

Article

Corporate Social Performance, Financialization, and Real Investment in US Manufacturing Firms

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Abstract: In recent years, the global financial and economic crisis are rewriting the relationship between business and society, focusing, among other things, on the role of the process of financialization, not only in the economy as a whole but also within non-financial companies. Shareholder value maximization, together with the commoditization of business, has led to a general short-term approach at the expense of capital accumulation and core business activity, to the detriment of not only firms' competitiveness and productivity but also of human capital, strategic innovation, business ethics, and long-term growth. Within this framework, this study investigates the role of corporate sustainability, analyzing the nexus between financialization, accumulation of real capital, and corporate social performance, an issue that has been neglected so far. Using a sample of US manufacturing firms from 2002 to 2017, we found that, while financialization was negatively correlated with corporate real investment, the environmental and social firm performance positively impacted corporate capital accumulation. Our results support the belief that a focus on environmental, social, and governance standards, fostering real investments, may enhance a firm's long-term growth with a positive effect on its long-term value.

Keywords: corporate social responsibility; corporate social performance; ESG factors; corporate financialization; corporate real investment

1. Introduction

In recent decades, an extensive body of literature found a negative correlation between financialization and the accumulation of real capital from both a macroeconomic and firm-level perspective. More recently, some studies analyzed the implications of corporate social responsibility (CSR) activities on corporate real investment. Nevertheless, to the best of our knowledge, the interaction between corporate financialization, CSR standards, and capital accumulation has not been systematically explored yet. The increased financialization of nonfinancial companies (NFCs) had consequences on their business behavior, leading to a slowdown of real capital accumulation with associated negative externalities such as higher unemployment, higher inequality, and slower transition to a sustainable growth. In line with this, we define “corporate financialization” in NFCs the increasing share of profits earned from financial investment coupled with a growing share of profits flowing to shareholders [1].

The growth of corporate investment in financial assets often aims to compensate the fall in profits earned in the real sector in the short term, producing a vicious circle in the long-term, as the ensuing fall of real investment is bound to further reduce the profits from them and increase the share of profits from financial activity. This process is one of the results of the adoption of the maximization of shareholders' value as the exclusive goal of the firm since the late 1970s. In this framework, corporate financialization

leads managers to increase the firm's short-term value, rather than to sustain capital accumulation and core business activity, to the detriment of not only firms' competitiveness and productivity but also of human capital, strategic innovation, business ethics, and long-term growth [2,3]. With the last economic and financial crisis, negative effects of financialization emerged together with a renewed interest on CSR as a possible corporate governance model, redefining the role of business in society [4–10]. Therefore, a growing number of firms started to reconsider CSR principles, shifting corporate behavior towards a more sustainable strategy supported by a managerial commitment focused on long-term value creation [10,11]. To this end, managers need to boost long-term real investment [5,12].

Nevertheless, it has long been debated in the literature to what extent a CSR-oriented approach is able to activate antibodies capable to mitigate the controversial effects of short-termism, an opportunistic managerial approach, and corporate financialization. Previous studies [13–15] pointed out that the firm's ethical standards are strongly affected by the motivations of managers that lead to the implementation of specific CSR initiatives. According to Schaltegger and Burritt [16], managers have different ethical views on CSR activities. They consider CSR initiatives as: (i) potentially costly to the detriment of profit maximization; (ii) crucial only if the firm is still able to enhance short-term financial returns; (iii) useful to innovate the productive and organizational processes creating new business opportunities in the long run; (iv) strategic to improve the financial performance of the firm by cooperating with all stakeholders. Moreover, we can expect that managers' motivations for the adoption of CSR practices will be further enhanced thanks to the pressure exerted by investors, civil society, international organizations, and regulators [17]. The investment community is increasingly recognizing that a focus on environmental and social issues of the assets in their portfolios will affect their ability to generate financial returns over the long-term [18]. Civil society is increasingly enhancing its awareness about sustainability, supporting more socially responsible companies [19,20]. In September 2015, the United Nations launched the Agenda 2030, defining 17 sustainable development goals to address sustainability issues at both a global and local level [21]. Finally, policymakers recently adopted a more severe attitude against ethical laxity that has been dubbed post-crisis "ethics turn" in financial regulation [22] and in accounting standards. For example, in May 2018, the European Commission, on the basis of the recommendations of the High-Level Expert Group on Sustainable Finance, adopted a package of measures that set out a comprehensive strategy to connect finance to sustainability through reorienting capital flows towards sustainable investments; managing financial risk connected to climate change, social issues, and environmental degradation; and fostering long-termism in financial and economic activities [18]. Moreover, the EU Directive 2014/95/EU set new and mandatory rules on disclosure of social and environmental information for large companies that are required to include a nonfinancial statement in their annual reports from 2018 onwards, therefore making data available to analysts and investors on a yearly basis starting from 2017. This framework requires that managers must increasingly take nonfinancial firm data and information into account in the decision-making process, in auditing, and in reporting activities. This approach is expected to enhance CSR standards, corporate transparency, accountability, stakeholder engagement, and overall corporate social performance (CSP) [23–25].

