

Article

The Impact of CSR on the Capital Structure of High-Tech Companies in Poland

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Abstract: So far, CSR's role in the high-tech industry is not fully explained by academic research, especially concerning the most burdensome obstacle to firms' growth: acquiring debt financing. The paper aims to solve this puzzle and investigate whether young high-tech companies can attract more debt by engaging in CSR activity. To address the high-tech industry specificity, we divided CSR-reporting practice into three broad categories: employee, social, and environmental and analyzed their impact on the capital structure. Our sample consists of 92 firm-year observations covering the period 2014–2018. Using a regression method, we found out that only employee CSR plays a statistically significant role in shaping capital structure. We did not find evidence for the influence of the other types of CSR-reporting practices. The results suggest that employees are the key resource of high-tech companies, and, for this reason, they are at the management's focus. This fact is visible at the financial reporting level and, as we interpret results, is also considered by credit providers. In a more general way, our results suggest that firms tend to choose CSR based on the importance of crucial resources.

Keywords: capital structure; theories of capital structure; CSR; CSR scores; R&D; high-tech companies; corporate finance; financial reporting; emerging markets; Poland



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1. Introduction

The paper aims to identify the impact of CSR practices on the level of indebtedness of high-tech companies. Cheng, Ioannou, and Serafeim [1] provide empirical evidence suggesting that employing CSR reporting leads to better access to finance due to reduced agency costs and information asymmetry, as well as enhanced stakeholder engagement. The results of empirical research [2,3] suggest that young high-tech companies are financially constrained to a large degree. Firstly, in conjunction with that, we investigate whether a high-tech company may limit its financial constraint and whether it increases the share of liabilities in capital structure by adopting a CSR strategy. Secondly, the problem of the selection of the optimal CSR strategy has been explored. We hypothesize that high-tech companies prioritize these CSR domains, which correspond with their most crucial resources and stakeholders. Based on existing literature CSR-reporting practices have been divided into three broad categories: employee, social, and environmental [3,4]. Finally the influence of each one on the capital structure of high-tech companies was verified.

According to Branco and Rodrigues [2], companies engage in CSR activities driven by two kinds of motivations. The first one concerns securing good relations with the key stakeholders, which leads to establishing or maintaining a competitive advantage and differentiating a firm from its competitors. The second kind of motivation refers to conforming to stakeholders' norms and expectations about how operations should

be conducted, which allows the firm to legitimize its existence and place in the market. Our line of reasoning delves into the former kind of motivation. Most of the present literature is based on samples from Anglo-Saxon or developed countries, mostly Western Europe, and empirical evidence should be extended to other geographic, institutional, and sectoral contexts. Therefore, empirical evidence from the perspective of Polish stock-listed companies from the high-tech industry was explored. We investigate the issue of CSR disclosure from the specific angle of financing of high-tech companies. We combine the latter problem, which is common for the high-tech industry, with CSR disclosure, which combined is a novelty in the literature, and there is very scant research on this problem.

High-tech companies in developed countries represent entities with a fast pace of growth. Therefore, their obligations toward external stakeholders are expected to go beyond sharing profits and include a broader range of stakeholders' interests and company objectives. For this reason, the issue of corporate social responsibility (CSR) in high-tech companies is fairly complex due to the specificity of such entities.

The situation is slightly different in countries such as Poland, where the technology sector is less advanced. The development of high technologies can be reflected in the share of business outlays in gross domestic expenditure on R&D (GERD), which was at the level of 1.21% of GDP in Poland (2018) compared with the EU average of approximately 2% of GDP, approximately 2.8% in the USA, and nearly 5% in South Korea and Israel [5].

Despite the fact that forecasts point to an increasing significance of the high-tech sector in an economy and economic policies give priority to R&D development, Polish entities are still at an early stage of development characterized by their short history of activities, low revenue, high costs of developing new technologies, and financing mainly based on public subsidies. Simultaneously, as a result of the technological revolution enforcing changes to business models, adherence to the standards of transparency, ethical conduct, and sustainable development are required not only from production giants in traditional industries, employing thousands of workers and generating multi-billion revenue but also from young firms in the sectors in which the scale of activity can change very quickly. In this context, the question arises whether CSR affects such firms' activities and how their key stakeholders perceive it.

Our sample consists of 34 Polish listed companies, covering the period 2014–2018, and the final sample comprises 92 firm-year observations. It is of moderate size but high quality. The data were hand-collected, and CSR scores were assigned using our developed procedure. Poland represents a unique setting of a country, which was the first CEE economy promoted by FTSE Russell's index provider from emerging market to developed market status. Therefore, Poland's capital market is much more developed compared to other CEE countries and plays an important role in promoting higher standards of financial reporting and transparency. On the other hand, Poland still holds some characteristics of other emerging economies such as the lower level of corporate R&D intensity, more restrained approach regarding the CSR activity, and more conservative approach of the banking sector to financing more risky innovation ventures. Therefore, looking from the Polish setting's perspective, it can be seen more clearly the problem of engagement in and selection of CSR activity and its impact on capital structure.

Firstly, our results imply that CSR employee reporting is the most dominant practice compared to social and environmental activities. Secondly, companies that opt to focus on CSR employee strategy are able to attract more debt financing. It is not required by the bank sector or is a key issue in credit-rating procedure to our best knowledge. However, in our opinion, the results are logical and may be explained by the fact that for high-tech companies, the key resource is talented researchers, programmers, and engineers, and in the long run, it translates into a credit-rating position. As far as the social and environmental CSR domains are concerned, the lack of statistical influence may be explained by the specificity of high-tech companies, which are usually environmentally "clean" (not industrial), i.e., focused on computer programming or laboratory activity, which is not ecologically harmful. Therefore, there are no social or environmental risks

potentially threatening the firm's reputation. Our study results imply that the CSR strategy focused on social and environmental issues is not often invoked by high-tech companies. Our findings also allow us to generalize that a firm selects and prioritizes a CSR strategy that corresponds to the most crucial resources and stakeholders.

Our article contributes to the existing literature exploring the impact of CSR practices on the level of indebtedness of high-tech companies. To the authors' best knowledge, it is one of the few works which presents the analyzed areas in the high-tech sector. Our research provides empirical evidence indicating that high-tech firms disclose information concerning broadly understood CSR issues that are significant from the perspective of risk in a given industry, which is the employee area in the case of the high-tech sector. Additionally, the article empirically verified the most important theories of capital structure: trade-off theory, bankruptcy theory, pecking-order theory, and signaling theory in the context of high-tech companies. CSR disclosure becomes an additional element influencing the theories of the agency. They can also be treated as a signal of the company's future financial situation.

The paper is structured as follows: The first section presents a literature review consisting of four subsections: (1) capital structure theories in the context of high-tech companies, (2) determinants of capital structure in high-tech companies, (3) relationships between CSR and capital structure, and (4) hypotheses development. The second section characterizes the sample and research design and presents the results of empirical research. The last section concludes the most important results of empirical research.

