

Brief Report

Financial Constraints and the Sustainability of Dividend Payout Policy

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Abstract: This article investigates the relation between dividend payout policy and financial constraints, focusing on the Italian SMEs between 2015 and 2019 and adopting credit ratings as a measure of access to external financial resources. According to our findings, there is a positive relation between firm solvency and the payment of dividends, suggesting that, when companies' financial constraints are higher, we can expect lower odds that they will pay out dividends. Nevertheless, there is also evidence that younger SMEs are interested in signaling their expected profitability to attract future investors and support access to the capital market.

Keywords: financial constraints; credit ratings; payout policy; manufacturing industry; SMEs

JEL Classification: G34; G35



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1. Introduction

Drawing on Fazzari et al. (1988) [1], the recent literature has focused on the difficulties of gathering financial resources in the capital market, paying particular attention to the identification of constrained companies and their main characteristics [2]. According to this evidence, firms' access to the financial markets and the successful collection of the funds needed is affected by market dynamics and imperfections [3,4] or exogenous shocks [5]. This condition might be negatively amplified by asymmetric information between parties and moral hazards [6–8], which are even more significant if we consider SMEs, since the probability of being under financial constraint depends on a firm's size [9–11]. Therefore, it might prove too difficult or excessively costly for SMEs to finance investments and/or other managerial decisions using external resources and, consequently, companies could adopt internal resources if they are available [12,13] or, alternatively, trade credits [14–17]. Among managerial decisions, the payment of dividends represents one of the most important. On the one hand, the board of directors must decide whether to distribute the company's earnings to its shareholders, which sends a positive signal to new investors on the market [18,19], decreasing the information asymmetries between firm management and shareholders [20]. On the other hand, the same managers must consider the negative impact of payouts on internal liquidity, which could be amplified if the company is financially constrained [21,22]. Hence, we can expect a trade-off between these two opposing forces and, according to the recent literature, the importance of sending a positive signal seems to prevail, i.e., financially constrained firms tend to pay dividends to their shareholders [23,24], even if this policy might be financially unsustainable. Nevertheless, these results could rely on the specific socio-economic environment under investigation, as well as the companies' access to the capital market.

Our work contributes to the exploration of this matter by investigating the Italian manufacturing of SMEs and analyzing the relation between the payment of dividends and credit rating. In particular, controlling for internal and external characteristics that

could amplify financial constraints, we estimate the odds that the companies will pay out dividends according to their credit rating classes, testing the hypothesis that financial constraints matter in the dividend payout policies of Italian manufacturing SMEs (H_1). These rating classes are good proxies for financial constraints, reflecting the expected difficulties companies might encounter in accessing external financial resources depending on their financial health [25–27].

Ceteris paribus, our findings show a positive relation between credit rating class and dividend payouts, meaning that, as financial constraints decrease, companies are ever more likely to pay out dividends. Accordingly, access to external financial resources matters in the dividend payout policies of Italian manufacturing SMEs, even though such payouts may represent an opportunity to improve firm reputation on the market, attracting future investors.

The manuscript is organized as follows. Section 2 presents an overview of the current literature on measures of financial constraints. Section 3 sets out the empirical strategy pursued and the case study under investigation (i.e., the Italian private limited SMEs). Finally, Section 4 illustrates the results of the empirical analysis, while Section 5 offers some conclusions.

2. Measures of Financial Constraints

According to Carreira and Silva (2010) [2], there is no consensus on how to investigate whether companies are under financial constraints. Some scholars have proposed ad-hoc indexes based on financial information, e.g., the Kaplan and Zingales index, the Hadlock and Pierce index and the Whited and Wu index [28]. In detail, the Kaplan and Zingales index is based on cash flow, market value, debt, dividends and cash holdings, each scaled by total assets [29]. The Hadlock and Pierce index is based on size, size-squared and age [10], while the Whited and Wu index is based on cash flow to assets, payment of dividends, long-term debt to total assets, size, sales growth and industry sales growth [30]. Other researchers have focused on credit rating, examining both its absence (e.g., [31,32]) and its estimation (e.g., [25,26,33]). In the former case, the authors highlight the expected constraints due to information asymmetries between parties on the public capital market (i.e., a higher price to collect the necessary financial resources), while in the latter case, the authors emphasize the solvency of companies, stratifying access to external resources according to their capacity to pay their obligations. This is exactly the approach adopted in this work; that is to say, credit rating score is used to estimate the expected financial constraints of SMEs on the capital market, assuming that the difficultness in accessing these resources rely on their solvency.