This paper aims to test the issues mentioned above, analyzing whether, in a context of corporate financialization such as that characterizing our sample, an improved ethical approach to business behavior positively affects real capital accumulation, focusing on the specific role of the environmental, social, and governance (ESG) components of CSP.

The structure of the paper is as follows. In Section 2, we survey the relevant literature on the research questions motivating this empirical study. Section 3 clarifies the nature and limitations of the sample analyzed. Section 4 discusses the results obtained and their implications. Concluding remarks follow in Section 5.

2. Literature Review

It is unanimously agreed that capital accumulation in NFCs exhibited a systematic slowdown since the 1970s (see, e.g., [26–31]). Different causes have been attributed to this phenomenon: some studies [32–35] argued that corporate capital accumulation could be affected by particular mechanisms of corporate governance; others [36–38] maintained that managerial short-termism is the main cause of this decreasing trend. In particular, short-termism penalizes corporate capital accumulation as it diverts resources traditionally allocated to support long-term firm development to sustain financial activities to maximize shareholder value in the short-term [2]. Recent studies highlighted that NFCs exhibit increasing trends in short-term corporate investment and earnings [2,28–31,39,40] as well as in leverage ratios [28,41]. Many scholars maintain that this evidence is the direct consequence of the increasing corporate financialization that has changed the dynamics of NFCs (see, e.g., [42]). In this view, NFCs aim to increase profits by investing in financial activities rather than in the development of their core business activities [38,43–47]. At this regard, a large body of empirical evidence shows that financialization is negatively correlated with capital accumulation in NFCs (see, e.g., [26–31,48–54]).

The Great Recession rekindled the public awareness of the shortcomings of this model of corporate development. At the same time, the recent debate has pointed out that some controversial effects produced by financialization might be countered by long-term strategies able to improve CSR standards (see, e.g., [55–57]).

Corporate sustainability is the result of the managerial socio-environmental and governance strategy [11,58,59] aiming to implement CSR activities, which are key to enhance CSP [23–25,60]. For this reason, corporate sustainability crucially depends on long-term investment programs managed to create virtuous dependency between previous and subsequent levels of capital accumulation [28,54,60–63]. Real investment is a critical driver to sustain CSR activities over time, improving both firm financial performance and CSP [64–70]. Such corporate strategy requires managers' commitment to resource allocation to sustain long-run firm growth [10,11,13–15]. To this end, managers should efficiently conduct their business with an integrated approach including sustainability criteria into planning and control mechanisms, decision-making processes, and performance measurement systems, as well as reporting [71]. Managers should be focused on the achievement of both short- and long-term goals, being compliant with the expectations of all stakeholders and pursuing a durable profitability aimed to corroborate the firm's survival [72–74]. The goal of CSR initiatives leads managers to use specific key performance indicators (KPIs) for measuring the resulting CSP, taking into account the firm's impact on the natural environment, society, and corporate governance [75–78]. Consequently, the integration of nonfinancial KPIs in the overall managerial set of indicators leads to improve the efficiency of the decision-making processes and the transparency of the firms. A higher availability and an extensive disclosure of financial and nonfinancial corporate data is crucial to help stakeholders and investors effectively support and finance the best-performing firms. External corporate stakeholders usually monitor firms' CSP through the analysis of ESG ratings provided by different sources.

In line with the current evolution of internal auditing and reporting activities, managers operationalize CSR principles to enhance managerial efficiency and reduce operating risks.

In this framework, the increasing role of ESG factors in the decision-making of managers and stakeholders could mitigate the undesired financialization effects and foster CSR activities by redefining firm strategies and goals in a long-term perspective [11,12,79].

The next sections present an empirical investigation on the key role of ESG factors in boosting corporate capital accumulation in spite of contrasting collateral effects of financialization.

3. Data and Methodology

An unbalanced panel dataset covering 2977 firm-level observations from 460 US manufacturing companies—i.e., with SIC codes 2000–3999—included in Thomson Reuters Asset4[®] universe was analyzed. The sample construction process is shown in Table 1, the industry-related distribution of

the sample is described in Table 2, whereas Table 3 shows the yearly distribution of the sample's observations used in the analysis. Firm-level observations cover a period of sixteen years (2002–2017) to fully appreciate the evolution in CSR governance commitment and its impact on firms' financialization.

Table 1. Sample construction process.

