ORIGINAL PAPER

DOI: 10.26794/2408-9303-2025-12-1-83-96
JEL J21, M21, M41, M50, O10, O40

Company Growth Factors, Workforce Size and Bribery Expenses (Perspective of Performance and Development of Companies)

S. Ashoori, A. Rezaei, S. Mahdavi
Islamic Azad University Aliabad Katoul Branch, Aliabad Katoul, Iran

ABSTRACT

Corruption is a significant obstacle to growth and development in countries with weak policies and legal systems. This research explores the relationship between factors that affect company growth, the size of the workforce, and the expenses related to bribery. In Iran, where there is a high risk of profit manipulation and recent financial corruption, this study uses the ratio of accommodation, travel, and catering costs to a company's sales as a criterion for assessing bribery. This approach is more accurate than traditional methods for understanding and controlling corruption because it considers the specific characteristics of the company and the economic conditions in the country, rather than international standards. To measure growth factors, we used indicators such as sales growth, workforce effectiveness growth, and growth opportunities. The study expects that by applying the criteria we developed, we can improve financial transparency, a crucial area that has been overlooked in previous research. Our analysis covers 10 Iranian companies over eight financial years, from 2015 to 2022. We used a multiple linear regression model with mixed data to analyze the data. The results of our statistical tests show that there is a negative relationship between sales growth and the size of the workforce affected by bribes.

Keywords: financial corruption; corporate growth factors; workforce size; bribery expenses; profit

For citation: **Ashoori S., Rezaei A., Mahdavi S. Company Growth Factors, Workforce Size and Bribery Expenses (Perspective of Performance and Development of Companies).Uchet.** ***Analiz. Audit = Accounting. Analysis. Auditing.*** **2025;12(1):83-96. (In Russ.). DOI: 10.26794/2408-9303-2025-12-1-83-96**

ОРИГИНАЛЬНАЯ СТАТЬЯ

Анализ динамики коррупционных издержек в условиях развития бизнеса

С. Ашури, А. Резаи, С. Махдави
Исламский университет Азад, филиал в Алиабад Катул, Алиабад Катул, Иран

АННОТАЦИЯ

Цель работы — проверка гипотезы о наличии устойчивой функциональной связи между величиной коррупционных издержек иранского бизнеса и экономическими показателями, характеризующими рост и развитие коммерческих компаний. ***Методы исследования***. В работе использованы методы экономико-математического моделирования для анализа данных финансовой отчетности 100 иранских компаний, чьи акции котируются на Тегеранской фондовой бирже. Период исследования охватывает 2015–2022 гг. Авторами построена модель множественной линейной регрессии, где зависимой переменной выступает доля представительских и командировочных расходов в выручке от реализации товаров (работ, услуг). Независимые переменные включают показатели прироста выручки, увеличения численности персонала, роста производительности труда и другие факторы корпоративного роста. ***Результаты исследования и направления его дальнейшего развития***. Статистические тесты подтвердили наличие устойчивой функциональной зависимости между факторами корпоративного роста (в частности, ростом продаж и численности персонала) и величиной коррупционных издержек бизнеса в исследуемых компаниях. В Иране наблюдается высокая вероятность манипулирования прибылью в финансовой отчетности экономических субъектов путем включения в нее «расходов на гостеприимство». Авторы предлагают измерять уровень взяточничества в фирмах через соотношения представительских и командировочных расходов к выручке от продаж. Этот показатель является наилучшим измерителем финансовой коррупции, так как основан на внутренних индикаторах компаний и отражает специфику

экономических условий Ирана. Предполагается, что применение разработанного авторами критерия для раскрытия информации о фактах и динамике финансовой коррупции повысит прозрачность финансовой отчетности и будет способствовать устранению барьеров для роста и развития бизнеса.
Ключевые слова: финансовая коррупция; факторы корпоративного роста; численность персонала; коррупционные издержки; прибыль

Для цитирования: **Ашури С., Резаи А., Махдави С. Анализ динамики коррупционных издержек в условиях развития бизнеса. *Учет. Анализ. Аудит*. 2025;12(1):83-96. DOI: 10.26794/2408-9303-2025-12-1-83-96**

INTRODUCTION

In nations with inadequate policies and legal frameworks, the advancement and progress of companies encounter significant impediments. The existing body of literature addressing the impact of financial corruption on company performance is multifaceted and encompasses various perspectives [1]. One perspective suggests that financial corruption, in the form of bribery, serves as a strategy to circumvent cumbersome bureaucratic constraints, rigid laws, and ineffective regulations in public services [2–4]. Thereafter, another perspective argues that corruption reduces economic performance due to rent seeking, increase of transaction costs and uncertainty, inefficient investments, and misallocation of production factors. Besides, Other perspectives posits that financial corruption is driven by self-interest and leads to heightened uncertainty, increased transaction costs, inefficient investments, and misallocation of production factors, thereby hindering economic performance [5–8].

In the meanwhile, according to the review of other studies, it was found that attention to the issue of bribery has been given less attention based on the criteria of this study. Furthermore, since this research investigates the various effects of financial corruption through the criteria of company growth, workforce size, flexibility, financial leverage and sales margin, it has been tried to analyze the operational, investment and financing aspects of the company based on the criteria. It has been covered in order to consider the compatibility of the criterion of bribery based on the economic conditions of Iran in accordance with the existing theories (for example, the theory of the profit-making unit and the theory of funds). Eventually, the criteria used to measure the company's performance, such as strengthening the development and growth of the economy, are able to strengthen the company's strength and job opportunities [9–12].

