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# Can CSR engagement improve firm's resilience to the COVID-19 pandemic? Evidence from the Moroccan stock market.

## Pode o envolvimento na RSE melhorar a resiliência da empresa à pandemia de COVID-19? Dados do mercado bolsista marroquino

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**Abstract:** The purpose of this paper is to investigate empirically the role of corporate social responsibility engagement on stock returns during the COVID-19 crisis in the case of a sample of Moroccan listed companies. The authors use a difference-in-difference (DiD) regression estimated on a panel dataset of a sample of 23 Moroccan listed companies for the period spanning from March 2019 to March 2021. We identified the connection between CSR activities and financial returns by comparing the monthly stock returns of the treatment and the control groups. Empirical results reveal that the pandemic-induced decrease in stock returns is stronger for firms with CSR activities. It means that engaging in CSR activities does not immunize Moroccan firms during the pandemic. Our findings show that Moroccan's stock market is unable to positively value CSR activities. The results indicate that agency problems lead Moroccan investors to overinvest in costly CSR activities, which reduce the value of the firms in times of the COVID crisis and delay their recovery from it. To the best of our knowledge, this study is the first to investigate the relationship between CSR activities and the resilience of Moroccan companies. Also, this study is distinguished by using the DiD method and by exploiting data from the *Eikon Refinitiv* database.

**Keywords:** CSR, Resilience, Stock Returns, COVID-19 crisis, Morocco, DiD model.

**Resumo:** O objetivo deste artigo é investigar empiricamente o papel do envolvimento da responsabilidade social corporativa nos retornos das ações durante a crise da COVID-19 no caso de uma amostra de empresas marroquinas listadas. Os autores usam uma regressão de diferença em diferença (DiD) estimada em um conjunto de dados de painel de uma amostra de 23 empresas marroquinas listadas para o período que vai de março de 2019 a março de 2021. Identificámos a ligação entre as atividades de RSE (Responsabilidade Social das Empresas) e os retornos financeiros, comparando os retornos mensais das ações dos grupos de tratamento e de controlo. Os resultados empíricos revelam que a diminuição induzida pela pandemia nos retornos das ações é mais forte para as empresas com atividades de RSE. Isto significa que o envolvimento em atividades de RSE não imuniza as empresas marroquinas durante a pandemia. As nossas conclusões mostram que o mercado de ações marroquino não consegue valorizar positivamente as atividades de RSE. Os resultados indicam que os problemas de agência levam os investidores marroquinos a investir excessivamente em atividades dispendiosas de RSE, o que reduz o valor das empresas em tempos de crise da COVID e atrasa a sua recuperação da mesma. Tanto quanto é do nosso conhecimento, este estudo é o primeiro a investigar a relação entre as atividades de RSE e a resiliência das empresas marroquinas. Além disso, este estudo distingue-se pela utilização do método DiD e pela exploração de dados da base de dados Eikon Refinitiv.

**Palavras-chave**: RSE, resiliência, retornos de ações, crise da COVID-19, Marrocos, modelo DiD.

## 1. Introduction

A growing number of empirical studies have been conducted to determine whether corporate social responsibility (CRS[1]) and environmental, social and governance (ESG[2]) enhance or harm the firms' value, but their findings are still debatable. Some studies have shown that ESG activities are solely motivated by the managers' self-interested behaviors thus impacting negatively the firm's value (Brammer et al., 2006), while others have demonstrated the value-enhancing effect of ESG activities on the firms' value and reputation (Lins et al., 2017; Edmans, 2011). During the financial crisis scholars have found that ESG activities have a slow-release effect on systematic risk (Albuquerque et al., 2019). Firms with good

1 The Corporate Social Responsibility can be defined as the voluntary integration by companies of social and environmental concerns into their commercial activities and their relationships with stakeholders.

2 This acronym refers to the environmental, social and governance criteria used to assess and analyze how a company's strategy takes into account sustainable development and long-term issues.

ESG practices have strong resilience to shocks and have the ability to recover faster from external shocks (Benabou & Tirole, 2010).