2. Literature Review and Hypotheses Development

2.1. CSR in High-Tech Companies

Capital providers and companies increasingly focus on CSR. The term CSR is widespread and encompasses a variety of activities, policies, and procedures. One globally accepted definition does not exist. Matten and Moon [6] define CSR in the following way: "CSR (and its synonyms) empirically consists of (clearly articulated and communicated) policies and practices of corporations that reflect business responsibility for some wider societal good. Yet the precise manifestation and direction of the responsibility lie at the discretion of the corporation". Waddock and Bodwell [7] provide a similar definition stating that "CSR is a way in which a company's operating practices (policies, processes, and procedures) affect its stakeholders and the natural environment." McWilliams and Siegel [8] offered an interesting definition, in which CSR is defined as "actions that appear to further some social good, beyond the interests of the firm and that which is required by law." This approach highlights that CSR's essence is the activity beyond the scope of the requirements of the law and not aimed at generating benefits solely and directly to the firm. Another definition, formulated by Aguinis and Glavas [9], marks out CSR as "the context-specific organizational actions and policies that takes into account stakeholders' expectations and the triple bottom line of economic, social, and environmental performance." This definition urges us to consider the specificity of the company when analyzing the CSR activity and the expectations of key stakeholders.

The concept of corporate social responsibility (CSR) goes back to the 1960s, and since that time, it has become a very popular practice in corporate activities. KPMG provides regularly, comprehensive reports on the topic of non-financial reporting. They assess the corporate responsibility reporting rates and approaches worldwide based on two different research samples: G250 and N100. G250 refers to the world's 250 largest companies by revenue, and N100 refers to a worldwide sample of the top 100 companies by revenue from dozens of countries. In the most recent KPMG report of 2020 [10]—the N100 research base consists of 5200 companies from 52 countries. The survey findings reveal that 96% of G250 companies now report sustainability, a rise of 61 percentage points since 1999. N100 companies continue to catch up with the G250. In 2020, 80% of N100 companies reported sustainability—an impressive increase from 24% in 1999. The average rate across all 52 countries was 76%. However, at the level of individual countries, the situation is not homogenous. Interestingly, 14 of the 52 countries covered by the KPMG 2020 survey

formed a high-performing group with rates of sustainability reporting over 90%. There are still significant differences in the rate of sustainability between Eastern (74%) and Western Europe (85%). However, the gap is narrowing as Eastern European governments integrate the European Non-Financial Reporting Directive (NFRD) into domestic law. From 2017, about 300 of the largest companies in Poland are required to publish a non-financial report. Consequently, the national rate of sustainability reporting (N100) for Poland increased from 59% in 2017 to 77% in 2020 [10].

Intending to increase the transparency of CSR practices, the European Parliament and the Council of the EU adopted a directive in 2017, obligating large companies in member states to report non-financial data in the form of a report on business activities. Such a report should contain information on social, employee, and environmental issues and issues related to respect for human rights and combating corruption.

Changes to legal regulations aim to disseminate CSR reporting by the largest companies, but CSR's increasing popularity does not result only from legal requirements. Even though CSR practices may seem to contradict a company's fundamental goal, i.e., profit and shareholder value maximization, both theoretical and empirical research indicate that CSR positively impacts corporate profitability. In the opinion of Escamilla-Solano, Fernandez-Portillo, Paule-Vianez, and Plaza-Casado [11], the impact of CSR on profitability may only be positive or neutral. Still, it is undoubtedly the source of the company's competitive advantage. Faisal, Situmorang, Achmad, and Prastiwi [12] present a similar view. The authors believe that voluntary CSR disclosures allow a company to maintain its high profitability and create its proper image among the most important stakeholders. Chen Hung and Wang [13] emphasize, in turn, that CSR may have a short-term negative impact on profitability. However, disclosures related to CSR contribute to a company's greater environmental responsibility, which can improve long-term profitability.

Hitherto, studies on the CSR impact on a firm's activity have been focused on large and small companies [14] and in different sectors [15]. Nevertheless, the research on the role of technology companies in areas related to CSR is still in its early stages and very scant [16]. The specificity of high-tech companies also makes their CSR activity and reporting distinctive. High-tech companies' uniqueness stems from their young age, moderate size, different organizational culture, focus on innovation activity (R&D), and the need to "headhunt" for talented scientists, programmers, and engineers. The model CSR approach for high-tech companies is not yet determined, and as Lee and Kim [17] note, it is not easy to be socially responsible for firms from the Korean electronic industry. Therefore, a generalization of the results of studies based on samples from other sectors may be controversial. On the other hand, CSR may offer the high-tech industry numerous advantages. Chang [18] postulates that the high-tech industry should prioritize CSR reporting as the means of improving the firm's image and, consequently, financial performance.

2.2. Relationships between CSR and Capital Structure Theories in the Context of High-Tech Companies

Decisions related to financing structure in R&D companies are mainly affected by agency, trade-off, pecking order, bankruptcy, and signaling theories. Agency theory assumes the occurrence of various conflicts between stakeholders such as owners, managers, or lenders [19,20]. Because of the specificity of R&D companies (a large share of research activities and a great significance of intangible assets), agency costs play a key role in such business entities [21]. These costs can be effectively reduced by indebtedness [22]. Major conflicts can occur in relationships between owners, opting for high-risk know-how investment projects and lenders who tend to oppose excessively risky investments in intangible assets.

Capital structure decisions are affected, among others, by information asymmetry. High information asymmetry, combined with increased debt financing, contributes to the increased cost of share capital. However, companies with a low level of debt that disclose CSR information have easier access to low-cost share capital financing their activities [23].

Companies that report CSR information reduce information asymmetry, especially if the scope of information is extensive. They increase a company's transparency—financial data are well supplemented by non-financial information. It should be noted that companies characterized by high information asymmetry require additional monitoring of the work of management boards, aimed to counteract activities leading to a decrease in investor value, e.g., inappropriately selected CSR expenditure [24].

If a company reports CSR information, it arouses the interest of individual investors in its shares. Such investors effectively perform supervisory functions in listed companies, monitoring the work of management boards. In addition, the scope of management's opportunistic activities decreases.

Pecking-order theory draws attention to the fact that corporate financing should be divided into internal and external financing. The use of the respective source of funding is determined by its costs, which are lower in the case of internal financing [25,26]. However, R&D companies are characterized by high information asymmetry, and, consequently, they face moral hazard and adverse selection problems [27]. High-tech firms are unwilling to disclose additional information about their activities, and there are also obvious problems related to supervising and monitoring R&D activities [28]. Another issue is the high costs of bankruptcy. Therefore, it can be assumed that such entities prefer financing based on their own funds and equity financing rather than debt financing.

Trade-off theory points to the advantages and disadvantages of particular sources of corporate financing [29]. Debt financing provides an opportunity for reducing the costs of capital thanks to the possibility of deducting interest payments from the tax base, but it increases the likelihood of bankruptcy. R&D firms are vulnerable to operational risk; the assessment of which is regarded to be difficult [30]. Moreover, they do not possess high-value fixed assets which could be offered as collateral [31]. In addition, stock exchange valuations are volatile, while transaction costs are high [32]. Therefore, such entities are likely to have limited access to external financing, especially in the case of long-term liabilities.

