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Benefit corporation certification and financial performance: Capital structure matters

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Abstract

We are examining the impact of benefit corporation certification on the profitability of UK companies, taking into account their capital structure. We contribute to the literature that scrutinizes the financial ramifications of Benefit Corporation Certification. Analyzing UK Certified Benefit Corporations (CBCs) and their noncertified counterparts using a difference-in-differences analysis, we find that the performance of CBCs with a capital structure heavily weighted towards debt declines in comparison to non-CBCs, using Return on Assets as a measure of financial performance. Conversely, the performance of CBCs with a capital structure primarily composed of equity is comparable to that of non-CBCs.

KEYWORDS
capital structure, Certified Benefit Corporations, equity financing, firm performance

JEL CLASSIFICATION
C33, G32, M14

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1 | INTRODUCTION

In this study, we investigate the impact of B Lab Certification, which is an expensive Corporate Social Responsibility (CSR) certification (Parker et al., 2019) with its direct certification fees and indirect costs stemming from audits and restructuring the operations, on a company's profitability, by considering how these companies are funded, whether they rely more on equity or debt.

When businesses decide to become more environmentally and socially responsible, it typically involves additional costs. This situation is evident in the widespread occurrence of greenwashing, where companies claim to be sustainable without genuinely committing to sustainability practices (Nemes et al., 2022). Companies, therefore, attempt to demonstrate that they are not involved in greenwashing by obtaining one of the more than 450 available CSR certifications worldwide (Gehman et al., 2019; Kim et al., 2016). Our study specifically focuses on B Lab or Benefit Corporation (B-Corp) Certification, which is unique because it is the only CSR certification that encompasses various industries and regions, evaluating all aspects of a company's impact on the environment and society (Chen & Kelly, 2015; Moroz et al., 2018) and is therefore gaining a lot of attention from companies (Patel & Dahlin, 2022) in spite of some criticisms against it (O'Regan, 2019; Raval, 2023).

B-Corp Certification ranks among the most expensive CSR certifications globally (Parker et al., 2019) including some costs that are paid directly to the certifier such as submission and annual certification fees. However, the bulk of the costs primarily stem from audits conducted by B Lab and from the need to restructure processes and operations to meet certification standards. This includes making changes in how a company produces goods, distributes them, interacts with suppliers and customers, and manages internal policies (Conger et al., 2018; Parker et al., 2019; Wilburn & Wilburn, 2014a).

Previous research suggests that due to these increased costs, companies pursuing B-Corp Certification and making associated CSR investments often require more external financing (Ferretti, 2020). CSR-intensive firms generally prefer equity financing over debt financing (Pijourlet, 2015; Siqueira et al., 2018) because CSR investments tend to reduce the cost of equity (Chava, 2014; Cornell, 2021; Li & Wang, 2022; Sharfman & Fernando, 2008), but not necessarily the cost of debt (Goss & Roberts, 2011; Sharfman & Fernando, 2008). Furthermore, debt financing involves mandatory expenses such as interest payments and capital repayments (Sisodia & Maheshwari, 2022) and increases the risk of financial distress (Paeleman et al., 2024) which can be particularly challenging during the B Lab certification process, especially when costs are already high. Therefore, we anticipate that companies primarily relying on equity funding will not experience a significant decline in profitability due to the costly certification process compared to their counterparts that heavily depend on debt financing. Thus, our study examines the financial performance of Certified Benefit Corporations (CBCs), namely their profitability, through the lens of capital structure, an area with limited prior research.

Previous studies exploring the impact of B-Corp certification on financial performance have mainly focused on factors like revenue growth, efficiency, and employee expenses (Chen & Kelly, 2015; Paeleman et al., 2024; Parker et al., 2019), but they have not delved into profitability. However, the profitability of CBCs, the focus of our study, is a crucial area to investigate because it encompasses both the benefits of CSR engagement, such as stronger relationships with customers and employees (Brown, 2009; Paeleman et al., 2024; Turban & Greening, 1997), and the associated costs discussed above.

While the CBC movement is rapidly expanding globally, academic attention on CBCs, particularly outside the United States, remains limited (Paelman et al., 2020). Despite being one of the largest CBC communities globally, comprising 2381 out of around 8124 CBCs worldwide (B LAB Global, 2024c), UK CBCs are understudied. The regulatory environment concerning CSR disclosures is stricter in the United Kingdom compared to the United States, requiring large and listed UK companies to report their sustainability efforts (The Companies Act, 2006 (Strategic Report and Directors' Report) Regulations 2013, 2013). This likely prompts increased sustainability efforts among these companies, which, in turn, exerts pressure on smaller firms to do the same to remain competitive. Consequently, many UK companies may apply for a B-Corp Certification even when they may not be financially ready, especially if they rely heavily on debt financing. This will prevent them from benefiting from the lower cost of equity financing available to CSR-focused companies during the expensive certification process.

Using data from the UK spanning from 2006 to 2019, we analyze how B-Corp Certification impacts a company's Return on Assets (ROA), comparing CBCs to non-CBC peers while considering their reliance on equity financing. Our hypothesis is that CBCs with a greater reliance on equity financing should not experience a significant deterioration in performance due to the costly certification process compared to their non-CBC counterparts, unlike CBCs with a greater reliance on debt financing. This is because CBCs with a greater reliance on equity can benefit from lower capital costs and take advantage of increased sales (Chen & Kelly, 2015) and capital (Bruder, 2012) from their sustainability efforts in a cost-effective manner.

Our findings suggest that CBCs primarily funded through equity do not experience a decline in ROA after certification, compared to their non-CBC counterparts during the same period. However, CBCs with a lower proportion of equity perform worse than non-CBC peers after certification, with the degree of decline in ROA increasing as their debt levels rise. These results align with our hypothesis and remain consistent across various model specifications, including triple-difference analyses. In further tests, we explore and eliminate other potential factors and associated endogeneity in certification decisions that might explain our findings. These factors include past profitability, company size, growth opportunities, creditworthiness, available cash, board size, start-ups, and ownership concentration.

CBCs must undergo recertification every 3 years. Depending on whether they are recertified and how many times, companies' CSR efforts can vary from one another. Another measure of CSR engagement is the "B-Impact Assessment" (BIA) score obtained during certification. The BIA assesses the extent of a company's impact in various areas, including the community, environment, government, customer relations, and employee welfare. Our results remain consistent when we use the number of certifications and BIA scores as proxies for engagement, rather than solely relying on certification status.

Our findings carry significant implications because some UK CBCs heavily depend on debt financing, which can limit their ability to fully realize the benefits of this certification (Dowin Kennedy & Haigh, 2019). Any negative effect of certification on financial performance may hinder companies from reaping the long-term positive rewards associated with creating social and environmental value. Therefore, understanding these potential outcomes is valuable for companies considering embarking on the certification process (Parker et al., 2019). Our results can guide companies seeking B Lab certification to consider incorporating more equity into their capital structure. If that is not feasible or desirable, they may choose to delay certification until their capital structure is more suitable. In addition to these practical contributions, our study adds to the limited literature on the nuanced effects of the costliness of certification on company financial performance (e.g., Parker et al., 2019).

The remainder of this paper is organized as follows: First, we provide background information on our study, then discuss relevant theories and existing research, and present our hypotheses. Subsequently, we describe the data and variables used. Next, we explain our methodology and present the main results, along with additional analyses. Finally, we conclude where we summarize our work and discuss the relevance of our findings, the potential limitations and future research directions.

2 | BACKGROUND

2.1 | CSR and certification

CSR has different definitions in the literature, but the common thread in most definitions is the idea of "doing good beyond the interests of a company in a discretionary manner" (Banerjee, 2008). Scholars have been investigating whether CSR initiatives improve firm performance or have a detrimental effect on it. From a theoretical perspective, the Risk Mitigation Theory suggests that CSR can reduce business risks by minimizing a company's exposure to negative outcomes associated with poor social performance (Goss & Roberts, 2011). For example, companies that are more eco-efficient, creating more value with less adverse environmental impact, are found to have a lower cost of equity (Guenster et al., 2011). Additionally, companies with lower ESG reputation risks have easier access to bank loans (as opposed to private loans) due to decreased monitoring risks (Newton et al., 2023). Furthermore, there is evidence suggesting that companies with high levels of CSR disclosures avoid excessive risk-taking (Menla Ali et al., 2024). On the other hand, the Overinvestment Theory argues that CSR investments are costly for companies (Pijourlet, 2015) and can therefore lead to a deterioration in financial performance (Benlemlih, 2017).

As CSR is costly, greenwashing is highly prevalent across companies (Nemes et al., 2022). Diers-Lawson et al. (2020) state that the gap between CSR activities and how stakeholders interpret them is based on the perception of a company's sincerity. Therefore, companies try to make their CSR activities credible; this credibility reduces consumer scepticism, which in turn leads to increased consumer purchase, loyalty, and advocacy behaviours (Joo et al., 2019; Pérez, 2019).

Many companies attempt to communicate that they are not involved in greenwashing and that their CSR commitment is genuine through various CSR certifications, including certifications for specific products like Fairtrade certifications for chocolate, coffee, and tea; certifications within specific regions like California Certified Organic Farmers; and certifications for niche markets such as solar power or green energy worldwide (Gehman et al., 2019; Moroz et al., 2018; Wilburn & Wilburn, 2014b). One significant certification is granted by the B Lab, which, unlike others, encompasses the entire environmental and social impact of a company across five areas: environment, customer, community, governance, and worker (B LAB Global, 2024a), spanning different industries and regions (Chen & Kelly, 2015; Moroz et al., 2018).