At the same time, some studies anticipate that companies experiencing an upward trajectory in their performance leverage opportunities in a manner that sustains the growth rate of their performance, until the potential for engaging in financial corruption or bribery arises [1]. Derivative financial instruments, which are contractual agreements contingent on external influences, are of particular interest due to their potential impact on company performance, shedding light on the roots of financial corruption [13]. In some instances, identification of positioning patterns can lead to financial corruption and consequently affect the company's valuation. While these instruments are primarily used for risk mitigation or transfer, they can also be exploited by managers, contributing to instances of financial corruption [14].

Thus, Understanding the potential use of expenses, as examined in this study as an indicator of bribery, provides a deeper comprehension of the level of operational expenses in the realm of moral hazard for stakeholders. Moreover, a comprehensive understanding of the contextual factors within the company's operating environment facilitates more informed decision-making for investment projects.

Finally, this study contributes to the existing body of literature by delving into the determinants of corporate expansion and workforce magnitude in the context of bribery expenses. Primarily, this study stands out as one of the scarce inquiries that explore this particular correlation. The linear impact of this sought-after relationship is scrutinized within Iranian enterprises through a holistic methodology. Our analysis is centered on a sample comprising 100 firms listed on the Tehran Stock Exchange from 2015 to 2022. Secondly, the examination of bribery costs as a component of operational expenditure is a key aspect of our study. Certain organizations confine these costs solely to administrative outlays at the discretion of their management, potentially omitting expenses such as ceremonial catering, which poses a limitation in our research. Thirdly, in contrast to prior experimental endeavors, our study introduces a criterion for investigating bribery that emerges from the core activities of the companies, thereby integrating it with the operational framework of the firms. This meticulous selection process holds the potential to foster a more cohesive amalgamation of factors influencing corporate growth factors and workforce size, thereby mitigating conflicts of interest and information asymmetry to some extent.

The outcomes of the regression analysis reveal that indicators of corporate expansion, particularly sales growth and workforce efficiency enhancement, exhibit a statistically significant linear relationship with bribery expenditures in the surveyed firms. Although, a significant relationship was not observed between growth opportunities and bribery expenses. Nonetheless, the magnitude of the workforce demonstrates a direct and noteworthy association with the costs incurred through bribery. This observation is rooted in the possibility that certain employees may have been recruited solely through bureaucratic channels rather than based on the genuine operational requirements of the company.

The subsequent sections of this article unfold as follows: a comprehensive review of pertinent literature is presented in the second segment, followed by an exploration of the data and variables under consideration in the third section. The fourth section elucidates the specified methodology and model employed in the study. Subsequently, the fifth section delves into the statistical analysis and experimental findings. Finally, the concluding sixth section synthesizes the paper›s findings and deliberates on its implications for decision-makers.

LITERATURE REVIEW

Financial malfeasance typically stems from managerial misconduct, driven by the pursuit of substantial financial gains. This may involve misrepresentation of financial statements, leading to extreme fluctuations in the company's stock market value. By manipulating financial figures and statements, profit-seeking managers exploit the disparity between actual and reported financial data, resulting in financial corruption. Various factors, such as disparities between anticipated and actual cash flows, provide opportunities for managers to further their profit-driven objectives. Ultimately, financial corruption exerts a detrimental impact on a country's economic growth, as it diminishes the value of companies, erodes shareholder and investor confidence, and prompts capital flight from the market, ultimately leading to a decline in company valuation [15]. The imperative to address the issue of financial corruption is underscored by the aforementioned instances. In this study, akin to the research conducted by [16] and [17], the company's hospitality and travel expenditures are utilized as a gauge to assess the impact of bribery on the organization, aiming to mitigate the potential distortion of information, which is prevalent at a high level, instead of relying on questionnaire tools.

Furthermore, three criteria are employed to evaluate the company's performance, encompassing the effects of commercial and financial growth alongside the efficacy of its workforce. With advancements in science and technology, shareholders have recognized that traditional resource management approaches have become obsolete, and resources should be utilized in an efficient and scientific manner to generate value for the company and accrue wealth for themselves. Consequently, there is a heightened focus on the optimal utilization of resources, which is manifested in management decisions. Additionally, lenders, cognizant of the prospect of bribery or its presence within companies, meticulously scrutinize and assess the performance of these entities to minimize risk when extending their financial facilities. The judicious allocation of investors' capital, considering the performance criteria outlined in this research, fosters growth, development, and value creation for all stakeholders of financial statements.

Chen [18] et al, explored the impact of CEO knowledge structure on innovative strategies of Chinese companies. The findings indicated that the effect of bribery and regulations on company performance varies significantly depending on the levels of corruption and regulations. Access to external financing improves firm performance only if firms are exposed to bribery and firm-level regulation is below a certain threshold. Furthermore, exporting enhances the performance of firms that are more bribery-exposed and spend more time with regulation than firms that face lower levels of regulation and bribery. While bribery harms firm performance, research findings suggest that spending time on regulation can improve firm performance if firms are exposed to low levels of bribery.

In the research conducted by Sarhan and Gerged [19], conducted a study delving into the impact of bribery and corruption on companies› environmental performance, taking into account the moderating influence of social responsibility and government compensatory services. The research encompassed an analysis of data from 2151 companies spanning the years 2002 to 2016. The findings of the study indicated that anti-bribery and corruption obligations can indeed play a constructive role in enhancing environmental performance. Furthermore, it was revealed that government compensatory services and social responsibility also have the potential to bolster environmental performance. The implications of this research are pertinent for organizations, lawmakers, and policymakers, urging them to consider environmental factors alongside financial performance.

In the research conducted by Hanousek and Kochanova [1], the effect of bribery on the environmental performance of companies in CEE countries investigated, emphasizing administrative corruption. Their research showed that higher amounts of bribes lead to a decline in company performance. Additionally, bribery was found to be influenced by the size and sectors with which the companies are associated, and the operating environment can impact company performance.

