated in a more socially aware country than the US.

The issues just highlighted represent an obstacle in making quantitative analysis and claims based on the score. It is well known and well documented in literature how it is difficult to create a scores-based measurement system that could respect the key property of the evaluation systems. For these reasons, it is better to use such scores as qualitative information and not rely on statistical analysis based on debatable and somehow subjective measurement. Lastly, the fact that the Blab continuously changes and updates the metrics of the BIA, leads us to analyze measures that are the result of different frameworks of evaluation. The results have to be evaluated in light of these considerations.

The problem of year-over-year turnover growth as an indicator

The impact is long-term rather than short-term

Year-over-Year growth is a measurement of short-term economic performance. However, we have seen how the peculiar characteristics of the hybrid companies make them prefer a steady, healthy, natural, and consequently slow growth. This is a very much different situation compared to others such as private equity where the goal is to sell a company at a higher valuation in a short period of time. In this last circumstance, the Y-o-Y growth is a key KPI because it is aligned with the goals of the market. In the market of the hybrid companies, it is not, and a better KPI should be created to detect this characteristic of long-term improvement. The problem arises when we need to find a measure to show long-term growth. The challenges are related to the poor availability of such measures and the availability of historical. A proposed long-term measurement that is often used is the CAGR. This KPI was considered for the study, but it had the problem of being sensible to external causes due to the specific year. If a company had a better and steady growth after certification and then for external reasons not detected by the control variables included in the model were to have a poor financial result in the last year available, the CAGR would attribute a poor result to the act of certifying. Not having a yearly measurement but comparing two "static" periods before and after the certification, the analysis was not considered reliable. Furthermore, the feasibility of such a study was challenged again by the peculiarity of the companies of the study that, as we have presented during the research, they do not provide solid and frequent financial data, though limiting the analysis. Lastly, even though the B Corp certification has been founded 15 years ago, the certification is now in the ramp-up phase with the majority of companies in Europe certifying in the last 4 years. This situation makes it impossible at this moment to evaluate the impact of the B Corp certification in the long run since not enough time has already passed.

Revenue growth is not a good proxy of economic improvement

We have theorized that, apart from specific cases, because of its nature the certification is not something that has an impact in the short term. It is not a "business enabler" like other types of certification. In other words, the fact of certifying does not increase, in general, the amount of business managed by the company. Revenues do not experience a boom following the certification because these companies do not want to follow the strict capitalistic market laws and aim to grow at every cost. And that is theoretically coherent to what is in the nature of the hybrid companies. At the same time, companies should indeed experience some benefits that we have theorized earlier in the research. An explanation is that these benefits may not be detected by the short-term growth KPI but could have been detected by other measures. As we have just said indicators of long-term performance might detect the effect of the investment attraction since often the capital raised has not an immediate impact, but its effect is lagged in time. Other possible benefits could arise in areas that are not detected by the KPI of Y-o-Y growth, but that still contribute to improving the economic performance. For example, all the theorized benefits presented in the past chapters could not have an impact in terms of business development, but they do have an impact in terms of cost reduction. In other terms, they do not add revenues to the business, but it helps the company to better use the resources it deploys. When a company has better talent retention, it could rely on smaller HR offices and has to go through the hiring process less time than competitors. Hiring processes are expensive and reducing the frequency of those is a saving for the firm. Furthermore, recruiting is made easier by the fact that the certification helps the company to communicate its position and so to attract talents aligned with the company mission. The second effect is linked to productivity. When the employees work in an environment they like they are often happier, and that impacts the quality and the amount of work they produce. Many studies are aligned with that theory and employees can be up to 13% more productive when they are happy (Bellet et al., 2019). The enhancement of productivity helps the company to reduce costs and improve internal efficiency. Lastly, the possibility to have access to meaningful networks and best-in-class resources at lower prices helps B Corps in closing good and strong partnerships and to manage the business with some competitive advantage.

If we were to measure the impact of the certification on a KPI such as the ratio of Net Income over Revenues, we could have a totally different picture of the landscape. Once again, the characteristic of the B Corp companies did not allow to perform such analysis since as we said they are for the vast majority very small companies and this kind of data were not available on the database.