Asset4[®] Datastream Thomson Reuters	Companies
Initial universe of US Manufacturing firms	998
Less:	
Firms with incomplete data	538
Final sample of US Manufacturing firms	460

Source: Own elaboration.

Table 2. Industry distribution (2002–2017).

Industry	# of Firms	%	Cum.
Automobiles and Parts	23	5.00	5.00
Basic Resources	18	3.91	8.91
Chemicals	37	8.04	16.96
Construction and Material	23	5.00	21.96
Food and Beverage	45	9.78	31.74
Industrial Goods and Services	151	32.83	65.57
Personal and Household Goods	67	14.57	79.13
Technology	96	20.87	100
Total	460		

Source: Own elaboration.

Table 3. Annual observations distribution.

Year	# of Firms	
	abs.	%
2002	87	2.92
2003	87	2.92
2004	116	3.90
2005	140	4.70
2006	151	5.07
2007	160	5.37
2008	210	7.05
2009	250	8.40
2010	265	8.90
2011	237	7.96
2012	206	6.92
2013	172	5.78
2014	170	5.71
2015	228	7.66
2016	281	9.44
2017	217	7.29
Total	2977	100

Source: Own elaboration.

Data on ESG performance were collected from the Thomson Reuters Asset4[®] database, while the firm-level financial data were obtained from the Datastream Worldscope Thomson Reuters database. The use of the Asset4[®] dataset has been validated by past academic studies [80–85]. It is recognized as one of the leading databases in providing relevant and reliable information on companies' environmental (E), social (S), and governance (G) dimensions, with a broad global coverage [86]. For the

period analyzed, each company was ranked on the basis of 250+ KPIs and 750+ singular data-points, carefully collected from several primary data sources, such as sustainability reports, company annual reports and websites, newspapers, reports of non-governmental organizations, and stock exchange filings, which had to be objective and available (see, e.g., [82]).

Improvements in CSP could increase the efficiency of corporate investment activities [17,66,67], boosting corporate capital accumulation. This virtuous interaction is one of the long-debated topics in the literature. Several prior studies investigated the relationship between CSP and corporate financial performance [70,87,88], finding empirical support for the so-called “Good Management Theory” [23,89]. This virtuous relationship depends on managerial CSR motivations [13–16] finalized to activate the internal capabilities of the firm [90,91] to achieve both improved business competitiveness and corporate financial and nonfinancial performance [92–94]. In our analysis, we used the yearly change of ESG scores and sub scores to appreciate the role of an improvement in CSP. For each observation, we calculated the ESG score as the equally weighted average of the three sustainability dimensions E, S, and G.

We measured corporate capital accumulation as the amount of a firm’s real investments, equal to the yearly addition to fixed assets [28–31], identifying it as a dependent variable (*I*) in our analysis.

The availability of internal financial resources commonly changes the managerial attitude to create value for only shareholders instead of for all stakeholders [47]. Internal firm funds are particularly affected by the non-operating profits from interests and dividends and by the financial outflows related to interests paid on debts added to cash dividends paid. In this way, managers could implement speculative strategies shifting available resources to increase financial assets aiming at maximizing financial earnings instead of sustaining capital accumulation. Moreover, the increasing trends of costs to sustain financial investment could decrease internal firm resources, producing a slowdown in firm capital accumulation, as well as stressing the short-term managerial approach and the uncertainty in business planning processes.

To measure these financial effects on firms’ internal funds we include a number of proxies of corporate financialization relative to input-output financial flows as independent variables, namely: (i) the amount of financial outflows related to interests paid on debts added to the cash dividends paid, briefly named as financial payments (*FP*); (ii) the non-operating profits from interests and dividends (*NOP*) as a measure of financial inflows.

Our analysis includes also stock buybacks (*Buybacks*) as an explanatory variable, as it is another useful proxy of corporate financialization [2,28]. The inclusion of such variables in this study is justified by the idea that managers could adopt a speculative strategy, investing firm resources to repurchase their own outstanding shares on the primary market or directly from shareholders with the aim to boost the firm’s value. Although buybacks, at first glance, could be considered a managerial activity useful to consolidate ownership and to correct share price, in the last decades they became the dominant procedure to return cash to shareholders, thus enhancing stock-based benefits for managers and shareholders and boosting financial ratios to the detriment of sustainable long-term firm growth.

Moreover, we used the sum of cash, other investments, short-term investment, other current assets, briefly defined as financial assets (*FA*), as stock measures of corporate financialization [28–31].

In order to tackle possible endogenous effects which could affect the results, we included net sales (*S*) and total debt (*D*) as control variables.

Finally, we used total assets (*TA*) as a measure of firm size to scale both dependent, explanatory, and control variables.

Variables’ definitions are presented in Table 4, and Table 5 reports descriptive statistics of the variables used in the analysis, considering annual firm-level observations.