2.2 | B Lab certification

B Lab is an independent, non-profit organization that certifies companies as "Certified Benefit-Corporations—CBCs" following a thorough evaluation known as the BIA. To gain B-Corp certification, a company must score at least 80 out of a possible 200 points (Cao et al., 2017;

Gamble et al., 2019). Evaluation categories include environmental performance, public benefit promotion through products and services, community engagement, transparency and accountability, and practices related to worker training, health, safety, and compensation (B LAB Global, 2024d). Certifications can be issued by B Lab based in the United States or by its global branches, such as B Lab UK (Wilburn & Wilburn, 2015). Acquiring B-Corp Certification can be perceived as a strategy for demonstrating social and environmental responsibility (Chen & Kelly, 2015) as CBCs publicly commit to balancing people, the planet, and profits (Moroz et al., 2018). This commitment, communicated through certification, can attract new customers and talented employees, and expand a company's network (Chen & Kelly, 2015).

Kim and Schifeling (2022) explore the motivations of firms, which are predominantly small or medium enterprises, for obtaining certification. In a context where enhancing shareholder wealth remains the main business objective and efforts to leverage businesses to address environmental and social issues are met with scepticism (Karnani, 2011), companies committed to CSR may experience a disconnect between their values and external perceptions (Kim & Schifeling, 2022). This discrepancy arises from the projection of shareholder wealth maximization perspectives onto organizations focused on CSR.

Kim and Schifeling (2022) argue that companies committed to CSR often seek B-Corp Certification to set themselves apart from corporations that are solely focused on maximizing shareholder value or are involved in greenwashing. Their research indicates that industries predominantly driven by shareholder wealth maximization and those with a higher frequency of corporate attempts at endorsing CSR tend to have a higher number of new CBCs compared to sectors where such practices are less common.

2.3 | The debate on B Lab Certification

There have been many advocates of the B-Corp Certification and CBCs. Shiller (2013) notes that financial systems need innovations like CBCs because, without fully incorporating all aspects of human needs, a capitalist system would not work. He argues that, in addition to the focus on greed, which is characteristic of pure for-profit companies, other aspects of human nature, such as being nice to each other and reciprocity, should be involved in capitalism. Shiller sees CBCs as an innovation to fill this void.

Other advocates view the B Lab certification process as a tool for creating value through the "right way to do business" and argue that the process serves as both a risk mitigator and an opportunity identifier (Buerkle et al., 2018a, 2018b). Some CBCs feel that the certification process enables business owners to think more deeply about their decisions through the lens of social impact, and the process serves as a robust demonstration of sustainable business (Buchholz, 2023). Furthermore, some researchers suggest that the certifications convey a credible commitment to CSR (Parker et al., 2019).

Yet, there are sceptics of the certification process. This scepticism is largely based on some recent certifications that are perceived to be dubious. For example, Nestle subsidiary Nespresso was awarded CBC status in 2012 despite allegations that it pays farmers in its supply chain too low prices, uses child labour, and causes environmental damage with its capsules (Raval, 2023; Sustainable Jungle, 2022). Furthermore, a few months after being certified in 2021, BrewDog was alleged for a toxic business environment, including sexualized violence, suggesting that the certification process did not adequately address the business culture (Sustainable Jungle, 2022). Other concerns include the certification

of some companies allegedly involved in tax avoidance and union busting (Bell, 2017; O'Regan, 2019; Umlas, 2015).

Although smaller firms are the first adopters of the B Lab standards, the movement is now spreading to big and multinational companies, including the controversial ones mentioned above. This creates the perception that rather than being "transformationally good," the focus is moving toward being "less bad," raising concerns about whether this decreases the quality of B Lab's work (O'Regan, 2019; Raval, 2023).

There are also potential issues over the opacity of the certification process. O'Regan, (2019) argues that a private certifying body that sets its own standards and regulates them in an opaque manner is problematic, even if well-intentioned. It is ironic that B Lab controls the process by which CBCs account for their sustainability efforts, yet B Lab itself is not accountable to any external agents.

Overall, these pros and cons of the B-Corp Certification suggest that, although it is a good signal, one cannot take this certification as a panacea for greenwashing and should approach the certificates with a pinch of scepticism (Sustainable Jungle, 2022).

2.4 | Costs of B Lab Certification

Despite the preference for B-Corp Certification, evidenced by 8124 CBCs in 95 countries (B LAB Global, 2024b), the certification process is expensive and requires strong dedication (Parker et al., 2019). Cao et al. (2017) found that 34% of CBC applicants abandon the process in its later stages, due to the need for operational reorganization, various documentation, and ongoing communication with B Lab (Wilburn & Wilburn, 2015).

In addition to a one-time application fee, B Lab charges an annual certification fee based on the company's annual sales. The application fee for the UK B Lab ranges between £250-£500, and annual fees typically fall within the range of £1000–£50,000. However, these fees can be higher for very large firms with annual sales exceeding £1 billion (B LAB UK, 2024). Nevertheless, the most substantial costs stem from B Lab audits and compliance with standards. This includes modifications to production and distribution processes, adjustments in supplier and customer relationships, and updates to internal policies (Conger et al., 2018; Parker et al., 2019; Patel & Dahlin, 2022; Wilburn & Wilburn, 2014b). This process can also divert management attention from profit-generating activities (Parker et al., 2019), and the significant resources committed to noneconomic goals may come at the expense of economic objectives, potentially hindering economic growth (Patel & Dahlin, 2022).

2.5 | Financial performance and B Lab Certification

Some studies have examined how B-Corp Certification impacts firms' financial performance in North America. For instance, Chen and Kelly (2015) discovered that while CBCs have higher revenue growth than their public non-CBC counterparts, they do not outperform their private non-CBC equivalents. Additionally, their employee productivity does not significantly differ from either public or private non-CBC counterparts. This discrepancy is attributed to non-CBCs' ability to reduce their workforce, especially during the 2008 financial crisis, while CBCs have continually increased their employee numbers, implying the costliness of their CSR

commitment. Parker et al. (2019a) compare revenue growth of North American CBCs before and after certification and find that certification decreases revenue growth in certified firms relative to noncertified firms in the same period.

In contrast, Paelman et al. (2020), conducting a similar analysis with European CBCs, reveal that certification has a positive impact on revenue and employee growth but does not affect asset growth. In a multicountry analysis, Patel and Dahlin (2022) also show that sales growth is higher for CBCs compared to non-CBCs, but this comes at the expense of higher sales volatility for CBCs. Focusing on European companies, Paeleman et al. (2024) find that although there is a negative link between leverage and sales growth for non-CBCs, this is not evident for CBCs, suggesting that customer loyalty, thanks to CSR engagement, offsets the risks stemming from high leverage for CBCs.

3 | HYPOTHESIS

As discussed in previous sections, while B Lab certification can yield benefits for firms by enhancing their commitment in CSR engagement and attracting customers (Chen & Kelly, 2015) and investors (Bruder, 2012), it's a notably costly process (Parker et al., 2019; Wilburn & Wilburn, 2015). Therefore, companies going through this certification process often need additional external financing (Ferretti, 2020; Paelman et al., 2020). Studies on CBCs concur on the importance of external financing, as CBCs often face constraints in terms of internal financing (Paelman et al., 2020). CSR engagement is known to reduce the cost of equity (Chava, 2014; Girerd-Potin et al., 2011; Guenster et al., 2011; Sharfman & Fernando, 2008). Further, Ng and Rezaee (2015) suggest that CSR engagement improves the negative relationship between the cost of equity and financial performance. However, CSR engagement does not necessarily reduce the cost of debt (Benlemlih, 2017; Goss & Roberts, 2011; Sharfman & Fernando, 2008; Ye & Zhang, 2011). Ye and Zhang (2011) argue that the cost of debt increases with high levels of CSR investments. Similarly, Sharfman and Fernando (2008) suggest that the cost of debt increases with environmental risk management investments. Further, debt financing incurs higher cash expenses such as, interest and debt repayment, and it increases the risk of financial distress (Paeleman et al., 2024). Therefore, firms with intense CSR commitments often prefer equity-based financing over debt-based financing (Pijourlet, 2015). Indeed, Siqueira et al. (2018) find that for-profit social enterprises are 40%–13% less-levered than their pure for-profit counterparts.

Consequently, when companies are constrained in their use of a relatively cheap form of financing (i.e., equity financing) that they are dependent on to make necessary investments during the certification process and after, their firm performance is expected to be lower than their counterparts who do not endure such costly certification process. On the other hand, for firms predominantly financed by equity, their commitment in CSR engagement through B Lab certification should not be as detrimental to firm performance as it is for predominantly debt-financed firms when compared to their non-CBC counterparts. Hence, we hypothesize:

> Compared to their non-CBC counterparts, CBCs with a lower proportion of equity financing will perform worse after their certification compared to CBCs that secure a larger proportion of external financing through equity.

4 | DATA AND VARIABLE CONSTRUCTION

We collect UK data from the CBC Company Directory database since 2006 to identify CBCs, based on availability. We obtained additional firm characteristics data from the Financial Analysis Made Easy (FAME) database until 2019, excluding financial firms and utilities. To address extreme values, we winsorize the variables at 1% and 99%. The final sample consists of 6,616 firm-year observations from 588 UK firms.