According to trade-off theory, the capital structure depends on an equilibrium between such factors as the bankruptcy threat, the possibility of deducting external capital interest payments, or lower equity costs [32]. Similar views are held by Hunjra, Verhoeven, and Zureigat [33], who note that an analysis of the benefits and costs of debt financing within the framework of trade-off theory indicates that financing based on share capital is a more favorable option. Therefore, socially responsible companies are likely to rely more heavily on share capital in their financing structure [34]. CSR increases the transparency of companies' reporting as well as mitigates credit risk. This situation is a common phenomenon in companies that, in a given industry, are characterized by high-risk levels as compared with their competitors [35].

According to trade-off theory, excessively indebted companies are more exposed to the bankruptcy threat. The use of the optimal financing structure mitigates that risk. CSR mitigates business risks in highly indebted companies, especially in periods of economic crises. Probably, companies with a low level of debt do not need to actively engage in CSR activities because they are less exposed to the risk of bankruptcy [36]. In addition, CSR engagement provides a favorable environment for concluding contracts between stakeholders, particularly in highly indebted companies, reducing potential costs and bankruptcy risks [37].

In this context, CSR disclosures affect the optimal capital structure of enterprises. Companies with higher debt levels than industry averages seek to lower these levels because they are perceived as riskier than industry competitors. CSR-reporting companies are in a better position to make such adjustments. CSR is a positive signal for capital providers in excessively indebted companies, mitigating adverse selection problems [35]. It can be assumed that CSR disclosures are of less significance for companies with liabilities below industry averages.

Signaling theory assumes the existence of information asymmetry between a company's internal and external entities. Hence, external stakeholders seek the potential signals of a company's future financial standing [38]. External stakeholders usually search for signals concerning financing sources, giving preference to debt financing rather than equity financing. However, due to a high level of risk in high-tech companies, their current shareholders may change their attitudes to the sources of financing as a result of a serious risk of bankruptcy. A significant signal of the source of financing can be provided by information about implementing socially responsible programs [39].

Signaling theory identifies the senders and receivers of signals. The sender of CSR information is a company, while its receivers, in most cases, are stock market investors. Information about a company's commitment to social issues decreases the cost of capital as a result of reducing information asymmetry and investor risk [23]. Implemented CSR strategies are also signals for banks and rating agencies. CSR conveys information on a company's financial standing and competitive position, which should be considered from a long-term perspective. From the point of view of lenders, CSR is significant in the context of long-term financing, not necessarily short-term financing [35]. Similar views are held by Augustina and Apriyanto [39].

CSR policy should be coherent and refer to various corporate activities [40]. The lack of coherent policies can result in agency conflicts in many groups of stakeholders. Implementing CSR practices can also result in the stakeholders' claims, which as of now do not directly benefit from CSR. Internal stakeholders may be willing to allocate funds to CSR with the goal of improving a company's image or reputation. Moreover, managers (agents) may hide their real intentions and create a positive image of their firm by CSR investments. As it turns out, above-average CSR engagement results from a moral hazard problem and the intention to maintain the status quo [25]. This issue is presented in a similar way by Goss and Roberts [41]. As it turns out, allocating funds to CSR mainly aims to improve stewards' reputation using owners' resources.

Banks show limited interest in disclosing CSR information, while investors may regard it as a possibility of increasing corporate value. A strategy of maintaining the status quo through CSR disclosures is not necessarily effective under the conditions of increased indebtedness and the disciplinary impact of debt and creditors. Lenders, through their professionalism and considerable impact, can protect their own interests as well as the interests of dispersed shareholders [24]. Limitations imposed by concluded credit agreements, with regard to such indicators as liquidity or other financial ratios, can hinder the financing of socially responsible activities in highly indebted entities [32]. Family businesses are also less interested in increased CSR disclosures. It stems from the fact that agency conflicts are less likely in companies controlled and managed by family members. These dependencies have been confirmed in an empirical study developed by Nekhili, Nagati, Chtioui, and Rebolledo [42].

Simultaneously, effective CSR practices create and strengthen relationships between particular stakeholders [33,43]. CSR builds trust between stakeholders, facilitating business operations, especially in periods of economic downturn, and mitigating the risk of potential conflicts [44]. Companies engaged in CSR activities can avoid large expenditures of funds on financial and non-financial stakeholders, which mitigates business risk [45,46].

Because activities carried out in a socially responsible manner reduce internal funds' rather than external capital, it can be assumed that highly indebted companies are not very interested in CSR activities [32]. Relying on debt financing, companies can avoid the pressure of socially responsible investors to allocate funds to CSR. According to agency theory, companies with high debt levels do not engage in high-income investment projects, meaning they are less inclined to engage in unviable and risky investments such as CSR [37]. Moreover, companies with large free cash flows are also unwilling to allocate funds to CSR, especially under the conditions of high debt levels. Debt can act in this context as a disciplinary factor, and any case of ineffectively allocated funds can be subject to lenders' additional monitoring and supervision [37].

The literature undertakes the issue of relationships between the uniqueness of products, activities, technologies, etc., and capital structure. The higher the impact of non-material success factors in a given company, the higher the risk and costs of bankruptcy. Under such circumstances, companies are not likely to have high debt levels in their financial sum. CSR expenditure can be similar in character, especially when it is not related to generating material resources. Consequently, companies engaged in CSR can resort to lower levels of debt in their capital structure [33].

2.3. Determinants of Capital Structure in High-Tech Companies

In the literature, there are relatively few studies examining the influence of CSR on the capital structure of enterprises. To the authors' best knowledge, the impact of CSR on the level of debt in high-tech companies has not been studied so far. Banziger [37], in her research, apart from CSR, used the following capital structure factors: firm size, profitability, growth opportunities, selling, general and administrative expenses, dividend payments, asset structure liquidity, and non-debt tax shields. On the other hand, Yang, He, Zhu, and Li [35] verified the impact of CSR, company size, the share of property, plant and equipment in the total value of assets, market value to book value ratio, profitability, and measures of corporate governance empirically, while Hamrouni, Boussaada, and Toumi [47] examined the Tobin Q ratio and sales growth ROA. On the other hand, Benlemlih [48] proposed the following determinants of capital structure: CSR, company size, market-to-book ratio, asset maturity, asset volatility, abnormal earnings, research and development ratio, financial rating ratio, total income taxes to pretax income, liquidity, dividends payments, capital expenditure ratio, age, and tangibility. Similar factors were also used in the articles of Villarón-Peramato, García-Sánchez, and Martínez-Ferrero [24] and Augustina and Apriyanto [39].