Table 4. Variables definitions.

Variable	Definition	Description
<i>I</i>	Real corporate investments	Addition to tangible and intangible fixed assets scaled by total assets.
<i>FP</i>	Financial payments	The ratio of the sum between interests payed on debt and dividends payed scaled by total assets.
<i>NOP</i>	Non-operating profit	Non-operating profit from interest and dividends scaled by total assets.
<i>Buybacks</i>	Share buybacks	The number of outstanding shares repurchased by a company to reduce the number of its shares available on the market scaled by total assets.
<i>FA</i>	Financial assets	The sum of cash, other investments, short-term investment, and other current assets (commonly called financial assets) scaled by total assets.
<i>ESG</i>	ESG score	The equally weighted average of the environmental, social, and governance sub-scores.
<i>ENV</i>	Environmental score	The score of corporate environmental sustainability, as a proxy of the best management practices to avoid environmental risks and capitalize on environmental opportunities in order to generate long-term stakeholders' value [95].
<i>SOC</i>	Social score	The score of corporate social sustainability, as a proxy of the firm's capacity to enhance trust and loyalty with its main stakeholders, such as workforce, customers, and society, through best management practices in order to generate long-term corporate value [95].
<i>CGV</i>	Corporate governance score	The score of corporate governance sustainability, as a proxy of the firm's capacity to generate sustainable value through the implementation of control mechanisms and systems of responsibilities able to regulate board members' and executives' acts pursuing long-term stakeholder expectations [95].
<i>S</i>	Net Sales	
<i>D</i>	Total Debt	
<i>TA</i>	Total Assets	

Source: Own elaboration.

Table 5. Descriptive Statistics.

Variables	Mean	Median	SD	Variance	Min	Max
<i>ITA</i>	0.0399	0.0323	0.0304	0.0009	0.0006	0.3233
<i>FPTA</i>	0.0356	0.0295	0.0365	0.0013	0	0.7552
<i>NOPTA</i>	0.0029	0.0012	0.0047	0.0000	0	0.0482
<i>BuybacksTA</i>	0.0465	0.0209	0.0944	0.0089	0	2.6863
<i>FATA</i>	0.6645	0.5912	0.3226	0.1041	0.0500	1.8021
<i>ESG</i>	0.6384	0.6661	0.2313	0.0535	0.0839	0.9789
<i>ENV</i>	0.5822	0.6614	0.3149	0.0991	0.0844	0.9734
<i>SOC</i>	0.5688	0.5994	0.2955	0.0873	0.0547	0.9932
<i>CGV</i>	0.7643	0.8071	0.1687	0.0284	0.0266	0.9823
<i>STA</i>	0.9835	0.9051	0.4441	0.1972	0.06296	3.4872
<i>DTA</i>	0.2477	0.2364	0.1661	0.0276	0	1.4712

N of observations 2977:

Source: Own elaboration.

The covariance matrix in Table 6 reports the results of the linear dependence analysis, showing the variables in our dataset, which are significantly dependent upon each other, and the related strength. The analysis shows that corporate capital accumulation (*ITA*) is in significant and negative correlation with corporate financialization proxies, namely with *FPTA* ($r \cong -0.05$; $\rho > |z| = 0.05$) and *FATA* ($r \cong -0.05$; $\rho > |z| = 0.05$). Moreover, some measures of CSP, such as *ESG* ($r \cong 0.035$; $\rho > |z| = 0.08$) and *ENV* ($r \cong 0.042$; $\rho > |z| = 0.05$) are significantly and positively correlated with corporate real investments.

Table 6. Pearson test results.

Variables	ITA	FPTA	NOPTA	BuybacksTA	FATA	ESG	ENV	SOC	CGV	STA	DTA
ITA	1										
FPTA	-0.0458 **	1									
NOPTA	-0.0272	-0.0404 **	1								
BuybacksTA	0.0006	0.1280 **	0.3194 **	1							
FATA	-0.0476 **	-0.0860 **	0.4897 **	0.1834 **	1						
ESG	0.0346 *	0.1498 **	-0.0154	0.0552 **	-0.0830 **	1					
ENV	0.0418 **	0.1500 **	-0.0422 **	0.0405 **	-0.0867 **	0.9355 **	1				
SOC	0.0284	0.1568 **	-0.0284	0.0710 **	-0.1017 **	0.9344 **	0.8190 **	1			
CGV	0.0144	0.0617 **	0.0661 **	0.027	-0.0014	0.7315 **	0.5475 **	0.5638 **	1		
STA	0.1770 **	0.0963 **	-0.1086 **	0.0568 **	0.0286	-0.0599 **	-0.0511 **	-0.0512 **	-0.0615 **	1	
DTA	-0.0305	0.3569 **	-0.2641 **	0.0402 **	-0.4066 **	0.1262 **	0.1426 **	0.1272 **	0.0301	-0.0473 **	1

Note: ** $p < 0.05$; * $p < 0.10$. Source: Own elaboration.

