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Balancing financial and social goals: do social startups grow like other startups?

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Abstract

Purpose – Social startups are hybrid organizations that pursue positive social or environmental impact in addition to financial returns. Such a dual mission may limit the startups' ability to achieve their financial goals. This work examines whether social startups exhibit different economic performance compared to other startups.
Design/methodology/approach – By leveraging Italian legislation and the B Corp regulation to identify social startups, we conducted multivariate regression analyses on several panel data samples up to 2,797 startups. This study adopts imprinting, signaling and human capital theoretical lenses to explain the performance of the analyzed startups.
Findings – Social startups perform as well as others in terms of revenue growth and employee growth, notwithstanding their dual mission to pursue both positive financial returns and social or environmental impact.
Originality/value – By integrating imprinting, signaling and human capital theories, this study offers a unique and comprehensive empirical contribution to the literature on social entrepreneurship and entrepreneurial growth. It advances the academic discourse on startup performance and growth by offering a novel perspective on the relationship and balance between economic performance and social or environmental purposes.

Keywords Startups, Entrepreneurship, Human capital, Social entrepreneurship
Paper type Research article

1. Introduction

Social and environmental issues are becoming increasingly relevant worldwide (Doherty *et al.*, 2014; Secundo *et al.*, 2020). To address or at least mitigate these crises, there is a growing demand for a radical shift in the current organizational paradigm (e.g. OECD, 2020), with social startups viewed as a promising contributor to this request (e.g. Polychronopoulos *et al.*, 2024).

According to the imprinting theory (Marquis and Tilcsik, 2013), startups reflect the peculiar features of the time in which they are founded (Baron *et al.*, 1999; Johnson, 2007; Moroz *et al.*, 2018). Following this reasoning, today, startups reflect our society's attention to social and environmental issues. Within this context, social startups are hybrid organizations that aim to make a positive social or environmental impact in addition to generating positive financial returns (Doherty *et al.*, 2014; York *et al.*, 2016; Shepherd *et al.*, 2019; Yang *et al.*, 2020), and many of them adopt ad hoc qualifications to signal their dual mission to their

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stakeholders (Chen and Kelly, 2015; Rawhouser *et al.*, 2015; Moroz *et al.*, 2018). In contrast, the primary goal of other startups is to maximize financial returns (Shaw and Carter, 2007). Hybrid organizations can struggle to achieve significant positive financial returns, as they simultaneously pursue social or environmental goals (Smith and Lewis, 2011). Nevertheless, given the increasing attention to social and environmental issues by policymakers, investors, employees, and customers, such social and environmental focus could be an advantage in some circumstances (de Lange and Valliere, 2020; Kimmitt *et al.*, 2022; Parekh and Attuel-Mendes, 2022).

Despite the growing interest in social startups and social entrepreneurship in general (e.g. Kachlami *et al.*, 2018; Muldoon *et al.*, 2024; Polychronopoulos *et al.*, 2024), very limited research has empirically verified the differences between social startups and other startups. Siqueira *et al.* (2018) is one of the few studies that compares for-profit social enterprises with purely commercial ventures using longitudinal analyses of their capital structure. However, it does not investigate whether social startups differ from other startups in terms of revenue or employment growth. Moreover, like other authors (e.g. Sánchez-Robles *et al.*, 2023), Siqueira and colleagues (2018) explicitly call for further research to contrast social and non-social ventures. Some recent studies have explored how external actors, such as venture capitalists (O'Reilly *et al.*, 2024; Ambrois *et al.*, 2025), influence the growth of green or impact-oriented startups; however, limited attention has been paid to the economic performance of social startups themselves. Understanding these differences is crucial, as evidence on whether social startups achieve economic performance comparable to that of other startups can guide how investors, policymakers, and support organizations allocate resources and design specific support instruments. Moreover, such evidence can contribute to establishing legitimacy for social startups as a viable market alternative capable of combining financial outcomes with social or environmental objectives. Building on this, our study aims to answer the following research question: "Does the dual mission of social startups affect their economic performance compared to other startups?". To answer this question, we conduct multivariate regression analyses on several panel data samples of Italian startups, leveraging the Italian legislation and the B Corp regulation to identify social startups. Our final results show that social startups perform as well as other startups in terms of revenue growth and employee growth, notwithstanding their dual mission. This study contributes to hybrid entrepreneurship literature (e.g. Arena *et al.*, 2018; Siqueira *et al.*, 2018; Sánchez-Robles *et al.*, 2023; Polychronopoulos *et al.*, 2024) by extending established theoretical frameworks, such as imprinting, signaling, and human capital theories, to explain the economic performance of social startups. From a methodological perspective, our work introduces impact qualifications as a novel proxy for hybrid identity and validated human capital. From a practical standpoint, it informs investors and support organizations that pursuing social impact does not necessarily come at the expense of economic performance.

2. Theoretical background

2.1 Imprinting theory and social or environmental impact

Imprinting theory suggests that "during a brief period of susceptibility, a focal entity develops characteristics that reflect prominent features of the environment, and these characteristics continue to persist despite significant environmental changes in subsequent periods" (Marquis and Tilcsik, 2013, p. 201). Therefore, three essential features identify imprinting. The first is the existence of a temporally restricted sensitive period, characterized by the focal entity's high susceptibility to external influence. The second is the presence of a powerful influence by the environment, such that the focal entity comes to reflect elements of the environment during the sensitive period. The third is the persistence of the characteristics developed during the sensitive period throughout the entire existence of the focal entity. As shown by the literature (e.g. Baron *et al.*, 1999; Johnson, 2007), the founding period of a venture is one of the so-called sensitive periods.