But unlike the financial crisis of 2007–2008, the covid-19 crisis offers a unique perspective to investigate the CSR resiliency hypothesis. Currently, there is no information regarding how pandemics impact financial markets (Goodell, 2020). Nothing analogous has ever happened other than the 1918 Spanish flu pandemic in the distant past, therefore comparisons to natural disasters may only be made in the most general terms. Scholars and practitioners alike began investigating the buffer effect of ESG engagements on the company's stock performance during the pandemic and whether they contribute to the firms' resilience and fast recovery (Albuquerque et al., 2020; Ding et al., 2020).

In this study, we analyze the connection between ESG engagement and stock performance amid the COVID-19 crisis by investigating the influence of ESG engagement on the stock returns of publicly traded companies in Casablanca's stock exchange. The Moroccan stock market offers a unique perspective to re-examine the nature of the relationship as it the Moroccan stock exchange gives a different angle than that of developed countries. Furthermore, large state or family-owned conglomerates make up the lion's share of the stock market capitalization. Therefore, Moroccan traded companies suffer from a severe agency problem due to the state ownership and information ambiguity as a consequence of family-owned businesses (Piotroski et al., 2015; Jiang & Kim, 2020).

The remainder of the study proceeds as follows. In section 2 we provide a review of the related literature. Section 3 presents the data and the methodology used in the study. Section 4 presents and discusses the main results. Section 5 concludes.

## 2. Theoretical background

### *2.1. CSR and ESG activities*

According to the European Commission's Green paper, CSR can be defined as "a voluntary commitment, which consists in integrating economic, social and environmental objectives in the production process and in the relationship with external and internal stakeholders and that which is required by law" (European

Commission, 2001). Based on this definition commercial, financial and industrial companies alike are not only responsible to the internal stakeholders (shareholders and debtholders) but also the broad scope of external stakeholders such as customers, suppliers and civil society. And while companies are defined as a corporate citizen from a CSR point of view, because it only focuses on the relationship of the company with its stakeholders, an ESG perspective incorporates other non-financial aspects. In other words, ESG is a broader concept than CSR, taking into consideration a wider spectrum of social values, namely sustainable development and green finance (Gillan et al., 2021). But why do companies pursue CSR and ESG activities?

The answer can be given through stakeholder and legitimacy theories. According to the first theory, firms are not isolated entities from the rest of society, and the firms' actions have an impact on the wider range of its stakeholders, the society and the environment as a whole. Thus, firms can not only rely on profit maximization logic but should seek sustainable management (Freeman, 1984). The second theory gives an institutional perspective to why should firms adopt ESG and CRS activities. While pursuing these activities can be costly in the short run but helps to legitimize the firm's reputation and credibility among investors and creditors which can be rewarding in the long run. A legitimate firm can easily secure the necessary funds and resources vital to the firm's growth and performance (Deegan & Unerman, 2011). But this being said how do the CRS and ESG activities impact the firm's value and performance?

*2.2. CRS and the firm value*

A growing number of empirical literature have attempted to clarify the relationship between CSR activities on one hand and the firm's value on the other but with mixed results showing either a positive relationship (Lins et al., 2017;Phang et al., 2023), a negative relationship (Di-Guili & Kostovetsky, 2014) or neutral (Bae et al., 2021). From this empirical literature, two opposite hypotheses have emerged to try to explain the nature of the relationship. An overinvestment hypothesis based on the agency and neoclassical theory, and a conflict resolution hypothesis based on the stakeholder theory.

*2.2.1. The negative view*

The overinvesting hypothesis suggests that engaging in CRS activities is solely motivated by the manager's self-interested behaviors (Cespa & Cestone, 2007). Managers tend to increase their reputation and persona as good and engaged citizens (Bardy & Ruben, 2010). Furthermore, according to Cespa & Cestone (2007) engaging in CSR practices is a good strategy for CEOs to maintain their positions. With this in mind, managers tend to increase their CSR engagement and overinvest beyond an optimal level, reducing the firms' value. Moreover, a wide range of empirical studies show that insiders' holdings are unfavorable to the firms' CRS activities, implying that overinvesting in CRS activities is partly due to the agency problem (Lin et al., 2021; Kruger, 2015).

Following the neoclassical theory, the sole purpose of the firm is to maximize the shareholders' wealth. Friedman (1970) views the CSR engagement as a donation from shareholders to the stakeholders which can lead to a competitive disadvantage compared to unengaged companies. According to Friedman, it's not up to managers to donate on behalf of shareholders, and if shareholders wish to donate it should be from their own income. According to stockholders' theory, resources should be allocated to improving the profitability and wealth of shareholders. Any resources directed toward stakeholders decrease the firm's value.