Below, we define the equations used in our analysis. Equation (1) aims to check whether findings of previous studies (i.e., a negative correlation between financialization and capital accumulation) are confirmed in our sample. Equation (2) and its variations (2_a, 2_b, 2_c) analyze the impact of change in the ESG factor and in the single E, S, and G dimensions, respectively, on corporate real investments, taking into account the collateral effects of financialization.

$$\begin{aligned} \ln\left(\frac{I_t}{TA_{t-1}}\right)_t = & \alpha_0 + \alpha_1 \ln\left(\frac{I_t}{TA_{t-1}}\right)_{t-1} + \alpha_2 \ln\left(\frac{FP}{TA_t}\right)_{t-1} + \alpha_3 \ln\left(\frac{NOP}{TA_t}\right)_{t-1} \\ & + \alpha_4 \ln\left(\frac{Buybacks}{TA_t}\right)_{t-1} + \alpha_5 \ln\left[\left(\frac{FA}{TA_t}\right)_t - \left(\frac{FA}{TA_t}\right)_{t-1}\right] + \alpha_6 \left[\ln\left(\frac{S}{TA_t}\right)_t \right. \\ & \left. - \ln\left(\frac{S}{TA_t}\right)_{t-1}\right] + \alpha_7 \left[\left(\frac{D}{TA_t}\right)_t - \ln\left(\frac{D}{TA_t}\right)_{t-1}\right] + \varepsilon_{i,t-1} \end{aligned} \quad (1)$$

$$\begin{aligned} n\left(\frac{I_t}{TA_{t-1}}\right)_t = & \beta_0 + \beta_1 \ln\left(\frac{I_t}{TA_{t-1}}\right)_{t-1} + \beta_2 \ln\left(\frac{FP}{TA_t}\right)_{t-1} + \beta_3 \ln\left(\frac{NOP}{TA_t}\right)_{t-1} \\ & + \beta_4 \ln\left(\frac{Buybacks}{TA_t}\right)_{t-1} + \beta_5 \ln\left[\left(\frac{FA}{TA_t}\right)_t - \left(\frac{FA}{TA_t}\right)_{t-1}\right] + \beta_6 \left[\ln(ESG)_{i,t} \right. \\ & \left. - \ln(ESG)_{i,t-1}\right] + \beta_7 \left[\ln\left(\frac{S}{TA_t}\right)_t - \ln\left(\frac{S}{TA_t}\right)_{t-1}\right] + \beta_8 \left[\left(\frac{D}{TA_t}\right)_t \right. \\ & \left. - \ln\left(\frac{D}{TA_t}\right)_{t-1}\right] + \varepsilon_{i,t-1}. \end{aligned} \quad (2)$$

$$\begin{aligned} \ln\left(\frac{I_t}{TA_{t-1}}\right)_t = & \gamma_0 + \gamma_1 \ln\left(\frac{I_t}{TA_{t-1}}\right)_{t-1} + \gamma_2 \ln\left(\frac{FP}{TA_t}\right)_{t-1} + \gamma_3 \ln\left(\frac{NOP}{TA_t}\right)_{t-1} \\ & + \gamma_4 \ln\left(\frac{Buybacks}{TA_t}\right)_{t-1} + \gamma_5 \ln\left[\left(\frac{FA}{TA_t}\right)_t - \left(\frac{FA}{TA_t}\right)_{t-1}\right] + \gamma_6 \left[\ln(ENV)_{i,t} \right. \\ & \left. - \ln(ENV)_{i,t-1}\right] + \gamma_7 \left[\ln\left(\frac{S}{TA_t}\right)_t - \ln\left(\frac{S}{TA_t}\right)_{t-1}\right] + \gamma_8 \left[\left(\frac{D}{TA_t}\right)_t \right. \\ & \left. - \ln\left(\frac{D}{TA_t}\right)_{t-1}\right] + \varepsilon_{i,t-1} \end{aligned} \quad (2a)$$

$$\begin{aligned} \ln\left(\frac{I_t}{TA_{t-1}}\right)_t = & \delta_0 + \delta_1 \ln\left(\frac{I_t}{TA_{t-1}}\right)_{t-1} + \delta_2 \ln\left(\frac{FP}{TA_t}\right)_{t-1} + \delta_3 \ln\left(\frac{NOP}{TA_t}\right)_{t-1} \\ & + \delta_4 \ln\left(\frac{Buybacks}{TA_t}\right)_{t-1} + \delta_5 \ln\left[\left(\frac{FA}{TA_t}\right)_t - \left(\frac{FA}{TA_t}\right)_{t-1}\right] + \delta_6 \left[\ln(SOC)_{i,t} \right. \\ & \left. - \ln(SOC)_{i,t-1}\right] + \delta_7 \left[\ln\left(\frac{S}{TA_t}\right)_t - \ln\left(\frac{S}{TA_t}\right)_{t-1}\right] + \delta_8 \left[\left(\frac{D}{TA_t}\right)_t \right. \\ & \left. - \ln\left(\frac{D}{TA_t}\right)_{t-1}\right] + \varepsilon_{i,t-1} \end{aligned} \quad (2b)$$

