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The effect of CEO characteristics on financial leverage: findings from listed companies in Vietnam

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Abstract: The research is conducted with the goal of determining the influence of CEO characteristics, including CEO experience, on the financial leverage of listed companies in Vietnam. Financial leverage is among the vital financial policies for any business. A review of upper echelons theory suggests direct influence of CEO characteristics on setting business policy and inevitably on firm financial leverage. To assess the effect of CEO characteristics on financial leverage, the paper conducts a generalized method of moments regression with the following dependent variables: CEO age, CEO experience, the level of education related to the economic industry of the CEO education, and CEO gender. The data studied consist of 770 observations on 110 companies listed on Vietnam's two major stock exchanges, Ho Chi Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX), over the period 2012–2018. We found that CEO experience, CEO education, and CEO gender are significantly positively correlated with firm leverage whereas CEO age is negatively correlated. Our results also provide additional useful information for shareholders and investors in recruiting a new CEO or balancing CEO power in the business.

Subjects: Corporate Finance; Accounting; Corporate Governance

Keywords: CEO characteristics; CEO experience; financial leverage decisions; HOSE; HNX

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PUBLIC INTEREST STATEMENT

Financial leverage is vital for any business. Our goal is to determine the influence of CEO characteristics on the financial leverage of listed companies in Vietnam. Upper echelons theory suggests direct influence of CEO characteristics on setting business policy and inevitably on firm financial leverage. To assess the effect of CEO characteristics on financial leverage, the paper implies generalized method of moments regression with the following dependent variables: CEO age, CEO experience, the level of education related to the economic industry of the CEO education, and CEO gender. Our data consist of 770 observations on 110 nonfinancial companies listed on Ho Chi Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX), over the period 2012–2018. We found that CEO experience, CEO education, and CEO gender are significantly positively correlated with firm leverage whereas CEO age is negatively correlated.
1. Introduction

Criteria such as profitability and operational efficiency are often used by investors in making stock investment decisions. In the context of a world economy facing many difficulties, businesses are exposed to various risks and challenges, one of which is a shortage of working capital.

Thus, in their operations, businesses rely on financial leverage for the capital they need. In turn, the use of financial leverage helps businesses increase the return on equity—a financial indicator often used by investors. Over the past two decades, the stock market in Vietnam has been one of the most effective channels for listed companies to obtain capital. According to upper echelons theory (UET) (Hambrick & Mason, 1984), important corporate decisions, such as the use of leverage, are influenced by the characteristics of the chief executive officer (CEO), who is considered the public face of the business.

The importance of CEOs in the business grows over time, so studies on the impact of CEO characteristics on businesses policies such as investment, debt, and cash holding have increased (Custódio & Metzger, 2014; Gupta et al., 2018; Mun et al., 2020; Serfling, 2013; Sitthipongpanich & Polsiri, 2012; Ting et al., 2015). In particular, Custódio and Metzger (2014) show that the working experience of the CEO is an important factor in the financial policy of the business and CEOs with experience and expertise in finance tend to hold less cash and increase borrowing for investment. Serfling (2013) finds that CEO age influences risky behavior; older CEOs tend to reduce corporate risk through less-risky investment policies, less investment in R&D, and less leverage maintenance. Similar results are found by Dittmar and Duchin (2015), Ting et al. (2015), and Phan et al. (2017), and others. Also, Shopohl et al. (2020) suggests that female CFO could moderate for the business board power and effect the board decisions on such matter as financial leverage level. Is this the case as well in Vietnam’s capital market?

Previous studies on Vietnam often examine the influence of general CEO characteristics on business performance or financial policies with little attention to the influence of CEO experience and qualifications. In this study, using data from financial audit statements and annual reports on 110 companies listed on Ho Chi Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX) for the period 2012–2018, we include variables not only for age but also for CEO experience—tenure in the position—and education. To deal with potential endogeneity in the research model, we use the generalized method of moments (GMM) method. Our results can help investors assessment of risk before making investment decisions. In addition, they can give the board of directors more criteria on which to base the appointment or retention of an appropriate CEO.