3. Methods and Data

The authors examine the relation between private limited SMEs' payment of dividends and credit ratings in the Italian manufacturing industry between 2015 and 2019 (more than 250,000 observations) by merging two main sources of information: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database). Note that, according to the EU Commission Recommendation No. 2003/361, we identify SMEs as firms with fewer than 250 employees and annual turnover below or equal to 50 million euros. The former contains financial and administrative information about Italian manufacturing companies, and current literature has widely attempted to investigate financial constraints (e.g., [5,13]), while the latter proposes the evaluation of their solvency through credit rating scores [34]. In particular, following Falavigna (2012) [34], CERIS Rating estimates the scores by means of a neural networks algorithm on the basis of key information extracted from the companies' financial statements: total receivables due from shareholders, total tangible assets, total current assets, total shareholders' funds, total provisions for risks and charges, total payables, total value of production, total production costs, and total financial charges. The decision to adopt this specific panel (2015–2019) relies on the availability of data, and, even if the analysis is limited to 5 years, we have the opportunity to investigate the last trend in this specific industrial environment. Table A1 in Appendix A presents an overview

of the sample under investigation, showing the number of SMEs according to year and NACE codes.

The Italian manufacturing industry is an interesting case study for several reasons. On the one hand, Italy has one of the largest segments of SMEs in the world and an extremely high percentage of micro firms, which usually do not have access to the capital market due to a higher asymmetry level [35]. Moreover, Italy has suffered from the sovereign debt crisis and the consequent banking crisis since 2011, and, despite the relevant expansive monetary intervention of the European Central Bank, Italian firms have increased their difficulty in accessing to bank credit [36].

In particular, considering the i -th active (private limited) SME, we study several logistic multivariate regression models (pooled sample) that take the following forms:

$$DIV_{i,t} = \beta_0 + \sum_{z=1}^8 \gamma_z CR_{i,z,t-1} + \sum_{t=1}^5 \alpha_t YEAR_{i,t} + u_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$\begin{aligned} DIV_{i,t} = & \beta_0 + \sum_{z=1}^8 \gamma_z CR_{i,z,t-1} + \sum_{t=1}^5 \alpha_t YEAR_{i,t} \\ & + \sum_{r=1}^{24} \alpha_r INDU_{i,r,t} + \beta_1 STR_{i,t-1} + \beta_2 SAL_{i,t-1} + \beta_3 AGE_{i,t} + \beta_5 LIQ_{i,t-1} \quad (2) \\ & + \sum_{k=1}^5 \delta_k AREA_{i,k,t} + u_{i,t} + \varepsilon_{i,t} \end{aligned}$$

According to the proposed approach, the dependent variable of these models is DIV , which is a dummy variable equal to 1 if the company pays dividends at time t , 0 otherwise. In particular, considering positive profit at time $t - 1$, we estimate whether SMEs paid dividends comparing the variation of legal reserves between time t and $t - 1$, since, according to current law, dividends could be either paid or allocated to these reserves. Considering the control variables, Model A adopts:

- CR , which is a matrix of 8 dummy variables that are equal to 1 according to the credit rating at time $t - 1$ and a proxy for the firms' degree of financial constraints [37];
- $YEAR$, which is a matrix of dummy variables that are equal to 1 if the information is collected in the t th year, 0 otherwise.

The credit rating is given as a letter, representing each enterprise's financial reliability in the short term [38]. This method subdivides enterprises into 8 classes, each of which indicates a specific situation of default or non-default risk, as illustrated in Table 1. The taxonomy of CERIS Rating follows the assessment system of Standard and Poor's, with rating classes ranging from D (highest expected insolvency) to AAA (lowest expected insolvency).

Then, Model B expands the initial model by adding some internal and external characteristics, which could raise asymmetric information and companies' difficulty on the capital market. On the one hand, coherent with the approach proposed by D'Amato (2020) [5], we adopt a standard set of firm-specific variables that are widely used in the literature on SMEs' dynamics and financial constraints:

- STR , which is equal to total net fixed assets to total assets at time $t - 1$ (log transformation) and represents the assets structure of the observation, as well as relative collaterals;
- SAL , which is equal to total sales at time $t - 1$ (log transformation) and represents the size of the observation;
- AGE , which is a continuous variable indicating the seniority of the observation at time t (log transformation);
- LIQ , which is an index equal to current financial and operating activities (i.e., cash and trade credits in the short-term) divided by current debts at time $t - 1$ (log transformation), representing the liquidity of the observation and its capacity to pay out dividends using its internal resources (note that we consider short-term credits and debts to estimate this index, i.e., maturing within 1 year.).