In the research conducted by Zeng et al [20], the relationship between alleged corporate bribery expenditures using accounting information examined. They found that such costs have a negative relationship with the value of the company. Furthermore, companies with poor performance due to less government support have a higher probability of resorting to bribery. Investors attach great importance to such costs for their investment decisions.

Martins et al [21], conducted an investigation into the implications of corruption on the operational performance of firms within developing nations and emerging economies. The study encompassed various dimensions of performance, such as investment, sales, employment levels, and productivity growth. The authors posited that the effects of corruption, particularly bribery, are contingent upon the characteristics inherent to the firms. The findings revealed that corruption does not significantly influence firm performance metrics; however, the magnitude of firm size concerning corrupt practices is likely to impact performance levels due to strategic behavior dynamics and varying degrees of market competition.

In a complementary study, Spyromitros and Panagiotidis [22], performed a comparative analysis of corruption indicators, focusing specifically on corruption›s impact on economic growth within developing countries. Utilizing both perceptual and empirical indicators, their results demonstrated that corruption serves as a substantial impediment to economic growth in these regions. Furthermore, they identified that the ramifications of corruption manifest differently across various sectors and geographical areas within these countries. Notably, the findings indicated that elements such as individual development, governance enhancement, investment, and the quality of institutions significantly influence economic growth trajectories.

Enhancing institutional integrity, enhancing the efficacy of legislation, and bolstering anti-corruption entities can effectively combat the proliferation of corruption. This can be achieved through aligning the overarching policies of the national administrative framework with pertinent laws, harmonizing the operations of regulatory bodies with supervisory statutes, and fostering public empowerment within the oversight and control system. Empowering and strengthening the system in order to discover any possible financial corruption on the part of managers leads to positive effects such as financial transparency, higher quality of disclosure and, consequently, effectiveness in the use of resources. In line with the formulated goals of this research, the void in the theoretical foundations can be improved to a great extent in the form of the following two hypotheses:

1. Is there a relationship between the corporate growth factors and bribery expenses?

2. Is there a relationship between the workforce size and the bribery expenses?

METHODS

The data pertaining to the companies listed on the Tehran-Iran Stock Exchange was gathered from the Codal website (https://www.codal.ir). The sample under scrutiny comprises 100 companies enlisted on the Tehran-Iran Stock Exchange, collated over an 8-year timeframe spanning from 2015 to 2022. These entities were specifically chosen from the pool of accredited companies.

Businesses operating within the realms of insurance, banking, financial services, and financial intermediation were deliberately omitted from our sample, given the divergences in capital structure, operational scope, debt composition, and other distinctive features concerning financial resources and utilization. Furthermore, the companies included in the analyzed sample were mandated to possess a minimum of eight years› worth of financial data to uphold the integrity and credibility of the dataset.

Variables

The existing literature has identified important variables that affect bribery [23–25], [1] and [15]. According to the existing studies, the dependent variable used in this research is the cost of bribery. Independent variables include company growth factors and employee size. Research control variables also include financial leverage, flexibility measure, company size, and asset-to-sales ratio, which may affect the cost of bribery.

Appendix provides definitions of the dependent, independent, and control variables used in our study.

Dependent variable

The legislation concerning bribery in Iran dates back to 1980 and 1988. The relevant literature has calculated and considered bribery expenditures in different ways. In opinion of some researchers, bribery, often addressed as financial malfeasance in financial scholarship, denotes the variance between anticipated cash flows and realized cash flows [15]. Some inquiries employ a bribery survey (Likert scale) to assess whether a company has engaged in unethical practices, such as gifts and expenses, to accomplish its objectives and secure the necessary capital [1]. In a separate examination, alternate criteria were employed to scrutinize bribery and its ramifications. For instance, in [20], investigation suggests that expenditures associated with bribery can be evaluated by comparing the ratio of entertainment and travel expenses to the current year's sales [20], the criteria also used in this research.

In order to address the issue of corruption and the use of travel and entertainment costs (ETC) divided by the company's current year sales as a measure of bribery expenses, it is essential to clarify both the theoretical foundation and practical implications of this approach. The ratio serves as an indicator of corporate governance and financial integrity, as it encapsulates discretionary spending that may correlate with unethical business practices, such as bribery.

The selection of ETC is grounded in its relevance to corporate spending behavior, as established in prior research. According to studies by [26], in environments where bribery is prevalent, managers often leverage ETC as a mechanism to disguise illicit payments or coercive relationships with clients and suppliers. This aligns with the broader observations made by [27], regarding how financial disclosures can obscure unethical conduct and lead to investor mistrust. Measuring bribery expenses as a ratio allows for the comparison between firms of varying sizes and revenues, providing a normalized perspective that expresses the relational dynamics between operational scale and potential ethical lapses. This method aligns with the findings of [28], which suggest that stakeholders, particularly investors, are sensitive to distortions in expense reporting that may signal governance issues. By normalizing the ETC against sales, this approach not only highlights potential red flags in firms' expenditure practices but also enables a more comprehensive analysis of how growth dynamics may influence bribery-related behaviors. Furthermore, this ratio captures the opportunity cost of diverting resources towards unethical practices instead of enhancing genuine business activities crucial for sustainable growth. As noted by [29], companies that engage in corrupt practices may inadvertently compromise their long-term viability, as resources that could have been dedicated to innovation and customer satisfaction are instead allocated to bribery. In summary, utilizing travel and entertainment costs as a financial ratio serves not only as an empirical measure of potential bribery but also provides a framework to analyze the impact of such practices on overall company health. This methodology is an important contribution to understanding the ethical dimensions of corporate behavior in the context of competitive markets.

Independent variables

As it is mentioned before, Company growth factors and workforce size are as independent variables. The growth factors of the company are considered in the form of three criteria of sales growth, employee effectiveness growth and growth opportunities. For sales growth, the ratio of the difference between the current year's sales and the previous year's sales divided by the previous year's sales is used. To check the growth of employee effectiveness from the ratio of the difference in the number of employees of the current year from the previous year, which is divided by the number of employees of the previous year. For the growth opportunity, dividing the market value of equity by the book value of equity is used. In addition, workforce size was measured through the natural logarithm of employees.