2. Literature review and hypotheses development

2.1. Literature review

2.1.1. Upper echelons theory (UET)

The UET suggests that the performance of a business is directly influenced by the characteristics of the people in senior management roles (Hambrick & Mason, 1984). The theory also points out observable characteristics, such as age, previous work experience, and education, for consideration. Accordingly, the conservative stance of older executives has three explanations. The first is that older executives may have less physical and mental stamina or less ability to grasp new ideas and learn new behaviors. The CEO’s age is negatively associated with the ability to integrate information in decision making. Second, older executives have a greater psychological attachment to their business status. Third, financial and career stability are important to older managers. Many
studies have examined the effects of age on financial decision making, in particular financial leverage. Some claim that financial and career security are more important for older managers; therefore, they might avoid risky actions that could compromise their security (Carlsson & Karlsson, 1970). Hambrick and Mason (1984) and Serfling (2013) believe that younger managers make more risky financial decisions and thus tend to increase the use of financial leverage. Other studies find that CEO age is related to debt financing behavior.

Previous career experience can also significantly influence the actions taken by managers. Especially in stable periods, an organization is well served by having a deep understanding of the industry and good working relationships among a team of senior managers because management expertise and experience have a significant impact on strategic plans and economic decision-making. Fischer and Pollock (2004) argue that a CEO’s previous experience increases the firm’s operational efficiency and viability. For example, a new CEO hired from an outside company can provide a different perspective in decision making than someone promoted from within the organization to the position of chief executive. The influence of managerial experience on corporate financial decisions, such as financial leverage, is mentioned in many studies, including Elsaid and Ursel (2011, 2012) and Custódio and Metzger (2014).

According to Hambrick and Mason (1984), to some extent, education indicates a person’s knowledge and skills. They argue that senior managers with formal education follow classic strategies and focus on innovation more. In addition, companies run by well-educated executives have a more complex management process. Previous studies show the impact of CEO education on the use of a corporate financial leverage policy. Finkelstein and Hambrick (1996) claim that the CEO’s educational background is a decisive factor in corporate policies, as more educated CEOs are willing to take risks and be bolder in the use of financial leverage. Barker and Mueller (2002) and Rakhmayl and Yuce (2011) suggest that highly educated CEOs are more likely to absorb new knowledge and to engage in more investment opportunities.

2.2. Hypotheses development

2.2.1. CEO age and firm financial leverage

Most research related to the characteristics of CEOs around the world use the age variable to measure the impact on business performance, investment decision making, or raising capital.

Age is a complex factor as it can represent various aspects—for instance, experience at an early age (Malmendier et al., 2011). Because age can represent different basic values, characteristics, and cognitive processes, it is often used as a variable in empirical research. In practice, it has been argued that CEO age is an influential factor in financial leverage, but the findings vary. Elsaid and Ursel (2012) conduct a study with 650 US listed companies in the period 1992–2005, with results that suggest CEO age has a significant impact on a company. They argue that firms wishing to reduce risk should ensure adequate representation of older board directors (Elsaid & Ursel, 2012). Similarly, Serfling (2013), using data on nonfinancial firms listed on ExecuComp from 1992 to 2010, studies the relationship between CEO age and corporate risk-taking behavior and shows that older CEOs reduce corporate risk through less-risky financial and investment policies. Talbi (2017) conducts research on the influence of CEO age on risk-taking behavior through earnings management strategies with data on 642 US-listed companies from 2010 to 2015, showing that the age of CEO and earnings management behavior are positively correlated. Talbi (2017) also states that earnings management through policy is a technique that requires proficiency due to the experience and age of the CEO. Phan et al. (2017) study the effect of CEO age on firm performance, showing a nonlinear relationship based on a sample of 120 companies listed on the HOSE in the period 2009–2015. Past the age of 45, CEOs are more cautious about the risks and less proactive about market changes.
According to Hirshleifer and Thakor (1992), holding other factors unchanged, younger managers with a lower career profile are subject to more scrutiny by the market. This leads to conservative behavior in financial decisions by this group. Serfling (2013) do not find a statistically significant relationship between CEO age and the business leverage level. Based on UET theory and the majority of previous empirical studies, the first research hypothesis is proposed as follows:

**H1:** CEO age and firm financial leverage have a negative correlation.

### 2.2.2. CEO experience and firm financial leverage

According to the Vietnam Company Law, a CEO must have professional qualifications and practical experience in business administration. In this context, experience is the knowledge that the CEO accumulated from learning and work. Hambrick and Mason (1984) also argue that, in UET, experience is a key characteristic of senior managers and their insight helps them make decisions in line with business activities.

