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Narcissistic CEOs and Tools for Mitigating Agency Problems

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ABSTRACT

Objective: There is little evidence on the choice of tools to mitigate agency problems. Because these tools are chosen by the CEOs (chief executive officers), we believe that their personality matters. We include the narcissism of the CEO to check whether it is an important factor affecting these kinds of decisions. The research aims to determine what tools to mitigate agency problems are chosen by narcissistic CEOs. We consider debt, dividends, and managerial ownership as potential tools for mitigating agency problems.

Research Design & Methods: Our sample covers 56 Polish companies over the six years of 2017–2022. We employ linear mixed models analysis.

Findings: We find that narcissistic CEOs refrain from ownership in the company they manage. They have no impact on the debt ratio and dividend payouts.

Implications/Recommendations: We believe that narcissistic CEOs use managerial ownership tools to diminish their risk (in order not to be associated with it in case something goes wrong). However, this increases the agency problems. Owners should be aware of such behaviour, bearing in mind the negative impact of a narcissistic CEO on the team and work efficiency.

Contribution: Our research contributes to the upper-echelon (top management) theory and corporate behavioural finance. The contribution lies in combining corporate finance issues (e.g., agency relation, debt ratio, dividend) and behavioural finance (CEO personal traits).

Article type: original article.

Keywords: agency theory, narcissistic CEO, managerial ownership, dividends, debt.

JEL Classification: G31, G40, M21, O16.

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1. Introduction

There is an ongoing debate on agency relations that results from the different interests of owners and managers. The differences in interests usually have many, mostly negative, consequences for companies and their owners. In business practice, there are many tools identified to mitigate the managers' activities. Among these tools are managerial ownership, debt ratio, and dividend payments. Lots of research has been conducted on these tools, especially on their application and efficiency.

We want to expand on existing research by combining agency theory with upper-echelon (top management) theory and corporate behavioural finance. Upper-echelon (top management) theory provides evidence of the important role of the people in charge (chief executive officer, CEO). Behavioural finance provides evidence that behavioural biases and fallacies affect the CEOs' course of action. We attempt to include the CEO's personal traits (narcissism) in the choice of tools to mitigate the agency problems. The role of the CEO in implementing these tools is crucial as it is mostly their decision whether to buy shares of the company they manage, or whether to apply for credit.

The personal trait included in our research is narcissism. Over the last fifty years, the role of behavioural biases has been better and better understood. One CEO personality trait in particular – narcissism – has received significant attention. The increased attention results from higher employee awareness and their striving for a better working environment.

In academic research, narcissism is understood as a complex personality feature marked by an inflated sense of self-importance, a persistent search for admiration, and a limited capacity to take others' perspectives into account (American Psychiatric Association, 2013; see also Bukalska & Dycha, 2024). Existing research has proven that leader narcissism has a negative impact on teamwork efficiency (e.g., Fahy, 2017). However, existing research refers mostly to the relations between managers and workers. While our research attempts to describe the relationships between CEOs and owners.

Our research aims to identify the impact of narcissistic CEOs on the choice of dividend payouts, debt ratio, or managerial ownership as tools for mitigating agency problems. We believe the problem is important as it refers to the relationships built by narcissistic CEOs with owners (their supervisors). Additionally, we find a lack of research on the subject. So far, research has been conducted on narcissistic leaders and their impact on the teamwork of subordinates. In corporate finance, narcissism is researched as a CEO's behavioural trait with its impact on financial decisions (e.g., debt, investment, and earnings management), but with inconclusive results. Rarely is research conducted on the relationships of narcissists to their supervisors/owners.

The originality of our research lies in including the CEO's traits (narcissism) in the investigation of agency relations and the choice of tools to discipline the managers. Our contribution is threefold. We contribute to the upper echelon (top management) theory, providing extra evidence that the role of the CEO is important and affects the key corporate decisions. We also contribute to corporate behavioural finance by including personal traits and proving their significance. We contribute to the agency theory by investigating agency relations and providing evidence on the choice and substitution of tools mitigating agency problems.