Table 1. Explanation of rating classes.

Rating Class	Explanation
AAA	Very strong capacity to repay debts
AA	Strong capacity to repay debts
A	Sound capacity to repay debts, which might be affected by adverse circumstances
BBB	Adequate capacity to repay debts, which might worsen
BB	Predominantly speculative debt
B	High default risk
CCC	Very high default risk
D	Failed enterprise

Source: CERIS Rating (CNR-IRCrES's database).

On the other hand, coherently with Agostino and Trivieri (2014) [35], we introduce some additional control variables to detect for heterogeneity at sectorial level and to account for dualism in the degree of socio-economic development:

- **INDU**, which is a matrix of 24 dummy variables equal to 1 if the productivity sector (2-digit code) belongs to the selected NACE sector at time t , 0 otherwise;
- **AREA**, which is a matrix of 5 dummy variables equal to 1 if the observation is located in that NUTS 1 geographical macro area at time t (i.e., North West, North East, Center, South, and Islands), 0 otherwise.

Coherent with Czarnitzki and Hottenrott (2011) [25,26], the internal control variables are lagged by 1 year (i.e., *CR*, *STR*, *SAL* and *LIQ*), which at least partially accounts for simultaneity issues concerning these variables [37]. Moreover, banks and other financial institutions grant access to financial resources according to the most recent information available, extracted from the latest official financial statements (i.e., referring to the previous year). Lastly, in order to collect more robust results, we look at the *Median Absolute Deviation (MAD)* to detect and then drop the outliers [39].

Table 2 shows some descriptive statistics, considering both the dependent variable (*DIV*) and the main internal control variables (*CR*, *SAL*, *STR*, *AGE* and *LIQ*). Table 3 presents more detailed statistics regarding our sample, i.e., the percentage of companies that proceeded (or did not proceed) with the payment of dividends at time t according to their credit rating at time $t - 1$. Observing these statistics, we can detect a positive relation between the financial health of our companies (i.e., credit rating) and the actual payment of dividends. The econometric model tests this relation further, controlling for internal characteristics and external environmental variables.

Table 2. Descriptive statistics of the variables adopted for the whole dataset. Italian manufacturing industry: private limited SMEs (2015–2019).

Variable	Explanation	Obs.	Mean	Std. Dev.	Min	Max
<i>DIV</i>	Payment of dividends	196,693	0.758	0.429	0.000	1.000
<i>CR</i>	D	196,693	0.022	0.148	0.000	1.000
	CCC	196,693	0.012	0.109	0.000	1.000
	B	196,693	0.269	0.444	0.000	1.000
	BB	196,693	0.118	0.323	0.000	1.000
	BBB	196,693	0.188	0.391	0.000	1.000
	A	196,693	0.130	0.336	0.000	1.000
	AA	196,693	0.192	0.394	0.000	1.000
AAA	196,693	0.068	0.252	0.000	1.000	
<i>AGE</i>	Seniority ψ	196,693	2.458	1.034	0.000	4.736
<i>SAL</i>	Total sales ψ	196,693	7.019	1.203	0.000	10.245
<i>STR</i>	Assets structure ψ	196,693	−2.596	1.772	−8.915	0.000
<i>LIQ</i>	Liquidity index ψ	196,693	0.085	0.720	−6.934	7.212

Note: sample of private limited SMEs with complete information. Source of data: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database). ψ logarithmic transformation.

Table 3. Average level of dividend payout according to credit rating. Italian manufacturing industry: private limited SMEs (2015–2019).

Credit Rating	D _{t-1}	CCC _{t-1}	B _{t-1}	BB _{t-1}	BBB _{t-1}	A _{t-1}	AA _{t-1}	AAA _{t-1}	Total
No dividends _t	93%	97%	47%	21%	17%	14%	12%	8%	60,164
Dividends _t	7%	3%	53%	79%	83%	86%	88%	92%	216,340
Total firms	8041	4105	29,956	39,678	56,862	45,371	70,377	22,114	276,504

Source of data: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database).

4. Results

Table 4 reports the results of the econometric models, denoting the coefficients and the robust standard errors in parenthesis, as well as the relative *p*-value (adopted software: Stata 13.1). According to Wald Chi Square statistics, all the models are statistically significant, i.e., at least one of the regression coefficients is not equal to zero (*Prob > chi2* equal to 0.0000). The overall pseudo R-squared is quite interesting, ranging between 19% (Model A) and 21% (Model B). Lastly, according to the correlation between the error term and the control variables (see Table A2 in Appendix A), there are not relevant endogeneity issues [40].