Empirical studies show that age is a significant factor that influences capital structure. Older firms are more profitable, meaning they can rely on retained earnings as a source of financing [49]. They have carried out business operations for a longer period of time; therefore, they should have sufficient internal funds for development and current operations. According to the pecking-order theory, older companies prefer to use internal funds rather than external sources of financing [50]. Simultaneously, older companies have a well-established position in their industry and have easier access to external funding. According to trade-off theory, there is a positive correlation between a company's indebtedness and age [51]. We conjecture that age has a positive impact on the indebtedness of the R&D sector because in the course of time, firms tend to engage in more advanced and capital-intensive projects, which require greater funds than those generated internally. Similar opinions are held by Castro, Tascón, and Amor-Tapia [31].

Capital structure in the R&D sector is significantly affected by development opportunities. Rapid development and technological advancement are correlated with a company's growth pace, which affects the financing structure. Companies with better development opportunities have larger capital requirements. Rapidly developing economic entities may have insufficient internal funds for development. According to trade-off theory, companies with greater growth potential rely less on debt financing [52]. This can result from agency problems in relations between management and owners. Management boards try to avoid additional supervision over their activities and give preference to the use of internal funds [20]. R&D businesses face a greater risk of failure in implementing their research projects. A greater risk of failure accompanies a company's better development opportunities. The lack of information about the risk of operations may increase the cost of external funding [53]. Therefore, in accordance with the pecking-order theory, companies prefer to use their own funds rather than rely on external financing [54]. R&D firms' development opportunities are negatively correlated with indebtedness [31,32].

Another variable that indicates the level of indebtedness is profitability. Maintaining a high level of profitability necessitates high-tech firms to engage in constant development, which increases operating costs [55]. Sometimes a company launches a new product with

high margins, but it is forced by competitors to lower prices, which leads to decreased profitability [55]. Technological knowledge gained in the course of business operations is more sensitive to “aging” than in other sectors due to fast technological advancement [56]. Maintaining high profitability encourages firms to borrow funds. In this industry, a high level of expenditure on R&D activities is a prerequisite for further development and satisfactory levels of profitability. Trade-off theory points to a positive correlation between profitability and indebtedness, and it states that maintaining high profitability encourages firms to increase indebtedness and benefit from tax shields. Simultaneously, literature presents cases of a negative impact of profitability on indebtedness in the context of the trade-off theory. Such a situation can occur when companies do not reinvest generated profits [57]. The pecking-order theory suggests a negative correlation between profitability and indebtedness. Firms prefer to rely on retained earnings rather than external financing [58]. Profitable economic entities have the ability to achieve an adequate level of internal funds to finance their investment projects. We believe that in the case of R&D activities, the impact of profitability on indebtedness is negative. Firms resort to internal funds in financing research activities, because they seek to protect their unique assets, which lowers debt levels [31,49,59,60].

A company with a high level of financial liquidity possesses sufficient internal funds to finance its investment projects. This approach is consistent with the pecking-order theory [58]. Financial liquidity has a negative and permanent impact on indebtedness in high-tech and R&D firms. According to Castro, Tascón, and Amor-Tapia [31], it mainly results from the fact that this sector is characterized by lower than average levels of non-financial liabilities. High-tech firms, as compared with other sectors, are characterized by a lower share of fixed assets in total assets, and debt securing with fixed assets is of no significance. Financial liquidity has a negative impact on indebtedness [31,61].

A company’s size has a major impact on its capital structure, but this impact is not unambiguous. In accordance with the pecking-order theory, indebtedness is negatively correlated with size because smaller companies do not possess large internal funds and resort to external financing to a larger extent than big economic entities [62]. Simultaneously, the trade-off theory points out that business activities in smaller companies are much riskier, so these entities rely on debt financing on a much smaller scale. Large companies’ market situation is less risky and more stable [51]. Moreover, big entities can use their fixed assets as collateral. The literature presents at least several research studies which point to a negative correlation between a company’s indebtedness and size. With regard to the R&D sector, Castro, Tascón, and Amor-Tapia [31] show a negative correlation between indebtedness and the scope of company activities. This can result from a higher risk of R&D activities and limited fixed assets that could be used as collateral. A negative correlation between capital structure and size is found by Barclay and Smith [63] and also by Cotei and Farhat [51].

Hindered access to financing is cited as one of the major barriers to the development of high-tech firms, whose operations are based on investing in intangibles, including R&D activities. Bisztray, Muraközy, and Vonnák [64] identify three basic categories of intangibles. The first one is an innovative property that comprises R&D, design, financial innovation, artistic originals, and mineral exploration. The second group consists of purchased software, own-account software, and databases. The third category comprises assets related to economic competencies: advertising, market research, organizational capital purchased, and organizational capital training.

High-tech companies’ large proportions of assets are represented by the above categories of intangibles which constitute the foundation of production processes. This capital structure, characterized by a considerable share of intangibles, is a basis for achieving higher productivity levels. Apart from these benefits, such capital structures involve high risk and valuation issues.

The literature attributes difficult access to financing to capital market failures and information asymmetries. These negative phenomena include adverse selection and agency

problems. Information asymmetry between lenders and companies can be accompanied by the lack of collateral and a high risk of failure in innovative projects frequently implemented by the high-tech sector [65].

Empirical research points to a correlation between a type of company assets (intangibility) and financing structure. A methodological problem faced by researchers relates to accounting practices—most intangible assets are not recognized in a balance sheet. The most frequently analyzed type of intangibles is R&D, and in this case, the problem is evident—most R&D activities are treated as expenditure, and only part of it can be subject to capitalization in a balance sheet. Externally acquired intangible assets are treated similarly. As Peters and Taylor [66] point out, such assets account for merely 19% of companies' total intangibles.

Hall and Lerner [67] also addressed the “funding gap” problem in innovative firms. The authors conclude that small and medium enterprises mainly face the problem of R&D high costs of financing—they do not have easy access to debt financing. At the same time, venture capital funds are not sufficient. Simultaneously, the findings related to a higher cost of funding intangible asset investment projects in large companies are not explicit. However, such entities are characterized by a visible difference in financing and their reliance on internal financing based on cash flows generated in previous years.

Lim, Macias, and Moeller [68] explore the impact of intangibles on a company's indebtedness using a unique database prepared on the basis of disclosure requirements for purchase price allocations, which enables one to estimate the fair value of identifiable assets for public targets in acquisition transaction on the US public market in 2002–2014. The authors introduce the concept of identifiable intangible assets, which relate to those assets which are contractual, or other legal rights or separable from the business. Such assets include technology-related intangibles, e.g., developed technologies including patents, and in-process R&D, marketing-related intangibles, e.g., trademarks and trade names, domain names, and customer-related assets. The third category contains all other identifiable intangible assets, e.g., unproved oil and gas properties, mineral rights, coal supply agreements, non-compete agreements, and leasehold interests. The authors conclude that identifiable intangible assets have an explicitly positive impact on a company's indebtedness, particularly in the case of entities with a low share of fixed assets. Despite this fact, such entities may not recognize intangible assets in their financial statements.