While imprinting theory has traditionally been applied to explain organizational persistence and founder influence in conventional ventures (Johnson, 2007; Marquis and Tilcsik, 2013), its application to hybrid contexts remains limited. We extend it to explain how social startups, as newly founded ventures, are particularly shaped by societal expectations regarding social impact and sustainability. Since startups are young enterprises in the first phase of their life, they can be considered as enterprises in their own sensitive period. For this reason, newly founded startups reflect, or will reflect in the near future, the values of our time more than other consolidated entrepreneurial organizations. In the last few years, these features and values have been concerned with social and environmental issues and the intention to address them (e.g. Vedula *et al.*, 2022). For instance, policymakers and other stakeholders (e.g. Johnstone and Tan, 2015; Bacq and Aguilera, 2022) have been urging organizations to improve their social and environmental impact. The increasing amount of capital and the number of investors involved in impact investing are further evidence of this growing attention (Parekh and Attuel-Mendes, 2022; Siefkes, 2024; Viglialoro *et al.*, 2025). Moreover, the number of people interested in working for social startups has been growing (e.g. Montgomery and Ramus, 2011; Eccles *et al.*, 2012), and customers are willing to pay more for ethical or eco-friendly products and services (e.g. Sanjuán *et al.*, 2003; Delgado *et al.*, 2015; Lehmann *et al.*, 2021). Given these considerations, it is reasonable to hypothesize that our society has been exerting a powerful influence on startups to combine their economic growth with attention to their own social or environmental impact. However, at present, not all startups balance financial returns with social and environmental responsibility. Founders who are reluctant to embrace the described society's changes may effectively delay, or even avoid, incorporating social and environmental goals into their startups.

2.2 Social startups as hybrid organizations navigating social impact and profit

A stream of literature suggests that social enterprises, as hybrid organizations (Arena *et al.*, 2018; Shepherd *et al.*, 2019; Polychronopoulos *et al.*, 2024), may encounter challenges in achieving strong financial performance, including revenue and employee growth (Parker *et al.*, 2019; Gupta *et al.*, 2020). Santos (2012) attributes these difficulties to their dual mission, namely, the achievement of positive financial growth along with the generation of positive social or environmental impact. Since these missions involve different value creation logics, social enterprises may need to rely on different strategies and types of human capital (Estrin *et al.*, 2016). Nevertheless, studies show that social enterprises can achieve their financial and societal goals through strategies such as adopting patient, low-leverage capital structures that ease short-term profit pressure or using fair-profit pricing that shares surplus with stakeholders (e.g. Hahn and Ince, 2016; Siqueira *et al.*, 2018; Shepherd *et al.*, 2019).

Social startups are new innovative hybrid organizations whose success, like that of other new ventures, relies heavily on acquiring adequate human and financial resources (Cooper *et al.*, 1994). Like all organizations that wish to secure resources, social startups face a legitimacy challenge, i.e. they need to convince stakeholders that their actions are desirable, proper or appropriate (Cacciolatti *et al.*, 2020; Bunduchi *et al.*, 2023). However, as hybrid organizations, they need to demonstrate that they can be accountable for both their economic and social or environmental impact outcomes (Sparviero, 2019). At the same time, because of their hybrid nature, social startups can gain access to the resources needed for their success through a varied array of actors (Sánchez-Robles *et al.*, 2023; Del Vecchio *et al.*, 2024; Viglialoro *et al.*, 2024) and strategic alliances (Cacciolatti *et al.*, 2020; Kosmynin, 2022). Concerning the financing resources, their backers can range from venture capitalists to public institutions (Barber *et al.*, 2021; Harrer and Owen, 2022; Siefkes *et al.*, 2024), on the institutional side, and from business angels (Siefkes, 2024; Viglialoro *et al.*, 2025) to crowd-investors (Lehner and Nicholls, 2014), on the private individual investors' side. Regarding human resources, social startups benefit from a workforce highly motivated by their social or environmental mission (Thorgren and Omorede, 2018). In addition, other human capital

elements, such as passion and motivation (e.g. Buller and McEvoy, 2012; Cardon *et al.*, 2013) toward social and environmental issues, represent an added value for social startups. For instance, Yitshaki and Kropp (2016) show that social entrepreneurs are characterized by a strong passion and are driven by enthusiasm for their business as well as a desire to have a positive impact on society. Furthermore, Thorgren and Omorede (2018) highlight that the passion of leaders in social enterprises is a key driver and that passionate leaders are better able to mobilize resources, motivate workers, and attract employees.

Despite the points highlighted here, it is important to emphasize that the literature on social enterprises as hybrid organizations remains highly fragmented (Doherty *et al.*, 2014; Gupta *et al.*, 2020). This fragmentation not only hinders the cumulative advancement of knowledge and theory-building in specific areas but also leaves several questions regarding social startups unanswered. In response to this gap, the literature calls for further studies comparing social startups with other types of startups (Sánchez-Robles *et al.*, 2023) and for the identification of theories adapted to the social startups' context (Siqueira *et al.*, 2018).

2.3 Social or environmental impact qualification: a signal and vehicle for social startups

Signaling theory has been widely applied to understand how early-stage ventures establish credibility and legitimacy (Svetek, 2022). While prior work has examined signals such as founder identity, team composition, or strategic actions, little attention has been paid to how hybrid ventures signal their dual commitment to social and financial goals (e.g. Kreutzer, 2022). We build on this literature by proposing that impact qualifications function as high-credibility signals of hybrid identity and as indicators of early investment in impact-related human capital.

Organizations that pursue formal qualifications, which require dependable reporting and transparent governance mechanisms, make an intentional strategic decision to ensure stakeholder confidence and trust in their organization. Applying a signaling theory lens (Karasek and Bryant, 2012; Drover *et al.*, 2018), these qualifications can serve different purposes depending on the strategy adopted. In collaborative strategies, such as intellectual property or value chain approaches (Gans *et al.*, 2018), the qualification signals the willingness to take multiple stakeholders' interests into account. On the other hand, in competitive strategies, such as architectural or disruption strategies (Gans *et al.*, 2018), the same qualification acts as a signal of legitimacy, reassuring external actors of responsible conduct despite the potential dominant position involved with the strategy. Therefore, from a business model perspective (Osterwalder and Pigneur, 2010), such qualifications are a key resource for social startups; consequently, the activities to obtain and maintain them are also critical for the organization. Obtaining these qualifications, such as B Corp or other ones linked to social entrepreneurship, is not easy (Chen and Kelly, 2015). Indeed, the process serves as a vehicle for developing specific human capital (Ocasio *et al.*, 2020) to attain high standards of overall social and environmental performance and to produce regular evidence of the authenticity of the startups' social or environmental mission (Chen and Kelly, 2015).