Difficult to create a growth model

The last issue that could impact the quality of the analysis is related to the definition of the growth model for the regression. We decided to use the model already presented in the literature with some modification, but other choices could have been taken. Given the variety of firms presented in the study, it is difficult to create a growth model for companies that belongs to different industries, that are incorporated in different countries, and can considerably differ in terms of structures, size, and age. Furthermore, the delicacy of this kind of studies is that the introduction or not of a specific variable in the model can affect greatly the output of the regression. Consequently, it is likely that by changing the model the analysis could return different outcomes.

B Corps are new and small

Still relatively new brand

The B Corp movement is something new. We have seen how the urgency of new firm models is ancient, but the affirmation of hybrid companies is still in the ramp-up phase. Although the certification has been created 15 years ago, the seal is still not well known worldwide with many countries that have to prepare yet the legal infrastructure for these companies. If we look at the curve of certification it is clear how we are in a growing phase. As for other certifications, the value of the B Corp timber gets more and more value when it is recognized, accepted, and shared on a wider basis. In some countries, this may already have an impact, but in others where few firms are present, all the positive effects deriving by the fact of belonging to a community are less powerful and may not have shown their potential yet. The last two years of the pandemic crisis have somehow accelerated the urgency of a shift and the research of new and resilient business models. The more the certification will spread and be recognized worldwide, the more it will have an impact also on the economic performance of such firms. These effects will probably be more evident in the next years.

The problem in data reliability and data availability

During the description of the data collection process, we have already introduced how difficult was to get the data for these kinds of companies. The smaller the company the harder is to find reliable and complete data. Just looking at basic financials data such as turnover, we had to reduce the sample from 1000 to 250 companies. If we wanted to create a more comprehensive and exhaustive model, we had to include data that required a higher level of detail. Information such as "total asset" and "total outstanding debts" are easily available for listed companies, but they are virtually impossible to find for small-medium not listed companies. Consequently, all the variances that could be explained by variables representing the financial situation of the firms were not considered, polluting the quality of the output. Due to the size of the companies, we should also take into account a margin of error for the data provided by the Orbis database, even though we are confident that the cleaning process has reduced this problem.

Lastly, as we have already said, the novelty of the certification and the low anteriority of the data limited our research twice. Firstly, it did not give us the possibility to analyze the impact with long-term growth metric, and secondly did not allow us to perform a correct difference-in-difference analysis and thus comparing the result with the ones already presented in the literature.

Interviews to B corps

In order to enrich our research, we decided to contact some B Corp companies to present them the results of our research and to understand better what it means to be a B Corp for someone that went through the certification process. Although all B Corps are, to some extent hybrid firms, the way they conceive the certification and the role of their business is different from case to case. The goal of the interview was not to create some sort of benchmark but to "free" our research from a purely quantitative perspective, to discuss the topic with a less data-centric approach, and to see if we could detect some sort of parallelism between our findings and the comments gathered in the interviews.
The questions that were asked covered the following topics:

- What does it mean to be a B Corp
- What is the reason behind your approach to the certification
- How are related the certification and the economic performance of your firm

The interviews were conducted remotely during the month of April and May and included two Italian B Corp: Mondora and Treedom.

Mondora

Company snapshot

Mondora is a software and advisory company specializing in custom cloud solutions for all kinds of businesses. It was founded in 2002 by two brothers Francesco and Michele Mondora. They became B Corp in 2015 with an assessment score of 94 which successfully improved to 105.3 the year after and then to 122.8. The social traction that characterizes the firm is clear in their purpose statement: "Our aim is to create benefit for all stakeholders by designing and building software solutions that maximize positive impact. Together with our customers and suppliers, we support humans and nature with projects that benefit the community and land" (:Mondora - Building Software, Creating Benefit, n.d.).

Interview report

The interview was made with Francesco Mondora (CEO) and Aureliano Bergese

The certification for Mondora is not a change of status. It is not like you're something weird and then you become a B Corp all of a sudden. A bit like in Socrates' maieutic, B Corps have always been B Corps and they realize it the moment they certify. They are companies that have long understood that the world of capitalism is broken in many of its rules, they want to act in their way and fix these 'broken' rules. Their aim is to generate social impact as well as economic impact by satisfying all stakeholders and not just shareholders.