It should be noted that the analyzed relations, as presented in the literature, have a two-way character. Attention is given to the impact of the intangibility of assets on the structure of financing as well as the effect of financial conditions on intangible investment. According to Altomonte, Favoino, Morlacco, and Sonno [69], easier access to financing leads to higher levels of financing in intangible assets. The authors go even further and correlate intangible asset investment with decreasing production costs, which, in turn, lead to higher margins and gaining a competitive advantage.

Differences in access to financing at the company level explain different levels of investment in intangible assets (including R&D) in particular businesses, and considering the geographical diversification of the development of financial markets, they can also explain differences between particular countries in the area of corporate investment in intangible assets.

2.4. Hypotheses Development

Legitimacy theory is one of the CSR pillars, providing a convincing theoretical explanation of the main driving force. As Granovetter notes [70], all firms need to secure, maintain, and, in some instances, repair their reputation. Following this line of reasoning, we conjecture that companies have to justify their *raison-d'être* in order to remain longer in the market. From this perspective, a firm may be considered as the nexus of contracts and relations with the environment. The more the firm is nested in the local community and environment, the better prospects it has. In the case of high-tech companies, the fundamental question is what this type of company may provide to the society, environ-

ment, and other key stakeholders. In other words, what is the surplus of expectations in comparison to the other firms? The social expectations are deemed to be an innovation, which is understood as the catalyst of social and economic development. At the same time, the typical characteristics of the company from the high-tech sector are that they are clean (not industrial), usually focused on computer programming or laboratory activity, which usually is not environmentally harmful. Therefore, there are no social or environmental risks and liabilities, which potentially may threaten the firm's reputation. Therefore, we can expect that environmental or social issues would not be of the main interest for high tech companies. Aguinis and Glavas ask an important question [9]: what is the focus of CSR policy in a given context in terms of main stakeholders and expected outcomes? In the case of high-tech firms, the point of gravity is aligned to the crucial stakeholders and resources. The fundamental challenge is to find sources of financing and to be attractive for the most talented researchers, engineers, and programmers in the labor market. This implies that a firm should be interested in engaging in CSR activities in the employee domain.

The results of the numerous studies imply that, from the CSR perspective, employees are one of the key stakeholders [71,72]. More importantly, CSR is able to translate into higher commitment, engagement, loyalty, and satisfaction of the workforce [73–75]. These attributes make CSR more appealing for companies, in which the competition race for talented scientists, programmers, and engineers is most severe, which is typical for high-tech companies.

MSCI ESG Research [76] delineates six dimensions of CSR manifestation: environment, community, employee relations, human rights, product, and governance. In a similar vein, Su, Liu, and Teng [77], based on an extensive literature review, propose a classification consisting of four dimensions: human resources (employees), community (social), environment, and business and financial stakeholders. Probably not all of them are of the utmost interest to high-tech companies. Chang [18] analyzed the sample of Taiwanese high-tech companies and found out that CSR reporting is focused mostly on employees' benefits, relationships between labor and capital, environmental protection, customer-related issues, and to a minor extent on other social aspects. Our initial analysis of companies' financial statements from the high-tech sector in Poland suggests that the most important CSR domains are environment, community (social), and employee relations (HR). The rest of the dimensions (human rights, product, and governance) are not or scarcely visible at the reporting level. We suspect that it is because these companies are moderate in terms of size and age. Therefore, we decided to focus our attention on three CSR domains: employee, social, and environmental.

The literature investigating the influence of CSR disclosure on various aspects of a firm's financial situation is focused mainly on financial performance (profitability) or market value. The results provide empirical evidence of a different impact of various dimensions—positive, negative, or insignificant. For example, the findings of Brammer, Brooks, and Pavelin [78] imply that social CSR (involvement in the local community) is negatively associated with firm performance. The other studies reveal that environmental CSR has a negative or insignificant impact on firm performance [79,80]. The findings of Huselid [81] provide evidence on the positive impact of employee CSR regarding the firm's performance. As far as we know, the literature investigating the influence of CSR disclosures on the other financial firm's characteristics such as capital structure is very scant. This aspect is especially important for the high-tech industry, and we investigate whether CSR disclosure may play an important role in this regard. Based on the arguments mentioned above, we conjecture the following hypotheses:

Hypothesis 1: *The more a company is engaged in reporting CSR in an employee domain, the greater its ability to attract debt.*

Hypothesis 2: *The more a company is engaged in reporting social CSR, the greater its ability to use debt.*

Hypothesis 3: *The more a company is engaged in reporting environmental CSR, the greater its ability to attract debt.*

3. Sample Characteristics, Research Design, and Results

This study focuses on firms from the high-tech sector headquartered in Poland and listed on the stock market. Poland is the first CEE economy promoted by FTSE Russell's index provider from Emerging Market to Developed Market status. Based on data from the World Bank, the Polish capital market is much better developed in relation to the Central European stock exchanges compared to the stock exchanges in the Czech Republic, Hungary, Slovakia, or Slovenia. The value of stock market capitalization of Polish companies in relation to GDP in the analyzed period was almost twice as high as in the above-mentioned countries. Analyzing the values of stocks traded in the total value of GDP, they are also more beneficial for the Polish capital market, but the difference between individual countries of the region is not so significant. In turn, the development of the Polish banking sector in relation to the development of stock exchanges is relatively less developed. Based on World Bank data, the value of loans granted to the private sector in Poland, compared to other countries in the region, is at an average level (around 50%), while higher values were obtained by countries such as Slovenia or Estonia.

In Poland, on January 26, 2017, Directive 2014/95/EU on disclosure of non-financial and diversity information by certain large entities and groups was introduced. They apply to financial statements prepared for the financial year beginning on January 1, 2017. In Poland, entities subject to the obligation of non-financial reporting are large entities that exceed certain amounts of average annual employment, balance sheet total, and net sales revenues.

According to §49b of the Polish Accounting Act, the statements of companies meeting the above criteria should include descriptions of the policies applied by the companies in relation to:

- social issues,
- employee matters,
- natural environment,
- respect for human rights,
- counteracting corruption.

In addition, companies are also required to report the results of applying these policies and risks in the areas mentioned above and methods of managing these risks. However, due to the small size of the analyzed entities, this regulation does not apply to the high-tech companies analyzed in the study. Therefore, they can disclose non-financial information, including CSR, on a voluntary basis.

In Poland, all listed companies that prepare consolidated financial statements have been obliged to introduce IFRS from January 1, 2005, whose securities have been admitted to public trading on the regulated markets of the European Economic Area countries.

Poland allowed relatively many economic entities to voluntarily apply IFRS. In accordance with Polish Accounting Act, the possibility of voluntary application of IAS is available, among others, to:

- issuers of securities preparing individual financial statements admitted to public trading or trading on one of the regulated markets of the European Economic Area,
- entities included in the capital group in which the parent company prepares consolidated financial statements in accordance with IAS,
- a unit that is a branch of a foreign entrepreneur that prepares financial statements in accordance with IAS.