*2.2.2. The positive view*

According to Freeman (1984), the conflict resolution hypothesis (or reputation-building hypothesis) states that CSR activities have a positive impact on firms' value *"doing well by doing good"*. According to the stakeholder theory, CRS activities help to mitigate conflicts between internal and external stakeholders, improve the firm's communication with its environment and reduce conflict of interest between managers and stakeholders by improving firm's reputation.CSR can also be used to strengthen the company's branding allowing product differentiation, boosting the company's margins and reducing the information asymmetry which diminishes the risk (Albuquerque et al., 2019). Empirical studies demonstrate that CRS reduces firm's information asymmetry and thus lowers the risk premium benefitting the company from lower capital cost (Cui et al., 2016; El Ghoul et al., 2011). Based on the above discussion CSR allow to benefit from a positive valuation effect.

*2.3. The CSR and the firm's performance*

To date, researchers have not reached the same conclusions about the effect of CSR activities and financial performance. Some studies have shown a positive correlation, others a negative correlation, and still others no correlation.

Numerous studies have shown a positive impact of CSR activities on the firm's financial performance. Orlitzky (2001) showed that when firm size is taken as a control variable, CSR is found to be positively associated with financial performance. Simpson & Kohers (2002) investigated the relationship between CSR and financial performance in the banking sector, and the results confirm the positive connection between the two. Luo & Bhattacharya (2006) demonstrate that CRS activities allow for better financial performance in the long term. In the same way, Surroca et al. (2010) found that the formation of intangible assets impacts positively the firm's financial performance. In the same vein, Shen & Chang (2009), by relying on four matching methods, established that CSR is positively related with firms' profit margin, net sales, and pre-tax income. Pan et al. (2014) studied the relationship between CSR and financial performance in the mining industry in China and established that CSR is positively linked with financial performance. Aboud & Diab (2018) also found that ESG activities that satisfy stakeholders' interests improve financial performance. Moreover, Kang & Jung (2020) establish that ESG activities don't impact equivocally the firms' financial performance, but it depends on the firms' financial characteristics.

On the other hand, other research findings confirm the positive impact of CSR on financial performance. Using a UK corporate reputation index, Brammer et al. (2006) found a negative impact of CSR on firms' stock returns. Based on a cross-country analysis, Surroca & Tribó (2008) highlighted a negative relationship between firms' financial results and their social performance. Similarly, the work of Makni et al. (2009) identifies a strong negative impact of the environmental dimension on financial performance. The same results were found by Duque-Grisales & Aguilera-Caracuel (2021) in the case of Latin American companies.

*2.4. ESG and financial performance during the crisis*

Various studies had been conducted to study the effect of ESG activities during the financial crisis. A part of them demonstrated the positive impact of ESG activities on the firms' financial performance during the period of crisis. Cornett et al. (2016) establish that banks with high quality CSR activities had a higher financial performance during and after the financial crisis. Lins et al. (2017) stress that CSR activities during the crisis are associated with higher stock returns, and high-CRS rated firms had higher profitability and rapid growth during the same period. Krueger et al. (2021) found that firms with higher ESG performance are less sensitive or more resilient and recover rapidly from the aftermath of the crisis. Oikonomou et al. (2012) come to the conclusion that CRS activities were negatively correlated with financial risk.

According to Broadstock et al. (2021), in their analysis during the COVID-19 crisis, firms with high ESG scores performed better than those with low ESG scores. The event study method was used to demonstrate that ESG did, to some extent, play a key role in avoiding risk during times of crisis as opposed to times of prosperity. Using the difference in differences method to measure the moderation effect of ESG activities on firms' risk during the crisis, Albuquerque et al. (2021) demonstrated that firms with poor ESG performance showed a downside risk that is significantly greater than that of firms with excellent ESG performance. Furthermore, Diaz et al.(2021) found that the environment and society are the two key factors that can indicate the importance of risk avoidance during the COVID-19 crisis. Yamada & Takahashi (2021) determine the elements that influenced the Japanese stock market during the COVID-19 epidemic. There is no evidence that companies with high ESG scores have greater abnormal returns, but those with ESG funds do better than those without. Table I below summarizes the results of some recent studies regarding the relationship between ESG practices and firms' value.