Our research covers Polish companies listed on the Warsaw Stock Exchange. Our research covers six years, 2017–2022, and 56 companies with the same CEO over the six years; thus, we obtained 328 firm-year observations. We included companies with the same CEO over the six years of the sample, but only those with CEOs with less than 5% stake in the capital. We employ a linear mixed model analysis.

The rest of the paper is organised as follows. The next section includes the literature review (on agency relations and narcissism). This section finishes with a hypothesis statement. The subsequent section presents the methodology: how we identify narcissism, variables, the model, and the sample. Further, we provide the results of our research, presenting descriptive statistics, a correlation matrix, and regression analysis results. The following section includes a discussion of previous research, and we finish with conclusions.

2. Literature Review

2.1. Agency Relations and Tools for Mitigating Agency Problems

The widespread occurrence of the agency problem in different types of relations has made this theory one of the most important in the literature on finance and economics. Agency theory indicates that there is a conflict of interest between managers and company owners. Both parties seek to maximise their own utility, but their goals differ significantly (Rahmawati, Moeljadi & Sumiati, 2018). The primary goal for owners is to increase financial performance and dividends. Managers, on the other hand, seek only growth in their own wealth, that is, growth in their income in various forms, including, among others, salaries, perks, or transactions with entities related to those managers (Panda & Leepsa, 2017; Weiskirchner-Merten, 2023). The information asymmetry compounds the conflict between owners and managers.

Three tools (out of many others) can be distinguished to diminish agency problems: managerial ownership, debt ratio, and dividend payouts.

Managerial ownership refers to the percentage of shares owned by managers and directors. The duality of the owner acting as owner and manager significantly reduces the agency costs (Vo & Nguyen, 2014). Corporate ownership by managers can be seen as bridging the difference in interests between shareholders and managers. However, too much managerial ownership might lead to instrumental treatment of all resources (human and tangible) to maximise profits.

Leverage also mitigates agency problems that arise from management behaviour that conflicts with shareholder interests (de Jong & van Dijk, 1998). An increase in debt level disciplines managers. They have to act to increase profitability to get it higher than the cost of debt (Panda & Leepsa, 2017). However, debt also brings a higher risk of the company running into financial difficulties, even leading to bankruptcy (Cecchetti, Mohanty & Zampolli, 2011). Companies with a high level of debt risk large losses when economic conditions deteriorate, and when economic conditions improve, companies will earn large profits.

Agency problems might also be reduced by the payment of dividends (Jensen, Solberg & Zorn, 1992). A dividend policy is the decision to share profits with the owners of a corporation. The purpose of this policy is to distribute profits among the shareholders to reduce the amount of resources available for management to misuse (Kanojia & Bhatia, 2022). The higher the dividend payments, the lower the cash holdings left in the company. A low level of cash encourages managers to be more efficient. However, too high dividend payments might leave the company cashless and at risk of bankruptcy. This might hamper the company's growth, but also its short-term operating activities.

Another rarely researched problem is the switching between the tools available to mitigate agency problems. It seems obvious that it is impossible to use all of them in one company, as this might lead to the destruction of the company in a short time. This problem indicates that there is an interdependent relationship between dividend policy, debt policy, and managerial ownership. Managers who have ownership in a firm with high debt ratios tend to suffer from higher risk, and they will reduce the dividend ratio. Firms with higher managerial ownership tend to increase internal funds at the expense of low dividend payouts to finance investments. Jensen (1986) suggests that debt and dividends are substitute mechanisms for reducing the discretionary resources under managers' control, which implies a negative relationship between the two. Fama and French (2002) explain that, based on the trade-off and pecking order theory, debt and dividends are negatively related.

Vo and Nguyen (2014) find that managerial ownership has a negative relationship with debt ratio but a positive impact on dividends. They also find that dividends and debt negatively affect each other. Florackis, Kanas and Kostakis (2015) find a negative impact of managerial ownership on dividends and a negative impact of leverage on dividends. While Rahmawati, Moeljadi and Sumiati (2018) find no bidirectional causality between debt, dividend policy, and managerial ownership.