Custódio and Metzger (2014) argue that CEOs with adequate financial experience follow financial theory and practice in their governance. Experienced managers are likewise more active in managing cash and leverage. According to Custódio and Metzger (2014), businesses run by CEOs with expertise in finance are less likely to face cash flow risk as they respond more quickly to tax avoidance and capital incentives. Bias and Schmid (2019), using data on the S&P 1500 from 1984 to 2011, suggest that CEO experience, especially at companies where strikes break out, affect that CEO’s future financial decisions at another company. The study also shows that CEOs adjust their management style over time. CEOs who experience strikes often try to increase a company’s financial flexibility by reducing leverage and increasing the cash-holding level. Based on the Vietnamese market, we expect that CEOs with longer tenure in that position will be more proactive in using financial leverage. Therefore, we posit our second hypothesis as follows:

**H2:** CEO experience and firm financial leverage have a positive correlation.

### 2.2.3. CEO education and firm financial leverage

According to UET, CEO education is reflected in the characteristics of the business in which they work. Highly educated CEOs are less risk averse and more open to new ideas, changes, and investment opportunities (Barker & Mueller, 2002). Other studies have argued that a positive relationship exists between CEO educational attainment and financial leverage. Finkelstein and Hambrick (1996) argue that well-educated CEOs are more willing to engage in riskier investment. Bertrand and Schoar (2003) note that managers with a master's degree in business administration (MBA) seem to use more aggressive financial strategies and making investment decisions that are more consistent with financial theories. So, these CEOs will be more inclined to invest and react more quickly to changes in business's Tobin's Q measurement. Rakhmayil and Yuce (2011) agree that high educational attainment is positively related to a firm's financial leverage. Sitthipongpanich and Polsiri (2012) study the characteristics of CEOs of nonfinancial companies listed on the Stock Exchange of Thailand from 2001 to 2005, and about 50% of the CEOs have a master’s degree or higher and 4.2% have experience in accounting, finance, or economics. Their results show a significantly positive effect of CEO education, particularly postgraduate education, on the leverage level of a business.

However, other studies show an inverse or no relationship between CEO education and the use of finance. Malmendier and Tate (2008) find that CEOs who are educated in engineering are more sensitive to cash flow from investment than others. According to Custódio and Metzger (2014), the experience of managers has a more pronounced impact on leverage than their education.
background. Ofe (2012) conducts research on the impact of education background on the activities of companies listed on the Nasdaq Stockholm AB (formerly the Stockholm Stock Exchange). The study pays particular attention to listed companies in manufacturing, oil and gas industry, and the energy sector, characterized by low volatility, and the information technology industry, characterized by high volatility. The regression results show no significant relationship and no support for the notion that firms run by CEOs with a technical education have an advantage over companies run by CEOs with other education backgrounds, such as law, marketing, and finance.

Based on theory and the results of previous empirical research, we also use CEO education (i.e., having a degree related to economics), as a variable to evaluate its impact on business financial leverage. In the context of the Vietnamese market, CEOs with educational qualifications related to the economic sector are expected to be more active in using debt financing. Hence, our third hypothesis is posited as follows:

**H3: CEO education and firm financial leverage have a positive correlation.**

### 2.2.4. CEO gender and firm financial leverage

Although psychology studies focus on social differences in gender, management and financial literature primarily examines whether gender influences corporate economic decision making. Differences in attitudes between male and female CEOs can lead to different courses of action. Specifically, female CEOs may choose to use less debt in a company's capital structure than male CEOs. Abor and Biekpe (2007) claim that female-run firms use less debt for a variety of reasons, including discrimination and risk aversion. This result is consistent with Faccio et al. (2012) who study the relationship between gender and risk taking and the efficiency of capital allocation at European firms and agree that female CEOs tend to invest in less-risky activities, use lower financial leverage, and have less earnings fluctuation; for these reasons, firms with female CEOs might outlast firms run by male CEOs. Furthermore, an analysis of changes in risk taking and the transformation of CEOs shows that a firm's risk taking tends to decrease around a changeover from male to female CEO. Faccio et al. (2012) also express that female CEOs’ risk avoidance has a significant impact on the efficiency of capital allocation. Their regression confirms a positive relationship between the quality of investment opportunities and investment levels at companies run by male CEOs. In other words, female CEOs do not seem to allocate capital as efficiently as their male peers.