To examine the relationship between B-Corp Certification and ROA, we need to identify the non-CBC peers of the CBCs. For each year in our sample, we divide the firms into terciles based on the proportion of equity financing in total assets. The equity ratio, defined as external financing through equity over total assets, is used for this categorization. Within each tercile, we propensity-score-matched each CBC firm to the closest non-CBC firm (with a maximum of two non-CBCs) based on the natural logarithm of total assets, growth, leverage, and the 2-digit UK SIC Code of 2007. These characteristics, known to affect ROA, are described below. Some CBCs are matched to the same non-CBCs. Unmatched CBC and non-CBC firms are dropped from the sample. This process reduces the initial sample of 742 firms to 588 companies, including 231 CBCs and 357 non-CBCs.

We define *CBC* as a dummy variable equal to one for a firm if it has ever been granted B-Corp Certification, and zero otherwise. In our sample, *CBC* has a value of one for all years, including the period before the firm obtained the certification. It proxies whether a firm belongs to our "treatment" group, that is, being B-Corp certified, or not. In other words, if a firm has ever become a CBC, this *CBC* variable is one for all years for that firm, indicating this firm is a CBC at some point in time. Additionally, we define *Post* as a dummy variable equal to one for years with B-Corp Certification, and zero otherwise. This *Post* variable indicates the exact certification period. *Post* is set to one for a non-CBC firm when *Post* for the corresponding matched-CBC firm switches to one. In this paper, we examine the effect of B-Corp Certification on those CBCs' firm performance after they are certified, comparing this relationship to their non-CBC peers over the same time period. Therefore, we construct $CBC \times Post$ as the main explanatory variable in our analyses, representing the interaction of *CBC* and *Post*. We use return on assets (ROA) as a proxy for firm performance, as suggested by Berman et al. (1999), Chen et al. (2018), Hoang et al. (2020), and Tosun and Moon (2024). *ROA*, the main dependent variable, is calculated as profit before tax over total assets.

Consistent with prior literature on firm performance, we include the following control variables: Ln(*Assets*) as firm size, representing the natural logarithm of total assets; *Leverage* as the sum of short-term and long-term debt over total assets; *Cash Ratio* as cash over total assets; *Growth* as capital expenditures over total assets; *Tangibility* as property, plant, and equipment over total assets; and Ln(*Board Size*) as the natural logarithm of the total number of directors on the Board.

Table 1 presents the summary statistics for all variables. The average ROA for CBCs is consistently lower than that of their non-CBC peers. Firm size is comparable between CBCs and non-CBCs across all equity ratio groups. Leverage decreases from low to high equity ratio terciles, as expected, for both CBCs and non-CBCs. Both CBCs and non-CBCs exhibit a similarly low average growth of about 0.07% across all equity ratio groups. The remaining firm characteristics show average similarities between CBC firms and non-CBCs.

Regarding industry sectors, the top three largest sectors for both CBC and non-CBC firms are service, manufacturing, and wholesale and retail, accounting for 63% and 73% of the respective groups. Telecommunication is the next common industry for CBCs and their

TABLE 1 Descriptive statistics.

This table reports descriptive statistics for groups of different proportions of equity financing (low, middle and high terciles), as well as, for CBCs and non-CBCs. The mean, median, and standard deviation (SD) of the variables in the main analyses are provided. Overall, there are 588 firms with 6616 firm–year observations. Out of 588 companies, 231 firms are CBCs while 357 firms are non-CBCs. *ROA* is the profit before tax over total assets. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. Ln(*Assets*) represents firm size, and it is the natural logarithm of total assets. *Leverage* is the sum of short-term and long-term debt over total assets. *Cash Ratio* is cash over total assets. *Growth* is capital expenditures over total assets. *Tangibility* is property, plant, and equipment over total assets. Ln(*Board Size*) is the natural logarithm of the total number of directors on the Board.

	Low tercile of equity financing						**Middle tercile of equity financing**						**High tercile of equity financing**					
	CBCs (87firms)			**Non-CBCs (101firms)**			**CBCs (74firms)**			**Non-CBCs (129firms)**			**CBCs (70 firms)**			**Non-CBCs (127firms)**		
	Mean	**Med**	**SD**	**Mean**	**Med**	**SD**	**Mean**	**Med**	**SD**	**Mean**	**Med**	**SD**	**Mean**	**Med**	**SD**	**Mean**	**Med**	**SD**
ROA	0.026	0.001	0.140	0.053	0.050	0.117	0.042	0.002	0.134	0.074	0.060	0.125	0.019	0.001	0.146	0.062	0.050	0.126
Ln(Assets)	6.340	6.077	2.323	8.734	8.862	1.088	6.797	6.568	2.052	8.609	8.762	1.166	5.834	6.016	2.550	8.221	8.380	1.338
Leverage	0.826	0.810	0.171	0.742	0.720	0.108	0.580	0.480	0.186	0.484	0.480	0.087	0.546	0.250	0.868	0.246	0.240	0.246
Cash Ratio	0.015	0.001	0.069	0.035	0.002	0.095	0.026	0.002	0.085	0.037	0.002	0.093	0.007	0.000	0.053	0.028	0.002	0.085
Growth	0.005	0.000	0.019	0.008	0.001	0.016	0.009	0.001	0.026	0.008	0.001	0.019	0.003	0.000	0.014	0.007	0.001	0.017
Tangibility	0.002	0.000	0.012	0.007	0.000	0.019	0.003	0.000	0.015	0.008	0.000	0.020	0.000	0.000	0.003	0.006	0.000	0.019
Ln(Board Size)	1.358	1.386	0.473	1.664	1.609	0.398	1.417	1.386	0.457	1.721	1.609	0.442	1.407	1.386	0.448	1.907	1.946	0.489

non-CBC peers, representing 12% and 15%, respectively. These sectors are followed by healthcare, agriculture, and others in our sample.

5 | METHODOLOGY

The main analysis covers the period from 2006 to 2019. To examine the relationship between B-Corp Certification and firm performance, we employ a difference-in-difference model represented by Equation (1):

$$Y_{i,t} = \alpha + \beta(CBC \times Post)_{i,t-1} + \sum_{k=1}^{6} \delta_k Control_{i,t-1,k} + \theta_t + \varepsilon_i + \mu_{i,t}, \quad (1)$$

where $Y_{i,t}$ is ROA of firm i in year t; $(CBC \times Post)_{i,t-1}$ denotes the interaction between *CBC* and *Post* for firm i in year $t-1$; $Controls_{i,t-1,k}$ represents the control variables in the model, that is, Ln (*Assets*), *Leverage, Cash Ratio, Growth, Tangibility*, and Ln(*Board Size*). The term θ_t denotes year fixed effects, to control for any systematic variation in ROA in any given year across all firms that are related to the macroeconomy. To control for any unobserved time-invariant firm-specific factors that could influence firm *i*'s return on assets, we include firm fixed effects in the model, indicated by ε_i. The model does not have separate indicators for CBCs or the postcertification period because they are captured by the firm and year fixed effects. In additional analyses (not shown in the table), we replace firm fixed effects and year fixed effects with industry fixed effects and macroeconomic factors (such as unemployment and inflation), respectively, yielding similar robust results.

The aim of the analysis is to investigate whether CBCs outperform their non-CBC peers in the postcertification period. This argument is captured by the interaction term of *CBC* and *Post*, the main explanatory variable in the model. We follow similar studies (Parker et al., 2019; Tong et al., 2022; Tosun et al., 2021) where firms have an exposure to an incident or a certification and the impact of such shock in the post-period is examined in comparison to a control group. Similar to those studies, we set up our difference-in-difference model and identified the main independent variable as the interaction between the variables representing the shock and the postexposure period. To address potential causality issues and determine the direction of the relationship, all explanatory variables are lagged by 1 year.[1] Standard errors are clustered at the firm level. These econometric specifications are commonly used in empirical corporate finance studies (Chen et al., 2018; Guo & Masulis, 2015; Parker et al., 2019). The analysis is conducted for all firms in the sample and separately for each equity ratio tercile (low, medium, and high). This allows us to examine whether the implications of becoming a CBC vary depending on a company's external equity financing.

6 | RESULTS

6.1 | Main findings

Initially, we examine the association between holding the B-Corp Certification and firm performance. Subsequently, we consider all firms in our sample collectively. The results are

[1]Previous research finds that B Lab certification can take up to 8 months (Parker et al., 2019).

presented in Column I of Table 2. The significant and negative coefficient for *CBC* × *Post* indicates that firms with B Lab certification experience a decrease in ROA by 2.7%. This establishes a negative relationship between firm performance and becoming a CBC.

We hypothesize that firms with lower levels of external equity financing, which is a relatively inexpensive form of financing to support the B-Corp Certification process, are expected to have lower financial performance compared to their peers with a higher proportion

TABLE 2 Dif-in-dif analyses for firms with different proportions of equity financing.

This table reports the difference-in-difference analysis estimates for the interaction between *CBC* and *Post* along with Ln(*Assets*), *Leverage, Cash Ratio, Growth, Tangibility*, and Ln(*Board Size*) as control variables. The analysis is conducted for all firms in the sample, as well as, for firms with different proportion of equity financing (low, middle, and high terciles) separately. The dependent variable is *ROA*,, that is. the profit before tax over total assets. *CBC* × *Post* is the main explanatory variable. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. Variable definitions are available in Table A.1. All explanatory variables are lagged by 1 year. Year and firm fixed effects are included. *CBC* and *Post* are not included in the model separately as they are subsumed by time dummy and firm fixed effects. Standard errors are clustered by firms and given in parentheses. ***Statistical significance at the 1% level.