The coefficients of the credit rating scores are all statistically significant (*p*-value < 0.01) and coherent among the different models. In particular, *ceteris paribus*, our results suggest that, as the companies' financial health increases (i.e., moving from rating class D to AAA), the odds that they will pay out dividends to their shareholders also increase. Considering the coefficients estimated in Model B, Figure 1 further clarifies these results, plotting the expected odds ratios of the companies paying out dividends according to their credit rating. What about the other key variables?

According to results and adopting relative marginal effects, *ceteris paribus*, for one instant change in internal liquidity (i.e., raising the independent variable by one unit), the change in probability of paying dividends increases by 1.79% (*p*-value < 0.01), while, considering size and asset structure, the probability increases, respectively, by 7.51% and 0.39% (*p*-value < 0.01). These results confirm that firms' size can support the access to external financial resources [10], increasing the probability of paying dividends, while internal liquidity is fundamental to support managerial decisions in SMEs [13]. However, looking at the firms' seniority, we can identify the signaling effect. Indeed, *ceteris paribus*, the change in the probability of paying dividends for one instant change in seniority decreases by 6.23% (*p*-value < 0.01); that is to say, younger SMEs use to pay dividends.

Table 4. Logistic regression models (pooled sample). Italian manufacturing industry: private limited SMEs (2015–2019).

Variables	(Model A) Payment of Dividends	(Model B) Payment of Dividends
CCC _{t-1}	−1.040 *** (0.105)	−1.933 *** (0.140)
B _{t-1}	2.794 *** (0.0413)	1.864 *** (0.0766)
BB _{t-1}	3.958 *** (0.0415)	3.165 *** (0.0771)
BBB _{t-1}	4.245 *** (0.0412)	3.379 *** (0.0770)
A _{t-1}	4.426 *** (0.0419)	3.616 *** (0.0780)
AA _{t-1}	4.611 *** (0.0413)	3.875 *** (0.0784)
AAA _{t-1}	5.130 *** (0.0469)	4.570 *** (0.0876)
Total sales _{t-1} ^ψ		0.563 *** (0.00628)
Assets structure _{t-1} ^ψ		0.0289 *** (0.00408)
Liquidity index _{t-1} ^ψ		0.134 *** (0.0118)
Seniority _t ^ψ		−0.467 *** (0.00801)
Constant	−2.933 *** (0.0410)	−4.733 *** (0.0905)
Year (FE)	Yes	Yes
NACE code-2 digit _t (FE)	No	Yes
Macro area _t (FE)	No	Yes
Pseudo R2	0.1898	0.2122
Observations	281,417	193,970

Source of data: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database). Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. ^ψ logarithmic transformation.

Hence, according to the collected results, we cannot reject the hypothesis that financial constraints and the relative difficulty of access to external resources matters in the dividend payout policies of Italian manufacturing SMEs (H_1), even though such payouts may represent an opportunity to improve firm reputation on the market. Focusing on the proposed “amplification factors”, younger SMEs appear interested in signaling their expected profitability to attract future investors and/or to support the future requests of external financial resources on the capital market, even if there could be difficultness in performing such payments.

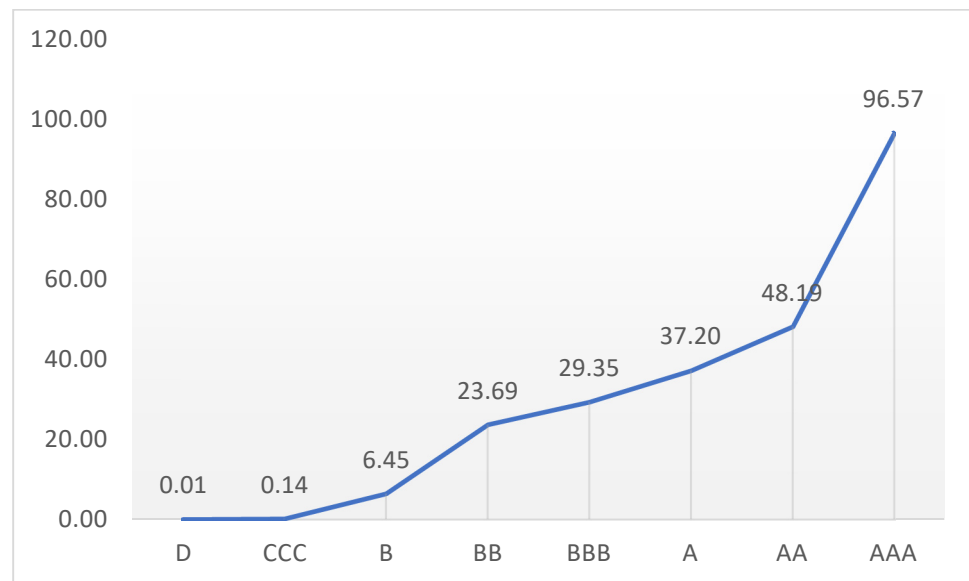


Figure 1. Odds Ratios according to the estimated coefficients (Table 4–Model B). Italian manufacturing industry: private limited SMEs (2015–2019).