For Mondora, the moment of certification is a moment of calculation. The company does not become a B Corp, it simply reveals the vision it has been pursuing for some time. The company checks itself, through the scrupulous B Impact Assessment, and discovers how it is generating impact, how much it is generating and how it could do better. For a B Corp, the benefit is all there. It is not really about the score that neither investors nor suppliers nor consumers look at, but the fact that they investigate their business and rethink it to generate the greatest possible impact for society. At the end of the day, B Corporations do not care about the logo, the number, or the brand, they care about the facts. And this is the difference between those who certify CSR and those who certify B Corporations. The formers are interested in sponsoring goods, the latter in creating them. And the way you do so is by aligning their commitment to creating social value with their commitment to creating economic value. And at Mondora they do this every day. One example is the concept of the interdependence clause that was first created by Francesco. The idea stems from the fact that it has become a common practice in the commercial sector to ask for discounts and to have to provide discounts up and down the supply chain. At Mondora they thought to use this habit to increase their ability in creating social impact. The mechanism is very simple. One party ties a part of the economic performance of the contract to some agreed social goals. If the second party completes the clauses in the contract, it will also be paid the variable part. By doing so, Mondora turned its business into a lever to raise awareness and to produce social impact. In practice, I tell my supplier that I can give him a 20% discount, but only if he commits to doing something that has a social impact, such as installing a water dispenser in the office. If he does that, discount, otherwise full price. It is thanks to this mechanism that Mondora was able to drastically reduce plastic consumption at Sorgenia, its client for a project.

Talking about the economic benefits that the certification brought to the firm, Francesco has been very clear: certification has not changed Mondora much. They were good before they became a B Corp, and they are good now that they are one. According to him, the focus of the analysis needs to be changed. Instead of analyzing how much more or less turnover I can make, I should analyze how much impact I can create with the same turnover. At Mondora, the certification has neither increased nor decreased their ability to grow, but it has enabled them to create more impact. And it was this ability to create a social impact that was one of the reasons it was acquired by Team System in 2016. Benefit corporations are a particular case study for investigating what is called retention practices. In B corporations, more than in other companies, employees and customers want to stay and work with the company. This puts B corporations on a completely different perspective from traditional companies and allows investors to diversify the risk of their portfolios.

Treedom

Company snapshot

Treedom is the only platform that allows consumers and corporations to plant and follow trees online, directly financing farmers around the world (*Treedom | Certified B Corporation*, n.d.). It has been founded in 2010 in Florence, and since then more than 2 billion trees have been planted in Africa, South America, and Italy. All trees are planted directly by local farmers and bring environmental, social, and financial benefits to their communities (*About Us - Treedom*, n.d.). In 2014 with a score of 114, Treedom became part of the Certified B Corporations as the first Italian company to get the certification.

Interview report

The interview was made with Elisabetta Meconcelli (EU Funds & Projects Manager).

The certification for Treedom was and it is an incredible tool to communicate its positioning and to strengthen its brand. Back in 2014 when Treedom was a small startup, the firm saw the certification as a great opportunity to improve its transparency and to give credibility to its business, especially in the direction of foreign clients and investors who were already aware of the existence of the certification, unlike the Italian market. Once they got the certification, they have been able to attract capital and grow their business abroad. They enter into a network of like-minded companies and entrepreneurs who eventually became partners and clients of Treedom.

The choice to go for the Blab certification despite other guarantees such as the ISOs was based both on the community behind the seal and the structure of the assessment. They see the B Corp certification as very tailor-made for small-medium companies because to get the certification you do not have to hire external consultants that assess your position. This process is common for other seals like the ISOs, but it is very expensive for small companies that do not have the money to pay external qualified resources. With the BIA the company can complete the assessment all by itself and can save the money it would have required to spend for the external consultants. Even though the firm can have big money savings, the process remains still very demanding in a matter of time and effort. Another reason that favors small companies to get the certification is related to the BIA score. Given that small companies have fewer processes, they are more capable of reorganizing and get higher scores than big firms where the processes are rigid and not easily changeable.

With time the reason for maintaining the certification has changed. Once the company had created a strong reputation, the BIA has helped Treedom in assessing and monitoring their internal practices.