$$\begin{aligned} \ln\left(\frac{I_t}{TA_{t-1}}\right)_t = & \lambda_0 + \lambda_1 \ln\left(\frac{I_t}{TA_{t-1}}\right)_{t-1} + \lambda_2 \ln\left(\frac{FP}{TA_t}\right)_{t-1} + \lambda_3 \ln\left(\frac{NOP}{TA_t}\right)_{t-1} \\ & + \lambda_4 \ln\left(\frac{Buybacks}{TA_t}\right)_{t-1} + \lambda_5 \ln\left[\left(\frac{FA}{TA_t}\right)_t - \left(\frac{FA}{TA_t}\right)_{t-1}\right] + \lambda_6 \left[\ln(CG V)_{i,t} \right. \\ & \left. - \ln(CG V)_{i,t-1}\right] + \lambda_7 \left[\ln\left(\frac{S}{TA_t}\right)_t - \ln\left(\frac{S}{TA_t}\right)_{t-1}\right] + \lambda_8 \left[\left(\frac{D}{TA_t}\right)_t - \ln\left(\frac{D}{TA_t}\right)_{t-1}\right] \\ & + \varepsilon_{i,t-1} \end{aligned} \quad (2c)$$

In order to minimize possible biases in the analysis, we computed each variable in logarithmic form to control for potential non-linearity effects. Moreover, as in Orhangazi [28], following Greene [96]

and Chirinko et al. [97], we winsorized only the independent variables at 1% and 99% levels for each year to exclude outliers from our analysis.

Furthermore, the model allowed us to analyze possible dynamic adjustment processes. In particular, we checked for gestation and inertia effects in the life cycle of investment activities, including the lagged dependent variable in the right part of each model equation. We designed Equations (1) and (2) (and its variations) considering also lagged temporal effects in the relationship between predictor and the independent variables. Moreover, some independent and control variables (namely *FATA*, *STA*, and *DTA*) included in the equations are computed in timing delta formula in order to check their possible dynamic effects on the predictor.

Finally, we employed a generalized method of moments (GMM) estimation, which is useful in analyzing datasets with many panels and few time periods. In particular, we performed the Arellano–Bond linear dynamic panel-data regression, which provides suitable tests to assess the existence of endogeneity within the data panel (see, e.g., [28–31,98]).

The analysis was performed using STATA software.

4. Results and Discussion

Regression results of the of the analysis performed using the yearly observations in our panel are shown in Table 7. The first regression developed using Equation (1) confirms that there is a negative correlation between real capital accumulation and corporate financialization. Three out of the four proxies of corporate financialization—i.e., financial payments scaled by total assets (*FPTA*), share buybacks on total assets (*BuybacksTA*), and investment in financial assets on total assets (*FATA*)—present negative and significant coefficients. Our results are in line with those of prior studies, such as Stockhammer [26,27], Demir [48–50], van Treeck [51,52], Dallery [53], Orhangazi [28,54], Davis [29,30], and Tori and Onaran [34].

The GMM regressions performed using Equation (2) and its variations (2_a, 2_b, 2_c) allow us to argue that ESG factors positively affected corporate real investment despite the negative effects of financialization on real capital accumulation. In particular, regression results produced considering the specifications of all versions of Equation (2) confirmed that corporate financialization proxies *FPTA*, *BuybacksTA*, and *FATA* are negatively and significantly correlated with real investments. On the other hand, the annual variation of *ESG* included in Equation (2) is significantly correlated with the dependent variable, considering its positive ($\beta_6 = +0.1621$) and highly significant ($\rho > |z| = 0.007$) impact on the predictor. Such evidence is also confirmed in regression results using Equations (2_a) and (2_b). In particular, corporate environmental sustainability (*ENV*) is in positive ($\gamma_6 = +0.0506$) and significant ($\rho > |z| = 0.07$) interaction with real investments as well as corporate social sustainability (*SOC*) ($\delta_6 = +0.0686$; $\rho > |z| = 0.016$). Conversely, as shown in Table 7, regression results produced using model (2_c) showed that corporate governance performance (*CGV*) was positively ($\lambda = +0.0392$) but not significantly correlated ($\rho > |z| = 0.577$) with capital accumulation.