Despite the typical shortage of resources in startups, several social startups choose to invest their resources in obtaining one of these qualifications. By striving to obtain these impact-driven qualifications at the beginning of their entrepreneurial journey, such organizations clearly demonstrate their commitment to pursuing a dual mission and, therefore, to being identified as hybrid organizations. By integrating these values early on, social startups may gain a competitive advantage over other companies, which may find it more challenging to adapt to these changes (Wevers and Voinea, 2021). These qualifications not only signal legitimacy and demonstrate the company's actual mission to the stakeholders (Moroz *et al.*, 2018) but also provide a reputational advantage and help them improve their approach to social or environmental challenges (Yang *et al.*, 2020; Kim and Schifeling, 2022). Furthermore, according to the human capital theory literature (e.g. Unger *et al.*, 2011), investing in such human capital earlier than other startups could represent a competitive advantage (Wevers and

Voinea, 2021). Indeed, other startups, sooner or later, will need to invest their resources in acquiring the human capital required to address current social or environmental concerns.

In summary, the theoretical perspectives discussed suggest that social startups can achieve economic performance comparable to that of other startups despite their dual mission. According to the imprinting theory (Marquis and Tilcsik, 2013), all startups must eventually balance their business with their social or environmental impact to reflect the values and requests of our time. By obtaining specialized qualifications, social startups signal their legitimacy and demonstrate that they are more likely to possess the human capital necessary to achieve this goal earlier than their counterparts. According to the human capital theory (e.g. Unger *et al.*, 2011), investing earlier in human capital than other startups could contribute to achieving entrepreneurial success and represent a competitive advantage (Parrish, 2010; Shepherd and Patzelt, 2011; Wevers and Voinea, 2021). Moreover, the literature suggests that social startups can benefit from their entrepreneurs' strong motivation and passion (Yitshaki and Kropp, 2016; Thorgren and Omorede, 2018). Based on the above considerations, it is reasonable to assume that social startups could have a competitive advantage over other startups in this regard. Consequently, their economic performance may be at least as good as that of other startups in terms of revenue growth and employee growth, notwithstanding their dual mission.

3. Method

3.1 Innovative and social startups

By leveraging Italian legislation in force at the time of the sampling, we were able to define a complete and consistent population of startups based on the legal framework for "Innovative Startups". According to Article 25, paragraph 2 of Decree-Law no. 179/2012, Innovative Startups had to meet several criteria that depict the typical characteristics of new high-growth firms. Specifically, among several other requirements, these startups had to be less than five years old and reinvest any profits into their business. The Italian law also required that they met at least one of the innovation-related criteria regarding the expenditures in R&D, the education level of the team, or the ownership or custodianship of patents.

In order to understand whether social startups differ from others in terms of economic performance, we divide the Italian population of Innovative Startups into two groups: social startups and the remaining Innovative Startups without an officially declared social mission. Social startups have been identified within the following four typologies of hybrid organizations: Innovative Startups with a Social Aim (SIaVS), B Corps, Benefit Corporations and, in specific cases, Social Enterprises. Apart from B Corp, which is a private certification issued following an evaluation by the non-profit B Lab, the remaining qualifications are legal statuses that companies can acquire by meeting specific legal requirements.

The present study employs the above-mentioned four qualifications to identify social startups for three main reasons. First, an official impact qualification is usually more objective than arbitrary analyses because it is validated by impartial and external organizations. Second, such qualifications signal the startups' actual and direct mission to achieve a positive social or environmental impact despite being in the early stages of their entrepreneurial activity. Third, these qualifications serve as a proxy for the specific human capital knowledge and expertise required to obtain them.

3.2 Sample identification

3.2.1 Innovative Startup population. The list of Italian Innovative Startups was obtained by consulting the open-access special section of the Business Register for Innovative Startups. According to Decree-Law 179/2012, all Italian Innovative Startups were required to be inscribed in that register to enjoy the benefits provided by law. Specifically, the sample for the

analyses was derived from the population of Italian Innovative Startups operating at the end of 2020 (ver. 11th Jan 2021). The Business Register also provided specific startup-related data. Moreover, the AIDA database was employed to integrate additional data (ver. 28th Jan 2022). AIDA is Amadeus-Bureau Van Dijk's database for Italy, containing financial data from the Italian Chambers of Commerce. To ensure consistency within the population, verifications were conducted to assess whether the registered startups were compliant with their legal requirements. Ultimately, we considered a total population of 11,113 Innovative Startups respecting legal requirements operating at the end of 2020.

3.2.2 Social startup population. To ensure time-variance in panel data analyses, social startups have been identified for both the years 2019 and 2020. SIaVS is a specific qualification for Innovative Startups; therefore, these companies were identified within the Business Register for Innovative Startups (ver. 10th Jan 2020 and 11th Jan 2021). The list of Italian B Corps was obtained from the official register on B Lab's website (https://bcorporation.eu - consulted in Jan 2020 and Jan 2021). Both legal Benefit Corporations and Social Enterprises were identified based on their company names in AIDA (ver. 10th Jan 2020 and 8th Jan 2021). Moreover, the list of legal Benefit Corporations was integrated by consulting the voluntary register managed by Nativa, the country partner of B Lab in Italy. A single social startup could exhibit one or more of these hybrid forms. By merging these qualifications with the Innovative Startups, 345 were identified as social startups at the end of 2020. Table 1 shows the social startups in our sample.

3.2.3 Analysis samples. Three samples were defined to perform the analyses (Table 2).

The first sample, named "Comparison Sample", was determined in order to compare social and other startups' characteristics. Out of the 11,113 startups identified, 7,689 startups had available financial statements for 2020. Moreover, out of the 345 social startups identified, only 240 had available financial statements for 2020. The second sample, employed to investigate the revenue growth and the growth in the number of employees, consists of Innovative Startups older than one year and younger than five, to enable the panel analysis. Here, the number of social startups and other startups decreased because we included only those with financial data available for the entire 2018–2020 period. We named it "Panel Sample". The third sample was defined as a sub-sample of the previous one; social startups were paired with an equal number of non-social startups in 2020. This sample, named "Matched Panel Sample", was created in order to avoid potential confounding effects linked to observable variables that could bias the estimation of the regression parameters by affecting both the choice to be qualified as a social startup (the regression models' explanatory variable) and the startup's performance (the dependent variable). Each social startup operative in 2020 that had enough data to perform the panel regression analyses (92 companies) was matched to one non-social startup, resulting in a total sample of 184 Innovative Startups. The non-social startup comparison group was selected by means of the nearest neighbor propensity score matching without replacement (e.g. Dehejia and Wahba, 2002), as implemented in the MatchIt package for the R language (Stuart *et al.*, 2011). The propensity score was estimated through logistic regression. This matching technique enabled us to compare social and non-social