*Table 1: Summary of empirical studies on the relationship between ESG engagement and firms' value*

| **Study** | **Market scope** | **Relationship between** | **CRS → company's performance** | **Methodology** |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| **Tian et al.** (2022) | Chinese stock market | Companies' characteristics and stock returns | Negative impact on stock return | Difference in differences |
| **Abedifar et al.** (2021) | Canada, France, Japan, the UK and the US. | Companies' characteristics and stock returns | Mixed results depend on the country | Accounting-Based Analysis |
| **Lee et al. (2022)** | Korean stock exchange | Investors type and stock returns | Positive impact on stock returns Investors liquidate lower ESG engagement companies | Event study |
| **Yi et al.** (2022) | Chinese stock exchange | Companies' characteristics and stock returns | Negative impact due to agency | Difference in differences |
| **Qiu et al. (2021)** | Chinese stock exchange | Companies' characteristics and stock returns | investors positively react to pandemic-related CSR activities | Difference in differences and event study |
| **Mousa et al.** (2021) | Arab countries | Arab stock market indexes | Positive impact on stock returns and the firms value | GARCH model |
| **Zhou & Zhou** (2021) | Chinese stock market | TobinQ,companies' characteristics and stock returns | ESG engagement has a cushion effect, lowers volatility and stronger recovery | Difference in differences |
| **Hafez** (2016) | Egyptian stock exchange | Companies' characteristics and stock returns | Significant positive relationship between CRS and stock performance | multiple linear regression |
| **Cardillo et al.** (2022) | European countries | ESG ration and death cases | ESG improves stock performance | panel data regressions |
| **Bonnie et al.** (2017) | American stock exchange | TobinQ, companies characteristics and stock returns | CSR firms has a higher firm value than non-CSR | Difference in differences |
| **Hwang et al.** (2021) | Korean stock exchange | Companies' characteristics and stock returns | ESG activities protect firms from a sharp decline in financial performance | Difference in differences |
| **D'Amato & Falivena** (2020) | European stock exchange | KLD TobinQ, companies' characteristics and stock returns | CSR affects firm value differently, depending on company size and age | Panel model |
| **Hu et al. (2018)** | Chinese stock exchange | TobinQ, companies' characteristics and stock returns | Neutral impact | Multiple linear regression |
| **Engelhardt et al. (2021)** | European stock exchange | Companies' characteristics and stock returns | higher ESG ratings firms perform significantly better during the crisis | ordinary least squares (OLS) regression |

*Source: Authors*

In summary, current research offers ambiguous conclusions on the connection between companies' CSR or ESG engagement and stock returns during the COVID-19 crisis. Hence, we formulate the following alternative hypotheses:

**Hypothesis H1a:** Listed Moroccan firms with ESG engagement have higher stock returns amid the COVID-19 crisis than firms without ESG engagement.

**Hypothesis H1b**: Listed Moroccan firms with ESG engagement have lower stock returns amid the COVID-19 crisis than firms without ESG engagement.

**Hypothesis H1c**: Listed Moroccan firms with ESG engagement have stock returns comparable to those of firms without ESG engagement, during the COVID-19 crisis.

## 3. Data and methodology

### *3.1. Data*

Our sample is made up of 23 listed companies in Casablanca's stock exchange between the period of March 2019 and March 2021. We begin with our treatment group which includes the ten companies of the ESG10 index. These companies are considered to be a treatment group, as they adhere to CSR activities from the point of view of the ESG10 index. For the control group, we are going to choose the other remaining companies listed in the MSI20 that are not included in the ESG10 index, i.e. companies that do not engage in CSR activities as defined by the ESG10 index. The choice of control group is largely dictated by data availability. Our sample of firms covers 83% of the total transactions in Casablanca's stock exchange. We extract data about the corporate financials and stock returns from *Eikon Refinitiv* database.