Based on the results of previous empirical studies, we also include a variable for the gender of the CEO to evaluate the impact of leverage. Male CEOs are expected to use financial leverage more actively than female CEOs. Consequently, our fourth hypothesis is presented as follows:

**H4: Having a male CEO and firm financial leverage have a positive correlation.**

### 3. Research design

#### 3.1. Data collection

The sample comprises 770 observations on 110 companies listed on the HOSE and the HNX from 2012 to 2018. The research excludes finance companies and those with missing data during the research period.

#### 3.2. Research model

The paper collaborates previous researches (Custódio & Metzger, 2014; Dittmar & Duchin, 2015) to come up with the research model to examine the influence of CEO characteristics, including CEO experience, on the financial leverage of listed companies in Vietnam. A summary of research variables is shown in Table 1.
| Variable | Type of variable | Measurement | Expected coefficient with dependent variable | Previous studies |
|----------|------------------|-------------|-----------------------------------------------|------------------|
| LEV      | Dependent        | Business total liability over total asset. | N/A               | Custódio and Metzger (2014); Dittmar and Duchin (2015). |
| AGE      | Independent      | CEO age at financial reporting year.       | -                 | Elsaid and Ursel (2012); Serfling (2013); Custódio and Metzger (2014); Dittmar and Duchin (2015); Ting et al. (2015); Taibi (2017). |
| EXP      | Independent      | CEO experience measured by the total years in the CEO position. | +                 | Custódio and Metzger (2014); Ting et al. (2015). |
| EDU      | Independent      | CEO education takes a value of 1 if CEO holds any degree in economics; otherwise 0. | +                 | Rakhmayil and Yuce (2011); Sitthipangpanich and Polsiri (2012); Serfling (2013); Custódio and Metzger (2014); Dittmar and Duchin (2015); Ting et al. (2015). |
| GEN      | Independent      | CEO gender takes a value of 1 for males and 0 for females. | +                 | Abor and Biekpe (2007); Faccio et al. (2012); Custódio and Metzger (2014); Dittmar and Duchin (2015); Ting et al. (2015). |
| SIZE     | Control          | Business size measured by the natural logarithm of total assets. | N/A               | Elsaid and Ursel (2012); Faccio et al. (2012); Custódio and Metzger (2014); Dittmar and Duchin (2015). |
| ROA      | Control          | Earnings before interest and tax over total assets. | N/A               | Faccio et al. (2012); Custódio and Metzger (2014). |
| TANG     | Control          | Proportion of business tangible assets over time, measured by total tangible assets over total assets. | N/A               | Custódio and Metzger (2014); Dittmar and Duchin (2015). |
| GROWTH   | Control          | The growth rate of total assets over time in the research period. | N/A               | Custódio and Metzger (2014); Dittmar and Duchin (2015). |
LEV\textsubscript{it} = \beta_0 + \beta_1\text{AGE}_{it} + \beta_2\text{EXP}_{it} + \beta_3\text{EDU}_{it} + \beta_4\text{GENDER}_{it} + \beta_5\text{SIZE}_{it} + \beta_6\text{ROA}_{it} + \beta_7\text{TANG}_{it} + \beta_8\text{GROWTH}_{it} + \epsilon_{it}

4. Empirical results and discussion
Table 2 shows that 46.8\% of the capital of listed companies is financed by debt. There is a large gap in the financial leverage among businesses, with the lowest financial leverage ratio about 1/1,000 of the total asset value, while the highest leverage ratio is 1.6 times higher than total assets. This variance is due to the combining of different industries with the difference in the size of total assets. Around 88.9\% of CEOs are male, and 11.1\% are female. The average CEO age is 51 years, with the youngest 23 and the oldest 75. The gap in CEO age is quite large, so there is a big difference in tenure in the CEO position in the sample, including new CEOs and those who have worked for as much as 47 years. The average CEO tenure at the business is 15 to 16 years. In terms of education, approximately 56.7\% of CEOs have degrees related to economics, with a standard deviation of 0.49. This is the result of businesses in industries such as health care and energy, which require qualifications related to the profession.

The correlation between independent variables is acceptable, however, a correlation coefficient between variables greater than 0.8 is an indication that the model might suffer multicollinearity, which shows that the coefficients in the regression model can be altered and affect the research results. Table 3 gives the correlation coefficient matrix among the independent variables.