To sum up, agency relations result in a specific CEO behaviour with negative consequences for the functioning of the company and the owners' aims. Thus, owners utilise some tools to discipline managers. However, it is impossible to implement all of them, so it is necessary to choose from those available. Because managers are obliged to make everyday decisions and take responsibility, we believe that it is the CEO who chooses the specific tool according to their preferences. Their preferences strongly depend on their personal traits.

2.2. CEO Narcissism and Leadership

The research on narcissism is grounded in the theory of personality – behavioural, emotional, and cognitive patterns that comprise a person's unique adjustment to life (American Psychiatric Association, 2013). Personality is relatively stable over time. Theodore Millon (APA member) was one of the people who greatly influenced the psychology of disorders and DSM development. He perceived the different personalities as adaptive or survival styles, while disorders are styles of behaviour, cognition, and emotion that imply inflexibility and difficulties in handling stressful situations; he described 14 types of disorders (maladaptive patterns) with narcissism among them (Millon, 2012).

In corporate finance, the research on CEO narcissism lies within behavioural finance and upper echelon (top management) theory, and has recently drawn a lot of attention (as previously, overoptimism, overconfidence, and many other behavioural biases). The link between narcissism and leadership has long been recognised (Campbell *et al.*, 2011) due to the large number of narcissistic people in leadership positions (a higher-than-average percentage of narcissistic people in society).

Brunell *et al.* (2008) investigated whether individuals with high indications of narcissism would be more likely to emerge as leaders. Recruitment for higher positions is the most suitable aim for narcissistic people who seek out roles that provide power, influence, and the opportunity to have an audience for their actions (Maynard *et al.*, 2015; Fahy, 2017). Narcissistic individuals are more successful in convincing others of their potential – impression management in the asymmetrical information environment (Nevicka & Sedikides, 2021). Schnure (2010) demonstrated that even experienced interviewers evaluated narcissists' applications for a managerial job more favourably in a personnel selection interview.

When they achieve a high position, narcissistic managers are thought to create "blame and toxic cultures" in their organisations. They are said to be abusive managers. Evidence suggests that narcissism generally leads to problems in building relationships and a lack of empathy (Hamstra *et al.*, 2021). Gong, Li and Chen (2018), Fahy (2017), Nevicka *et al.* (2018), and Cragun, Olsen and Wright (2020) find that narcissistic leaders have a negative impact on the team they manage. They use bullying and deception. Narcissistic leadership has a negative impact on the job satisfaction of subordinates and their well-being, whereas it increases stress and intentions to quit. On the other hand, narcissistic people can be charming and glamorous and tend to "shine" in social settings.

Due to observed inconsistent behaviour of narcissists, the actions of narcissistic CEOs are associated with both the light and dark sides of their personality. On the light side, narcissistic leaders have strong social skills and charisma, which reflect their need for acclaim and social approval, striving for uniqueness, grandiose fantasies, and charm (Back *et al.*, 2013). On the dark side, narcissistic leaders tend to exploit others, have lower-quality relationships, and behave in unethical ways that reflect their need to dominate and control others, striving for supremacy, devaluation of others, and aggressiveness (Campbell *et al.*, 2011). These are associated with a desire to reinforce and defend their own superior status (Back *et al.*, 2013).

Nevicka and Sedikides (2021) find that highly narcissistic individuals alter their behaviour depending on the situation. They have strong abilities to manipulate others, but they are also intelligent enough to adapt their strategy depending on the social group they are in. According to Lubit (2002), they are unlikely to demonstrate the same behaviours when dealing with subordinates and supervisors.