### *3.2. The model*

In impact evaluation studies, one of the most used techniques is Difference-in-Differences. The approach, which combines before-and-after and treatment-control group comparisons, is intuitive and has been applied extensively in a variety of fields, including management, public policy, economics, and health research. The basic idea behind DiD models is that observations are collected for two groups of individuals. One group is the treatment group, which is exposed to the treatment. The other is the control group, which receives no treatment. In the absence of treatment, the treatment and control groups should in principle follow the same

trend over time. This is known as the parallel trend hypothesis. The DiD model makes it possible to assess the effect of implementing a policy by comparing the differences between the treatment and control groups before and after the policy has been implemented[3].

Following Tian et al. (2022), first we employ a difference-in-difference model, which is used to investigate the impact of a policy or an exogenous event, to determine the causal relationship between CSR and stock returns during the covid-19 crisis in Morocco.

In order to compare the monthly stock returns of the control and treated groups, we use an event window of [-12, +12], from March 2019 to March 2021, and estimate the following difference-in-difference regression:

$$Y_{it} = \alpha_0 + \alpha_j D_{it} + \gamma_j Z_{it} + u_i + \lambda_i + \varepsilon_{it} \quad (1)$$

The dependent variable $Y_{it}$ is the monthly stock return adjusted by dividend which is used to determine the firm's performance while we use the monthly abnormal stock return adjusted by dividend to check the robustness of the results. Whereas the independent variable $D_{it}$ is the treatment dummy that takes 1 if the firm belongs to the control group and to a post-covid-19 period; otherwise, it is zero. The typical treatment effect is static. We consider the lockdown on March, 2020, as an exogenous shock.

Based on the relevant literature like Clarkson et al., 2008, 2019; Lins et al., 2017; Chen et al., 2018; Zhang et al., 2020 ; Li et al., 2020 ; Ting, 2021; Albuquerque et al. (2020), Poursoleyman et al, 2023, the $Z_{it}$ matrix is a set of firms' characteristics used as control's variables. The reason is that these variables have been shown to influence stock returns and play a decisive role in the relationship between CSR and company performance. Firms' volatility is the stock's logarithmic rate of return over the past 250 trading days. Ownership is a dummy variable that takes 1 if the majority shareholder is a foreign investor; otherwise, it is 0. Other control variables are based on accounting data. *Lev* is the total liabilities

[3] Like all quasi-experimental methods, the Difference-in-Differences approach measures the effect of a treatment on the treated group. However, it does not measure the effect it would have if generalized to the entire population, nor does it capture variations in effects among different treated individuals.

divided total assets. The operating cash flow to total assets ratio is used to determine *cash flow*. *ROA* is defined as the net asset to total asset ratio. *Size* is the natural logarithm of the book value of the entire assets. *BM* is the market-to-book ratio.

Second, we employ a staggered difference in difference model (dynamic DiD) to verify the pre-treatment parallel trends hypothesis:

$$Y_{it} = \alpha_0 + \sum_l \alpha_l D_{it} + \gamma_j Z_{it} + u_i + \lambda_i + \varepsilon_{it} \quad (2)$$

Where $D_{it}$ is a series of dummies variable indexed by firm and the month relative to the covid-19 outbreak in March 2022. If no significant difference between the treated and non-treated firms occurs, therefore we assume that the parallel trend hypothesis is verified as there is no treatment effect. We use a TWFE regression model and an alternative model proposed by Sun & Abraham (2021) to test the parallel trend assumptions.

*3.3. Results and discussion*

*3.3.1. Results of the main regression*

Table II provides a summary of the key regression. The second and third columns of table II's first row employ monthly returns as their dependent variable. The average treatment effect is still statistically significant at 1% in the second column, whereas the first column simply includes additional control variables for the company and time fixed-effects. The empirical data shows that, during the COVID-19 pandemic, CSR had a considerable negative impact on stock returns. The financial performance of both control and treatment groups was negatively and significantly affected by COVID-19. However, these effects were more pronounced for the treatment group than for the control group. The average monthly returns of corporations with CSR engagement are -1.367 percent lower than those of their competitors. By using the monthly abnormal return rate, the first and third Columns show that the average treatment effects are still significant. Thus, our results are consistent with the shareholder's theory (Friedman, 1970).