Control variables

Research control variables also include financial leverage, flexibility, firm size, and sales-to-asset ratio, which may affect the cost of bribery. It was used for financial leverage through the ratio of total debt to total assets. To check the flexibility of the company, the ratio of cash to the total assets of the company was used. Firm size was also measured through the natural logarithm of total assets and finally the ratio of sales-to-assets as net profit margin of companies.

Model Specification. Econometric methodology

In order to examine whether the observed changes in firm growth factors and employee size are related to the cost of bribery for each firm, we estimated the following regression model:

$$Bribery_{it} = \alpha + \beta_1 S\_G_{it} + \beta_2 LP\_Growth_{it} + \beta_3 MTB_{it} + \\ + \beta_4 Log\left(Workforces\right)_{it} + \beta_5 LEV_{it} + \beta_6 Cash/TA_{it} + \\ + \beta_7 Log\left(TA\right)_{it} + \beta_8 Sale/TA_{it} + \varepsilon_{it}$$

Where Bribery is the ratio of entertainment and travel expenses to the current year's sales for company *i* in year *t*. Sale growth is the growth of the company in terms of its sales compared to the previous year (S_G). Labor productivity growth (or LP_G), refers to the growth of the number of employees compared to the last year. Workforce size (log(workforces)), growth opportunity (MTB), leverage (LEV), flexibility (Cash/TA), firm size (Log(TA)) and eventually the ratio of sales-to-assets or net profit margin (Sale/TA).

Through Equation, we empirically tested for a linear relationship between company growth factors and the workforce size with bribery expenses.

RESULTS AND DISCUSSION

Table 1 shows the variables' descriptive statistics for the sample during the period (2015–2022). In addition, we provide details about mean of variables. *Table 1* shows that the average Bribery for the sample was 0.3%, with a low erraticism of 0.8%.

Then, the average of S_G for the sample was 19.7 percent, with a low erraticism of 52.60 percent. This value means that the average sales growth of companies compared to the previous year had a growth of 19.7 percent. Besides, the average of LP_G was equal to 0.79%, and this means that among the studied companies, the growth of the effectiveness of workforces had grown a negligible percentage. Eventually, the average of MTB was equal to 2.919. This quantity means that the value that the market places on the company's shares is almost three times its book value. Therefore, this amount can be mentioned as an advantage for the company's growth and development.

Given that the methodology adopted in this study is a mixed data approach, it is essential to initially ascertain the suitable approach and subsequently identify the favored method through the utilization of F-Leamer and Hausman tests in the selection process.

As the results of the *Table 2* show, based on a significance level (less than 5 percent), the appropriate model in this study is the panel data pattern.

According to the significance level of the Chi^2 statistic, the appropriate method in the panel pattern is the random effects method (*Table 3*). Therefore, in this study, the use of panel data pattern and random effects method is appropriate for a mixed approach.

Thereafter, Pearson correlation coefficient is utilized to examine the correlation among the research

Table 1

Description of research data

Observations	Max	Min	STD	Mean	Variables
800	0.1308	0.0000	0.0083	0.0034	Bribery
800	6.7094	−0.9310	0.5260	0.1974	S_G
800	1.7074	−0.9189	0.1690	0.0079	LP_G
800	309.2097	−113.2521	12.4657	2.9193	MTB
800	4.0661	1.4771	0.4280	2.6607	Workforce_S
800	6.8532	−3.4248	0.3596	0.1674	S/TA
800	1.1949	0.0902	0.1860	0.5968	Lev
800	0.5207	0.0005	0.0486	0.0391	Flex
800	8.2736	4.5621	0.6437	6.1074	Size

Source: compiled by the authors.

Note: We provide the descriptive statistics for the control and explanatory (independent) variables for the sample. The definitions of the control and independent variables are provided in Appendix A.

Table 2

Evaluating the appropriate model within the mixed approach

Effects Test	Value	d.f.	Prob.
F statistic	8.0200	(99,692)	0.0000

Source: compiled by the authors.

Note: In the mixed data approach, we first need to check the appropriate pattern in this approach through the F-Limear test. All the statistical tests performed in this research (including the presuppositions of using regression and hypothesis testing) were performed through Eviews software.

Table 3

Determining the appropriate method in panel data pattern

Test Summary	Chi-Sq statistic	d.f.	Prob.
Cross-section random	13.5447	8	0.0944

Source: compiled by the authors.

Note: After determining the appropriateness of the panel data pattern in the combined data approach, we determine the appropriate method in this approach through the Hausman test in Eviews software.

Table 4

Correlation matrix explanatory variables

Variables	Bribery	S-G	MTB	LP-G	Workforce-S	Sale/TA	Lev	Flex	Size
Bribery	1.0000	–	–	–	–	–	–	–	–
S_G	0.0060	1.0000	–	–	–	–	–	–	–
MTB	0.2735	0.6963	1.0000	–	–	–	–	–	–
LP_G	0.0291	0.0036	0.448	1.0000	–	–	–	–	–
Workforce_S	0.0000	0.7473	0.1954	0.0000	1.0000	–	–	–	–
S/TA	0.0000	0.0014	0.1964	0.0000	0.9598	1.0000	–	–	–
Lev	0.0775	0.0063	0.3656	0.3129	0.0000	0.0000	1.0000	–	–
Flex	0.3642	0.1136	0.1821	0.7557	0.6538	0.9805	0.0072	1.0000	–
Size	0.0000	0.0941	0.2668	0.0003	0.0000	0.000	0.1466	0.0213	1.0000

Source: compiled by the authors.