Table 1. Social startups in 2020 in Italy

		SIaVS	Benefit Corporation	B Corp	Social Enterprise
Innovative startups (IS)	IS – SIaVS	219	13	2	15
	IS – Benefit Corporation	13	125	2	0
	IS – B Corp	2	2	6	0
	IS – Social Enterprise	15	0	0	25

Source(s): Authors' own work

Table 2. Summary of study samples

Sample	Description	Size	Derived from
Comparison Sample	Eligible Italian Innovative Startups registered at the end of 2020 with available financial statements for 2020	7,689 firms (240 social startups)	Italian Business Register for Innovative Startups and AIDA
Panel Sample	Startups from the Comparison Sample with financial data available from 2018 to 2020	2,797 firms each year (92 social startups in 2020; cf. Table 8)	Comparison Sample
Matched Panel Sample	Social startups in the Panel Sample paired with similar other Startups	184 firms each year (92 social startups in 2020; cf. Table 9)	Panel Sample

Source(s): Authors' own work

startups that were similar in terms of their industry, the education level of their team, and the average age of the individuals in their social capital and board of directors. For matching purposes, the economic sectors were identified based on the sections of the ATECO 2007 code. Regarding the education level of the team, we identified startups with highly educated teams based on the education-related legal requirement for Innovative Startups. The workforce of startups meeting this requirement had to include at least one-third PhDs, PhD students, or experienced researchers; alternatively, at least two-thirds with a master's degree. As a proxy for the age of the startups' founders, we categorized startups based on the proportion of individuals under the age of 35 involved in the company's ownership (social capital) and board of directors; we distinguished between those with 50% or fewer young individuals and those with more than 50%.

3.3 Regression models

A two-step approach was adopted in our regression analyses. Firstly, to gain insights into the distinct characteristics and differences between social startups and other startups, we conducted logit regression analyses on the Comparison Sample.

Subsequently, in order to understand whether social startups' economic performance is different compared to other startups in terms of revenue and employee growth, we performed regression analyses on the Panel Sample and the Matched Panel Sample. Concerning the regression models performed on the Panel Sample and the Matched Panel Sample to answer our research question, all the models employed share the following structure:

$$Growth_{it} = f(social\,startup_{it}, X1_{it}, X2_{it}, \ldots, Xn_{it}, \beta, \alpha_i)$$

Where:

(1) $Growth_{it}$ represents the dependent variable assessing the growth performance of the startup i in the year t;

(2) $Social\ startup_{it}$ is the predictor dummy variable identifying social startups in the sample;

(3) $X1_{it}$, $X2_{it}$, . . ., Xn_{it} are the control variables for the startup i in the year t;

(4) β is the vector of the parameters of the independent variables;

(5) α_i is the vector containing the unobserved heterogeneity of each startup i (included only in the Fixed-Effect models).

Several panel regression models were executed, with different dependent (e.g. revenue and employee growth were calculated in other ways) and independent variables and estimators. All

the models led to the same results. Regarding the estimators, the Pooled OLS estimator was employed in all the regression models, and the Fixed-Effects (FE) estimator was also utilized to check for unobserved heterogeneity. The FE estimator is suitable for managing autocorrelation and heteroskedasticity in longitudinal data and, differently from the Random-Effects (RE) estimator, considers the potential relation between the unobserved heterogeneity and some of the regressors in the model (Wooldridge, 2010). In conclusion, due to the nature of our dataset, in the present paper, we report two sets of models, one set for the Pooled OLS estimator and one set for the FE estimator. Each set contains one model for the dependent variable "revenue growth" and one model for the dependent variable "employment growth".

Moreover, we ran further panel regression models that explicitly included temporal FE to consider contingent exogenous factors such as the COVID-19 pandemic in the period of our analyses, and our results remained consistent.

3.4 Variables

In order to assess the startups' economic performance, the present study considered the variation in revenue and the number of employees year over year. Such variables are suitable for comparing the performances of young and high-growth companies from different industries. Specifically, revenue growth is a key indicator of market performance and employee growth is an early sign of increasing organizational complexity (Delmar *et al.*, 2003; Gilbert *et al.*, 2006).

Therefore, the dependent variables of the two sets of regression models are startups' revenue growth and growth in the number of employees year over year, as defined below. The startups' revenue growth (Variation 1) was determined as the logarithmic variation of the revenues plus one in order not to miss observations for startups starting from zero revenues:

$$Revenue\ growth_{it} = \ln(1 + Revenue_{i,t}) - \ln(1 + Revenue_{i,t-1}) \quad (1)$$

The startups' growth in the number of employees (Variation 2) year over year was assessed analogously to the revenue growth, except for the addend, which was set to 0.1 in order to make its contribution negligible compared to the actual number of employees:

$$Employment\ growth_{it} = \ln\left(0.1 + Employees_{i,t}\right) - \ln\left(0.1 + Employees_{i,t-1}\right) \quad (2)$$

The log transformations for the two dependent variables were employed in order to mitigate heteroskedasticity concerns within the regression analysis and to attain a more symmetric distribution of residuals.

All the variables included in the analyses are presented in Table 3.

4. Results

In this chapter, we present the empirical results of our analysis, focusing on the characteristics and performance of social startups compared to other startups.

To contextualize our analysis, we first report descriptive statistics for the full sample of Italian Innovative Startups. At the end of 2020, on average, Innovative Startups were two years old, their annual revenue was € 164 thousand, and they employed fewer than two people (Table 4).

4.1 Characteristics of social startups

When the startups' dimensional characteristics are considered, companies with lower assets but nominal share capital above the legal minimum were more likely to be social startups (Table 5). Nevertheless, no statistically significant differences emerge between social startups and the other startups in terms of age, annual revenues, and number of employees.