The outputs produced by the Arellano–Bond post-estimation tests show zero autocorrelation in first-differenced errors as summarized in Table 8 for all the regressions performed. As for the multicollinearity biases, the collinearity diagnostics results reported a mean variance inflation factor (VIF) lower than two (see Table 9). According to Diamantopoulos and Siguaw [99] and Allison [100], such results confirm the absence of multicollinearity effects in our analysis.

Table 7. GMM results.

Model	1	2	2 _a	2 _b	2 _c
IVs DV	ITA	ITA	ITA	ITA	ITA
<i>L.ITA</i>	0.3026 *** (0.0605)	0.3031 *** (0.0606)	0.3016 *** (0.0605)	0.3030 *** (0.0606)	0.3032 *** (0.0605)
<i>FPTA</i>	−0.0493 * (0.0268)	−0.0484 * (0.0271)	−0.0502 * (0.0269)	−0.0484 * (0.0273)	−0.0490 * (0.0269)
<i>NOPTA</i>	−0.0023 (0.0147)	−0.0027 (0.0147)	−0.0033 (0.0148)	−0.0006 (0.0146)	−0.0028 (0.0148)
<i>BuybacksTA</i>	−0.0111 * (0.0062)	−0.0111 * (0.0062)	−0.0113 * (0.0062)	−0.0113 * (0.0061)	−0.0109 * (0.0062)
<i>FATA</i>	−0.1027 * (0.0597)	−0.1004 * (0.0595)	−0.1032 * (0.0596)	−0.1012 * (0.0593)	−0.1025 * (0.0598)
<i>ESG</i>		0.1621 *** (0.0601)			
<i>ENV</i>			0.0506 * (0.0282)		
<i>SOC</i>				0.0686 ** (0.0285)	
<i>CGV</i>					0.0392 (0.0703)
<i>STA</i>	0.2143 *** (0.0745)	0.2109 *** (0.0745)	0.2134 *** (0.0745)	0.2122 *** (0.0747)	0.2137 *** (0.0743)
<i>DTA</i>	−0.0161 (0.0238)	−0.0175 (0.0236)	−0.0164 (0.0235)	−0.0172 (0.0237)	−0.0163 (0.0238)
<i>N</i>	1918	1918	1918	1918	1918
<i>Wald chi²</i>	386.87	391.40	391.94	393.01	387.13

Note: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Source: Own elaboration.

Table 8. Autocorrelation diagnosis output.

Model	Order	z	Prob > z
1	1st	−7.2639	0.000
2	1st	−7.3152	0.000
2 _a	1st	−7.2557	0.000
2 _b	1st	−7.3065	0.000
2 _c	1st	−7.2753	0.000

Note: null hypothesis: no autocorrelation.

Table 9. Collinearity diagnostics.

Variable	VIF	SQRT VIF	Tolerance	R-Squared
<i>ITA</i>	1.13	1.06	0.8851	0.1149
<i>ESG</i>	1.03	1.02	0.9694	0.0306
<i>ENV</i>	1.04	1.02	0.9585	0.0415
<i>SOC</i>	1.03	1.01	0.9718	0.0282
<i>CGV</i>	1.01	1.00	0.9922	0.0078
<i>FATA</i>	1.05	1.02	0.9534	0.0466
<i>FPTA</i>	1.21	1.10	0.828	0.172
<i>NOPTA</i>	1.02	1.01	0.9815	0.0185
<i>BuybacksTA</i>	1.01	1.01	0.9897	0.0103
<i>STA</i>	1.14	1.07	0.8742	0.1258
<i>DTA</i>	1.21	1.10	0.8251	0.1749
Mean VIF	1.08			

Source: Own elaboration.

Moreover, to complete the robustness check of the results, we performed a t test of the differences between regression coefficients and a comparison analysis between the dependent variable and its predicted values produced by each regression.

The results of the t test shown in Table 10 highlight that all differences between the regression coefficients were not statistically significant, meaning that *ESG*, *SOC*, *ENV*, and *CGV* do not affect the interactions between corporate financialization proxies and capital accumulation.