	ROA			
Proportion of equity financing	**All firms**	**Low (Tercile1)**	**Medium (Tercile2)**	**High (Tercile3)**
	I	**II**	**III**	**IV**
CBC × Post	−0.027*	−0.052**	−0.025*	0.014
	(0.015)	(0.026)	(0.013)	(0.020)
Ln(Assets)	−0.004	−0.002	−0.001	−0.011
	(0.004)	(0.005)	(0.004)	(0.007)
Leverage	0.021***	0.035**	0.079***	0.023*
	(0.008)	(0.016)	(0.012)	(0.013)
Cash Ratio	0.138***	0.116***	0.116***	0.117***
	(0.024)	(0.026)	(0.028)	(0.040)
Growth	0.073	0.114	0.065	0.089
	(0.092)	(0.183)	(0.142)	(0.173)
Tangibility	0.158	−0.477	0.072	0.707
	(0.178)	(0.315)	(0.148)	(0.442)
Ln(Board Size)	0.005	0.011	0.007	−0.005
	(0.007)	(0.011)	(0.008)	(0.014)
Constant	0.069**	0.025	0.030	0.142**
	(0.031)	(0.037)	(0.037)	(0.058)
Firm & Year FE	Yes	Yes	Yes	Yes
Adj R^2	0.021	0.036	0.043	0.034
Observations	6616	2107	2303	2206

of equity financing. To investigate this, we divide our sample into three groups based on the proportion of external equity financing, represented by yearly terciles of equity ratio: "Low, Medium, and High Proportion of Equity Financing." Figure 1 displays the average ROA values for CBCs around the time of B-Corp Certification, as well as the ROA values for their matched non-CBC peers during the same period.

For firms with low equity financing, ROA fluctuates around 1.5% before certification, but drops to −2.5% for CBCs within 2 years after certification, while their non-CBC peers do not experience a significant change in ROA levels during the same period. The pronounced drop in ROA for CBCs and the noticeable difference compared to their non-CBC peers becomes less significant as companies with higher proportions of equity financing are considered. In the case of firms with medium equity financing, CBCs perform only slightly worse immediately after being granted the B-Corp Certification, with ROA decreasing from 3% to 1%. However, it recovers to the 3% level the following year, while non-CBCs exhibit ROA fluctuating around 0.05% during that period. As firms have a greater portion of their external financing through equity, the negative impact of B-Corp Certification on ROA weakens. This effect is more evident for companies in the high tercile of equity ratio, where there is virtually no difference in firm performance before and after certification for both CBCs and their non-CBC peers during the same period.

Although indicative, this finding aligns with our conjecture and suggests that the relationship between B Lab Certification and firm performance depends on the firms' external equity financing. To further explore this and establish possible causality, we conduct our main difference-in-difference analysis for different terciles of equity ratio per year. These results are presented in Table 2. In Column II, a statistically significant and negative result for $CBC \times Post$ indicates that becoming a CBC leads to a decrease in Return on Assets for firms with a low equity ratio. Specifically, ROA drops by 5.2% for CBCs as they continue their CSR engagement after certification, compared to their non-CBC counterparts. This result is consistent with the view that, unlike their non-CBC peers, CBCs experience worse performance after certification when they do not raise sufficient external equity. However, the performance-decreasing effect weakens for CBCs with more equity financing in Tercile 2. In Column III, ROA only drops by 2.5% in CBCs compared to their non-CBC peers. This result is less significant (10% level vs. 5% level) and about 50% smaller in magnitude (2.5% vs. 5.2%) compared to the findings in Column II. Finally, for CBCs in the highest equity ratio tercile, ROA is not significantly affected by the B Lab Certification compared to non-CBCs, although the coefficient estimate is positive.

These findings imply that organizations' performance deteriorates when they lack relatively inexpensive financing options, such as equity financing, for the necessary investments associated with B Lab certification. The costs of being B-Corp certified for such firms outweigh the benefits. However, this negative impact on performance weakens and even disappears for companies with a higher proportion of external equity. These results[2] support H1. Overall, being B-Corp certified is not universally beneficial for all firms. The availability of equity financing plays a significant role. Therefore, firms should not assume a "one size fits all" approach when it comes to CSR certification,

[2]We confirm that multicollinearity is not an issue in our analysis with the variance inflation factor (VIF) values for all right-handside variables in the model varying between 1.05 and 1.30. Further, there could be some selection bias that varies over time. Firms with high levels of cash can choose to certify while companies with a slow-growth route can opt for certification. Smaller and younger firms are likely to certify as a part of firm development stage. We control for these factors through Ln(*Assets*), *Cash Ratio*, and *Growth* in our model while we test such potential channels in Table 9. We obtain robust findings.

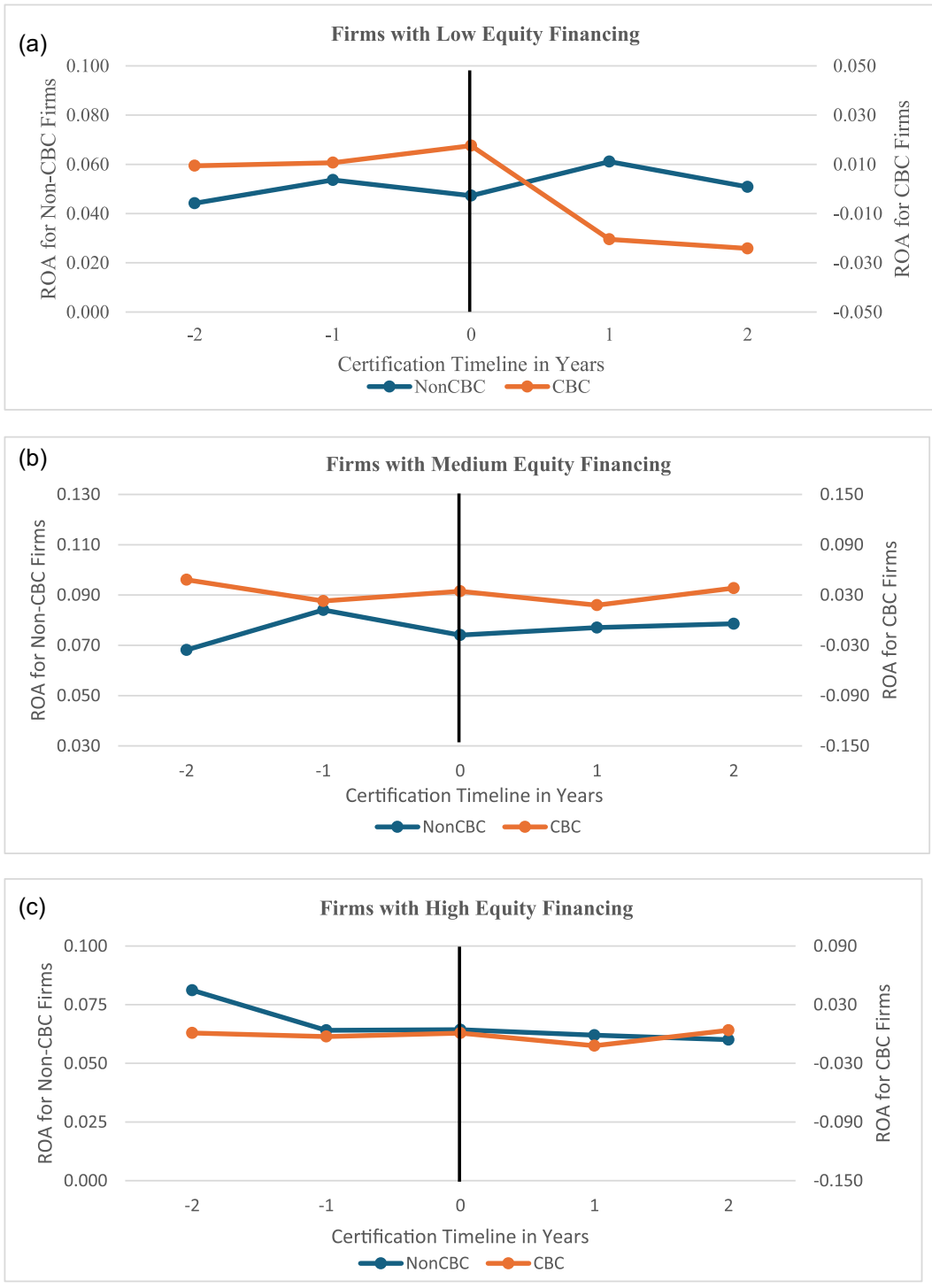

FIGURE 1 ROA around certification for firms with different equity financing proportions. This figure represents the distribution of ROA around the year when B-Corp Certification is granted for CBCs and their non-CBC peers. A period of plus and minus 3 years are considered. The ROA distribution for firms with (a) low, (b) medium and (c) high levels of equity financing proportions, respectively. [Color figure can be viewed at wileyonlinelibrary.com]

as it may vary depending on their capital structure. This may help explain the conflicting findings in the literature on the relationship between B-Corp Certification and firm performance.