4.1. Robust Test

Table 5 presents micro analysis as a robust test, considering Models A and B with, respectively, all manufacturing SMEs located in the North and in the South of Italy. Coherent with the previous results, the table reports both the coefficients and the robust standard errors in parenthesis, as well as the relative p -value (adopted software: Stata 13.1). The North of Italy is the Italian geographical macro area with the best-performing institutional system and the highest access to the capital market, while the lowest one characterizes the South of Italy [41]. Focusing on these areas, we have the opportunity to test the main national results against those of the most dynamic and competitive environment in the country (i.e., the North of Italy) and the most underdeveloped one (i.e., the South of Italy), collecting evidence that ought to be even more robust.

Table 5. Logistic regression models (pooled sample). Manufacturing industry: private limited SMEs located in the North and in the South of Italy (2015–2019).

Variables	(Model A)	(Model B)	(Model A)	(Model B)
	Payment of Dividends	Payment of Dividends	Payment of Dividends	Payment of Dividends
Geographical area	(North)	(North)	(South)	(South)
CCC _{t-1}	−1.245 *** (0.143)	−1.902 *** (0.190)	−0.708 *** (0.254)	−1.694 *** (0.346)
B _{t-1}	2.650 *** (0.0596)	2.010 *** (0.111)	3.164 *** (0.0899)	1.833 *** (0.171)
BB _{t-1}	3.869 *** (0.0599)	3.331 *** (0.111)	4.184 *** (0.0900)	3.195 *** (0.173)
BBB _{t-1}	4.124 *** (0.0595)	3.515 *** (0.111)	4.643 *** (0.0897)	3.493 *** (0.173)
A _{t-1}	4.326 *** (0.0602)	3.731 *** (0.112)	4.727 *** (0.0917)	3.773 *** (0.176)
AA _{t-1}	4.564 *** (0.0595)	4.033 *** (0.113)	4.741 *** (0.0899)	3.950 *** (0.177)
AAA _{t-1}	5.129 *** (0.0658)	4.720 *** (0.123)	5.015 *** (0.106)	4.606 *** (0.211)

Table 5. Cont.

Variables	(Model A)	(Model B)	(Model A)	(Model B)
	Payment of Dividends	Payment of Dividends	Payment of Dividends	Payment of Dividends
Total sales t_{-1} ψ		0.565 *** (0.00807)		0.567 *** (0.0167)
Assets structure t_{-1} ψ		0.0186 *** (0.00509)		0.0735 *** (0.0113)
Liquidity index t_{-1} ψ		0.132 *** (0.0154)		0.0667 ** (0.0293)
Seniority t ψ		−0.427 *** (0.00993)		−0.561 *** (0.0241)
Constant	−2.845 *** (0.0593)	−5.269 *** (0.124)	−3.056 *** (0.0888)	−4.207 *** (0.194)
Year (FE)	Yes	Yes	Yes	Yes
NACE code-2 digit t (FE)	No	Yes	No	Yes
Pseudo R2	0.1743	0.2107	0.2394	0.2244
Observations	177,685	127,066	40,182	24,490

Source of data: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database). Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. ψ logarithmic transformation.

According to these results, our evidence is rather robust, since we can observe coherent statistically significant relations across the two geographical areas. Indeed, analyzing both the North and the South of Italy and the behavior of companies located in these two specific geographical areas, as the companies' financial health increases (i.e., moving from rating class D to AAA), the odds that they will pay out dividends to their shareholders also increase. Figure 2 further confirms the previous results, plotting the expected odds ratios of the SMEs paying out dividends according to their credit rating (coefficients estimated in Model B).

Finally, Table A3 in the Appendix A proposes an OLS multivariate regression models (pooled sample), considering the entity of these dividends as a dependent variable (log transformation), and confirming the previous results.

Note that the reproducibility of our results is possible if readers have access to AIDA, which is Bureau van Dijk's dataset on the Italian manufacturing industry, and specific authorization is required since the data are protected by property rights. Lastly, when readers have extracted all the necessary information (i.e., total receivables due from shareholders, total tangible assets, total current assets, total shareholders' funds, total provisions for risks and charges, total payables, total value of production, total production costs, and total financial charges), following Falavigna (2012) [34], they can reproduce the CERIS Rating scores.