Improving its BIA score is of great importance for Treedom because they see their economic performance as strongly linked with their social performance. As a company directly involved in the creation of environmental impact, they see its clients as very aware and informed on the topic, and they evaluate that their willingness to buy or do partnership with them is related to their status and performance as B Corp. For this reason, the improvement of the BIA score has a double role in improving both the economic and social performance of the firm. The centrality of the certification score is highlighted by the fact that one of the internal KPIs of the firm is related to the improvement of the BIA score and to the number of best of the class honoree, yearly prize released by Blab to excelling B Corp, they receive. For Treedom this commitment is necessary because lowering the score of a big chunk could have a negative effect on the firm's business.

Considerations on the interviews

The two interviews conducted were extremely interesting for our research because they confirmed our theory about the impact of the certifications on B Corp. Even though two interviews do not constitute statistical proof of our hypothesis, it is still a strong confirmation that companies with different business models have different reasons for approaching the certification and different expectations from the act of certifying.

Treedom is a classic example of a market hybrid. The business model of the company is for its nature beneficial for society, and the more business they generate the more impact they create. It is though without surprise that the reasons behind certification are strongly linked with the economical perspective. The certification is for Treedom a tool to certifying the goodness of its mission, to provide transparency and commitment to the goal of changing the world. Treedom sells to private and companies that want to do a "good action" or have an impact on the planet through it and for that it is mandatory that the image linked to the company be positive as much as possible. If Treedom had a bad reputation, it would not have a business. On the contrary, the more the image of Treedom is positive, the more it will be able to attract business. It is though perfectly aligned with the context that among the KPIs the company put an important focus on the continuous improvement of their BIA score and the collection of awards, thus improving its communication and its branding.

Mondora on the other hand it is not a Market Hybrid. The core business of the company is the creation of software and that does not have a direct impact on society as Treedom's business. The company cannot naturally generate impact with their business and need to rethink its processes and priorities to find a way to create social value. Not being as straightforward as the tree-planting business, the certification is an incredible tool for Mondora to analyze the gaps and the area in which it can generate impact. The creation of the interdependence clause was a perfect example of what the certification could give to a company: rethink the common practices of the industry, question the economic laws of the market, and find a way to fix "the broken rules". In recent years Mondora has started a project to create value for the local farmer community. Every 20 employees they hire a local farmer who distributes the farmed products to the firm. This helps locals to have a fixed income and to invest in their activities. This kind of activity is definitely not linked with the core business of software development, and we don't expect the revenues to grow thanks to the hiring of some farmers. Mondora's perspective is in fact different from Treedom's one. The goal is not to generate more business, but with the same level of business generate the most impact possible.

The outcomes of the interview are very aligned with our findings. However, we registered also some contradictions with what the literature theorized. For example, we discovered that,

according to Mondora, during its hiring processes out of 100 candidates only 2 knew about B Corp. At the same time, Treedom explained how the certification did not add any value in the recruiting, since according to them, their mission was already strong and the reasons why people apply to their firm are related to that. This clashes with the theorized idea that B Corp should experience benefits for what concerns talent acquisition but might also highlight the embryonic stage of the movement. Apparently, the fact acclaimed by B Lab that B corporations have easier recruiting because of their name is only marginally true at this moment but could be more of a factor in the future when the movement will be more famous among society.
Lastly, both the companies highlighted the importance of adding to the B Corp certification the change of the legal form into Benefit corporation. For Mondora, being a benefit corporation measures the vocation of the company, while the BIA measures how good I am at putting my vocation into practice. One and the other are essential for the structure to stand. However, the emphasis is on creating the tools to regulate one's vocation and not to distort the company as happened recently with Danone (*Sustainability And The Downfall Of Danone CEO Faber* , n.d.). Therefore, it is important the legal structure of the benefit corporation, but also that new legal forms are adopted in countries and give social entrepreneurs the possibility to create impact. Treedom agreed on the arguments and added that as for now the legal structure of the benefit corporation relies mainly on trust, with not much control on whether a company is pursuing or not its social goals. New steps ahead should be done to regulate more these situations. Mondora explained for example how in Germany some companies can by law assign a "golden share" to an entity that monitors the social impact of the company. The golden share has the price of a nominal share but has the possibility of outvoting everyone else and making a claim if the company is not fulfilling its social promises. The use of such a means would allow an organization such as the Blab through the BIA to be not only a provider of a control service but a real stakeholder with the ability to direct the choices of the companies.

Summary

We started this research by asking ourselves whether hybrid companies could pursue both economical and social goals with success. Identified in the B Corp certification the most relevant one in addressing the hybridity of a company in its modern conception, we explored how was related the score of the assessment to the economical performance of the company. The outcomes of the research are multiple.