The discrepancies in the behaviour of a narcissistic person could be explained by status differences between employees and their supervisors, and suggests that narcissists are more motivated to hide their negative side from supervisors. Narcissistic individuals' sensitivity to the status of others (Giacomin, Battaglini & Rule, 2018) leads them to seek social alliances with people that they perceive as having high status (Jonason & Schmitt, 2012) and to solicit their approval (Ashton-James & Levordashka, 2013). Boddy (2021) assumes that after getting to the very top, destructive CEOs are concerned only with their own interests and not those of the company, the owners, or the employees. Chatterjee and Pollock (2017) find that narcissists have an "others-exist-only-for-me" perspective that leads them to perceive everything and everyone as a tool providing the means for them to maintain their power and status.

We assume that narcissistic CEOs transfer this pattern of actions (the light side to the supervisors and the dark side to the subordinates) into corporate finance and into the relationship with owners (supervisors) within agency relations. According to their strategy, they would agree on implementing the specific tools for mitigating the agency problems, provided that the specific tool serves their own interests, i.e., remaining in position for the long term. Thus, narcissistic CEOs do not allow their company to get into financial difficulties. They adopt behaviours that allow them to "shine" during meetings with owners, showing their generosity and grandiosity to gain approval and to remain in position for the long term.

The considerations mentioned above lead us to the following hypotheses:

H1: CEO narcissism has a negative impact on the debt ratio

The research on the impact of narcissistic CEOs on debt ratio is inconclusive: Zhang *et al*. (2021) and Bajo, Jankensgård and Marinelli (2022) find a positive impact of narcissistic CEOs on debt ratio; Aabo and Eriksen (2018) find a negative impact, and the meta-analysis of Cragun, Olsen and Wright (2020) shows a lack of statistical significance regarding the overall relationship between CEO narcissism and financial leverage. Due to the inconsistent findings, we feel free to adopt our point of view. We believe narcissistic CEOs will not accept a higher debt ratio, as it leads to a higher financial risk. Higher financial risk increases the probability of going bankrupt, leading to their removal from their positions in disgrace. The narcissistic CEOs will not allow their company to get into financial difficulties. This implies that companies managed by narcissistic CEOs have lower debt ratios.

H2: CEO narcissism has a positive impact on dividend payouts

Previous findings of Oktari and Dianawati (2023) and Bajo, Jankensgård and Marinelli (2022) find a positive impact of narcissistic CEOs on dividend payouts. Narcissistic CEOs will propose or agree on higher dividend payments (even if the profitability is the same). Higher dividend payments allow narcissistic CEOs to show their generosity to the owners and convince them that they act in their interests. They would like to "shine" during the owners' meetings, and show their generosity and grandiosity to gain owners' approval and to remain in their positions for the long term.

H3: CEO narcissism has a negative impact on managerial ownership

We found only one research study that included managerial ownership and narcissistic CEOs (both being independent variables). This research shows a negative correlation between them (Byun & Al-Shammari, 2021). We believe that narcissistic CEOs perceive managerial ownership as a potential risk of losing invested capital, remuneration, position, admiration from others, and emotional supplies if anything goes wrong. Moreover, they are convinced they do not need any stake in the company to become the CEO.

3. Methodology

Our study followed a multi-step research design. We began by defining the sample and then established the procedures for assessing CEO narcissism and measuring financial variables. Once the data had been collected, we applied statistical techniques, including descriptive statistics, correlation analysis, and regression models. The regression analysis served as the primary method for testing our hypotheses.

3.1. Sample and Data Source

Our analysis spans a six-year horizon from 2017 to 2022, comprising three years preceding the crisis (2017–2019) and three years during the COVID-19 crisis (2020–2022). We consider this timeframe adequate to investigate the influence of CEOs on company outcomes.

The study focuses on firms listed on the Warsaw Stock Exchange (WSE). As of early 2023, the WSE main market comprised 410 companies. After excluding entities from the financial sector, such as banks, insurers, and investment funds, 300 firms that were continuously listed during the 2017–2022 period remained. We reviewed 1,920 annual reports to identify the CEOs. Within this group, 160 firms had the same CEO throughout the six-year horizon. However, in many of these companies, CEOs also held dominant or significant ownership stakes. Since, in such cases ownership and management overlap, agency conflicts are unlikely to arise. Therefore, firms where the CEO controlled more than 5% of shares were excluded from the analysis. The final sample consisted of 56 firms, generating 328 firm-year observations. It should be noted that the dataset does not represent a fully balanced panel, as certain observations were missing in some years.