*Table 2: The effects of ESG engagement on stock return according to diff and diff regression*

| | **Dependent variable** | | | |
|---|---|---|---|---|
| | Abnormal return | Normal return | Abnormal return | Normal Return |
| | (1) | (2) | (3) | (4) |

| | | | | |
|---|---|---|---|---|
| **$D_{it}$** | **-0.567*** | **-1.367***** | **- 0.773*** | **-1.423***** |
| | **(0.309)** | **(0.371)** | **(0.456)** | **(0.468)** |
| **ROA** | -0.019 | 0.008 | | |
| | (0.091) | (0.092) | | |
| **Lev** | -1.585 | -1.703** | | |
| | (0.756) | (0.800) | | |
| **Volm** | -15.272 | -13.570 | | |
| | (13.464) | (12.568) | | |
| **BM** | -1.934*** | -2.044*** | | |
| | (0.172) | (0.170) | | |
| **Cashflow** | -0.597 | -0.522 | | |
| | (1.080) | (1.100) | | |
| **Size** | -0.089 | -0.143 | | |
| | (0.136) | (0.136) | | |
| **Ownership** | -0.780** | -0.705 | | |
| | (0.375) | (0.382) | | |
| **Constant** | 2.094** | 1.950** | 0.446 | 0.592** |
| | (2.643) | (0.892) | (0.317) | (0.316) |
| **Observations** | 552 | 552 | 552 | 552 |
| **R2** | 0.027 | 0.019 | 0.002 | 0.005 |
| **Adj $R^2$** | 0.012 | 0.005 | 0.001 | 0.003 |
| **Residual Std. Error** | 6.297 (df = 543) | 8.010 (df = 543) | 6.335 (df = 549) | 8.017 (df = 549) |
| **F-Statistic** | 1.859* (df = 8;543) | 1342 (df = 8; 543) | 1.295 (df = 2;549) | 2.736 (df = 549) |

Note: *, **, *** represent the significance at 1%, 5% and 10% respectively.

*Source: Authors*

Furthermore, according to the agency theory, which argues that agency issues drive managers to overinvest in pricey CSR initiatives for their own purposes, CSR had a detrimental influence on stock returns during the crisis. Overinvestment may have put businesses in poor financial conditions when the COVID-19 pandemic unexpectedly occurred, which limits businesses' ability to operate during the crisis and recover from it. Investors respond more harshly to companies with CSR activities because they anticipate these repercussions (Johnson et al., 2000).

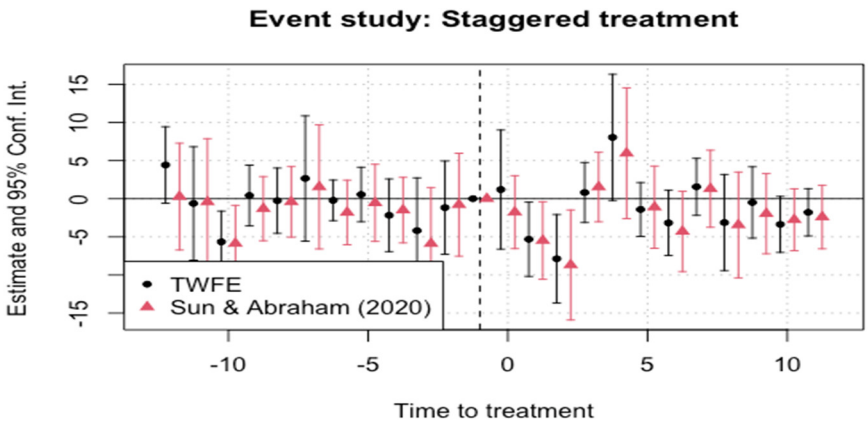
A significant drop in asset value during the crisis makes agency issues more acute, leading to extensive credit rationing and significant reductions in all sorts of investments (Bernanke et al., 1999). Almeida et al. (2012) uncover empirical proof of the sharp decline in business investment that followed the start of the 2008 financial crisis. Therefore, without adequate supervision, the costs of CSR overinvestment during a financial crisis, when financial resources become more precious, can outweigh the benefits of conflict resolution. In other words, the deployment of CSR programs wastes valuable firm resources and causes a decline

in firm value during the crisis without adequate monitoring and external corporate control. Thus, negatively impacting the firm's value and stock performance. According to our results, CSR performance does not increase corporate resilience to COVID-19 exogenous shock.