First, it is clear how at this moment in history it is not suggested to strongly rely on quantitative only analysis of the topic. The reasons that do not allow to perform such analysis are multiple. The topic is recent and thus it is complicated if not impossible to have long series of data, necessary to perform and train good statistical models. The lack of anteriority does not give the possibility to analyze these companies in the long term which is the horizon we should naturally take as a reference due to the nature of these firms. Additionally, reliable data are hardly available due to the characteristic of the hybrid companies which are usually of medium-small size and not listed on the stock market.

Secondly, it is important to investigate what there is behind scores. Even if the B Corp assessment is the most valid and complete, it covers a very broad scope, and thus the legitimacy of the score produced by the evaluation should be considered differently according to the context. If can be of incredible help for the company that gets the certifications and for the stakeholders who know the company and the market in which they operate, it is not a unanimous synonymous of excellence and the universality of it is debatable.

Lastly, even though quantitative analysis is not flowless and scores are not entirely indicative, the analysis performed, and the interviews conducted can provide useful hints to companies willing to certify and investors willing to invest in B Corps. Before going through the process of certification it is important both companies, shareholders, and stakeholders comprehend the typology of hybrid they belong to and how their economic performance is related to their social missions. Understanding these elements would help the firms in forecasting the impacts that the certification will have on the firms and in defining the right resources and strategies to put in place in the process of certification. The impacts are different and multiple in time and nature, predicting the outcomes would help managers and investors in crafting goals aligned with the possible expectation.

The research also opens up space for future research. It will be interesting to improve the research in different directions. Firstly, collecting more precise and reliable data by directly contacting the companies could expand the sample and draw more robust conclusions. Secondly, extending the research to other geographic areas than Europe could give additional information on whether the B Corps are conceived and the impact they have on the market in the different regions of the world. Thirdly, when long trend data should be available it will be interesting to analyze the long-term impact of the certification on firms' economic parameters. Lastly, it will be interesting to divide companies according to their typology of hybrid and verify quantitatively whether holds true that the market hybrids are the ones that experience the most economical benefits from the certifications.

