ASSOCIATION BETWEEN CORPORATE TAX BURDEN AND SMES' FUTURE PERFORMANCE: FOCUS ON KOSDAQ-LISTED FIRMS

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ABSTRACT

This study mainly aims to examine the effect of corporate size on the relationship between tax burden rate and future performance of registered enterprises on Korea Securities Dealers Automated Quotations (KOSDAQ). It also intends to examine whether membership in a corporate group affects the relationship between the tax burden rate and future performance. In this paper, the cash corporate tax rate for each period is measured as the tax burden ratio, and the results are presented using the net asset return and total asset income before tax as dependent variables. The study period is from 2016 to 2018. The control variables of the model include debt ratio, sales growth rate, foreign ownership ratio, and current performance. The results of the analysis indicate that the tax burden rate of small- and medium-sized enterprises had a negative effect on future performance. However, they provided evidence that the tax burden rate of large enterprises had no relationship with future performance. In addition, it was revealed that the tax burden ratio of companies not belonging to the corporate group has a significant negative relationship with future performance. Meanwhile, companies belonging to the corporate group did not disclose the relationship between the tax burden rate and future performance. These results imply that the size of a company and corporate group membership are important factors in determining the relationship between the tax burden rate and future performance for KOSDAQ-listed companies.

Keywords: Corporate Tax, Corporate Tax Burden, Tax Incentive, SME's Future Performance.

INTRODUCTION

The government sets tax policy aimed at securing financial resources and promoting the stability and growth of the national economy and welfare of the people through economic policy, income redistribution, investment, and employment (Holban, 2007; Kwon, 2011). The key element of any tax policy is the determination of the tax base and amount. Taxes are collected according to the tax laws enacted by the government. Within the scope of the tax law, businesses pursue tax avoidance strategies to minimize their taxable amount without engaging in tax evasion or fraud.

Previous tax-related studies have mainly focused on research topics regarding tax avoidance (Dhaliwal et al., 2011; Wilson, 2009; Desai & Dharmapala, 2006; Fariz & Klamm, 2012; Slemrod, 2004; Chen & Chu, 2005; Crocker & Slemrod, 2005). The traditional view of taxation is that it is a cash outflow without corporate return. Therefore, companies are expected to increase their cash reserves through tax reduction, and the retained cash will help increase

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their corporate value or future performance through investment. It refers to the transfer of corporate resources from the government to shareholders through tax avoidance. However, recently, tax reduction has been confused with the concept of tax evasion, and tax evasion is recognized as an opportunistic behavior of managers and considered a cause of lower corporate value (Hanlon & Slemrod, 2009; Dhaliwal et al., 2011; Desai & Dharmapala, 2006).

Tax avoidance related to managerial ability is believed to increase corporate value, and this tax strategy can hold cash and promote corporate growth. However, tax evasion is regarded as an opportunistic act of managers who failed to maximize shareholder wealth, related to managers' pursuit of private profit, and considered a factor that caused managers' agency problem and increased agency costs. Chief executive officers (CEOs) must have a sense of responsibility for a company and play a critical role in the success and failure of the company. However, a literature study on the relationship between managerial leadership and responsibility was barely conducted (Melo et al., 2020). Therefore, in tax accounting studies, opinions on the performance or value of companies in relation to tax strategies have conflicted. However, the empirical analysis of tax avoidance studies is not applicable to all companies, but it can be applied to large corporations with high taxable income and relatively low tax benefits.

Small- and medium-sized enterprises (SMEs) have a relatively low taxable income, and their desire to avoid tax due to tax benefits is significantly lower than that of large-sized enterprises. Therefore, SMEs and large corporations have different taxation environments and different tax burdens, so they should be separately verified. Given that SMEs are short of cash and have difficulty raising funds, their expected outflow of cash may have a greater tax burden than those of large-sized enterprises. Therefore, conducting verification separately from SMEs and large-sized enterprises is necessary. As a strategic factor that moves an organization, the factor that determines the performance of a company is innovation (Tajpour et al., 2020), wherein differences can exist depending on the size (Tajpour et al., 2018). Given that SMEs have difficulties in responding to technological change in a sensitively changing industry due to a lack of a management process that can support customers (Castagna et al., 2020); they require support for survival and maintenance.

Tax avoidance strategies may vary according to company size. Tax evasion by large firms is subject to strict legal consequences. SMEs have a lower tax burden owing to tax incentives, such as reduced rates or special tax exemption (Kwon, 2011; Lee & Lho, 2002; Lee & Jun, 2017). However, compared with SMEs, large firms are less burdened by tax-related cash outflow because they can easily raise funds and have the means to maintain their level of cash holdings, with easy access to cash to continue to carry out investment activities or increase their financial resources. Meanwhile, SMEs tend to have limited cash flow (Aderemi, 2003), and their performance often depends on cost reduction. For SMEs, cash shortages owing to tax payments affect liquidity (Tomlin, 2008), which may have adverse consequences on future corporate performance by affecting investment or other expenditures. That is, a high tax burden imposed on a small company can negatively affect the latter's future performance.