*3.3.2. Results of the dynamic regression*

This section looks at how CSR changed both before and after COVID-19. Using a dynamic difference in differences regression, we then explore the dynamic impacts of ESG engagement pre and after the COVID-19 crisis. Figure I shows the dynamic effects of CSR together with associated confidence intervals by using a TWFE model and Sun and Abraham (2021) correction. The two regressions show that the pre-treatment coefficients are statistically insignificant, demonstrating that there is no significant treatment effect between the treatment and control group thus suggesting that the parallel trend hypothesis holds for our case. In contrast, their stock returns dramatically diverge after the incident, and the differences last for 5 months before they converge once again after the 5$^{th}$month.

*Figure 1: The dynamic effect of CSR on stock return*




*Source: Authors via R*

The results demonstrate that Moroccan's stock market is unable to positively value CSR activities. This finding is not in line with the resiliency hypothesis involving that firms that engage in CSR activities are more resilient in periods of crisis. Some explanation may confirm this result. The first one stems from the agency theory which implies that Moroccan managers, who are motivated by their self-interest, tend to overinvest in costly CSR activities. As a result, the stock

market returns of companies decline during the pandemic. The second one is that the CSR practices are part of a long-run strategy; hence they can only have a positive long-run impact on a company's financial performance. Thus, the effect is non-linear, initially negative (cost of CSR activities), and then reverses from a certain level or in the long-run, which finally improves stock returns. A third possible explanation is that Morocco is a small emerging economy that has not yet reached the stage of development where CSR practices will be appreciated. Ding et al. (2021) showed that CSR activities enhance firm resilience in economies that value them highly and where social norms place a high value on the human rights and the environment. In these economies, CSR is more likely to boost loyalty and improve stakeholder relations.

Our findings are inconsistent with studies of Ding et al. (2021) and Albuquerque et al. (2020), Broadstock et al. (2021) and Phang et al. (2023) who claimed a positive impact of CSR activities on stock returns. However, they are in line with the results of Tian et al. (2022), Yi et al. (2022), and Nirino et al. (2022) who established that CSR activities worsen the stock performance of Chinese firms. Indeed, this study contributes to the intense debate on the role of CSR activities in firm resilience.

3.3.3. Robustness checks

The crucial assumption of DiD models is the presence of parallel trends. Violation of this assumption is likely to bias the identification of the causal effect of a treatment. We use a TWFE regression model and an alternative model proposed by Sun & Abraham (2021) to test the parallel trend assumptions. The two estimated regressions showed that the pre-treatment coefficients are statistically insignificant, suggesting that the parallel trend hypothesis holds for our case. This is also confirmed with the introduction of exogenous control variables[4].

## 4. Conclusion

By the end of February 2020, an exogenous shock caused by the COVID-19 pandemic triggered the fastest stock market decline in history. We exploit this

[4] To reinforce the robustness of the results, we can also use a placebo test by replacing the control group with another similar control group. But unfortunately, lack of data prevented us from carrying out such a test.

unprecedented period to study the influence of CSR activities on the financial performance of listed Moroccan firms during this crisis. The unpredictable nature of this event provides the researcher with an interesting opportunity because firms did not have enough time to react and, as a result, their resilience depends solely on their previous strategic decisions. We reveal that the pandemic-caused decline in stock returns is more pronounced for companies that engage in CSR activities. It means that engaging in CSR activities does not immunize Moroccan firms during the pandemic. This result is not consistent with the resiliency hypothesis which states that companies that engage in CSR practices are more resilient in times of crisis. So, Moroccan's stock market is unable to positively value CSR activities.

A possible explanation for this result relates to the agency problem. According to agency theory, Moroccan managers, guided by their own self-interest, tend to overinvest in costly CSR activities, which has hurt the stock market performance of Moroccan companies during the COVID crisis and impeded their recovery afterward. This can also be explained by the non-linear effect of investment in CSR activities on financial performance and by the fact that these practices are relatively recent in Morocco so that they are not yet appropriated by investors.

Although CSR activities are detrimental to companies' financial performance, this impact is likely to be reversed as these activities become more visible and developed. Managers therefore need to become more involved in CSR activities, strengthen the quality of responsible investment and raise investor awareness of the importance of these activities.

The study has focused only on listed firms. It would be more interesting to expand the sample to unlisted companies in future research in order to get a complete picture of the connection between CSR activities and the performance of Moroccan firms.

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