The analyzed enterprises prepare individual financial statements. Hence, they can choose the following accounting standards: local or IFRS. However, due to their young age and the small size of their operations, they prefer local accounting standards. Local accounting standards in Poland do not impose certain disclosures on smaller listed companies.

Since 2018, Poland has been classified as one of the 25 most advanced global economies, including the US, UK, Germany, France, Japan, etc. However, Poland still maintains some developing countries' characteristics such as an inefficient system of intellectual property protection, low level of R&D investments, and weak enforcement mechanisms. As a result, in Poland, there are fewer CSR initiatives as compared to the other developed countries, which is usually the case of emerging markets [82], and relatively little pressure from the public concerning CSR disclosure [83]. It corresponds to the anecdotal evidence that companies in Poland are more restrained in their engagement in CSR reporting or, at least, are more selective.

High-tech companies in Poland represent interesting settings. Firstly, due to economic and institutional development, Polish stock-listed companies are more careful and refrained from adopting CSR ideas. Secondly, the specific characteristics of the high-tech companies in Poland, especially their moderate size, young age, and underfinancing, make them parsimonious and very selective in CSR engagement. However, as Liu, Lei and Buttner [84] note, CSR is especially important for companies that adopted an innovation strategy based on the exploitation of new products and opportunities due to the resulting ability to preserve intangible resources and maintain a competitive advantage. Therefore, we theorize that companies would prioritize the CSR activities aimed at their key stakeholders and secure key resources. In the case of high-tech companies, the spectrum of key stakeholders and resources is very narrow, which makes them a good subject for this type of research.

Our initial sample consists of firm-year observations of 34 companies listed on the Warsaw Stock Exchange and classified as high-tech firms and sectors such as biotechnology, R&D in physics, natural sciences, engineering, biology, medical laboratories, computer software, e-commerce, marketing analysis, etc. The data were collected using the Emis database. High-tech companies listed on the Warsaw Stock Exchange were selected and subjected to further analysis. Data derived from the listed firms are considered to be superior due to the higher quality of accounting data. Financial statements are audited and, additionally, are under the scrutiny of the stock market institutions requiring higher standards of transparency. The fact that financial statements are publicly available is crucial for analyzing reporting CSR activity and provides a decisive incentive from the legitimacy theory perspective. The oldest firm in the sample is 17 years old, and the average age is around 7 years. The initial sample consists of 170 firm-year observations (34 firms), covering the period of 2014–2018. The time scope of the research is influenced by the relative stability of the business environment. It is a period of stable economic development after the collapse of the Lehman Brothers bank and also before the outbreak of the COVID-19 pandemic. In the authors' opinion, the time range should not be too long due to large market changes taking place in a high-tech environment. A similar time range (5 years) can be found in the study of Hamrouni, Boussaad, and Toumi [47]. Long-term studies were carried out by Yang, He, Zhu, and Li [35], Banziger [37], and Benlemlih [48], but they did not only concern high-tech industries. The final sample is limited to only 92 firm-year observations due to the missing data or poor quality of disclosures, which in our sample are disclosed on a voluntary basis. Missing data in the Emis database were manually checked in the companies' annual reports.

Our main area of interest is the impact of CSR activity on the capital structure. The latter one is proxied by financial leverage calculated as total liabilities to total assets and serves as a dependent variable in the model. The data are derived from the annual reports. CSR activity is proxied by three variables: CSR employee, CSR social, and CSR environment. Each of them is responsible for capturing reporting CSR in the respective areas. The data are hand-collected and coded using the 4-level Likert scale, a methodology often used in the literature to measure CSR activity or CSR awareness [85,86]. We decided to use a 4-level instead of a 5-level scale for two reasons. Firstly, we want to achieve the so-called "forced choice" and avoid the neutral option. In this type of research, this is always the natural tendency toward the center values. We made this decision even though we are responsible for the collection and evaluation of the CSR scores. Secondly, the logic of our mechanisms

of assigning CSR scores better corresponds to the 4-level scale and allows us to define the borderlines between the levels in a clearer way. We used the following procedure of coding: we assigned 1 point in the case of no mention of CSR in a given domain, 2 points when brief and general information was provided (no more than 2–3 sentences), 3 points when the information was explicit (more than 2–3 sentences, but less than one paragraph), and 4 points in rare situations in which information was extensive and detailed (numbers provided) usually one longer or more than one paragraph in the text. For the identification of the CSR reporting, we used the set of keywords, i.e., employee, training, motivation, options for employees, competencies, career, sponsorship, local community, charitable, ecology, action, engagement in waste, pollution, environment, etc. A careful analysis and consideration followed it in order to align a specific value on the scale. The coding was double-checked, and the controversial cases were discussed and additionally analyzed before taking a decision. The procedure was time consuming, and for this reason, the sample size is small but, on the other hand, unique and of good quality.

Our analysis showed that for CSR concerning the employee, the high-tech companies most often disclosed information about incentive programs, additional benefits plans, training programs, competencies development, etc. Disclosing information about environmental CSR most often invoked impact on the environment, ecology policy, respecting law requirements about the environmental issues, products and services environmentally friendly, pro-ecological policy, etc. Disclosing social CSR most often was related to the reference to the local communities, supporting local actions and initiatives, charity events, etc.

Based on the existing literature, we choose a set of control variables, which impact the financial structure (LEV) that is well documented. It consists of firms' size (as the natural logarithm of total assets, which is denoted as SIZE), age (AGE), profitability (ROE), liquidity (CUR_RATIO—current ratio), growth potential (SALES_TR—sales trends), intangibility (INTANGIBILITY—as the ratio of intangible assets to total assets), and R&D intensity (RD_INT—as a ratio of R&D outlays scaled by total assets). In order to avoid the influence of outliers, we winsorized variables ROE, SLAES_TR, replacing the values above one with one and minus one with one. The key variables in our analysis are CSR employee (CSR_EMP), CSR social (CSR_SOC), and CSR environment (CSR_ENV). The descriptive statistics of the variables are presented in Table 1.