Table 3. Regression variables

Name	Description
Revenue growth$_{it}$	Variation (1) in the revenue for startup *i* in year *t* compared to the previous year. Source: elaboration based on AIDA data
Employment growth$_{it}$	Variation (2) in the number of employees for startup *i* in year *t* compared to the previous year. Source: elaboration based on AIDA data
Social startup$_{it}$	Dummy variable = 1 if the startup *i* is social in year *t*; = 0 otherwise. Source: AIDA and Business Register for Innovative Startups
Age$_{it}$	Elapsed years since the *i*-startup's foundation by the end of the year *t*. Source: AIDA and Business Register for Innovative Startups
Revenue$_{it}$	Revenue of startup *i* in year *t* (in thousand euros). Source: AIDA
Employees$_{it}$	Number of employees of startup *i* in year *t*. Source: AIDA
Assets$_{it}$	Total assets (in thousand euros) of startup *i* in year *t*. Source: AIDA
Capital class$_{it}$	Dummy variable = 1 if the *i*-startup's share capital was higher than € 10 thousand in year *t*; = 0 if it was equal or lower. Source: Business Register for Innovative Startups
Feminine prevalence$_{it}$	Dummy variable = 1 if the *i*-startup's average share of women in the social capital and the board of directors was higher than 50% in year *t*; = 0 if it was equal or lower. Source: Business Register for Innovative Startups
Juvenile prevalence$_{it}$	Dummy variable = 1 if the *i*-startup's average share of under 35 people in the social capital and the board of directors was higher than 50% in year *t*; = 0 if it was equal or lower. Source: Business Register for Innovative Startups
Foreign prevalence$_{it}$	Dummy variable = 1 if the *i*-startup's average share of foreign people in the social capital and the board of directors was higher than 50% in year *t*; = 0 if it was equal or lower. Source: Business Register for Innovative Startups
R&D requirement$_{it}$	Dummy variable = 1 if the R&D expenditure of startup *i* corresponded to at least 15% of the higher value between turnover and annual costs in year *t*; = 0 otherwise. Source: Business Register for Innovative Startups
Team education requirement$_{it}$	Dummy variable = 1 if the startup *i* included in its team at least 1/3 of PhDs, PhD students or experienced researchers, or otherwise, at least 2/3 holding a master's degree in year *t*; = 0 otherwise. Source: Business Register for Innovative Startups
Patent requirement$_{it}$	Dummy variable = 1 if the startup *i* was the owner or licensee of a registered patent (or it had filed an application for an industrial property right) or owned an original registered software in year *t*; = 0 otherwise. Source: Business Register for Innovative Startups
Industry sector$_{it}$	Economic area of activity of startup *i* (ATECO 2007/NACE Rev.2 section) in year *t*. Source: Business Register for Innovative Startups
Region$_{it}$	Regional group (NUTS 1) of startup *i* in year *t*. Source: Business Register for Innovative Startups

Source(s): Authors' own work

Therefore, it is reasonable to assume that among startups, the company's business dimension and size do not significantly affect the choice to acquire one of the qualifications in our study identifying social startups. Furthermore, among the available qualifications, some are relatively low-cost yet require companies to undergo specific procedures to certify the startups' positive social or environmental impact, thus still signaling their commitment in this regard.

Concerning the composition of the startups' social capital and board of directors, companies having, on average, a majority of female leaders were 1.8 times more likely to be social startups (Table 6). This result confirms the previous literature, which stated that female and diverse founding teams are more inclined to establish social ventures (Taferner and Leitner, 2025). In accordance with the propensity of young entrepreneurs for impact-oriented ventures (Brieger *et al.*, 2021) and the imprinting theoretical lens previously argued, similar findings also regard the prevalence of young members (under 35 years old) in the social capital and board of directors; however, the *p*-value in this case was <0.10.

Table 4. Statistics on innovative startups in 2020 – social vs other startups

Variable	Social startup	*N*	Mean	Median	Std. dev.	Min	Max
Age	Yes	240	2.389	2.304	1.344	0.326	4.953
	No	7,449	2.364	2.245	1.292	0.255	4.994
	Total	7,689	2.365	2.245	1.294	0.255	4.994
Revenue	Yes	240	140.266	15.342	448.655	0.000	5468.867
	No	7,449	164.469	21.000	552.620	0.000	23677.645
	Total	7,689	163.714	20.613	549.664	0.000	23677.645
Employees	Yes	240	1.417	0	3.349	0	24
	No	7,449	1.594	0	7.924	0	567
	Total	7,689	1.589	0	7.822	0	567
Assets	Yes	240	302.901	109.537	553.621	1.578	4111.539
	No	7,449	417.090	106.596	1143.343	0.001	40023.270
	Total	7,689	413.526	106.644	1129.756	0.001	40023.270
Capital class	Yes	240	0.454	0	0.499	0	1
	No	7,449	0.384	0	0.486	0	1
	Total	7,689	0.386	0	0.487	0	1
Feminine prevalence	Yes	240	0.208	0	0.407	0	1
	No	7,449	0.126	0	0.332	0	1
	Total	7,689	0.129	0	0.335	0	1
Juvenile prevalence	Yes	240	0.246	0	0.431	0	1
	No	7,449	0.195	0	0.397	0	1
	Total	7,689	0.197	0	0.398	0	1
Foreign prevalence	Yes	240	0.042	0	0.200	0	1
	No	7,449	0.035	0	0.183	0	1
	Total	7,689	0.035	0	0.183	0	1
R&D requirement	Yes	240	0.629	1	0.484	0	1
	No	7,449	0.645	1	0.479	0	1
	Total	7,689	0.644	1	0.479	0	1
Team education requirement	Yes	240	0.308	0	0.463	0	1
	No	7,449	0.265	0	0.442	0	1
	Total	7,689	0.267	0	0.442	0	1
Patent requirement	Yes	240	0.121	0	0.327	0	1
	No	7,449	0.180	0	0.385	0	1
	Total	7,689	0.179	0	0.383	0	1

Source(s): Authors' own work

When the startups' innovativeness strategy is considered, companies with a registered patent or similar in 2020 were less likely to be social startups (Table 7). However, this might have been related to the business sectors where social startups typically operate. Notably, there was a difference in the economic sector distribution of social startups as evidenced by the chi-square test ($\chi^2(17, N = 7{,}689) = 345.894$, *p-value* = 0.000). Social startups were proportionally more concentrated in the Education (section P, $t(7{,}687) = -10.242$, *p-value* = 0.000), Human health and social work activities (section Q, $t(7{,}687) = -13.215$, *p-value* = 0.000), and Arts, entertainment and recreation (section R, $t(7{,}687) = -6.538$, *p-value* = 0.000) sectors, which collectively encompassed 19.7% of all social startups.