6.2 | Alternative models

We employ difference-in-difference-in-difference (triple diff) models to examine the combined impact of equity financing with *CBC* and *Post* on ROA. In the first triple diff model, we introduce the interaction of *Equity Ratio* with *CBC* and *Post*:

$$\begin{aligned} Y_{i,t} = \alpha &+ \beta_1(CBC \times Post \times Equity\ \ Ratio)_{i,t-1} + \beta_2(CBC \times Equity\ \ Ratio)_{i,t-1} \\ &+ \beta_3(Post \times Equity\ \ Ratio)_{i,t-1} + \beta_4(CBC \times Post)_{i,t-1} \\ &+ \beta_5 Equity\ \ Ratio_{i,t-1} + \sum_{k=1}^{6} \delta_k Control_{i,t-1,k} + \theta_t + \varepsilon_i + \mu_{i,t}. \end{aligned} \tag{2}$$

In a second triple diff model, we define *Equity Financing Dummy* as a binary variable equal to one if the equity ratio of a firm is in the bottom tercile of the sample in that year, and zero otherwise. This variable enables us to contrast between firms with low equity financing and other firms with higher external financing. Then, we interact *Equity Financing Dummy* with *CBC* and *Post*, similar to Equation (2):

$$\begin{aligned} Y_{i,t} = \alpha &+ \beta_1(CBC \times Post \times Equity\ \ Financing\ \ Dummy)_{i,t-1} \\ &+ \beta_2(CBC \times Equity\ \ Financing\ \ Dummy)_{i,t-1} \\ &+ \beta_3(Post \times Equity\ \ Financing\ \ Dummy)_{i,t-1} + \beta_4(CBC \times Post)_{i,t-1} \\ &+ \beta_5 Equity\ \ Financing\ \ Dummy_{i,t-1} + \sum_{k=1}^{6} \delta_k Control_{i,t-1,k} + \theta_t + \varepsilon_i + \mu_{i,t}. \end{aligned} \tag{3}$$

The rest of the model specifications for Equations (2) and (3) are the same to Equation (1). The models do not have *CBC* or *Post* variables separately because they are subsumed by the firm and year fixed effects. All explanatory variables are lagged by 1 year. Standard errors are clustered at the firm level.

Table 3 presents the results. In Column I, we observe a statistically significant and positive estimate for $CBC \times Post \times Equity\ Ratio$. This indicates that CBCs, after certification, perform 3.8% better in terms of ROA compared to their non-CBC peers for every one-percentage-point increase in their equity ratio. This finding supports our hypothesis regarding the positive influence of equity financing on the relationship between ROA and the B Lab Certification. When considering the overall magnitude of change, the sensitivity of ROA to equity financing remains positive at 1.9% ($= 0.038 - 0.021 - 0.007 + 0.009$) for CBCs after certification.

In Column II, we find a statistically significant and negative result for $CBC \times Post \times Eq\ Fin\ Dummy$. This implies that CBCs with a low proportion of equity financing experience a reduction in ROA by 2.9% after certification compared to non-CBCs. CBCs that rely on less equity financing for their certification process forego the benefits of cheap external equity associated with CSR engagement, resulting in the cost of certification outweighing its benefits and leading to a decrease in ROA for those firms. The sensitivity of ROA to less equity

TABLE 3 Dif-in-dif-in-dif analyses for firms with different proportions of equity financing.

This table reports the difference-in-difference-in-difference analysis estimates for the interaction between *CBC, Post* and *Equity Ratio* (*Equity Financing Dummy)* along with Ln(*Assets*), *Leverage, Cash Ratio, Growth, Tangibility*, and Ln(*Board Size*) as control variables. The dependent variable is *ROA*, i.e. the profit before tax over total assets. *CBC* × *Post* × *Equity Ratio* and *CBC* × *Post* × *Equity Financing Dummy* are the main explanatory variables. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. *Equity Ratio* is the external equity financing over total assets. *Equity Financing Dummy* is a binary variable equal to one if the equity ratio of a firm is in the bottom tercile of the sample in that year, and zero otherwise. Variable definitions are available in Table A.1. All explanatory variables are lagged by one year. Year and firm fixed effects are included. *CBC* and *Post* are not included in the model separately as they are subsumed by time dummy and firm fixed effects. Standard errors are clustered by firms and given in parentheses. ***Statistical significance at the 1% level.

	ROA	
	I	**II**
CBC × Post × Equity Ratio	0.038*	
	(0.023)	
CBC × Equity Ratio	−0.021	
	(0.017)	
Post × Equity Ratio	−0.007	
	(0.010)	
Equity Ratio	0.009	
	(0.014)	
CBC × Post × Eq Fin Dummy		−0.029*
		(0.017)
CBC × Eq Fin Dummy		0.001
		(0.008)
Post × Eq Fin Dummy		−0.004
		(0.007)
Equity Financing Dummy		0.003
		(0.006)
CBC × Post	−0.045***	−0.016
	(0.015)	(0.010)
Ln(Assets)	−0.004**	−0.004**
	(0.002)	(0.002)
Leverage	0.022***	0.021***
	(0.005)	(0.005)
Cash Ratio	0.138***	0.138***
	(0.018)	(0.018)

(Continues)

TABLE 3 (Continued)

	ROA	
	I	II
Growth	0.077	0.073
	(0.096)	(0.096)
Tangibility	0.157	0.158
	(0.105)	(0.105)
Ln(Board Size)	0.005	0.005
	(0.005)	(0.005)
Constant	0.068***	0.069***
	(0.019)	(0.017)
Firm & Year FE	Yes	Yes
Adj R^2	0.022	0.022
Observations	6616	6616

financing remains negative at −2.9% ($= -0.029 + 0.001 - 0.004 + 0.003$) for CBCs after the B Lab Certification. Overall, these findings support H1.

7 | FURTHER ANALYSES

7.1 | Number of certifications

In our main analyses, we focus on CBCs without considering the number of certifications they have obtained over the years. The B-Corp Certification is renewable every 3 years, and except for very rare occasions, which we exclude for robustness, existing CBCs qualify for another certification. The renewal of certification indicates that CBCs continue to engage in CSR practices and meet the CSR standards. To test the robustness of our original findings, we replace the dummy variable *CBC* with *Certifications*(#), which represents the number of certifications a CBC has obtained until a given year. Additionally, we introduce the *Multiple Certification Dummy*, which represents firms with more than one certification throughout the sample period. To interact with this variable, we introduce *Post2* for years starting with the second-time certification for a particular firm.

Table 4 presents statistically significant results for *Certifications*(#) × *Post*, specifically for firms with a particularly low proportion of equity financing. These results suggest that ROA decreases by 3.1% with each additional B-Corp Certification. Although this negative effect on ROA still persists for firms in Tercile 2 (Column II), it is weaker, with a drop of 1.2% in ROA. Consistent with our original findings, certification renewal does not have a detrimental effect on firm performance for companies with a high proportion of external equity. Further findings for *Multiple Certification Dummy* × *Post2* support these interpretations. When firms have less equity financing (Tercile 1), ROA drops by 5.3% as they go through the certification process multiple times. Companies with a medium level of external equity still experience lower ROA

TABLE 4 Analyses with number of certifications.

This table reports the difference-in-difference analysis estimates for the interaction between the number of certifications (multiple certification dummy) and *Post* along with *Ln(Assets), Leverage, Cash Ratio, Growth, Tangibility*, and *Ln(Board Size)* as control variables. The analysis is conducted for firms with different proportion of equity financing (low, middle, and high terciles) separately. The dependent variable is *ROA*, the profit before tax over total assets. *Certifications(#)*×*Post* and *Multiple Certification Dummy* × *Post2* are the main explanatory variables. *Certifications(#)* represents the number of certifications that a given company has obtained until a given year. *Multiple Certification Dummy* is a binary variable equal to one for firms with more than one certification throughout the sample period, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. *Post2* is a dummy that is equal to one for years starting with the second B-Corp Certification for a particular firm, and zero otherwise. Variable definitions are available in Table A.1. All explanatory variables are lagged by one year. Year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. The *** indicates statistical significance at the 1% level.

	ROA					
Proportion of equity financing	**Low (Tercile1)** **I**	**Medium (Tercile2)** **II**	**High (Tercile3)** **III**	**Low (Tercile1)** **IV**	**Medium (Tercile2)** **V**	**High (Tercile3)** **VI**
Certifications (#) × Post	−0.031*	−0.012*	0.004			
	(0.018)	(0.007)	(0.012)			
Multiple Certification Dummy × Post2				−0.053**	−0.041*	−0.040
				(0.024)	(0.023)	(0.028)
Ln(Assets)	−0.002	−0.002	−0.011	−0.003	−0.002	−0.010
	(0.005)	(0.004)	(0.007)	(0.004)	(0.004)	(0.007)
Leverage	0.034**	0.079***	0.023*	0.033***	0.078***	0.023*
	(0.016)	(0.012)	(0.013)	(0.010)	(0.012)	(0.012)
Cash Ratio	0.115***	0.117***	0.116***	0.121***	0.116***	0.117***
	(0.026)	(0.028)	(0.040)	(0.030)	(0.028)	(0.040)
Growth	0.124	0.068	0.087	0.093	0.077	0.087
	(0.180)	(0.142)	(0.173)	(0.192)	(0.142)	(0.173)
Tangibility	−0.474	0.072	0.707	−0.491**	0.069	0.708
	(0.316)	(0.148)	(0.443)	(0.206)	(0.148)	(0.444)
Ln(Board Size)	0.011	0.007	−0.005	0.009	0.007	−0.004
	(0.011)	(0.008)	(0.014)	(0.010)	(0.008)	(0.014)
Constant	0.025	0.031	0.140**	0.035	0.035	0.135**
	(0.037)	(0.037)	(0.058)	(0.031)	(0.037)	(0.056)
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.037	0.043	0.034	0.032	0.043	0.034
Observations	2107	2303	2206	2107	2303	2206

(a decrease of 4.1%), but not to the same extent as firms in Tercile 1. Firms in Tercile 3, which rely more on external equity financing, do not experience any significant performance loss. These findings support H1.