Note: The definitions of the dependent and explanatory variables are provided in Appendix A.

variables. The findings of this analysis are summarized in *Table 4*.

Table 4 shows the correlation between the research variables. The results in *Table 5* reveal no multicollinearity issues between the selected variables. With respect to the results obtained from this table, there is a direct and significant correlation between bribery and the sale growth, growth of employees' effectiveness, workforce size, net profit margin and firm size at the five percent error level of the research. Besides, there is a direct and significant correlation between sale growth by growth of employees' effectiveness, net profit margin and firm size. In addition, it was found that there is a significant correlation between the growth of employees' effectiveness with the workforce size, net profit margin and firm size.

Following these assessments and preceding the testing of hypotheses, it is imperative to scrutinize the assumptions underpinning the application of linear regression, encompassing the examination of

variance heterogeneity, collinearity among variables, and potential issues of autocorrelation.

To assess the heteroscedasticity, the Brush-Pagan Godfrey test was employed. According to the result of *Table 5*, the significance level of the F-statistic indicates the presence of variance heterogeneity in this model. This discrepancy will be addressed during hypothesis testing.

Table 5

Heterogeneity test

Tests	Value	Prob.
F-statistic	5.6010	0.0000
Obs*R-squared	42.8887	0.0000

Source: compiled by the authors.

Note: Variance heterogeneity is one of the presuppositions of using linear regression, which has been examined in this study through Brush-Pagan-Godfrey test by Eviews software.

Table 6

Checking the Collinearity

Variables	VIF	Variables	VIF
S_G	1.03	MTB	1.01
LP_G	1.08	Lev	1.27
S/TA	1.40	Flex	1.03
Workforce_S	2.33	Size	2.41

Source: compiled by the authors.

Note: Examining the collinearity of the variables on the right side of the regression equation is another presupposition of using linear regression, which has been checked through the variance inflation factor test.

Table 7

Hypotheses test (dependent variable: bribery expenses)

Variables	Coef	Std. Err.	t	Prob.	Result
Constant	0.024206	0.008037	3.011899	0.0027	–
S_G	–0.001424	0.000684	–2.081102	0.0377	Yes
MTB	1.32E-05	1.39E-05	0.950879	0.3420	No
LP_G	0.001632	0.001132	1.441652	0.1498	No
Workforce_S	–0.005041	0.000967	–5.213656	0.0000	Yes
S/TA	–0.002220	0.002818	–0.787642	0.4311	No
Lev	–0.000145	0.002852	–0.050752	0.9595	No
Flex	0.001067	0.005566	0.191774	0.8480	No
Size	–0.001098	0.000821	–1.337415	0.1815	No
F-statestic	6.500311	Prob.	0.000000	Durbin-Watson	1.5362
R-squared	0.0617		Adjusted R-squared		0.0522

Source: compiled by the authors.

Note: After checking all the presuppositions of using linear regression, the hypotheses of the study are tested. In this study, Eviews software was used to test the hypotheses.

Thereafter, *Table 6*, scrutinizes the collinearity of the independent and control variables.

Since the variance inflation factor values for all variables are less than 10, which are deemed acceptable. This indicates that the variables on the right side of the equation in the research model do not exhibit internal relationships with each other. Otherwise, even if the adjusted coefficient of determination in the regression equation be high, the investigated model will not have high validity (*Table 7*).

The final assumption addressed in the application of linear regression in this article pertains to the exploration of potential autocorrelation issues. The Durbin-Watson test was conducted for this purpose. Given that the acceptable range for this statistic falls between 1.5 and 2.5, it can be concluded that there is no autocorrelation concern in this study. Any errors present in the model are deemed to be random in nature. Following the examination of the assumptions, at this juncture, the hypotheses are subjected to testing.

Thus, the significance level of the F statistic in this model, lower than the test error level (0.000 < 0.050), affirms the validity of utilizing the estimated model in the form of a linear regression model. Consequently, the estimated model is statistically significant, and the linear relationships between the variables of this estimated model can be scrutinized.

First, considering the significance level of the t-statistic of the sales growth variable (0.0377 < 0.05), it is viable to posit a significant relationship between sales growth and bribery expenditures in the examined companies. While other growth factors of the company do not have a linear relationship with the bribery expenses. However, first research hypothesis is accepted.

Next, based on the significance level of the t-statistic for the workforce size variable (0.00 < 0.05), it is possible to assert a significant relationship between this variable and bribery expenditures in the examined companies. Thus, second research hypothesis is accepted.

Finally, there is no a linear relationship between other variables with the dependent variable based on the statistical significance level.

The Adjusted R-squared is approximately 5.2%, indicating a negligible degree of contribution to predicting changes in the dependent variable by the variables on the right side of this model. It is noteworthy that within statistical discourse, the adoption of the random effects method often results in relatively low coefficients of determination. Nevertheless, the considerable significance levels associated with the financial leverage and flexibility variables suggest their substantial impact on the assessment of changes in bribery costs within this model. Furthermore, the t-statistics values indicate that the influence of these variables on the model is deemed insignificant.

As one of the statistical limitations, we can mention the characteristic of the dependent variable along with other variables of this research model. So that if the fixed effects method is used in the regression, the power of the explanatory variables in this research will increase. Also, according to the criterion of bribery, the difference in the definition and classification of operating costs (general, sales and administrative, organizational) according to the type of activity of some companies in micro and macro industries, the possibility of accessing information to some companies is challenging.