Financial variables were sourced from company financial statements available in the Notoria Serwis database. Additional information, including CEO compensation, ownership, photo size, signature size, and social media presence, was gathered manually through a detailed review of annual reports. In total, 328 reports were carefully examined to extract these data.

3.2. Identification of CEO Narcissism

The approach applied to measure CEO narcissism draws on three observable features: the size of the CEO's handwritten signature, the presence and relative size of the CEO's photograph in the annual report, and the number of social media accounts maintained by the CEO (Chatterjee & Hambrick, 2007). The original index developed by Chatterjee and Hambrick (2007) was broader and included five components: 1) the CEO's cash compensation relative to that of the second-highest paid executive, 2) the CEO's non-cash compensation relative to the second-highest paid executive, 3) the prominence of the CEO's photograph in the annual report, 4) the number of times the CEO was mentioned in company press releases, and 5) the frequency of first-person singular pronouns used during interviews. Despite certain limitations, this index has been widely adopted in research on CEO narcissism (Cragun, Olsen & Wright, 2020). In our case, however, we were unable to incorporate interview pronoun usage due to a lack of access to such data, and we also excluded CEO compensation from the index since it represents the core focus of our study.

In line with the procedure of Chatterjee and Hambrick (2007), the prominence of the CEO's photograph in the annual report is assessed on a five-point scale:

1 point – no photograph of the CEO is included,

2 points – the CEO appears in a group photo with other executives,

3 points – the CEO is pictured alone, occupying less than half of a page,

4 points – the CEO is pictured alone, covering at least half a page, and accompanied by text,

5 points – the CEO is shown alone, with the photo occupying a full page.

The signature-based measure of CEO narcissism is determined according to a standardised procedure. A rectangle is drawn around the CEO's handwritten signature in the annual report, with its edges touching the outermost points of the signature. The signature's area is then calculated by multiplying the length and width of the rectangle (measured in centimetres). To account for differences in length of name, this area is divided by the number of letters in the CEO's name (Ham, Seybert & Wang, 2018).

The third indicator of CEO narcissism relates to social media activity. Following Christian and Sulistiawan (2022), CEOs are ranked on a three-point scale according to the number of personal social media accounts they maintain:

1 point – one or no social media accounts,

2 points – two accounts,

3 points – three or more accounts.

To construct the CEO narcissism index, we combined the three indicators – photograph prominence, signature size, and social media activity – by summing up the natural logarithms of their respective scores. This procedure produced a continuous measure ranging from 0 to 5, where higher values indicate higher levels of CEO narcissism.

3.3. Variables

Table 1 presents the set of variables (with their formulas) included in the research.

Table 1. The Set of Variables with Their Formulas

Variable	Formula	Unit
CEO narcissism	CEO narcissism index	from 0 to 5
Debt ratio	total liabilities to total assets × 100	%
Dividend ratio	dividend payout to total assets × 100	%

Table 1 cnt'd

Variable	Formula	Unit
CEO ownership	percentage of capital owned by CEO	%
Size	total assets (natural logarithm from total assets)	million PLN
Profitability	net profit to total assets × 100	%
Cash ratio	cash and equivalents to total assets × 100	%
CAPEX ratio	CAPEX to total assets × 100	%
CEO age	age	years
CEO tenure	number of years in the CEO position	years

Source: the authors.