The result of Table 3 shows that the correlation index between the independent variables is low and is less than 0.8. Therefore, the probability of multicollinearity between the independent variables is low.

| Table 3. Pearson correlation coefficient matrix of independent variables |
|--------------------------|-----------------|-------------------------------|-----------------|-----------------|-----------------|------------------|------------------|
| GEN | AGE | EXP | EDU | ROA | SIZE | TANG | GROWTH |
| GEN | 1 | -0.039 | 0.4216 | -0.0526 | 0.1012 | 0.0099 | 0.0049 | -0.0938 |
| AGE | -0.039 | 1 | 0.0739 | 0.0764 | 0.2326 | -0.0219 | -0.0863 | 0.0363 |
| EXP | 0.4216 | 0.0739 | 1 | 0 | 0.1343 | -0.2109 | -0.0863 | -0.0863 |
| EDU | -0.0526 | 0.0739 | 0 | 0.0764 | 0.2326 | -0.0219 | -0.0863 | -0.0863 |
| ROA | 0.1012 | 0.0764 | 0 | 0.1317 | 0.2326 | -0.0219 | -0.0863 | -0.0863 |
| SIZE | 0.0099 | 0.1343 | 0.2326 | 0.0764 | 0 | 0.0099 | 0.0099 | 0.0099 |
| TANG | 0.0049 | -0.2109 | -0.0219 | -0.0219 | 0.2326 | 1 | -0.1283 | -0.0635 |
| GROWTH | -0.0938 | 0.0363 | -0.0863 | -0.0863 | -0.0863 | -0.1283 | 1 | 1 |

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Table 4 shows no VIF result greater than 5, and the average is also low at 1.14. It again confirms the low probability of multicollinearity phenomenon for the research model. The results of the Wald test (Prob> chi2 = 0.000) and the Wooldridge test (Prob> chi2 = 0.000) demonstrate that the model has heteroskedasticity and first-order autocorrelation problem. Considering these tests, we conduct a GMM regression in which the instrumental variable is the lag (t-1) of the independent variables. The regression results are presented in Table 5.

In Table 5, CEO age and financial leverage have opposite relationships with the estimated coefficient of −0.00179, with statistical significance of 5%. This result is consistent with the proposed hypothesis about the inverse relationship between CEO age and financial leverage. Similar results are found by Ting et al. (2015), Serfling (2013), and Talbi (2017). Young CEOs are risk-takers, as they are confident about using financial leverage to create the greatest profit for the business (Bertrand & Mullainathan, 2003; Phan et al., 2017; Taylor, 1975) whereas older CEOs are more risk averse (Hambrick & Mason, 1984; Table 5. GMM regression

| Variables | Coefficient |
|-----------|-------------|
| GEN       | 0.0516**   |
|           | (2.057)    |
| AGE       | −0.00179** |
|           | (−2.046)   |
| EXP       | 0.00213*** |
|           | (3.454)    |
| EDU       | 0.0736***  |
|           | (4.795)    |
| ROA       | −0.656***  |
|           | (−12.99)   |
| SIZE      | 0.0423***  |
|           | (8.580)    |
| TANG      | 0.0254*    |
|           | (1.756)    |
| GROWTH    | 0.0371***  |
|           | (7.151)    |
| Constant  | −0.677***  |
|           | (−4.703)   |

Hansen Test: 0.155
Arellano-Bond test: 0.524
Observations: 728
Number of firms: 110

z-statistics in parentheses
*** p < 0.01; ** p < 0.05; * p < 0.1
Stevens et al., 1978) and career security oriented (Carlsson & Karlsson, 1970). So, based on the research results, H1 is confirmed.

Experience in the CEO position, represented by EXP, is expected to have a positive relationship with the level of leverage. According to the regression results in Table 5, CEO experience and financial leverage have a positive relationship with the estimated coefficient of 0.00213 with statistical significance of 1%. The result indicates that CEO’s with longer tenure tend to use more debt financing. This positive correlation is similar to Frank and Goyal (2007), Custódio and Metzger (2014), Ha et al. (2021), and Ting et al. (2015). At listed companies in Vietnam, CEOs with longer tenure in a managerial position accumulate experience in using financial leverage to enhance profit. In Vietnam, some CEOs are appointed after a long-time commitment with the business, so they have a deeper understanding of business operations. For that reason, these CEOs may be more aware of corporate debt usage. In sum, H2 is supported.