Table 1. Descriptive statistics.

| Variable | No. of Obs. | Min. | Max. | Mean | Median | St. Dev. | Variance | Skewness | Kurtosis |
|---------------|-------------|--------|--------|--------|--------|----------|----------|----------|----------|
| LEV | 92 | 0.004 | 1.000 | 0.447 | 0.387 | 0.289 | 0.084 | 0.315 | 1.946 |
| CSR_EMP | 92 | 1.000 | 4.000 | 2.543 | 2.000 | 0.895 | 0.800 | 0.100 | 2.234 |
| CSR_SOC | 92 | 1.000 | 4.000 | 1.359 | 1.000 | 0.792 | 0.628 | 2.336 | 7.555 |
| CSR_ENV | 92 | 1.000 | 4.000 | 1.674 | 1.000 | 0.973 | 0.947 | 1.264 | 3.386 |
| SIZE | 92 | 4.143 | 14.952 | 10.207 | 9.892 | 2.031 | 4.124 | −0.101 | 3.787 |
| AGE | 92 | 0.000 | 17.000 | 6.946 | 6.000 | 3.906 | 15.261 | 0.500 | 2.909 |
| ROE | 92 | −1.000 | 1.000 | −0.202 | −0.019 | 0.457 | 0.209 | −0.538 | 2.542 |
| CUR_RATIO | 92 | 0.027 | 10.000 | 2.901 | 1.642 | 3.000 | 9.000 | 1.429 | 3.844 |
| SALES_TR | 92 | −1.000 | 1.000 | 0.106 | 0.078 | 0.642 | 0.412 | −0.166 | 2.107 |
| INTANGIBILITY | 92 | 0.000 | 0.779 | 0.196 | 0.119 | 0.207 | 0.043 | 1.061 | 3.023 |
| RD_INT | 92 | 0.000 | 0.792 | 0.225 | 0.011 | 0.331 | 0.110 | 1.024 | 2.177 |

Please note: CSR_EMP, CSR_SOC, and CSR_ENV are categorical variables in the 4-level Likert-scale. Source: Authors own elaboration based on the data from financial statements.

In order to avoid intercorrelated variables in the model, we performed a correlation analysis, whose results are presented in Table 2. The highest correlation, however still moderate, is between CSR_SOC and CSR_ENV. However, these results should be taken with caution, considering the categorical type of data. The other high correlations are between ROE and SIZE, and AGE, suggesting that bigger and older companies are also the more profitable ones. The rest of the correlation coefficients of independent variables are at a low or moderate level; therefore, including them in the model is not controversial.

Table 2. Pairwise correlations—Pearson (upper triangle) and Spearman (lower triangle).

| Variable | LEV | CSR_EMP | CSR_SOC | CSR_ENV | SIZE | AGE | ROE | CUR_RATIO | SALES_TR | INTANG | RD_INT |
|-----------|--------|---------|---------|---------|--------|--------|--------|-----------|----------|--------|--------|
| LEV | 1.000 | −0.030 | −0.013 | −0.117 | −0.130 | 0.460 | −0.056 | −0.628 | 0.046 | 0.150 | −0.043 |
| CSR_EMP | −0.016 | 1.000 | 0.311 | 0.256 | 0.254 | −0.124 | −0.032 | 0.222 | 0.138 | 0.030 | 0.045 |
| CSR_SOC | −0.025 | 0.319 | 1.000 | 0.538 | 0.260 | −0.001 | −0.060 | 0.093 | 0.093 | −0.204 | 0.230 |
| CSR_ENV | −0.085 | 0.259 | 0.612 | 1.000 | 0.301 | 0.047 | 0.008 | 0.138 | 0.028 | −0.002 | 0.220 |
| SIZE | −0.139 | 0.254 | 0.305 | 0.301 | 1.000 | 0.211 | 0.328 | 0.132 | 0.100 | 0.059 | 0.175 |
| AGE | 0.388 | −0.097 | 0.051 | 0.093 | 0.162 | 1.000 | 0.352 | −0.385 | 0.026 | −0.158 | −0.188 |
| ROE | 0.037 | −0.021 | 0.008 | −0.016 | 0.348 | 0.407 | 1.000 | 0.110 | 0.052 | −0.126 | 0.081 |
| CUR_RATIO | −0.742 | 0.127 | 0.115 | 0.020 | 0.168 | −0.376 | 0.066 | 1.000 | −0.014 | −0.183 | 0.097 |
| SALES_TR | 0.060 | 0.132 | 0.105 | 0.062 | 0.068 | 0.037 | 0.095 | 0.086 | 1.000 | −0.073 | 0.114 |
| INTANG | 0.250 | 0.001 | −0.166 | 0.011 | 0.108 | −0.119 | −0.125 | −0.258 | −0.070 | 1.000 | −0.113 |
| RD_INT | −0.056 | 0.142 | 0.321 | 0.231 | 0.357 | −0.172 | 0.066 | 0.185 | 0.168 | −0.007 | 1.000 |

Source: Authors own elaboration based on the data from financial statements.

To test the hypotheses formulated in the previous section, we use the following model:

$$\text{LEVi,t} = \text{CSR_EMP}_{i,t} + \text{CSR_SOC}_{i,t} + \text{CSR_ENV}_{i,t} + \text{SIZE}_{i,t} + \text{AGE}_{i,t} + \text{ROE}_{i,t} + \text{CUR_RATIO}_{i,t} + \text{SALES_TR}_{i,t} + \text{INTANGIBILITY}_{i,t} + \text{RD_INT}_{i,t} \quad (1)$$

We run a regression with a robust option in order to obtain robust coefficients. It allows us to avoid many problems with the specification of the model. The results of the regression analysis are presented in Table 3.

Table 3. Regression results.

| Independent Variables | Coefficient | Robust Std. Err. | <i>p</i> -Value | |
|-----------------------|-------------|------------------|-----------------|-----|
| CSR_EMP | 0.051 | 0.028 | 0.081 | * |
| CSR_SOC | 0.038 | 0.037 | 0.276 | |
| CSR_ENV | −0.044 | 0.030 | 0.129 | |
| SIZE | −0.029 | 0.011 | 0.025 | ** |
| AGE | 0.033 | 0.006 | 0.000 | *** |
| ROE | −0.049 | 0.037 | 0.471 | |
| CUR_RATIO | −0.041 | 0.008 | 0.000 | *** |
| SALES_TR | 0.009 | 0.038 | 0.782 | |
| INTANGIBILITY | 0.251 | 0.102 | 0.041 | ** |
| RD_INT | 0.125 | 0.005 | 0.058 | * |
| Intercept | 0.434 | 0.009 | 0.003 | |
| A number of obs. | 92 | | | |
| R2 | 0.54 | | | |
| Adjusted R2 | 0.48 | | | |

* significance at 10% level; ** significance at 5% level; *** significance at 1% level; Source: Authors own elaboration based on the data from financial statements.

In order to check the robustness of our model, we ran a set of post-estimation tests. Firstly, we tested for multi-collinearity using the variance inflation factor and detected none. We ran a Shapiro–Wilk test for residuals, and we concluded that they are normally distributed. Finally, we used the Ramsey RESET to test for the specification of the model, whose results (0.03) did not detect problems with the specification of the model. Overall, we concluded that our model is of good quality and with an acceptable predicting power (adj. R = 0.48). However, we aimed to detect the influence of the independent variables over the dependent and not explain the latter's variability.

The regression results show that CSR_EMP, AGE, INTANGIBILITY, and RD_INT have a positive, and SIZE and CUR_RATIO negative impact on financial leverage. The regression coefficients for CSR_SOC and CSR_ENV are below the significance level. Hamrouni, Boussaada, and Toumi [47], using the example of French companies, also provided empirical evidence for the positive impact of CSR-related disclosures on the short-term and long-term debt of analyzed companies. Yang, He, Zhu, and Li [35] also confirmed the positive relationship between CSR activities and indebtedness for Chinese companies.