3.4. Methods and Models

To verify the hypotheses, we implement models as follows:

$$\begin{aligned} \textit{Dividend Ratio} & \\ &= \beta_0 + \beta_1 \textit{CEO narcissism} + \beta_2 \textit{Debt Ratio} \\ &+ \beta_3 \textit{CEO ownership} + \beta_4 \textit{Size} + \beta_5 \textit{Profitability} + \beta_6 \textit{Cash Ratio} \\ &+ \beta_7 \textit{CAPEX Ratio} + \beta_8 \textit{CEO age} + \beta_9 \textit{CEO tenure} + \varepsilon \end{aligned}$$

$$\begin{aligned} \textit{Debt Ratio} & \\ &= \beta_0 + \beta 1 \textit{CEO narcissism} \\ &+ \beta_2 \textit{Dividend Ratio} + \beta_3 \textit{CEO ownership} + \beta_4 \textit{Size} \\ &+ \beta_5 \textit{Profitability} + \beta_6 \textit{Cash Ratio} + \beta_7 \textit{CAPEX Ratio} \\ &+ \beta_8 \textit{CEO age} + \beta_9 \textit{CEO tenure} + \varepsilon \end{aligned}$$

$$\begin{aligned} \textit{CEO Ownership} & \\ &= \beta_0 + \beta_1 \textit{CEO narcissism} \\ &+ \beta_2 \textit{Debt Ratio} + \beta_3 \textit{Dividend Ratio} + \beta_4 \textit{Size} + \beta_5 \textit{Profitability} \\ &+ \beta_6 \textit{Cash Ratio} + \beta_7 \textit{CAPEX Ratio} + \beta_8 \textit{CEO age} + \beta_9 \textit{CEO tenure} + \varepsilon \end{aligned}$$

The sample covers 2017–2022 and data for 56 companies (with some missing data). This dataset makes using OLS regression analysis (ordinary least squares with a linear regression line) difficult to implement, as the sample has time-varying variables. These variables show dependence (e.g., the debt ratio is not random for the specific company over time but shows a specific change path). If a dataset were a balanced panel sample, it would be possible to implement a panel regression analysis with fixed and random effects. However, the panel sample was unbalanced due to some missing observations. To overcome some difficulties with implementing

OLS (longitudinal data) and panel regression analysis (missing observations), linear mixed models were used as a good method for analysing dependent, multilevel, hierarchical, longitudinal, or correlated data. Linear mixed model is an extension of simple linear models (OLS) to allow both fixed and random effects, and is used particularly when there is non-independence in the data arising from a hierarchical or time-varying structure.

Finally, the linear mixed model was implemented with fixed and random effects. Each model includes a time effect (variables 0–1 for each year to exclude the influence of external economic conditions on the results – year effect, and 0–1 for each industry – construction, manufacturing, trade, and services to exclude the influence of specific industry conditions) to model time and industry heterogeneity. SPSS software was employed.

4. Findings

Our empirical results consist of descriptive statistics, correlation matrices, and regression outputs. Among these, regression analysis served as the primary method for testing the hypotheses.

4.1. Descriptive Statistics

Table 2 presents the descriptive statistics of the sample companies.

Table 2. Descriptive Statistics

Variable	Mean	Median	Min	Max	Standard Deviation	Normality Test (S-W)
CEO narcissism	1.02	0.80	0.00	4.68	0.97	0.850***
Debt ratio	46.51	46.65	10.80	81.74	18.20	0.982***
Dividend ratio	3.04	0.63	0.00	110.51	7.97	0.344***
CEO ownership	0.89	0.16	0.00	5.00	1.34	0.710***
Size (mln PLN)	855.10	376.62	3.79	6,434.88	1,141.67	0.979***
Profitability	4.87	4.75	16.00	22.20	8.03	0.957***
Cash ratio	8.53	5.56	0.55	39.00	8.50	0.789***
CAPEX ratio	3.35	2.36	0.00	27.31	3.59	0.807***
CEO age	50.82	50.00	36	71	6.50	0.969***
CEO tenure	15.30	15.00	1	32	7.05	0.989**

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Source: the authors.

4.2. Correlation Matrix

Table 3 reports the correlation coefficients. Since the data are not normally distributed, we applied Spearman's rank correlation method.

The correlation coefficients between the independent variables do not exceed 0.4, indicating that no multicollinearity was detected that could distort the regression analysis (Shrestha, 2020). Therefore, regression analysis can be applied to model the relationship between the dependent variable and the full set of independent variables.