4.2 Social startups' growth performance

In the present paragraph, several regression models are reported. These regression models were performed both on the Panel Sample and also on the reduced Matched Panel Sample in order to partially compensate for the low proportion of social startups in the Panel Sample.

The number of social startups in the Panel Sample and in the Matched Panel Sample was 75 in 2019 and 92 in 2020 (Table 8 and Table 9).

Table 5. Logit model – social startups and dimensional characteristics

Variables	Social startup Logit comparison sample
Age	0.023
	(0.054)
Revenue	0.000
	(0.000)
Employees	0.000
	(0.004)
Assets	−0.000*
	(0.000)
Capital class	0.382**
	(0.136)
Constant	−3.565***
	(0.152)
Observations	7,689
Wald χ^2	11.761*
Pseudo-R^2	0.005
Log-likelihood	−1.1e+03

Note(s): The output reports the regression coefficients and, in parentheses, robust standard errors, $^{+}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Source(s): Authors' own work

Table 6. Logit model – social startups, social capital and board of directors

Variables	Social startup Logit comparison sample
Feminine prevalence	0.587***
	(0.162)
Juvenile prevalence	0.275+
	(0.153)
Foreign prevalence	0.039
	(0.325)
Constant	−3.594***
	(0.082)
Observations	7,689
Wald χ^2	17.957***
Pseudo-R^2	0.007
Log-likelihood	−1.1e+03

Note(s): The output reports the regression coefficients and, in parentheses, robust standard errors, $^{+}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Source(s): Authors' own work

In the period analyzed for the Panel Sample, Innovative Startups could take or lose the form of social startups. From 2019 to 2020, 0.6% of the non-social startups transitioned to a hybrid form, becoming social startups, whereas none of the social startups lost their status. The number of social startups, therefore, increased by 22.7% (Table 8). This is concrete evidence of how the current society is influencing startups, as we explain in our theoretical background with the imprinting theory.

The following tables present the descriptive data of the non-categorical regression variables, for the sake of conciseness, for the years 2020 and 2019 of the Panel Sample (Table 10) and Matched Panel Sample (Table 11).

Table 7. Logit model – social startups and innovation

Variables	Social startup Logit comparison sample
R&D requirement	−0.316
	(0.273)
Team education requirement	−0.088
	(0.263)
Patent requirement	−0.657*
	(0.285)
Constant	−3.111***
	(0.277)
Observations	7,689
Wald χ^2	7.861*
Pseudo-R^2	0.004
Log-likelihood	−1.1e+03

Note(s): The output reports the regression coefficients and, in parentheses, robust standard errors, $^{+}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Source(s): Authors' own work

Table 8. Social startups in the Panel Sample

		Social startup		
		No	Yes	Total obs.
Year	2019	2,772	75	2,797
	2020	2,705	92	2,797
	Total obs.	5,427	167	5,594

Source(s): Authors' own work

Table 9. Social startups in the Matched Panel Sample

		Social startup		
		No	Yes	Total obs.
Year	2019	109	75	184
	2020	92	92	184
	Total obs.	201	167	368

Source(s): Authors' own work

Concerning whether social startups grow like other startups in terms of revenue growth, Table 12 reports four regression outputs obtained by adopting two different estimators, the Pooled OLS and the firm-level Fixed-Effect, and two different samples, the Panel Sample and the Matched Panel Sample. In all the models, being a social startup does not significantly affect the startup's revenue growth year over year.

The FE estimator was employed to consider the unobserved heterogeneity in the model. However, according to the *F*-test, it is not possible to reject the null hypothesis of all the unobserved effects being equal and, then, not significant ($F(2{,}796,\ 2{,}794) = 0.615$, *p-value* = 1.000 for the Panel Sample; $F(183, 183) = 0.634$, *p-value* = 0.999 for the Matched Panel Sample). Therefore, in the Firm FE models, the fraction of variance due to the

Table 10. Regression variables – descriptive statistics for the Panel Sample

Variable		Mean	Std. dev.	Min	Max	Observations
Revenue growth	Overall	0.564	3.001	−14.288	13.719	$N = 5{,}594$
	Between		1.853	−6.983	7.401	$n = 2{,}797$
	Within		2.360	−11.515	12.644	$T = 2$
Employment growth	Overall	0.286	1.000	−4.394	6.019	$N = 5{,}594$
	Between		0.672	−2.131	3.009	$n = 2{,}797$
	Within		0.740	−3.428	3.999	$T = 2$
Social startup	Overall	0.030	0.170	0	1	$N = 5{,}594$
	Between		0.166	0	1	$n = 2{,}797$
	Within		0.039	−0.470	0.530	$T = 2$
Juvenile prevalence	Overall	0.181	0.385	0	1	$N = 5{,}594$
	Between		0.372	0	1	$n = 2{,}797$
	Within		0.099	−0.319	0.681	$T = 2$
Team education requirement	Overall	0.277	0.448	0	1	$N = 5{,}594$
	Between		0.436	0	1	$n = 2{,}797$
	Within		0.102	−0.223	0.777	$T = 2$

Source(s): Authors' own work

Table 11. Regression variables – descriptive statistics for the Matched Panel Sample

Variable		Mean	Std. dev.	Min	Max	Observations
Revenue growth	Overall	0.664	3.135	−11.002	12.221	$N = 368$
	Between		1.955	−5.465	6.881	$n = 184$
	Within		2.453	−9.059	10.388	$T = 2$
Employment growth	Overall	0.324	1.046	−2.398	4.511	$N = 368$
	Between		0.678	−1.522	2.197	$n = 184$
	Within		0.797	−2.397	3.045	$T = 2$
Social startup	Overall	0.454	0.499	0	1	$N = 368$
	Between		0.475	0	1	$n = 184$
	Within		0.152	−0.046	0.954	$T = 2$
Juvenile prevalence	Overall	0.193	0.395	0	1	$N = 368$
	Between		0.387	0	1	$n = 184$
	Within		0.083	−0.307	0.693	$T = 2$
Team education requirement	Overall	0.348	0.477	0	1	$N = 368$
	Between		0.463	0	1	$n = 184$
	Within		0.117	−0.152	0.848	$T = 2$