CEO education with the coefficient is at 0.0736 and with a statistical significance level of 1%. This means that a CEO with a degree related to economics is more active in using financial leverage, that is, a higher ratio of corporate debt. The regression results in Vietnam reinforces this point of view. Other studies with similar results include Ting et al. (2015), Frank and Goyal (2007), Rakhamiyel and Yuce (2011), and Sithipongpanich and Polsiri (2012). This is consistent with UET, suggesting that highly educated CEOs are less risk averse and more receptive to new ideas and investment opportunities (Barker & Mueller, 2002; Finkelstein & Hambrick, 1996). The CEO’s education background is one of the key determinants of corporate policies (Bertrand & Schoar, 2003; Smith et al., 2006). Also, as these CEOs have obtained a great deal of knowledge in an academic environment, they become more courageous in using financial leverage. So, H3 is supported.

In the GMM regression result, CEO gender has an estimated coefficient of 0.0516 with a significance level of 5%. This shows that male CEOs are more likely to employ debt than female CEOs. With respect to CEO gender, psychology and cognitive management studies show that men and women have different leadership styles, corporate efficiency, communication skills, conservatism, boldness, and risk aversion (Byrnes et al., 1999; Eagly & Johnson, 1990; Eagly & Steffen, 1986; Thanh & Ha, 2021). These gender characteristics can lead to variances in financial decisions made by male and female CEOs. Female managers choose to use less debt in a company’s capital structure. Previous research (Frank & Goyal, 2007; Ha & Hiep, 2019; Ting et al., 2015) also produce similar results. The regression results in the Vietnamese market show that male CEOs are more likely to be risk-takers, braver, and more confident, so they often use more financial leverage in their businesses. Based on these results, H4 is confirmed.

In addition to the independent variables in the model, we add several control variables, such as return on assets (ROA), business size (SIZE), proportion of tangible fixed assets (TANG), and total asset growth rate (GROWTH). ROA is negatively correlated with financial leverage, with an estimated coefficient of −0.656 at the 1% significance level. Listed companies in Vietnam prefer to use capital from retained profits, rather than borrowing. Both business size and the total asset growth rate are positively correlated with business leverage at a significance level of 1%. This shows that, in Vietnam, large companies with better financial potential often borrow to fund their capital expenditure.

In fact, it is normal for companies in Vietnam to obtain assets using borrowed capital and then use these assets to as collateral for their loans. The firm’s proportion of tangible fixed assets is positively correlated with financial leverage, with an estimated coefficient of 0.0254, however, the significance level is only 10%. To some extent, the higher a firm’s tangible fixed assets are, the higher is its rate of debt. Also, Hansen test result (0.155) suggests the instrument variable is valid and Arellano-Bond test result (0.524) presents no evidence of model misspecification.
5. Summary and conclusion

The goal of this paper is to determine the influence of CEO characteristics on the use of financial leverage in Vietnam. Based on the UET, we use four variables: CEO age, CEO experience, CEO education, and CEO gender. Our analysis examines data on 110 nonfinancial companies listed on the two major stock markets in Vietnam, HOSE and HNX, for the period 2012–2018. The results show that older CEOs are less likely to use external debt as a source of finance for the business. This is consistent with the UET, indicating that, as they get older, CEO’s ability to synthesize information from different sources decreases, and they prefer stability in both finance and their career, which has an impact on corporate financial decision making—in particular, the use of financial leverage. In contrast, young CEOs are often more active and unafraid to take risks, so they are willing to use financial leverage to increase business operational efficiency. Our results would suggest a high-risk investment in business with young CEOs whereas a low-risk investment in business with older chair of management.

CEO experience has a positive relationship with financial leverage. This can be explained by the fact that when CEOs have long tenure in this position, they have experienced many fluctuations in the market and made critical business decisions, thus, they are aware of the financial risk of using leverage. The CEO education level, proxied by holding a degree in economics, is positively correlated to financial leverage. The training and knowledge they acquire that is related to the industry helps CEOs understand the risks and benefits of financial leverage. As the result, they view debt financing as preferable. Prior research also shows that businesses run by male CEOs tend to use more debt than those run by female CEOs. This is explained by gender characteristics such as stability and risk avoindance, which lead female managers to limit the use of financial leverage.

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