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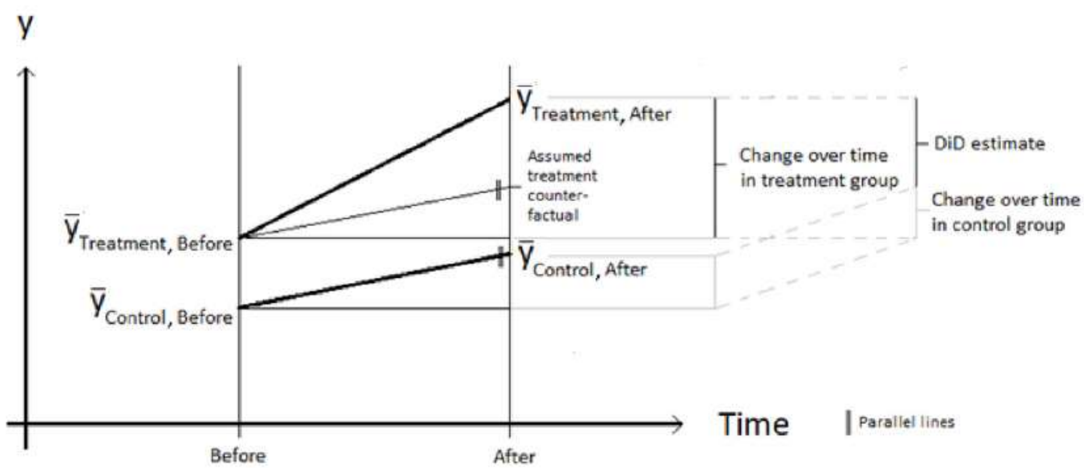
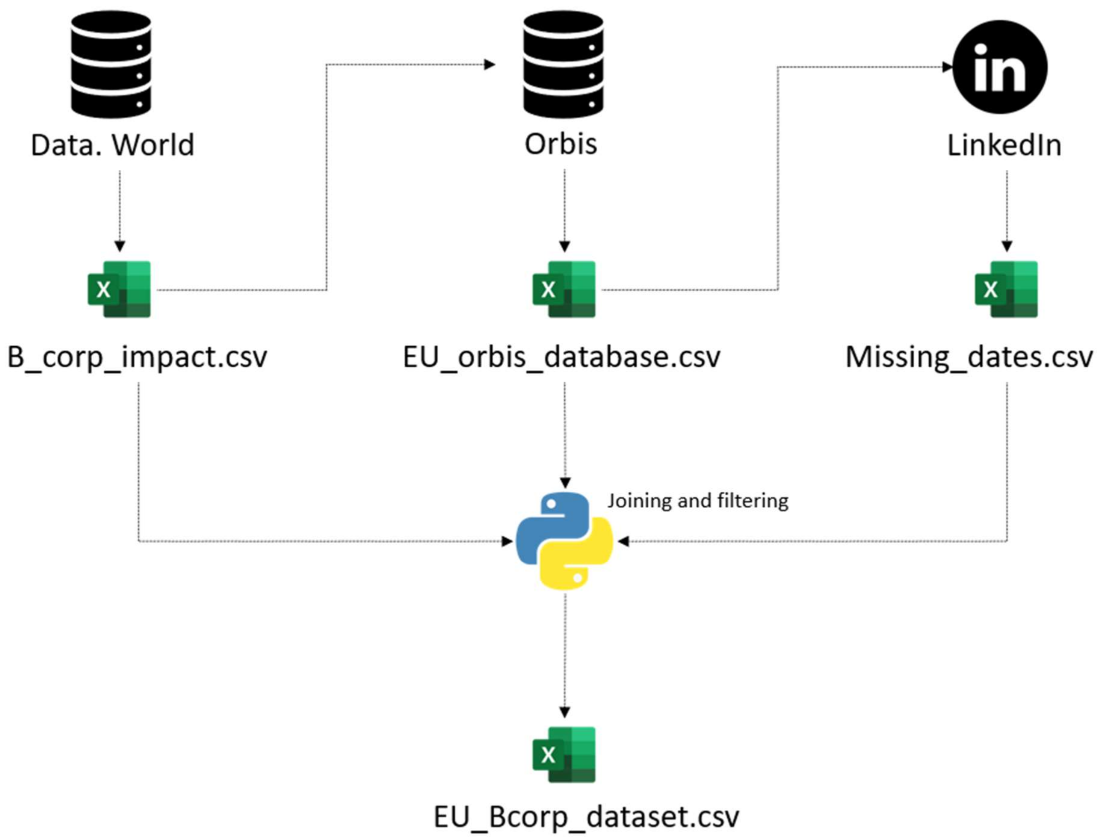
Annex 1: The Triple Bottom Line framework



Annex 2: Representation of the DiD design



Annex 3 : ETL Schema

PooledOLS Estimation Summary

Dep. Variable:	log_growth	R-squared:	0.2558
Estimator:	PooledOLS	R-squared (Between):	0.3693
No. Observations:	1244	R-squared (Within):	0.2143
Date:	Sun, Jun 20 2021	R-squared (Overall):	0.2558
Time:	13:23:51	Log-likelihood	-538.63
Cov. Estimator:	Unadjusted		
		F-statistic:	30.182
Entities:	239	P-value	0.0000
Avg Obs:	5.2050	Distribution:	F(14,1229)
Min Obs:	1.0000		
Max Obs:	8.0000	F-statistic (robust):	30.182
		P-value	0.0000
Time periods:	9	Distribution:	F(14,1229)
Avg Obs:	138.22		
Min Obs:	3.0000		
Max Obs:	202.00		

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
const	4.3326	0.3882	11.160	0.0000	3.5709	5.0943
is_certified	-0.0574	0.0296	-1.9360	0.0531	-0.1155	0.0008
log_last_rev	-0.4978	0.0583	-8.5391	0.0000	-0.6122	-0.3834
sqr_log_last_rev	0.0160	0.0022	7.2877	0.0000	0.0117	0.0203
log_last_age	-0.3022	0.0429	-7.0493	0.0000	-0.3863	-0.2181
sqr_log_last_age	0.0600	0.0171	3.5098	0.0005	0.0264	0.0935
interaction	-6.094e-05	4.919e-05	-1.2388	0.2157	-0.0002	3.557e-05
year.2013	-0.0019	0.0492	-0.0381	0.9696	-0.0984	0.0946
year.2014	0.0252	0.0484	0.5207	0.6027	-0.0698	0.1202
year.2015	0.0840	0.0470	1.7861	0.0743	-0.0083	0.1763
year.2016	0.0149	0.0464	0.3198	0.7492	-0.0763	0.1060
year.2017	0.0552	0.0466	1.1836	0.2368	-0.0363	0.1467
year.2018	0.0758	0.0466	1.6256	0.1043	-0.0157	0.1673
year.2019	0.0998	0.0495	2.0165	0.0440	0.0027	0.1969