Benlemlih [48] observed different results. The author confirmed the negative correlations between CSR and long-term debt and the positive correlations between CSR and the short-term debt of American companies. Companies, therefore, reduce debt maturity.

Our findings provide empirical evidence supporting only the first hypothesis. Therefore, we can conclude that in the case of Polish high-tech companies, reporting employee CSR has a positive impact on financial leverage. We could not find empirical evidence supporting our second and third hypotheses. The results imply that high-tech companies in Poland undertake CSR activity most often with regard to the most significant resource—employees, which is in line with our expectations. It looks like this is also recognized and rewarded by the bank sector, which is willing to provide capital for the companies which take care of their talented workforce. The other type of CSR activity for high-tech companies is of minor importance.

The major asset of high-tech companies, apart from technologies, are employees. Moreover, they constitute a significant component of risk in such entities. The loss of key employees in the high-tech sector can be a hard experience. Within the framework of CSR activities, companies disclose information that is significant from the perspective of risk. The high-tech sector, for obvious reasons, is less likely to have a negative impact on the environment and society at large. These conclusions are consistent with the research results conducted by Munilla and Miles [87] and Jo and Na [88]. In conclusion, CSR employee disclosures positively impact capital structure in the high-tech sector.

4. Concluding Remarks

We investigate the impact of CSR reporting on the capital structure of high-tech companies. CSR is a very popular concept in academic research and corporate practice. There is vast research exploring it from various angles. However, there is scarce research dedicated to the role of CSR in the high-tech industry. The most burdensome obstacle of high-tech firms' development is the attraction of external financing, especially debt. Therefore, we conjecture that young high-tech companies, by engaging in CSR activity, can attract more debt. The existing literature provides theoretical arguments for this chain of reasoning, implying that CSR engagement translates into increased transparency, decreased informational asymmetry, and more pronounced firm's public legitimization. To address the high-tech company's specificity, we divided CSR-reporting practice into three categories: employee, social, and environmental. We decided on this classification after an initial analysis of the financial statements, which revealed that the other CSR dimensions are absent or negligible. We posit three hypotheses stating that the more a company is engaged in reporting CSR in an employee (1), social (2), and environmental (3), the greater its ability to attract debt financing.

Our sample consists of 92 firm-year observations covering the period 2014–2018. We decided to use a Polish setting due to its unique features, which fit our research design. Poland offers a developed capital market environment with high financial-reporting standards and transparency and almost 40 listed companies from high-tech sectors. At the same time, Poland still holds some characteristics of other emerging economies, such as a more selective approach with regard to CSR activity and a more conservative policy of the banking sector to financing risky innovation projects. Therefore, from the Polish setting's perspective, we can see more clearly the problem of engagement in and selection of CSR activity and its impact on capital structure.

The data were hand-collected from financial statements. CSR scores for each dimension were assigned using our own procedure on a 4-level scale. The data were double-checked, and scores carefully analyzed and discussed. We ran a regression with a robust option and performed a set of diagnostic tests. Our findings provide empirical arguments only for the first hypothesis suggesting that firms reporting higher scores of employee CSR are able to attract more external debt. To our best knowledge, CSR focused on employees is not required by the bank sector or is a key issue in credit rating. However, in our opinion, the results are logical and may be explained by the fact that for high-tech companies, the

key resource is talented researchers, programmers, and engineers, and in the long run, it translates into a credit-rating position. Additionally, the findings indicate that disclosing information about good CSR practices mitigates company risk as well as the risk of potential financial distress in the future and bankruptcy risk, and it is likely to lower the cost of external financing. A significant role in this context is played by a company's positive market image and relations with particular stakeholders. We could not find evidence that reporting social or environmental CSR has any influence on capital structure. The general conclusion is that companies tend to focus on the CSR domains that better correspond to their key stakeholders and resources. Our findings support this conclusion in the case of high-tech companies of small and moderate size. However, there is a need for further investigation of companies from other sectors and of different sizes and, most notably, of different spectrums of key stakeholders and resources. Finally, our findings may be useful for the management of young high-tech companies concerning their CSR strategy choice, pointing out elements, which can attract higher debt.

Our model also makes use of a set of control variables. Firstly, older and more experienced companies should be regarded as less risky. Hence, they are more inclined to resort to debt financing. Simultaneously, companies characterized by a high level of liquidity resulting from their internal funds' accumulation prefer to use their own finance source rather than external funding. Secondly, companies with a high share of intangible assets and investing in R&D projects are more inclined to resort to liability-based financing. Thirdly, Polish smaller high-tech firms are more willing to use debt if they are forced to do so, suggesting that bigger ones may rely more on their own fund sources.

The research results allow for empirical verification of selected capital structure theories for high-tech companies. The positive impact of age on the level of debt confirms the basic assumptions of trade-off theory. Older high-tech enterprises with an established market position can service a higher level of debt. On the other hand, the positive impact of enterprise size on the level of debt has not been confirmed. The negative effects of liquidity on debt also do not support the practical utility of the trade-off theory. The negative impact of financial liquidity and the size of the enterprise negatively verifies the practical application of the bankruptcy theory and positively pecking-order theory. The agency theory was partially positively verified. The negative impact of intangible processes in high-tech enterprises, such as R&D and intangibility, has not been confirmed on the level of debt. On the other hand, information about CSR has a positive effect on debt. It is worth emphasizing here that additional information on CSR reduces potential conflicts between stakeholders, minimizes agency costs, and therefore increases the possibilities of financing through debt. Disclosing information related to CSR should be understood as an additional mechanism within the agency theory. In addition to the methods of financing and dividend paid, CSR may also constitute an additional, relatively permanent, and difficult-to-imitate signal affecting the debt and may be understood more broadly as information on the future financial situation of the enterprise. The above results lead to empirical verification of pecking-order theory, signaling theory, partly agency theory, to a lesser degree the trade-off theory and to the least degree the bankruptcy theory.

The results of empirical research make it possible to present conclusions important for managers of companies belonging to the high-tech industry. Disclosure of additional information about CSR reduces information asymmetry. It is positively assessed by lenders, as it shapes the right relationship between the most important stakeholders, thus reducing the company's risk. They also contribute to lowering the costs of additional monitoring of the management board's activities (agency costs), hence the availability of financing through debt increases. It is particularly important for young high-tech enterprises, generally characterized by a small ability to obtain debt. Finally, disclosures related to CSR, which impact financial situation rather in the long-term, are a positive indication of the company's present and future cash flows.

Future research should be extended to more companies from more countries. An interesting analysis may compare the practical impact of CSR for high-tech enterprises

from Western Europe and Eastern Europe. Moreover, the result of other dimensions of CSR, not only related to employees, environmental protection or social activity, can be considered.

Our study has several important limitations. The first one is the small sample size. Further research should be performed over a larger sample. Secondly, we present a single-country study with all its advantages and disadvantages. Thirdly, we do not control corporate governance characteristics such as institutional ownership or BIG-4 auditor and macroeconomic factors such as interest rates or GDP growth.

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