7.2 | BIA scores

To become a CBC, firms need to undergo a rigorous certification process called BIA and score over 80 out of 200 possible points across five impact areas: community, customers, environment, governance, and workers (Cao et al., 2017; Wilburn & Wilburn, 2015). We give non-CBC firms have a score of zero in these areas, while CBC firms have a score of at least 80, indicating a higher level of engagement with CSR. To analyze the impact of this higher engagement on company performance, we introduce several score variables: *Total, Community, Customer, Environment, Governance*, and *Workers*, which represent the natural logarithm of the B Impact Assessment Scores for overall, community, customer, environment, governance, and workers criteria, respectively. We then repeat the main analyses, replacing the dummy variable *CBC* with these score variables.

Table 5 presents the results. In Panel A, *Total* × *Post* shows a statistically significant and negative coefficient, indicating that a higher assessment score, in general, is associated with a decrease in ROA for firms with low equity financing compared to their non-CBC peers, confirming our previous findings. Interestingly, this negative relationship is consistent across all sub-criteria of B-Corp Certification. Better engagement in customer, community, worker, governance, and environment-related CSR, as indicated by higher BIA scores in those areas, is associated with lower ROA for firms in the low tercile of equity ratio. In Panel B, for CBCs in the middle tercile of equity ratio, the results are weaker but still negative. Higher BIA scores in all areas are linked to lower ROA. These findings align with our original results, indicating that these firms experience a reduction in ROA when they achieve higher BIA scores. Lastly, findings in Panel C for firms with more external equity suggest that higher BIA scores do not harm ROA for these CBCs. Overall, these results suggest that B-Corp Certification is not detrimental to firm performance for all companies, and the benefits can outweigh the costs for firms with a higher proportion of equity financing.

7.3 | Other performance measures

In our model, we use ROA as a proxy for firm performance, which is commonly used in the firm performance literature. However, there are different measures of firm performance that exist in the literature. Approximately one-third of our sample consists of capital-intensive industries, such as manufacturing and telecommunications. Therefore, we follow Premuroso and Bhattacharya (2007) and construct a return on capital employed (ROCE), which considers profit before tax over the difference between total assets and total liabilities. This measure provides a better indication of financial performance for companies with large capital because it takes into account debt and other liabilities. For certain sectors, such as services, sales are the primary measure of firm performance. Following Bauwhede (2009), we also test our results using profit margin (PM), which is calculated as profit before tax over sales. This measure is suggested as a good performance indicator for service companies, which are well-represented in our sample. Additionally, we consider operating profit (OP) as another measure, which is

TABLE 5 Analyses with BIA scores.

This table reposts the difference-in-difference analysis estimates for the interaction between *Post* and *Total*, *Community*, *Customer*, *Environment*, *Governance*, and *Workers* BIA scores separately. Panels A, B, and C give the estimates for firms in low, medium, and high tercile of equity ratio, respectively. The dependent variable is *ROA*, the profit before tax over total assets. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. *Total*, *Community*, *Customer*, *Environment*, *Governance*, and *Workers* are natural logarithms of the B Impact Assessment Scores for overall, community, customer, environment, governance, and workers criteria, respectively. Variable definitions are available in Table A.1. Control variables are included and lagged by 1 year. Year and firm fixed effects are included. Standard errors in parentheses are clustered by firms. ***Statistical significance at the 1% level.

	ROA					
	I	**II**	**III**	**IV**	**V**	**VI**
Panel A: Analyses for firms in low tercile of equity ratio						
Total × Post	−0.012**					
	(0.006)					
Community × Post		−0.015**				
		(0.008)				
Customer × Post			−0.018*			
			(0.010)			
Environment × Post				−0.025**		
				(0.012)		
Governance × Post					−0.021**	
					(0.011)	
Workers × Post						−0.016*
						(0.009)
Controls & FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.036	0.036	0.036	0.038	0.037	0.036
Observations	2107	2107	2107	2107	2107	2107
Panel B: Analyses for firms in middle tercile of equity ratio						
Total × Post	−0.006*					
	(0.003)					
Community × Post		−0.009**				
		(0.004)				
Customer × Post			−0.008*			
			(0.005)			
Environment × Post				−0.008*		
				(0.005)		
Governance × Post					−0.010*	
					(0.005)	

(Continues)

TABLE 5 (Continued)

	ROA					
	I	II	III	IV	V	VI
Workers × Post						−0.007*
						(0.004)
Controls & FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.043	0.044	0.043	0.043	0.043	0.043
Observations	2303	2303	2303	2303	2303	2303
Panel C: Analyses for firms in high tercile of equity ratio						
Total × Post	0.003					
	(0.004)					
Community × Post		0.003				
		(0.006)				
Customer × Post			0.002			
			(0.009)			
Environment × Post				0.007		
				(0.006)		
Governance × Post					0.007	
					(0.007)	
Workers × Post						0.005
						(0.006)
Controls & FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.034	0.034	0.033	0.034	0.034	0.034
Observations	2206	2206	2206	2206	2206	2206

calculated as OPs over total assets. This measure incorporates factors such as amortization, depreciation, and cost of goods sold.

We repeat our main analyses using ROCE, PM, and OP as alternative measures for firm performance. Table 6 presents statistically significant and robust results that support our original findings. As the proportion of external equity in firms increases, the benefits of being B-Corp certified outweigh the associated costs, leading to a reduced negative impact on ROCE, PM, and OP for CBCs.

7.4 | Additional controls

Although we include controls for the main determinants of ROA in our analyses, there may be other factors indirectly influencing firm performance. Older firms, for example, may achieve higher ROA due to their accumulated experience in the business (Wintoki et al., 2012). Additionally, innovative companies and firms with higher liquidity have

TABLE 6 Analyses with different performance measures.

This table reports the difference-in-difference analysis estimates for the interaction between *CBC* and *Post*. Panels A, B, and C give the estimates for firms in low, medium, and high tercile of equity ratio, respectively. Three different variables are used as dependent variables. *ROCE* is the return on capital employed, which is profit before tax over the difference between total assets and total liabilities. *Profit Margin* is profit before tax over sales. *OP* is operating profits over total assets. *CBC* × *Post* is the main explanatory variable. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. Variable definitions are available in Table A.1. Control variables are included and lagged by 1 year. Year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. ***Statistical significance at the 1% level.

	ROCE	Profit margin	OP
Variables	**I**	**II**	**III**
Panel A: Firms in low tercile of equity ratio			
CBC × Post	−0.188***	−0.022*	−0.065**
	(0.059)	(0.013)	(0.028)
Controls	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes
Adj R^2	0.035	0.020	0.040
Observations	2107	2107	2107
Panel B: Firms in middle tercile of equity ratio			
CBC × Post	−0.054**	−0.012*	−0.044
	(0.027)	(0.007)	(0.036)
Controls	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes
Adj R^2	0.035	0.026	0.126
Observations	2303	2303	2303
Panel C: Firms in high tercile of equity ratio			
CBC × Post	0.057	0.001	−0.107
	(0.035)	(0.014)	(0.066)
Controls	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes
Adj R^2	0.055	0.011	0.190
Observations	2206	2206	2206

greater access to resources, such as cash, which can help them operate smoothly and perform better (Bhagat & Bolton, 2008). Furthermore, the composition of the board of directors can also impact firm performance. Boards with more non-British directors, more female directors, and directors with longer tenure may provide better guidance through diverse advice and experience, leading to improved firm performance. To account for

these factors in our analyses,[3] we include the following variables: Ln(*Age*) as the natural logarithm of a firm's age, *Liquidity* as current assets over current liabilities, Ln(*R&D*), as the natural logarithm of one plus research and development expenditures, Ln(*Board Tenure*) as the natural logarithm of average tenure of the directors in the board, *Non-British Ratio* as fraction of non-British directors in the board, and *Female Ratio* as fraction of female directors in the board.

The statistically significant results in Table 7 support our original findings even after controlling for these additional firm characteristics. It is evident that CBCs with a lower proportion of external equity perform worse than their non-CBC peers after being granted the certification[4] while this does not apply to CBCs with a high proportion of external equity.

Start-up firms may enjoy certain advantages in relation to the B-Corp Certification. Specifically, these young and small firms can be perceived as "promising," given their potential for future growth opportunities, making them attractive to equity financing. Although we control for firm age and size separately in our model (as detailed in Section 7.5), for a more granular representation of start-ups, we conduct additional analyses focusing specifically on start-up firms in our sample.

Using cash flows, Dickinson (2011) identifies firms based on the stages in their business cycles. Following Dickinson (2011) methodology, we pinpoint companies in their "Introduction Stage" and use them as a proxy for start-up firms. Furthermore, we construct Ln(Age) × Ln (Assets) and identify firms in the lowest tercile of this interaction measure to find companies that are both young and small, serving as another proxy for start-up firms. When we repeat our main model in Table 2, focusing solely on these start-up firms, we find robust results, as presented in Table A.2. This indicates that even start-up CBCs with lower equity ratios have lower return on assets (ROA), while start-up CBCs with more equity financing do not perform worse than their non-CBC counterparts.

7.5 | Testing other explanations

In Table 2, we demonstrate that B-Corp Certification can affect ROA differently depending on firms' proportions of equity ratio. Figure 1 also confirms the assumption of parallel trends, showing that CBCs' performance changes after certification from the similar ROA levels of their non-CBC peers while non-CBCs' performance remains the same throughout this period. This raises the question of whether there are other potential factors that can explain this phenomenon. One can argue that the decision to apply for certification is endogenous because firms with high profits in the previous year can afford the costly authentication process by B Lab in the following year, as research by Elliott et al. (2008) and Hovakimian et al. (2001) suggests that high profits can increase a firm's ability to take on more debt, reducing the need for external equity. To test the validity of our original findings and address such endogeneity concerns, we focus on a subsample of firms with low proportions of equity financing (in the low tercile) and compare firms with previous year's operating profitability in either the bottom or top quartile of the sample for that year. The results in Table 8 reveal that regardless of the past

[3]These controls decrease the degree of freedom in our main model. Therefore, we test any possible impact of such a long list of controls only in this separate analysis.