4.3. Regression Analysis Results

Table 4 presents the LMM regression analysis results for the tools of agency problem mitigation, along with the variance inflation factor for each variable (VIF).

The regression analysis results for the whole sample indicate that CEOs' narcissism negatively affects dividend payments, debt ratio, and CEO ownership. However, statistical significance was found only for the debt ratio and CEO ownership. Further investigation allows us to state that the best models are those with the minimum value of the Akaike Information Criterion (Polyzos & Siriopoulos, 2024). This led us to accept the fixed effect model for CEO ownership (with a statistically significant impact of CEO narcissism) and the random effects model for debt ratio (without a statistically significant impact of CEO narcissism). In this way, we find full confirmation of only H3 (assuming a negative impact of CEO narcissism on managerial ownership). We find no statistically significant evidence supporting or contradicting the H1 (assuming a negative impact of CEO narcissism on debt ratio) and H2 (assuming a positive impact of CEO narcissism on dividend payouts).

Our study results partially align with our assumptions: Narcissistic CEOs refrain from investing in the company they manage (in order not to be associated with it in case something goes wrong).

5. Discussion

Our findings are important for upper-echelon (top management) theory as we find that the CEO has a statistically significant impact on the decision-making process (Hambrick & Mason, 1984; Hambrick, 2007). Additionally, we find that specific personal characteristics of the CEO affect corporate decisions, which support corporate behavioural finance (Heaton, 2002; Malmendier & Tate, 2005; Hackbarth, 2008). Our findings also support previous research on the significant impact of narcissism (Campbell *et al*., 2011; Chatterjee & Pollock, 2017).

Table 3. Correlation Matrix (Spearman)

Variable	CEO narcissism	Debt ratio	Dividend ratio	CEO ownership	Size	Profitability	Cash ratio	CAPEX ratio	CEO age
CEO narcissism	1								
Debt ratio	–0.012	1							
Dividend ratio	0.044	–0.217***	1						
CEO ownership	–0.224***	0.104*	0.155**	1					
Size	–0.016	0.193***	0.331***	–0.001	1				
Profitability	–0.055	–0.337***	0.363***	0.076	0.116**	1			
Cash ratio	0.067	–0.098*	0.235***	0.028	0.160**	0.283***	1		
CAPEX ratio	0.031	–0.093*	0.210***	–0.063	0.229***	0.213***	–0.056	1	
CEO age	–0.309***	–0.120**	0.194***	0.186**	0.085	0.207***	–0.052	0.251***	1
CEO tenure	–0.199***	–0.128**	0.067	0.179**	–0.160**	0.131**	–0.153**	–0.186**	0.386***

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Source: the authors.

Table 4. Regression Analysis Results (Linear Mixed Models)

Specification	Dividend Ratio	Dividend Ratio	VIF	Debt Ratio	Debt Ratio	VIF	CEO Ownership	CEO Ownership	VIF
CEO narcissism	–0.175	3.814	1.156	–2.637**	–2.551	1.139	–0.221**	–0.256	1.115
Debt ratio	–0.043*	–0.063	1.236	×	×	×	0.014***	–0.001	1.225
Dividend ratio	×	×	×	–0.206*	–0.304	1.118	–0.002	0.010	1.132
CEO ownership	–0.064	–0.174	1.108	2.322***	1.559	1.085	×	×	×
Profitability	0.272***	0.272	1.324	–0.677***	–0.565**	1.298	0.004	–0.008	1.410
Cash ratio	–0.010	–0.037	1.121	0.004	–0.445	1.121	0.017*	0.012	1.112
CAPEX ratio	0.171	0.421	1.200	–0.568**	0.080	1.194	0.017	0.032	1.203
Size	0.005	–0.482	1.196	2.578***	3.390**	1.153	–0.082	0.031	1.192
CEO age	–0.004	0.123	1.605	–0.319*	1.098*	1.603	–0.002	0.053	1.599
CEO tenure	–0.117	–0.172	1.552	–0.166	–1.327**	1.543	0.017	–0.072	1.526
FE or RE	FE	RE	×	FE	RE	×	FE	RE	×
Year effects	yes	yes	×	yes	yes	×	yes	yes	×
Industry effects	yes	yes	×	yes	yes	×	yes	yes	×
–2LL	2,287.69	2,766.90	×	2,813.04	2,569.10	×	1,097.59	1,591.67	×
Akaike criterium	2,325.69	2,838.90	×	2,851.04	2,641.10	×	1,135.59	1,663.67	×
Conditional pseudo *R*-square	0.161	1.000	×	0.234	0.993	×	0.151	1.000	×