CONCLUSION

This study delves into the linear correlation between company growth indicators, workforce dimensions, and bribery expenses, drawing insights from evidence sourced in Iran. A sample comprising 100 Iranian companies listed on the Tehran Stock Exchange has been meticulously selected for analysis. Despite the paramount significance of firm expansion across diverse facets, the majority of empirical inquiries have regrettably overlooked the nexus between workforce attributes and bribery expenditures, thus leaving a conspicuous gap in empirical investigations regarding the impact of corporate growth and employee profiles on bribery costs. This void is particularly pronounced in developing nations, extending to both emerging and developed economies. To the best of our knowledge, scant research endeavors have ventured into exploring the potential linear association between financial growth metrics, labor force attributes, and bribery outlays, particularly within the context of Iran.

It is reasonable to anticipate that market dynamics, in the form of supply and demand, would impact the company's performance. However, the presence of human elements can disrupt this equilibrium. Behavioral finance research delves into the examination of psychological and societal influences on financial behaviors, professional efficacy, and their repercussions on financial markets [30]. Through the lens of behavioral finance, it is posited that investors do not consistently exhibit rational decision-making, a trait shared by managers as well. Consequently, empirical findings suggest that the individual conduct of managers significantly shapes corporate strategies and

policies [31, 32]. Behavioral biases stemming from emotional triggers, optimism, cognitive limitations, time constraints, judgmental errors, and social dynamics can yield enduring ramifications, thereby exacerbating issues related to information asymmetry and governance challenges. These biases are often attributed to agency theory, wherein managers may prioritize personal objectives and positions over the transparent disclosure of financial information [33]. In the realm of bribery as an endogenous variable, it is anticipated that the company's growth factors will impact it as an exogenous variable. Echoing the discourse on information transparency and in harmony with the findings of studies on bribery expenditures, it is expected that the outcomes derived from this study and analogous research endeavors will prove invaluable to lawmakers in their efforts to enhance and uphold transparency standards [34]. The statistical analysis has revealed that, out of the company's growth indicators, only sales growth exerts an influence on bribery expenses, thereby corroborating the validation of the initial research hypothesis. This outcome aligns with the research findings of [35], [1] and [18], yet diverges from the conclusions drawn by [24], [36–38]. Given that the market value of equity represents the valuation attributed to the company's shares by the market, the inclusion this measure as one of the company's growth factors is contingent upon the market's perception of the valuation of said shares. Consequently, it may not serve as a suitable criterion for assessing the dynamics of bribery expenses, which, in contrast to the of growth opportunities, is deemed to be entirely at the discretion of management, despite being cited as a factor in the company's growth in various research studies.

The conducted studies reveal a significant association between workforce size and bribery expenditures within the examined firms, thereby supporting the acceptance of the second hypothesis. It is important to note that comparable research utilizing similar parameters has not previously been undertaken; consequently, the results can only be juxtaposed with a limited number of studies. Accordingly, these findings align with the investigations of [35] and [1], while demonstrating inconsistency with the conclusions drawn by [21].

In light of the first hypothesis, the research suggests that investors' comprehension of sales growth is intertwined with the company's conduct. Investors and shareholders are advised to consider the company's management approach when making decisions, in order to strategize for long-term management policies and business development. Furthermore, they should scrutinize the company's sales management, monitor the process of changes, and assess the relationship between expenses essential for product sales. As for the second hypothesis, it is recommended that investors focus on the company's selection process and allocate more attention to the channels through which the company's revenue is utilized. Creditors are also advised to consider the company's selective behavior when extending credit, in addition to emphasizing sales growth, to minimize the likelihood of misconduct related to expenses for individual travel and hospitality services (thus reducing moral hazard).

While the research findings of this article pertaining to employees have been explored solely by [35] and [1], it is recommended, based on the aforementioned criteria, to pay heed to the attributes of employees within companies across diverse stakeholder groups. This is because employee characteristics (education, tenure, experience, expertise, board of directors, or even ownership by CEOs) can serve as oversight mechanisms of corporate governance to effectively respond to stakeholders and optimize their value. [21], also showed that bribery as a measure of financial corruption is exclusively associated with corporate characteristics. Additionally, heightened transparency can compel legislators to enact clear-cut laws to safeguard investors from incurring losses. The disparities in the outcomes of this study compared to prior research have prompted a fresh signaling theory approach by managers in the realm of accounting (e.g., profit manipulation, profit management, tax and financing policies, flexibility, etc). In addition to the previously discussed theory, related to the subject of bribery, it can manifest in two distinct forms: «sand the wheels» or «grease the wheels.» In the context of this study, however, the observed growth trend reveals an inverse relationship with the incidence of bribery. This suggests that bribery acts to «sand the wheels» of economic activity, thereby supporting the tenets of anomie theory, which posits that societal disorganization can lead to deviant behavior such as corruption.

IMPLICATIONS OF STUDY

Identifying and engaging stakeholders constitutes a significant aspect in ensuring the success of an endeavor. Merely recognizing stakeholders is insufficient to garner their support and collaboration; understanding their motivations for a particular activity is equally crucial, as stakeholder involvement presents a strategic opportunity

necessitating strategic management. The advantages of recognizing such strategic opportunities can be delineated as follows: enhancing the likelihood of activity success, bolstering institutional credibility, fostering social capital, addressing moral and political concerns, ensuring comprehensive coverage through diverse perspectives, and enhancing preparedness to navigate unforeseen market conditions [39], as noted in study by Martins et al, 2020. Moreover, it is noteworthy that involving employees, in contrast to customers and shareholders embroiled in financial conflicts, can enhance their commitment and the quality of decisions in the production process. Therefore, the disclosure of information, both financial and non-financial, serves to bridge the gap between the company and its stakeholders, a process that can be facilitated through various mechanisms such as corporate governance, capable of shaping the company's future trajectory. Of course, such an impact will have implications for economic growth and development [22]. Moreover, a comprehensive understanding of operating costs, particularly those associated with bribery, enhances the insight into subsequent operating revenues. Investors may perceive the downsides risks associated with corporate bribery to be more significant and immediate than any prospective benefits that such practices might offer to firms [20]. This perspective can influence investment decisions and overall corporate performance.