Source(s): Authors' own work

unobserved heterogeneity (ρ) is not statistically significant, and the best estimator for the analysis at hand is the Pooled (Wooldridge, 2010). Furthermore, the correlation among the selected regressors was checked, and they proved to be linearly independent. Finally, in order to assume the OLS standard errors, *t* statistics and *F* statistics to be asymptotically valid, the covariance matrix was estimated with clustered standard errors for the startups, which are able to deal with autocorrelation (indeed, the residuals obtained with the non-robust variance matrix proved to be autocorrelated with a 5% significance level).

In line with the previous results, the models considering the growth in the number of employees also show that being a social startup does not affect the startup's performance. The four models using the Pooled OLS and the FE estimators on the entire and matched panel samples are reported in Table 13.

Table 12. Regression analyses for revenue growth – social vs other startups

Variables	Revenue growth			
	Pooled OLS Panel Sample	Firm FE Panel Sample	Pooled OLS Matched Panel Sample	Firm FE Matched Panel Sample
Social startup	0.075	−0.376	−0.041	−0.376
	(0.238)	(1.438)	(0.299)	(1.443)
Juvenile prevalence	0.333***	1.043*		
	(0.092)	(0.453)		
Team education requirement	−0.150+	−0.435		
	(0.079)	(0.501)		
Industry sector	Included			
Region	Included			
Constant	1.056+	0.507**	0.683**	0.835
	(0.590)	(0.165)	(0.216)	(0.655)
Observations	5,594	5,594	368	368
No. of startups	2,797	2,797	184	184
F statistic	2.443***	1.996	0.019	0.068
R-squared	0.008	0.002	0.000	0.001
ρ (rho)		0.240		0.242

Note(s): The outputs report the regression coefficients and, in parentheses, robust standard errors for startups, Pooled OLS = Pooled Ordinary Least Squares; FE = Fixed-Effect estimator,
$^{+}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Source(s): Authors' own work

Table 13. Regression analyses for number of employees growth – social vs other startups

Variables	Employment growth			
	Pooled OLS Panel Sample	Firm FE Panel Sample	Pooled OLS Matched Panel Sample	Firm FE Matched Panel Sample
Social startup	0.131	0.425	0.104	0.425
	(0.091)	(0.438)	(0.107)	(0.439)
Juvenile prevalence	0.147***	0.091		
	(0.036)	(0.166)		
Team education requirement	0.003	−0.016		
	(0.029)	(0.160)		
Industry sector	Included			
Region	Included			
Constant	0.465**	0.261***	0.277***	0.131
	(0.151)	(0.056)	(0.063)	(0.199)
Observations	5,594	5,594	368	368
No. of startups	2,797	2,797	184	184
F statistic	1.888**	0.420	0.947	0.937
R-squared	0.007	0.001	0.002	0.007
ρ (rho)		0.292		0.278

Note(s): The outputs report the regression coefficients and, in parentheses, robust standard errors for startups, Pooled OLS = Pooled Ordinary Least Squares; FE = Fixed-Effect estimator,
$^{+}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Source(s): Authors' own work

The null hypothesis of no significant unobserved heterogeneity can also not be rejected for the models related to growth in the number of employees ($F(2{,}796,\ 2{,}794) = 0.819$, *p-value* = 1.000 for the Panel Sample; $F(183, 183) = 0.731$, *p-value* = 0.983 for the Matched Panel Sample). Therefore, the best estimator for the employee growth is the Pooled OLS, and in the Firm FE models, the fraction of variance due to the unobserved heterogeneity (ρ) is not statistically significant (Wooldridge, 2010). Moreover, the covariance matrix was estimated with clustered standard errors for the startups to deal with the autocorrelation of the residuals.

5. Discussion and conclusion

Our findings show that social startups have comparable economic performance to other startups in terms of revenue and employment growth, despite their dual mission to pursue both positive financial returns and social or environmental impact. This phenomenon can be further elucidated based on different theoretical lenses. The literature on hybrid organizations argues that these enterprises may face challenges to their economic performance due to their dual mission (Smith and Lewis, 2011; Scarlata *et al.*, 2012; Parker *et al.*, 2019). However, literature shows that balancing economic and social or environmental positive returns is possible (e.g. Hahn and Ince, 2016; Siqueira *et al.*, 2018; Shepherd *et al.*, 2019). Like other enterprises, social startups can find the right balance by developing specific human capital (Estrin *et al.*, 2016). In accordance with imprinting theory (Marquis and Tilcsik, 2013), given the high susceptibility of young enterprises to current societal values (e.g. Mirvis and Googins, 2006), startups are prompted to develop the human capital needed to consider social and environmental issues. Despite the typical resource constraints of startups, social startups signal their commitment to developing a social or environmental mission by balancing their financial and social or environmental goals earlier than others and investing in obtaining these qualifications. Such attainment also indicates that these startups are more likely to possess the specific human capital linked to the achievement of higher standards in balancing economic and social or environmental impact performances (Chen and Kelly, 2015). In contrast, other startups still need to develop the specific human capital required by our current society. In addition, social startups can benefit from the added human capital deriving from the social entrepreneurs' strong passion and motivation (Yitshaki and Kropp, 2016; Thorgren and Omorede, 2018). For these reasons, social startups can grow as other startups, despite their dual mission.