4.2. Limits and Alternative Hypothesis

This work focuses on private limited SMEs, which trade their shares infrequently and could have little need to signal to investors through dividend increases. Accordingly, the reader might argue it is natural that companies with financial constraints could have little incentive to pay dividends to signal to investors. Hence, the finding that the dividend signaling effect is small in these firms could not be particularly surprising, and the collected results might be explained by the life-cycle hypothesis [42,43]. On the one hand, companies in the early stages of growth have a high demand for capital, so they are willing to grow by investing in investment proposals with a positive net present value instead of paying it out even if they are profitable. On the other hand, companies in the mature stage have fewer investment opportunities than growing companies, which might result in lower profit reinvestment rates, lower profitability, and lower growth potential. Accordingly, the

need for payout increases due to concerns about the accumulation of free cash flow in the company, and, in addition, as corporate profitability stabilizes corporate risk declines, the importance of retained earnings for sudden capital needs decreases.

Hence, if we assume that credit ratings are good proxies of SMES' maturity and stability, the positive relationship between these scores and dividend payout policy could be successfully explained by the life-cycle hypothesis. Nevertheless, if we assume that the size of our observations is a better proxy of SMES' maturity and stability (i.e., SMES' total sales), we can confirm the suggested life-cycle hypothesis (positive coefficient, which is statistically significant), as well as the hypothesis of the negative impact of financial constraint on the decision to pay dividends. New data, if available, could shed new light on these alternative hypotheses, which could be the best proxy to represent SMES' maturity and stability.

Lastly, considering the transferability of these results and their applicability to other realities, we have to highlight the presence of clear limits in this work. Indeed, this manuscript is considering the investigation of a very peculiar sample of firms (i.e., the Italian SMEs) and their specific environment. The behavior of these SMEs could be affected by the socio-economic and cultural values of this specific environment, as well as by institutional conditions. Hence, particular attention should be adopted in the replicability of our predictions in alternative markets with different values and/or conditions.

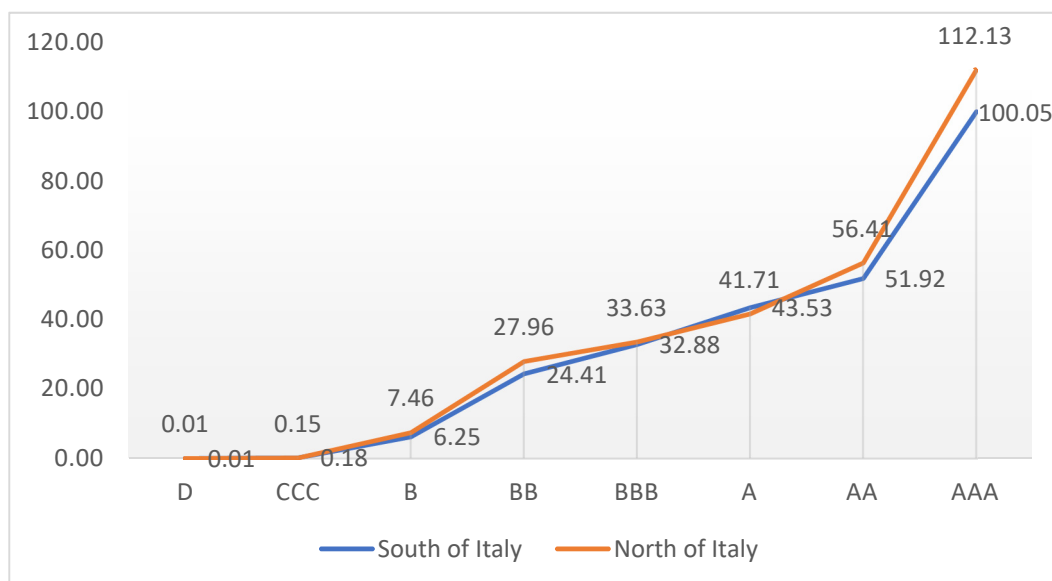


Figure 2. Odds Ratios according to the estimated coefficients (Table 5-Model B). Manufacturing industry: private limited SMEs located in the North and in the South of Italy (2015–2019).

5. Conclusions

According to Brav et al. (2005) [44], investigations on dividend payout policy focus on issues such as the role of taxes and agency considerations, as well as on the reason young firms prefer not to pay dividends [45] while others still pay substantial dividends [46]. Even if the current literature is widespread, according to Driver et al. (2020) [47], there is no single encompassing theory of dividend payout, and this work aims to shed new light on financial constraints and at investigate the signaling hypothesis.