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Source: the authors.

Narcissistic CEOs use only one tool – managerial ownership. But they do not use this tool to diminish agency problems, as they refrain from having a stake in the company. Taken together, the lack of impact on the dividend payments and debt ratio, and refraining from managerial ownership, all mean they are not involved in actions to diminish the problems between owners (principals) and managers (agents).

When compared to previous research, our findings on the lack of impact of narcissistic CEOs on debt ratios are in line with those of the meta-analysis of Cragun, Olsen and Wright (2020) but contradict all those showing positive or negative impact (Aabo & Eriksen, 2018; Zhang *et al*., 2021; Oktari & Dianawati, 2023). Our findings on the lack of impact of narcissistic CEOs on dividend payouts contradict those of Bajo, Jankensgård and Marinelli (2022) and Oktari and Dianawati (2023).

The previous findings and ours lead us to think that narcissistic CEOs like to be at the centre of events and the decision-making process. Previous research shows that narcissistic CEOs create chaos and seek or create opportunities to "shine" (Oldale, 2020; Schmid, Knipfer & Peus, 2021). However, they refrain from taking risky actions. Previous research proves that narcissistic CEOs are reluctant to take risks (Aabo, Hoejland & Pedersen, 2021; Shen, Mollica & Dalla Costa, 2024). We believe that narcissistic CEOs perceive managerial ownership as a potential risk of losing invested capital, remuneration, position, admiration of others, and emotional supplies if anything goes wrong.

Moreover, we provide evidence supporting the idea that there is a substitution between tools of agency problem mitigation, especially negative relations (correlation) between debt and dividend, and a negative impact of debt ratio on dividend payouts. This is in line with previous research of Vo and Nguyen (2014) and Florackis, Kanas and Kostakis (2015).

6. Conclusions

The aim of the paper is to identify the set of tools for mitigating agency problems implemented by narcissistic CEOs. We take into account: debt ratio, dividend payouts, and managerial ownership. We find that narcissistic CEOs prefer to have a lower stake in the company they manage. This means that narcissistic CEOs choose only one tool, but by using this tool, they do not diminish agency problems.

Our findings have several implications, both theoretical and practical. Theoretical implications include our findings that extend existing knowledge on narcissistic leaders and their impact on corporate finance and agency relations. The practical implications are of interest to the owners. Narcissistic CEOs take the opportunity to "shine" and show their engagement, but without taking the risk of losing their position. Owners should be aware that narcissistic CEOs have a negative impact on the team they manage. This is connected to remaining in position and the "toxic" way of treating employees. In times of sustainability and bearing in mind the need to achieve sustainable development goals, the well-being of employees should be taken into account, and not only the financial wealth of owners. We believe this might be especially important for the post-communist countries as they try to transform to Western values of sustainability, including in the workplace.

The limitations of our research are that we focus on financial aspects and do not take into account organisational performance (and the way narcissistic CEOs treat employees). Combining financial and organisational performance might provide extra evidence on narcissism in the workplace. The limitations of our research provide a good basis for future investigation. We might expand our research on both the financial and organisational performance of narcissistic CEOs. It is also possible to extend the sample into other countries and include Hofstede's national culture factors.

Authors' Contribution

The authors' individual contribution is as follows: Elżbieta Bukalska 70%,
Gabriela Dycha-Wąsik 30%.

Conflict of Interest

The authors declare no conflict of interest.

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