Annex 4: Pooled OLS Output – Panel 1

RandomEffects Estimation Summary

Dep. Variable:	log_growth	R-squared:	0.3052
Estimator:	RandomEffects	R-squared (Between):	0.0728
No. Observations:	1244	R-squared (Within):	0.3410
Date:	Sun, Jun 20 2021	R-squared (Overall):	0.0733
Time:	13:25:00	Log-likelihood	-282.51
Cov. Estimator:	Unadjusted		
		F-statistic:	90.578
Entities:	239	P-value	0.0000
Avg Obs:	5.2050	Distribution:	F(6,1237)
Min Obs:	1.0000		
Max Obs:	8.0000	F-statistic (robust):	85.299
		P-value	0.0000
Time periods:	9	Distribution:	F(6,1237)
Avg Obs:	138.22		
Min Obs:	3.0000		
Max Obs:	202.00		

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
const	8.9457	0.5630	15.889	0.0000	7.8411	10.050
is_certified	-0.0051	0.0259	-0.1948	0.8456	-0.0560	0.0459
log_last_rev	-1.1183	0.0877	-12.752	0.0000	-1.2904	-0.9463
sqr_log_last_rev	0.0358	0.0034	10.585	0.0000	0.0292	0.0425
log_last_age	-0.2654	0.0588	-4.5123	0.0000	-0.3808	-0.1500
sqr_log_last_age	0.1224	0.0288	4.2561	0.0000	0.0660	0.1788
interaction	-0.0003	8.811e-05	-3.0196	0.0026	-0.0004	-9.32e-05

Annex 5: Random OLS Output – Panel 1

PooledOLS Estimation Summary

Dep. Variable:	log_growth	R-squared:	0.1374
Estimator:	PooledOLS	R-squared (Between):	0.1658
No. Observations:	295	R-squared (Within):	0.1543
Date:	Sun, Jun 20 2021	R-squared (Overall):	0.1374
Time:	13:33:02	Log-likelihood	-141.14
Cov. Estimator:	Unadjusted		
		F-statistic:	4.0981
Entities:	129	P-value	0.0000
Avg Obs:	2.2868	Distribution:	F(11,283)
Min Obs:	1.0000		
Max Obs:	5.0000	F-statistic (robust):	4.0981
		P-value	0.0000
Time periods:	6	Distribution:	F(11,283)
Avg Obs:	49.167		
Min Obs:	2.0000		
Max Obs:	93.000		

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
const	3.1544	0.7193	4.3852	0.0000	1.7385	4.5702
overall_score	0.0008	0.0015	0.5229	0.6015	-0.0022	0.0038
log_last_rev	-0.4081	0.1020	-3.9995	0.0001	-0.6090	-0.2073
sqr_log_last_rev	0.0144	0.0040	3.6254	0.0003	0.0066	0.0222
log_last_age	-0.2305	0.1259	-1.8310	0.0682	-0.4783	0.0173
sqr_log_last_age	0.0752	0.0425	1.7682	0.0781	-0.0085	0.1589
interaction	-0.0002	0.0001	-1.5887	0.1132	-0.0004	4.188e-05
year.2016	-0.0387	0.1906	-0.2032	0.8391	-0.4139	0.3364
year.2017	0.1017	0.1854	0.5486	0.5837	-0.2632	0.4667
year.2018	0.1151	0.1834	0.6274	0.5309	-0.2459	0.4761
year.2019	0.0652	0.1833	0.3556	0.7224	-0.2956	0.4259
year.2020	0.6254	0.3360	1.8613	0.0637	-0.0360	1.2868