Financially constrained companies might decide to proceed with dividend payouts, even though their access to external financial resources is restricted, because such a decision sends a positive signal to investors [23,24]. This work focuses on the relation between the payment of dividends and credit ratings, testing the link between these two variables and shedding new light on the aforementioned corporate dynamics. In detail, our analysis contributes to the debate on the matter by examining the determinants of dividend payouts

in terms of credit rating, stratifying firms according to their short-term solvency (i.e., 1 year) and confirming the existence of a positive relation between the payment of dividends and the firms' financial health. Our evidence points to the fact that, *ceteris paribus*, a company classified as AAA has odds of paying dividends 96.57 times greater than a company classified as D or CCC—and these odds start to drop as the firms' solvency decreases.

Hence, the Italian SMEs classified in the lowest credit rating classes are those with the lowest expected probability of paying dividends, confirming the evidence that financial constraints matter in the dividend payout policy of this specific industry, as well as firms' desire to maintain their financial sustainability. Hence, these results are consistent with Chen and Wang (2012) [21] and Pathan et al. (2016) [22], even if there is also evidence to support the signaling theory. Indeed, younger SMEs seem interested in signaling their expected profitability to attract future investors and/or to support the future requests of external financial resources on the capital market, even if there could be difficulty in performing such payments.

The next directions of our research in this specific area concern the investigation of public limited companies, focusing on the expected differences with respect to private limited SMEs. In particular, we would like to investigate whether heterogeneity exists in firms' behaviors under financial constraints according to their legal status, as well as their size. Moreover, we plan to investigate other dynamics related to financial constraints and dividend payout policy (e.g., tax avoidance behaviors and other opportunistic strategies to survive on the market with limited access to the capital market).

Author Contributions: The authors have made substantial contributions to the conception and design of the work, as well as the acquisition, analysis, and interpretation of data. Moreover, the authors have approved the submitted version and agree to be personally accountable for the authors' own contributions and for ensuring that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and documented in the literature. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Sample distribution of private limited SMEs according to the NACE codes.

NACE Code	Obs.	Description	2015	2016	2017	2018	2019
10	25,816	Manufacture of food products	4745	3990	4110	7508	5463
11	4016	Manufacture of beverages	977	769	540	954	776
12	32	Manufacture of tobacco products	6	7	6	10	3
13	10,210	Manufacture of textiles	2193	1742	2131	1518	2626
14	13,249	Manufacture of wearing apparel	2938	2434	2500	1872	3505
15	11,351	Manufacture of leather and related products	2310	1986	2642	1638	2775
16	9906	Manufacture of wood and of products of wood and cork	2246	1840	1834	1397	2589
17	5412	Manufacture of paper and paper products	1051	1053	901	1242	1165
18	9942	Printing and reproduction of recorded media	2298	1809	1817	1411	2607
19	528	Manufacture of coke and refined petroleum products	113	96	101	123	95
20	7257	Manufacture of chemicals and chemical products	1590	1355	1380	1168	1764
21	438	Manufacture of basic pharmaceutical products and pharmaceutical preparations	101	77	72	139	49
22	14,747	Manufacture of rubber and plastic products	2887	2406	2469	3409	3576
23	16,249	Manufacture of other non-metallic mineral products	3190	2585	2581	4338	3555
24	3885	Manufacture of basic metals	842	784	643	692	924
25	66,749	Manufacture of fabricated metal products, except machinery and equipment	14,420	11,880	12,246	10,279	17,924
26	10,896	Manufacture of computer, electronic and optical products	2192	1733	2037	2586	2348
27	11,013	Manufacture of electrical equipment	2523	1971	2032	1669	2818
28	32,635	Manufacture of machinery and equipment	7244	5917	6005	5113	8356
29	3228	Manufacture of motor vehicles, trailers and semi-trailers	695	589	592	557	795
30	4661	Manufacture of other transport equipment	826	698	975	1274	888
31	11,736	Manufacture of furniture	2702	2106	2120	1672	3136
32	10,536	Other manufacturing	2525	1905	1922	1409	2775
33	19,369	Repair and installation of machinery and equipment	3628	2892	3022	5099	4728

Source of data: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database).