LIMITATION AND RECOMMENDATIONS FOR FUTURE

According to the criterion of bribery cost in this research, it seems that some managers in companies, in order to commit fraud and hide the bribery expenses, include these amounts in the expenses of the financial period by calling them operational or administrative expenses, which is possible. In some companies, it may lead to incorrect diagnosis. It is possible to mention other growth factors in the company that have been neglected in this research, and it is the growth of financial literacy, which by examining senior managers or board members and improving their level of literacy, may have many positive consequences for the company (planning strategic and long-term). Of course, it should be said that during the implementation of this research, no specific limitation was observed.

Availability of data and materials

The data used in this paper are from the Codal website (this website was launched with the aim of clarifying the performance of Iranian companies admitted to the stock exchange, by the order of the Securities and Exchange Organization, and it provides various announcements, including financial statements, reports of the assembly to the board of directors, etc. places the providers) and can be accessed. We are willing to provide the do files required to replicate our results without any restrictions.

Appendix. Definitions of dependent and independent variables

Variable	Definition
Bribery	Hospitality and travel expenses / firm's sales
Sale growth (S_G)	The difference between the current sales and the last sales / firm's last sales
Employee effectiveness growth (LP_G)	The difference in the number of employees of the current year from the last year / the number of employees in last year
Growth opportunities (MTB)	The market value of equity / the book value of equity
Workforce size	Natural logarithm of the firm's total workforce
Sale/Total Asset (net profit margin)	Total sales / Total Assets
Leverage (Lev)	Total debts / total assets
Flexibility (Flex)	Cash / total assets
Size	Natural logarithm of the firm's total assets

REFERENCES

1. Hanousek J., Kochanova A. Bribery environments and firm performance: Evidence from CEE countries. *European Journal of Political Economy.* 2016; (43):14–28. DOI: 10.1016/j.ejpoleco.2016.02.002
2. Huntington S.P. Political order in changing societies. New Haven: Yale University Press; 1968.
3. Lui F. An equilibrium queuing model of bribery. *Journal of Political Economy*. 1985;(93):760–781.
4. Lein D.H.D. A note on competitive bribery game. *Economics Letters*. 1986;(22):337–341.
5. Murphy K., Shleifer A., Vishny R. The allocation of talent: Implications for growth. *The quarterly Journal of Economics*. 1991;106(2):503–530.
6. Shleifer A., Vishny R.W. Corruption. *The Quarterly Journal of Economics*. 1993;108(3):599–617.
7. Rose-Ackerman S. The political economy of corruption. In: Elliot K. (ed.). Corruption and the global economy. Washington DC: Institute for International Economics; 1997:31–60.
8. Kaufmann D., Wei S.J. Does "Grease Money" Speed up the wheels of commerce? NBER Working Paper, No. w7093; 1999. URL: https://ssrn.com/abstract=162974
9. Gaviria A. Assessing the effects of corruption and crime on firm performance: Evidence from Latin America. *Emerg Mark Rev. Elsevier.* 2002;3(3):245–268.
10. Beck T., Demirguc-Kunt A., Maksimovic V. Financial and legal constraints to growth: Does firm size matter? *The Journal of Finance*. 2005;(60):137–77.
11. Fisman R., Svensson J. Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of Development Economics*. 2007;(83):63–75.
12. Vial V, Hanoteau J. Corruption, manufacturing plant growth, and the Asian paradox: Indonesian evidence. *World Development*. 2010;38(5):693–705.
13. Nimri A.A. The Impact of financial corruption on economic performance, the case of Jordan. *World Economics*. 2022;23(2):27–40.
14. Allayannis G., Lel U. Miller P.D. The use of foreign currency derivatives corporate governance, and firm value around the world. *Journal of International Economics*. 2012;(87):65–79.
15. Kim, Huong Trang and Papanastassiou, Marina and Nguyen, Quang. Multinationals and the impact of corruption on financial derivatives use and firm value: Evidence from East Asia. *Journal of Multinational Financial Management*. 2017;39(C):39–59.
16. Yi J., Teng D., Meng S. Foreign ownership and bibery: Agency and institutional perspectives. *International Business Review*. 2018;27(1):34–45. DOI: 10.1016/j.ibusrev.2017.05.001
17. Tuliao K.V., Chen C.W. CEO duality and bribery: The roles of gender and national culture. *Management Decision*. 2017;55(1):218–31.
18. Chen C., Pinar M., Stengos T. Bribery, regulation and firm performance: Evidence from a threshold model. *Empirical Economics*. 2023;66(1);1–26. DOI: 10.1007/s00181–023–02456–0
19. Sarhan A.A.G., Gerged A.M. Do corporate anti-bribery and corruption commitments enhance environmental management performance? The moderating role of corporate social responsibility accountability and executive compensation governance. *Journal of Environmental Management*. 2023;341.118063. DOI: 10.1016/j.jenvman.2023.118063
20. Zeng Y., Lee E., Zhang J. Value relevance of alleged corporate bribery expenditures implied by accounting information. *Journal of Accounting and Public Policy*. 2016;35(6). DOI: 10.1016/j.jaccpubpol.2016.06.009
21. Martins L., Cerdeira J., Teixeira A. Does corruption boost or harm firms' performance in developing and emerging economies? A firm level study. *The World Economy*. 2020;43(8):2119–2152. DOI: 10.1111/twec.12966
22. Spyromitros E., Panagiotidis M. The impact of corruption on economic growth in developing countries and a comparative analysis of corruption measurement indicators. *Cogent Economics and Finance*. 2022;10(1).2129368. DOI: 10.1080/23322039.2022.2129368
23. Hung H. Normalized collective corruption in a transitional economy: Small treasuries in large Chinese enterprises. *Journal of Business Ethics*. 2008;79:69–83.
24. Ayyagari M., Demirguc-Kunt A., Maksimovic V. Bribe Payments and innovation in developing countries: Are innovating firms disproportionately affected? *Journal of Financial and Quantitative Analysis.* 2014;49(1):51–75. DOI: 10.1017/S 002210901400026X