Annex 6: Pooled OLS Output – Panel 2

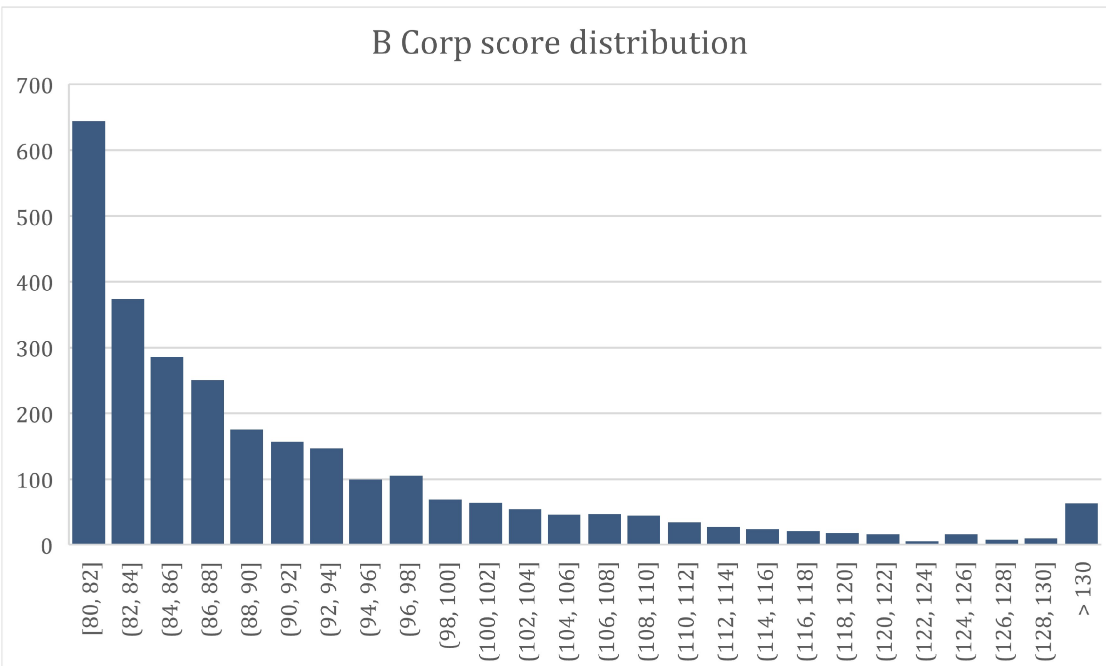
RandomEffects Estimation Summary

Dep. Variable:	log_growth	R-squared:	0.1928
Estimator:	RandomEffects	R-squared (Between):	0.0411
No. Observations:	295	R-squared (Within):	0.2499
Date:	Sun, Jun 20 2021	R-squared (Overall):	0.0768
Time:	13:33:56	Log-likelihood	-76.796
Cov. Estimator:	Unadjusted		
		F-statistic:	6.1462
Entities:	129	P-value	0.0000
Avg Obs:	2.2868	Distribution:	F(11,283)
Min Obs:	1.0000		
Max Obs:	5.0000	F-statistic (robust):	5.9329
		P-value	0.0000
Time periods:	6	Distribution:	F(11,283)
Avg Obs:	49.167		
Min Obs:	2.0000		
Max Obs:	93.000		

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
const	5.5656	0.9230	6.0298	0.0000	3.7487	7.3824
overall_score	0.0018	0.0022	0.8440	0.3994	-0.0024	0.0061
log_last_rev	-0.7719	0.1350	-5.7159	0.0000	-1.0378	-0.5061
sqr_log_last_rev	0.0267	0.0052	5.1016	0.0000	0.0164	0.0370
log_last_age	-0.2055	0.1590	-1.2924	0.1973	-0.5184	0.1075
sqr_log_last_age	0.1030	0.0547	1.8810	0.0610	-0.0048	0.2107
interaction	-0.0003	0.0001	-1.8927	0.0594	-0.0006	1.117e-05
year.2016	0.0464	0.1666	0.2785	0.7808	-0.2816	0.3744
year.2017	0.1322	0.1650	0.8015	0.4235	-0.1925	0.4570
year.2018	0.1485	0.1640	0.9056	0.3659	-0.1743	0.4713
year.2019	0.0835	0.1646	0.5074	0.6123	-0.2405	0.4075
year.2020	0.8715	0.3069	2.8395	0.0048	0.2674	1.4757

Annex 7: Random OLS Output – Panel 2



Annex 8: B Corp score distribution