Table 10. T-test diagnostics.

t Test	Variables	t Value	ρ Value
$\alpha_2 = \beta_2$	<i>FPTA</i>	0.024	0.981
$\alpha_2 = \gamma_2$	<i>FPTA</i>	0.024	0.981
$\alpha_2 = \delta_2$	<i>FPTA</i>	0.024	0.981
$\alpha_2 = \lambda_2$	<i>FPTA</i>	0.008	0.994
$\alpha_4 = \beta_4$	<i>BuybacksTA</i>	0.000	1.000
$\alpha_4 = \gamma_4$	<i>BuybacksTA</i>	0.023	0.982
$\alpha_4 = \delta_4$	<i>BuybacksTA</i>	0.023	0.982
$\alpha_4 = \lambda_4$	<i>BuybacksTA</i>	0.023	0.982
$\alpha_5 = \beta_5$	<i>FATA</i>	0.027	0.978
$\alpha_5 = \gamma_5$	<i>FATA</i>	0.006	0.995
$\alpha_5 = \delta_5$	<i>FATA</i>	0.018	0.986
$\alpha_5 = \lambda_5$	<i>FATA</i>	0.002	0.998

Finally, results in Table 11 show that all versions of Equation (2) corroborate the results obtained with Equation (1) which, as stated above, uses specifications suggested in prior studies to investigate the relationship between financialization and capital accumulation. We can conclude that the inclusion of ESG scores in the analysis may explain other variation effects of capital accumulation that corporate financialization proxies do not capture.

Table 11. Correlation analysis comparing *ITA* and *I \hat{T} A* between models.

Variables	<i>ITA</i>	<i>I\hat{T}A EQ₁</i>	<i>I\hat{T}A EQ₂</i>	<i>I\hat{T}A EQ_{2a}</i>	<i>I\hat{T}A EQ_{2b}</i>	<i>I\hat{T}A EQ_{2c}</i>
<i>ITA</i>	1					
<i>I\hat{T}A Model 1</i>	0.75 *	1				
<i>I\hat{T}A Model 2</i>	0.74 *	0.97 *	1			
<i>I\hat{T}A Model 2_a</i>	0.75 *	0.99 *	0.99 *	1		
<i>I\hat{T}A Model 2_b</i>	0.75 *	0.98 *	0.99 *	0.99 *	1	
<i>I\hat{T}A Model 2_c</i>	0.75 *	0.99 *	0.98 *	0.99 *	0.99 *	1

Note: * $p < 0.05$. Source: Own elaboration.

Our results suggest that an improved CSR managerial attitude could contribute to boost long-term value-enhancing activities (i.e., real investments in tangible fixed assets). This corroborates the findings of prior empirical studies [101,102] and insights suggested in previous research (see, e.g., [72,103,104]). Furthermore, the results obtained by using Equations (2_a), (2_b), and (2_c) allow us to conclude that each environmental, social, and governance aspect of CSR activities must be differently managed in line with specific business and sustainability material issues as well as in the light of the different effects on investment activities. Improvements in environmental and social scores may increase corporate capital accumulation and financial performance in the long run.

The financialization process increasingly shifts decision-making from long-term to short-term goals and results, to the detriment of CSR standards and corporate capital accumulation. Improvements in ESG scores due to the implementation of socio-environmental CSR initiatives may encourage managers to focus on long-term goals and performance, being compliant with evolving reporting and accountability standards as well as more demanding regulation and stakeholders' engagement.

Moreover, our results show the existence of a virtuous cycle between prior real investment and subsequent capital accumulation, confirming the strategic role that socio-environmental issues play in supporting persisting real capital accumulation and contrasting the biasing volatile impact of financialization.

5. Concluding Remarks

In recent years, the global financial and economic crisis have been rewriting the relationship between business and society. The current debate is centered on the role of the process of financialization, not only in the economy as a whole but also within non-financial companies. Shareholder value maximization, together with the commoditization of business, has led to a general short-term approach, under which managers are tempted to focus on the upside potential of short-term success and underestimate the downside risk of excessive risk-taking and strategic failure. As a response, a significant amount of theory and practice in business ethics and corporate social responsibility emerged, together with a growing interest on the relevance of a long-term time horizon in investors' asset allocation decisions [105].

Within this framework, this paper presents an empirical investigation of an issue, potentially significant, that has been so far neglected: the nexus between financialization, accumulation of real capital—as a proxy of long-term approach—and corporate social performance in non-financial companies.

Focusing on a sample of US manufacturing companies from 2002 to 2017, our analysis shows that, while financialization is negatively correlated with corporate real investment, corporate social performance exhibits a positive correlation with corporate capital accumulation.

This corroborates the belief that a consistently enhanced focus on ESG standards may lead firms to foster real investment. In particular, in our sample, the environmental and social standards show a significant and positive impact on corporate capital accumulation. These findings may induce managers to pursue a corporate strategy aiming at strengthening the nonfinancial internal auditing, while engaging all stakeholders in long-term sustainable goals. This managerial approach may be encouraged by regulations aiming at improving ESG standards as practical drivers to increase firm transparency and stakeholder engagement.

Further research is needed to clarify to what extent ESG standards have an impact on financialization and corporate accumulation. In particular, empirical analysis should investigate different samples, including other countries and longer periods, and focus on the role of industry-level sustainability standards and practices. Moreover, other ESG databases should be taken into account, and, of course, different empirical models and econometric methodologies may be applied.

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