[4]In untabulated analysis, we obtain also robust results when we control for lagged ROA values in the model to incorporate any possible influence from the previous year's firm performance.

TABLE 7 Analyses with additional controls.

This table reports the difference-in-difference analysis estimates for the interaction between *CBC* and *Post* along with Ln(*Assets*), *Leverage, Cash Ratio, Growth, Tangibility*, and Ln(*Board Size*), Ln(*Age*), *Liquidity*, Ln(*R&D*), Ln (*Board Tenure*), *non-British Ratio*, and *Female Ratio* as control variables. The analysis is conducted separately for firms with different proportion of equity financing (low, middle, and high terciles) separately. The dependent variable is *ROA*, the profit before tax over total assets. *CBC*×*Post* is the main explanatory variable. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. Variable definitions are available in Table A.1. All explanatory variables are lagged by 1 year. Year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. ***Statistical significance at the 1% level.

	ROA		
Proportion of equity financing	**Low (Tercile1)** **I**	**Medium (Tercile2)** **II**	**High (Tercile3)** **III**
CBC × Post	−0.059**	−0.020*	0.007
	(0.028)	(0.012)	(0.023)
Ln(Assets)	−0.005	−0.013**	−0.013*
	(0.005)	(0.005)	(0.008)
Leverage	0.042**	0.076***	0.002
	(0.017)	(0.014)	(0.016)
Cash Ratio	0.117***	0.123***	0.135***
	(0.027)	(0.028)	(0.039)
Growth	0.126	0.022	0.057
	(0.182)	(0.141)	(0.180)
Tangibility	−0.392	0.054	0.684
	(0.295)	(0.147)	(0.437)
Ln(Board Size)	0.013	−0.000	0.001
	(0.015)	(0.010)	(0.015)
Ln(Age)	0.008	0.003	0.017
	(0.017)	(0.012)	(0.019)
Liquidity	0.005	−0.002	−0.008***
	(0.005)	(0.003)	(0.003)
Ln(R&D)	−0.007	0.000	0.004
	(0.005)	(0.003)	(0.004)
Ln(Board Tenure)	0.000	0.001	−0.009
	(0.010)	(0.007)	(0.009)
Non-British Ratio	−0.048	−0.055**	0.075**
	(0.043)	(0.024)	(0.037)

(Continues)

TABLE 7 (Continued)

Proportion of equity financing	ROA		
	Low (Tercile1)	Medium (Tercile2)	High (Tercile3)
	I	II	III
Female Ratio	0.032	0.018	−0.023
	(0.025)	(0.018)	(0.029)
Constant	0.013	0.127***	0.138**
	(0.048)	(0.045)	(0.069)
Firm & Year FE	Yes	Yes	Yes
Adj R^2	0.042	0.055	0.053
Observations	2077	2286	2174

profitability level, CBCs with low equity financing still experience a reduction in ROA compared to their non-CBC peers. Past profitability and related endogenous decisions do not appear to drive our findings.

Large firms often have easier access to resources compared to small and medium-sized companies. They can signal CSR through alternative means such as public relations and communications (Harjoto et al., 2018). Additionally, larger firms are more likely to attract external funding due to reduced informational asymmetry for investors. According to the pecking order theory, firms rely more on internally generated funds, including cash reserves, to finance new projects and operations (such as the B-Corp Certification), as internal financing is typically more cost-effective (Donaldson, 2000). Furthermore, firms with greater growth opportunities may have better access to resources, resulting in smoother operations and improved performance. Creditworthiness can also play a role, as firms with better credit scores may have access to cheaper financing options, potentially leading to better performance. On the other hand, studies by Cheng (2008) and Guest (2009) suggest that coordination and communication problems increase as board size grows, outweighing the benefits of having more expertise on the board. Hence, firms with smaller boards may perform better. Additionally, companies with high ownership concentration are believed to have better governance through enhanced monitoring by a few large shareholders (Shleifer & Vishny, 1986), potentially leading to improved firm performance. Finally, the performance of firms can be influenced by their respective industries, with certain sectors and businesses being more lucrative than others. Overall, any of these conditions could justify the relationship between firm performance and the CSR engagement through B-Corp Certification.

To explicitly analyze these factors, we construct sub-samples based on firm size (SME or non-SME), credit score (secure or not secure), ownership concentration (low or high) using Bureau van Dijk database, cash ratio (above or below the sample median), growth (above or below the sample median), and board size (above or below the sample median). We also conduct separate analyses for the top three industries. Our expectation is to observe different relationships between ROA and CBCs across these subgroups if any of these factors serve as the explanatory channel for the observed relation, rather than firms' external equity financing. Table 9 presents consistently negative results across all subgroups. These findings suggest that firm performance is negatively associated with B-Corp Certification, regardless of industry, firm

TABLE 8 Testing the potential effect of past profitability.

This table reports the difference-in-difference analysis estimates for the interaction between *CBC* and *Post* along with *Ln(Assets), Leverage, Cash Ratio, Growth, Tangibility*, and *Ln(Board Size)* as control variables. The analysis is conducted for the subsample of firms with low proportion of equity financing (low tercile). The test is repeated for both groups of firms with last year's operating profitability in the either bottom or top quartile of the sample for that year. The dependent variable is *ROA*, i.e. the profit before tax over total assets. *CBC×Post* is the main explanatory variable. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. Variable definitions are available in Table A.1. All explanatory variables are lagged by 1 year. Year and firm fixed effects are included. *CBC* and *Post* are not included in the model separately as they are subsumed by time dummy and firm fixed effects. Standard errors are clustered by firms and given in parentheses. ***Statistical significance at the 1% level.

Proportion of equity financing	**ROA** **Low (Tercile1)**	
	Bottom quartile	**Top quartile**
Operating profit last year	**I**	**II**
CBC × Post	−0.200*	−0.309*
	(0.120)	(0.163)
Ln(Assets)	−0.005	−0.012
	(0.004)	(0.028)
Leverage	0.022	0.131*
	(0.019)	(0.078)
Cash Ratio	0.047	0.054
	(0.091)	(0.046)
Growth	−0.512	−0.210
	(0.555)	(0.369)
Tangibility	−1.318**	1.078
	(0.620)	(1.136)
Ln(Board Size)	−0.016	0.002
	(0.018)	(0.028)
Constant	0.055	0.187
	(0.043)	(0.242)
Firm & Year FE	Yes	Yes
Adj R^2	0.062	0.159
Observations	825	440

size, board size, credit score, or any other firm characteristics when the influence of external equity is removed. Consequently, none of these factors can explain why certification of CSR does not harm the performance of some firms. Our findings indicate that a company's equity financing is the primary explanatory factor for why being B-Corp certified does not decrease performance for some firms, while it may have negative effects on others.

TABLE 9 Analysis on other potential channels.

This table reports the difference-in-difference analysis estimates for the interaction between *CBC* and *Post*, for various sub-samples. In Panel A, sub-samples are created according to firm size (whether a firm is SME or not), as well as, above and below sample median for cash ratio and growth. In Panel B, sub-samples are constructed using firm's credit score (whether a firm is secure or not), as well as, above and below sample median for board size, and according to low and high ownership concentration. In Panel C, the companies in the top three industries are analyzed separately. The dependent variable is *ROA*, the profit before tax over total assets. *CBC* × *Post* is the main explanatory variable. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. Variable definitions are available in Table A.1. Control variables are included and lagged by 1 year. Year and firm fixed effects are included. Standard errors are clustered by firms and given in parentheses. ***Statistical significance at the 1% level.

Panel A: Analyses with subsamples of size, cash ratio, and growth

Subsamples	ROA					
	Size		Cash ratio		Growth	
	SME	Non-SME	Above median	Below Median	Above median	Below median
Variables	I	II	III	IV	V	VI
CBC × Post	−0.016*	−0.099*	−0.116***	−0.016*	−0.030*	−0.020**
	(0.009)	(0.060)	(0.019)	(0.010)	(0.018)	(0.009)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.018	0.061	0.069	0.016	0.065	0.015
Observations	5325	1276	1819	4797	1474	5142

Panel B: Analyses with subsamples of credit score, board size, and ownership concentration

Subsamples	Credit score		Board size		Ownership concentration	
	Secure	Not secure	Above median	Below median	Low	High
CBC × Post	−0.051*	−0.028*	−0.027*	−0.027**	−0.046*	−0.030**
	(0.029)	(0.016)	(0.015)	(0.013)	(0.024)	(0.013)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.052	0.054	0.034	0.021	0.117	0.022
Observations	3646	2572	2967	3649	650	3903

Panel C: Analyses with top three industries

Subsamples	Services	Wholesale & Retail	Manufacturing
CBC × Post	−0.040*	−0.033*	−0.019*
	(0.021)	(0.019)	(0.011)
Controls	Yes	Yes	Yes

TABLE 9 (Continued)

Panel C: Analyses with top three industries			
Subsamples	**Services**	**Wholesale & Retail**	**Manufacturing**
Firm & Year FE	Yes	Yes	Yes
Adj R^2	0.033	0.060	0.067
Observations	1979	1726	1161

8 | DISCUSSION AND CONCLUSION

After facing criticism for their failures to address human rights issues and their contribution to global warming, companies are now under increased scrutiny regarding their social and environmental responsibilities (Macchi & Bernaz, 2021). When companies strive for environmental and social responsibility, it often means more costs, evident in widespread greenwashing where firms claim sustainability without genuine commitment (Nemes et al., 2022). To demonstrate that they are not involved in greenwashing, companies pursue one of over 450 global CSR certifications (Gehman et al., 2019; Kim et al., 2016). Our study focuses on B Lab or B-Corp Certification, unique for evaluating a company's environmental and societal impact across industries and regions (Chen & Kelly, 2015; Moroz et al., 2018), gaining significant industry attention (Patel & Dahlin, 2022) despite criticisms (O'Regan, 2019; Raval, 2023).