25. Fungacova Z., Kochanova A., Weill L. Does money buy credit? Firm-level evidence on bribery and bank debt. *World Development. Elsevier.* 2015;68(C):308–322.
26. Cai H., Fang H., Xu L. C. Eat, drink, firms, government: an investigation of corruption from the entertainment and travel costs of Chinese firms. *The Journal of Law and Economics.* 2011;54:55–78.
27. Hail L. Financial reporting and firm valuation: Relevance lost or relevance regained? *Accounting and Business Research*. 2013;43(4):329–358.
28. Barth M., Beaver W., Landsman W. The relevance of value relevance literature for financial accounting standards setting: another view. *Journal of Accounting and Economics.* 2001;31:77–104.
29. Riley R., Pearson T., Trompeter G. The value relevance of non-financial performance variables and accounting information. *Journal of Accounting and Public Policy*. 2003;22(3):231–254.
30. Shefrin H. Behavioral corporate finance. *Journal of Applied Corporate Finance*. 2000;14(3):113–126.
31. Ben-David I., Graham J., Harvey C. Managerial overconfidence and corporate policies. Dice Center Working Paper; 2012.
32. Deshmukh S., Goel A.M, Howe K. M. CEO Overconfidence and dividend policy. Working Paper; 2012.
33. Liu N., Laing E., Cao Y., Zhang X. Institutional ownership and corporate transparency in China. *Finance Research Letters*. 2018;24(C):328–336.
34. Monte A., Pennacchio L. Corruption, government expenditure and public debt in OECD countries. *Comparative Economic Studies, Palgrave Macmillan; Association for Comparative Economic Studies*. 2020;62(4):739–771.
35. Kochanova A. The impact of bribery on firm performance: Evidence from central and Eastern European countries, CERGE-EI Working Papers 473. The Center for Economic Research and Graduate Education. Economics Institute, Prague; 54 p.
36. Williams C. C., Martinez-Perez A., Kedir A. M. Does bribery have a negative impact on firm performance? A firm-level analysis across 132 developing countries. *International Journal of Entrepreneurial Behavior and Research*. 2016;22(3):398–415. DOI: 10.1108/IJEBR-01–2016–0002
37. Im J., Kim W. Bribes and corporate performance: Evidence from a quasi-natural experiment. European Corporate Governance Institute Finance Working Paper, No. 699/2020; 2020. URL: https://ssrn.com/abstract=3688874 or http://dx.doi.org/10.2139/ssrn.3688874
38. Dimitriadis S. Bribery, insecurity, and firm performance: Evidence from the Boko Haram insurgency in Nigeria. *Strategic Management Journal*. 2024;45(6);1061–1086, DOI: 10.1002/smj.3578
39. Tsai K. H., Hsu T. T. Cross-Functional collaboration, competitive intensity, knowledge integration mechanisms, and new product performance: A mediated moderation model. *Industrial Marketing Management*. 2014;43(2):293–303.

ABOUT THE AUTHORS / ИНФОРМАЦИЯ ОБ АВТОРАХ

Saeed Ashoori — Master of Accounting, Azad University of Aliabad Katoul, Department of Management and Accounting, Aliabad Katoul Branch, Islamic Azad University, Kashan, Iran
Саид Ашури — магистр бухгалтерского учета, Университет Азад в Алиабад Катуле, факультет менеджмента и бухгалтерского учета, филиал Исламского университета Азад в Алиабад Катуле, Кашан, Иран
Corresponding author / Автор для корреспонденции:
Saeedashoori1385@gmail.com

Ahmad Rezaei — Master of Public Administration, Human Resources Management, Department of Management and Accounting, Aliabad Katoul Branch, Islamic Azad University, Aliabad Katoul, Iran
Ахмад Резаи — магистр государственного управления, управления персоналом, факультет менеджмента и бухгалтерского учета, филиал в Алиабад Катуле, Исламский университет Азад, Алиабад Катул, Иран
Rezaei.ahmad62@yahoo.com

Sogand Mahdavi — student, Department of Management and Accounting, Aliabad Katoul Branch, Islamic Azad University, Aliabad Katoul, Iran
Соганд Махдави — студент факультета менеджмента и бухгалтерского учета, филиал в Алиабад Катуле, Исламский университет Азад, Алиабад Катул, Иран

Authors' declared contribution:
Saeed Ashoori — research idea conceptualization; data collection and analysis; illustration; hypotheses development; data check.
Ahmad Rezaei — statistical data collection; data analysis; data check; conceptual understanding; team support.
Sogand Mahdavi — preparation of statistical data; discussion of results and implications for project management; reading the final version to ensure clarity and consistency of presentation.

Заявленный вклад авторов:
Саид Ашури — концептуализация исследовательской идеи; сбор и анализ данных; иллюстрации; разработка гипотез; проверка данных.
Ахмад Резаи — сбор статистических данных; анализ данных; проверка данных; концептуальное понимание.
Соганд Махдави — подготовка статистических данных; исследование практических результатов для управления проектом; анализ готового текста для обеспечения целостности повествования.

Conflicts of Interest Statement: The authors have no conflicts of interest to declare.
Конфликт интересов: авторы заявляют об отсутствии конфликта интересов.

The article was submitted on 16.11.2024; revised on 20.01.2025 and accepted for publication on 05.03.2025.
The authors read and approved the final version of the manuscript.
Статья поступила в редакцию 16.11.2024; после рецензирования 20.01.2025; принята к публикации 05.03.2025.
Авторы прочитали и одобрили окончательный вариант рукописи.