5.1 Theoretical contributions

This study offers a variety of theoretical contributions. Specifically, we contribute to advancing the literature analyzing the differences between hybrid and other enterprises (Santos, 2012; Siqueira *et al.*, 2018). In more detail, by responding to a call from the literature for a comparison between social startups and other startups (Sánchez-Robles *et al.*, 2023), we show that, despite being hybrid organizations, the economic performance of social startups is comparable to that of other startups. The present study also contributes to filling a theoretical gap in hybrid entrepreneurship literature. As suggested by Siqueira and colleagues (2018), hybrid organizations need theories tailored to their specific context. In detail, whereas existing theories on traditional entrepreneurship have been well-examined, there are limited studies on how society and entrepreneurs' non-financial preferences affect the financial performance of hybrid enterprises. This is particularly true in the literature concerning young hybrid enterprises and their growth. Our study contributes to filling this theoretical gap by adjusting three theories to the specific context of young hybrid organizations. First, we suggest that imprinting theory (Marquis and Tilcsik, 2013) is suitable for explaining the current and future context of social startups. Through this theoretical lens, we propose that there is a societal propensity toward social or environmental impact-oriented ventures, further evidenced by the greater interest of young entrepreneurs in social startups, as shown in our results. Additional

evidence from GEM (2023) indicates a rise in female entrepreneurship, and our results confirm the tendency of women to engage in social startups, reflecting the broader trend toward startups focused on social or environmental impact. Second, this study applies signaling theory lenses (Karasek and Bryant, 2012; Drover *et al.*, 2018) to the analysis of social startups, opening avenues for further explorations and comparative studies. Specifically, building on our findings, formal impact-driven qualifications (such as B Corp certification or Benefit Corporation legal status) may function as credible signals of a startup's commitment to hybrid goals, helping social startups overcome the liabilities of newness and hybridity by facilitating access to the resources needed for early-stage growth. Third, our study also supports the suitability of human capital theory (Unger *et al.*, 2011; Buller and McEvoy, 2012) in explaining the greater resilience of social startups to future societal challenges. These startups appear to make early investments in impact-related human capital, such as specialized knowledge, organizational capabilities, and governance structures, which may enhance their adaptability and legitimacy. In this respect, formal qualifications can serve as credible signals of such underlying investments, reinforcing their perceived commitment to social and environmental goals.

In conclusion, beyond applying existing theories, this study contributes to their refinement. We expand imprinting theory by incorporating macro-level institutional pressures toward social impact and sustainability as formative imprinting forces. We refine signaling, suggesting that formal hybrid qualifications can serve as credible signals of dual mission, helping social startups attract critical resources and achieve performance levels comparable to those of traditional startups. Finally, we adapt human capital theory by highlighting third-party-certified impact expertise as a form of organizational-level capital that is particularly relevant for assessing the potential of hybrid ventures. In response to calls in the literature (Siqueira *et al.*, 2018), these theoretical adaptations enhance the applicability of these theoretical lenses to the context of hybrid and mission-driven entrepreneurship.

5.2 Practical implications

From a practical perspective, our findings provide evidence to inform strategic decisions within the entrepreneurial ecosystem to address social or environmental issues. Given that social startups generate both economic and social value (e.g. Doherty *et al.*, 2014; Shepherd *et al.*, 2019), they warrant targeted financial instruments and public support. Indeed, contrary to concerns about potentially lower financial returns from impact investments, our results indicate that social startups achieve economic outcomes comparable to other startups. Such evidence challenges the presumed trade-off between financial returns and social impact and highlights social startups' potential to deliver attractive outcomes for mission-aligned investors (e.g. Viglialoro *et al.*, 2024). Consequently, policymakers seeking to foster a more sustainable entrepreneurial ecosystem could: (1) introduce outcome-based grant schemes or social-impact bonds that pay startups once verified social targets are met; and (2) offer tax credits for private investors who allocate capital to social startups. In line with this, since social startups can achieve similar economic results to other startups, they also represent an appealing target for non-impact-oriented organizations and individuals investing in entrepreneurial development, such as accelerators, business angels, incubators, venture studios, and venture capitalists (Barber *et al.*, 2021; Harrer and Owen, 2022; Siefkes *et al.*, 2024). For instance, investing in these ventures could mitigate the investment risk arising from potential unethical business behaviors while contributing to a more sustainable entrepreneurial ecosystem.

Our study also has insightful implications for both social startups and other startups. Specifically, based on our results, social startups could become more aware that they are on the right track and place greater value on the efforts made to pursue a dual mission. Moreover, they could focus on obtaining new relevant qualifications or maintaining their existing ones, as these could serve as a tool for facilitating the evaluation by impact investors during investment selections (Viglialoro *et al.*, 2025), thereby gaining a competitive advantage in attracting

impact investors. The impact qualifications could also help increase their credibility and signal their commitment to both financial and social returns with other stakeholders (Moroz *et al.*, 2018; Kim and Schifeling, 2022).

5.3 Limitations and future research

Although this study provides some interesting findings, some limitations should be noted. Firstly, this paper focuses on the economic performance of social startups and does not take into consideration their impact performance or the predominance of positive social or environmental returns over economic returns (Shepherd *et al.*, 2019). Future studies should examine how different strategies to scale the positive social or environmental impact affect financial performance and vice versa. Secondly, although we analyzed startups with international or similar to other countries' qualifications, the sample is based on only one country. Even if analyzing a single country can mitigate some methodological issues (e.g. the impact of different legislations – Barbero *et al.*, 2012), future research could be carried out to analyze social startups in different entrepreneurial ecosystems by considering different legislations, qualifications, and other peculiar elements of the selected ecosystems. Thirdly, within the sample of Italian Innovative Startups, some startups might not have certified their social or environmental mission in any of the official forms available in Italy and considered in this study. This decision may stem from the fact that some entrepreneurs are unaware of the opportunity of this recognition. Nevertheless, we decided to employ these qualifications as a strong proxy for social or environmental impact because they are attested by impartial and external organizations (e.g. Moroz *et al.*, 2018), whereas the impact of non-qualified startups is not subject to any legal or specific oversight. Additionally, some entrepreneurs do not want to spend resources on acquiring and complying with the formal procedures required by these qualifications. However, precisely in these cases, such qualifications distinguish startups that show a strong commitment to impact. Furthermore, we did not include certain information about the founders, such as their previous entrepreneurial experiences and their motivation to create a social startup or other startups. These individual variables could be analyzed in future studies. Moreover, future works could examine whether different results emerge when analyzing separately startups with a social impact from those with an environmental impact, thus providing novel insights into different types of hybrid business missions. Finally, future studies could explore how recent political pushbacks against social and environmental agendas affect the imprinting processes that shape social startups.

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