In particular, we examine the impact of B Lab Certification—a costly certification mechanism—on a company's profitability, taking into account the firm's capital structure. Our contribution to this field of study is twofold: (1) we explore the role of capital structure in how B-Corp Certification affects financial performance, and (2) we extend the research on revenue generation by investigating such certification and its financial impact on firms, specifically profitability.

A particular debate on B-Corps is whether being certified impacts a company's access to equity. While some argue that transitioning away from a shareholder-centric approach complicates equity capital access (Chafkin & Cao, 2017), others suggest that an increasing number of investors recognize the benefits of investing in companies that consider the impact of these companies on all stakeholders, as they believe this approach yields long-term advantages (Alexander, 2017). Indeed, an increasing number of venture capitalists are now investing in B-Corps, and there is a rising trend of B-Corps going public (Alexander, 2017). While the debate emphasizes the significance of equity capital access, there's a lack of research investigating how this access affects the profitability of B-Corps. We aim to address this gap by examining how the capital structure of these firms influences their profitability.

We discover that predominantly equity-financed CBCs do not experience a drop in their Return on Assets postcertification compared to their non-CBC counterparts in the same period. In contrast, CBCs primarily funded predominantly through debt perform worse than their non-CBC peers postcertification. Additionally, we find that the higher the debt component, the greater the performance deterioration for CBCs.

We establish the empirical credibility of our claims in this paper through a comprehensive set of tests. The triple-difference model and analyses involving BIA scores and the number of certifications provide detailed insights into our findings. Testing for various factors such as past

profitability, company size, start-up status, growth opportunities, creditworthiness, available cash, board size, and ownership concentration ensures the robustness of our results.

Our findings are significant as some UK CBCs predominantly resort to debt rather than equity financing, thereby potentially limiting their growth potential (Dowin Kennedy & Haigh, 2019). Any negative effect of certification on financial performance might prevent firms from realizing the long-term benefits derived from the creation of social and environmental value. Hence, it would be beneficial for companies contemplating the certification process to know what to expect (Parker et al., 2019). Our results can guide firms with considerate equity capital through the B Lab Certification or, if that isn't feasible, to delay this certification until their capital structure is more apt or to consider a different certification mechanism for CSR.

However, our study is not without limitations. We exclusively focus on UK firms, and further research could enhance our understanding through a cross-country comparison for a more thorough investigation. Additionally, we acknowledge that we cannot eliminate all factors that may influence companies' financial performance. For instance, our study does not delve into the content of firms' CSR activities or consider simultaneous certification processes other than the B Lab certification that they may be undergoing. Therefore, these aspects represent fruitful areas for future research.

Although there is a practitioner debate in CBC's access to equity capital, as far as we are aware, there is a lack of research on this issue. Hence, future researchers can explore the factors that facilitate these companies' access to equity capital, as our study suggests that this enhances their profitability. Another future research area includes investigating the impact of B-Corp Certification on financial performance, taking into account the potential influence of an organization's life cycle. Previous studies suggest that while such certification boosts sales and attracts capital, albeit at a cost (Chen & Kelly, 2015), mature firms can enjoy these benefits more than their peers due to their established customer and investor bases. However, their maturity may make the reorganization required for CSR certification less flexible and consequently costlier.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the Fame Database. Restrictions apply to the availability of these data, which were used under license for this study. Data are available from https://www.bvdinfo.com/en-gb/our-products/data/national/fame with the permission of Fame Database.

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APPENDIX A

See Tables A1 and A2.

TABLE A.1 Definition of variables.

This table reports the description of all the variables used in this paper.

Variables	Description
ROA	Profit before tax over total assets.
CBC	Dummy variable that is equal to one for a firm if it is ever granted with B-Corp Certification and zero otherwise.
Post	Dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise.
Post2	Dummy that is equal to one for years starting with the second B-Corp Certification for a particular firm, and zero otherwise.
Equity Ratio	External Financing through equity over total assets.
Equity Fin Dummy	Dummy variable that is equal to one if the equity ratio of a firm is in the bottom tercile of the sample in that year, and zero otherwise.
Ln(Assets)	Natural logarithm of total assets.
Leverage	Sum of short-term and long-term debt over total assets.
Cash Ratio	Cash over total assets.
Growth	Capital expenditures over total assets.

TABLE A.1 (Continued)

Variables	Description
Tangibility	Property, plant, and equipment over total assets.
Ln(Board Size)	Natural logarithm of the total number of directors in the Board.
Certifications(#)	Number of times a company obtained the certification. This includes the first certification and the recertifications.
Multiple Certification Dummy	Dummy variable equal to one for firms with more than one certification throughout the sample period, and zero otherwise.
Total	Natural logarithm of the overall B Impact Assessment score.
Community	Natural logarithm of the community score in the B Impact Assessment.
Customer	Natural logarithm of the customer score in the B Impact Assessment.
Environment	Natural logarithm of the environment score in the B Impact Assessment.
Governance	Natural logarithm of the governance score in the B Impact Assessment.
Workers	Natural logarithm of the workers score in the B Impact Assessment.
ROCE	Return on capital employed, which is profit before tax over the difference between total assets and total liabilities.
Profit Margin	Profit before tax over sales.
OP	Operating profits over total assets.
Ln(Age)	Natural logarithm of a company's age.
Liquidity	Current assets over current liabilities.
Ln(R&D)	Natural logarithm of one plus research and development expenditures.
Ln(Board Tenure)	Natural logarithm of average tenure of the directors in the company board.
Non-British Ratio	Fraction of non-British directors in the board.
Female Ratio	Fraction of female directors in the board.
SME	Dummy variable that is equal to one for a firm if the company is a small or medium enterprise, and zero otherwise.
Credit Score	Company credit score according to the FAME database.
Ownership Concentration	Company ownership concentration according to Bureau van Dijk database.
Industry	Categorical variable that defines the industry of a company according to the UK SIC (2007) code. This variable includes the following values: "Services," "Manufacturing," Wholesale and Retail," "Telecommunication," and "Others."

TABLE A.2 Analyses with startup firms.

This table reports the difference-in-difference analysis estimates for the interaction between *CBC* and *Post* along with Ln(*Assets*), *Leverage, Cash Ratio, Growth, Tangibility*, and Ln(*Board Size*) as control variables. The analysis is conducted for firms with different proportion of equity financing (low, middle, and high terciles) separately. This analysis focuses on startup firms only. Startup firms are proxied through (1) "Introduction Stage" companies with negative (positive) cash flows from operating and investing (financing) activities, following Dickinson (2011), and (2) young and small companies in the lowest tercile of "Ln(*Age*) × Ln(*Assets*)" measure. The dependent variable is *ROA*, i.e. the profit before tax over total assets. *CBC*×*Post* is the main explanatory variable. *CBC* is a dummy that is equal to one for a firm if it is ever granted with B-Corp Certification, and zero otherwise. *Post* is a dummy that is equal to one for years with B-Corp Certification for a particular firm, and zero otherwise. Variable definitions are available in Table A.1. All explanatory variables are lagged by 1 year. Year and firm fixed effects are included. *CBC* and *Post* are not included in the model separately as they are subsumed by time dummy and firm fixed effects. Standard errors are clustered by firms and given in parentheses. ***Statistical significance at the 1% level.

	ROA					
Startup proxy	**Firms in Introduction Stage**			**Young and small firms**		
Proportion of equity financing	**Low (Tercile1)**	**Medium (Tercile2)**	**High (Tercile3)**	**Low (Tercile1)**	**Medium (Tercile2)**	**High (Tercile3)**
	I	**II**	**III**	**IV**	**V**	**VI**
CBC × Post	−0.110**	−0.184*	−0.016	−0.029**	−0.039*	0.022
	(0.056)	(0.094)	(0.053)	(0.014)	(0.023)	(0.030)
Ln(Assets)	−0.011	−0.055	0.004	−0.001	0.013*	−0.011
	(0.029)	(0.041)	(0.013)	(0.006)	(0.007)	(0.008)
Leverage	0.111	0.293**	0.210*	0.035**	0.064***	0.020
	(0.112)	(0.122)	(0.116)	(0.018)	(0.018)	(0.014)
Cash Ratio	0.116**	0.035	0.218	−0.042	0.112	0.119
	(0.050)	(0.093)	(0.205)	(0.147)	(0.121)	(0.084)
Growth	−0.622	0.249	−0.064	0.063	1.162	−0.775
	(0.419)	(0.415)	(0.756)	(0.674)	(0.717)	(0.851)
Tangibility	1.725*	0.209	−2.459	−1.476*	1.755***	0.578
	(0.917)	(1.259)	(1.942)	(0.874)	(0.412)	(0.610)
Ln(Board Size)	−0.146***	0.068	0.021	0.007	0.033*	0.006
	(0.044)	(0.073)	(0.045)	(0.022)	(0.020)	(0.035)
Constant	0.311	0.170	−0.697*	0.028	−0.127***	0.081
	(0.227)	(0.364)	(0.408)	(0.042)	(0.048)	(0.069)
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.467	0.491	0.341	0.061	0.137	0.041
Observations	1380	1220	1270	704	596	708