Table A2. Pairwise correlation matrix among control variables and error term (Table 4-Model B).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Error term ⁽¹⁾	1																	
Seniority ⁽²⁾	0.000	1																
Liquidity index ⁽³⁾	0.001	0.075	1															
Assets structure ⁽⁴⁾	-0.004	-0.357	-0.039	1														
Total sales ⁽⁵⁾	-0.011	0.401	0.044	-0.294	1													
D ⁽⁶⁾	0.013	-0.138	-0.207	0.191	-0.296	1												
CCC ⁽⁷⁾	0.007	-0.075	-0.090	0.071	-0.114	-0.054	1											
B ⁽⁸⁾	-0.003	-0.126	-0.128	0.110	-0.079	-0.119	-0.052	1										
BB ⁽⁹⁾	0.000	-0.078	-0.136	0.066	-0.048	-0.133	-0.058	-0.130	1									
BBB ⁽¹⁰⁾	-0.001	-0.006	-0.087	0.022	0.075	-0.161	-0.071	-0.158	-0.176	1								
A ⁽¹¹⁾	-0.001	0.069	-0.016	-0.066	0.101	-0.144	-0.063	-0.141	-0.157	-0.190	1							
AA ⁽¹²⁾	0.000	0.163	0.219	-0.171	0.134	-0.192	-0.084	-0.188	-0.209	-0.253	-0.227	1						
AAA ⁽¹³⁾	-0.002	0.100	0.374	-0.106	-0.026	-0.106	-0.047	-0.104	-0.116	-0.140	-0.125	-0.167	1					
Center ⁽¹⁴⁾	0.001	-0.055	-0.026	0.056	-0.073	0.035	0.008	0.018	0.019	0.003	-0.011	-0.034	-0.021	1				
Islands ⁽¹⁵⁾	0.000	-0.058	-0.028	-0.004	-0.104	0.042	0.012	0.008	0.007	-0.007	-0.007	-0.025	-0.015	-0.114	1			
North-East ⁽¹⁶⁾	0.000	0.046	0.009	-0.026	0.101	-0.056	-0.010	-0.010	-0.013	0.007	0.014	0.033	0.015	-0.303	-0.135	1		
North-West ⁽¹⁷⁾	0.000	0.124	0.054	-0.030	0.121	-0.058	-0.009	-0.011	-0.016	-0.004	0.007	0.042	0.033	-0.347	-0.154	-0.410	1	
South ⁽¹⁸⁾	0.000	-0.120	-0.040	0.014	-0.151	0.083	0.009	0.002	0.011	-0.003	-0.010	-0.045	-0.030	-0.225	-0.100	-0.266	-0.305	1

Source of data: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database).

Table A3. OLS multivariate regression models (pooled sample). Manufacturing industry: private SMEs located in the North and in the South of Italy (2015–2019).

Variables	(Model B)	(Model B)	(Model B)
	Dividends ψ	Dividends ψ	Dividends ψ
Geographical area	(Italy)	(North)	(South)
CCC t_{-1}	−0.138 (0.241)	−0.225 (0.309)	−0.100 (0.356)
B t_{-1}	−1.126 *** (0.117)	−1.042 *** (0.189)	−0.898 *** (0.199)
BB t_{-1}	−0.573 *** (0.116)	−0.498 *** (0.189)	−0.240 (0.197)
BBB t_{-1}	−0.0982 (0.116)	0.0121 (0.189)	0.105 (0.197)
A t_{-1}	0.396 *** (0.116)	0.543 *** (0.189)	0.454 ** (0.197)
AA t_{-1}	0.921 *** (0.116)	1.081 *** (0.189)	0.838 *** (0.198)
AAA t_{-1}	1.634 *** (0.117)	1.796 *** (0.190)	1.384 *** (0.201)
Total sales t_{-1} ψ	0.807 *** (0.00346)	0.851 *** (0.00454)	0.690 *** (0.00821)
Assets structure t_{-1} ψ	−0.0479 *** (0.00188)	−0.0490 *** (0.00233)	−0.0437 *** (0.00491)
Liquidity index t_{-1} ψ	0.232 *** (0.00680)	0.248 *** (0.00907)	0.173 *** (0.0144)
Seniority t ψ	−0.231 *** (0.00358)	−0.232 *** (0.00444)	−0.219 *** (0.0101)
Constant	−2.046 *** (0.118)	−2.449 *** (0.191)	−1.291 *** (0.200)
Year (FE)	Yes	Yes	Yes
NACE code-2 digit t (FE)	Yes	Yes	Yes
Macro area t (FE)	Yes	No	No
Observations	155,026	102,008	19,720
R-squared	0.525	0.537	0.454

Source of data: AIDA (Bureau van Dijk's database) and CERIS Rating (CNR-IRCrES's database). Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. ψ logarithmic transformation.

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