The present study aimed to investigate the association between SMEs' corporate tax burden and future performance. We distinguished between SMEs affiliated and unaffiliated with large corporate groups, given that the former is ineligible for tax incentives granted to SMEs despite that they fall under the SME category in terms of sales and firm size. We evaluated future performance by adopting an approach that reflected size-dependent differentiation rather than applying a uniform standard. The significance of this study is that, given the differences in laws

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and regulations applicable to large firms and SMEs, it highlighted the importance of considering different taxation regimes for large firms and SMEs. Previous studies mainly focused on the relationship between tax burden ratio and corporate value or tax avoidance and corporate performance (Slemrod, 2004, Chen & Chu, 2005). Meanwhile, the present study investigated the effect of the differences between SMEs and large corporations on the relationship between tax burden ratio and future performance. In addition, it examined the relationship between the tax burden rate and future performance of corporate groups from the perspective of corporate governance. This study found important variables in the relationship between tax burden rate and future performance that were not considered in previous studies in this field. The decisive role of size and corporate governance in the relationship between the tax burden rate and a company's future performance has the following important implications. First, the study provides new evidence for the need of tax benefits for SMEs. The tax benefit policy of SMEs can reduce the tax burden of these enterprises, and this reduction in cash outflow can be a driving force to create future performance and can help develop and grow SMEs in the future. Second, corporate groups of Korean companies have social problems, such as insider trading and forced work, and the ability of SMEs that are not affiliated with these large companies to hold cash plays an important role in creating future performance. Moreover, tax burden plays a negative role in performance creation. Finally, the results do not only emphasize the importance of tax benefits as a social system that contributes to the growth and development of SMEs but also prove the importance of tax in terms of cash holdings.

LITERATURE REVIEW

Taxation-Related Theoretical Background

Taxation is a system of levies or taxes collected by state or provincial authorities to induce an effective supply of public goods and the fair redistribution of income gained from economic activities and to implement policy goals, such as preventing the extreme concentration of wealth and ensuring the stability and growth of the national economy. The tax system implements levy schemes aimed at achieving economic efficiency, consumption control, monopoly regulation, prevention of urban overcrowding, and control of land price increase as policy goals. Various taxes are imposed on companies under the tax system, including corporate income, value-added, and local taxes, ultimately leading to cash outflow from the companies as expenses without direct offset.

Firms need efficient tax planning, which is defined as maximizing the after-tax rate of return, considering all costs—both tax and non-tax costs (Scholes et al., 2016). Graham &Tucker (2006) analyzed U.S. firms engaged in tax shelters, and they found that these firms tend to have 8% lower pretax liabilities and tax shelter-related tax savings amounting to 9% of the total assets, much larger than the interest tax deductions for comparable firms. They [8] attributed these results to the influence of tax shelters on capital structure decisions, with the tax shelters used as non-debt tax shields, substituting for interest tax deductions. Slemrod (2004), Chen & Chu (2005), and Crocker & Slemrod (2005) assumed the existence of agency costs in a corporate environment of separate ownership and management, and they presented a theoretical model to explain the significant impact of such an environment on tax strategies. Slemrod (2004) proposed the principal–agent framework to analyze the tax strategies of companies with separate ownership and management, such as listed companies. Chen & Chu (2005) analyzed tax

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strategies using a principal–agent model, focusing on the efficiency loss owing to the separation of ownership and management. Crocker & Slemrod (2005) reviewed the compensation contracts for executives who determine taxable income, paying attention to the relative efficacy of tax penalties on principal–agent relations.

Desai et al. (2007) noted that tax authorities reduce the agency problem through monitoring activities to reduce managerial diversion; they argued that corporate governance influences the corporate response to changes in tax rates. Desai & Dharmapala (2006), in a study that extended the literature on the principal–agent framework of tax planning strategies, constructed a model to explain the effect of incentives and corporate governance on tax sheltering from the corporate owners' perspective. They concluded that incentive compensation and corporate governance arrangements are major determinants of sheltering decisions among U.S. firms.

Armstrong et al. (2015) performed a quantile regression to examine the association between corporate governance and tax savings, and they argued that tax avoidance detrimental to corporate value can be reduced by improving corporate governance. Shackelford and Shevlin (2001) noted that corporate governance plays a role in enhancing corporate value through efficient resource allocation and is an important factor in tax savings. Chen et al. (2010) analyzed the non-tax costs of family firms with equity ownership imbalance and found that tax avoidance may be reduced by reducing total tax costs.

Dyreng et al. (2008) found that tax risk arising from tax avoidance varies among firms and that tax planning is performed in a stable manner, which stabilizes the volatility of stock prices and maintains a reliable corporate information environment. Such an environment allows the assumption that legally acceptable tax planning strategies would not induce tax-saving activities to increase tax risk or decrease corporate value. Wilson (2009) investigated whether managers engaged in tax sheltering intend to maximize shareholders' wealth or pursue their own interests, and they found that tax shelter firms with strong corporate governance have significantly positive surplus returns, compared with those with weak corporate governance, according to paired samples *t*-test results. Their analysis with a large-scale sample set predicted to engage in tax sheltering yielded the same results. These findings are consistent with the argument that tax shelter strategies can increase corporate value in firms with good corporate governance.

Managers engage in tax avoidance activities mainly to transfer taxable financial resources to companies (Son et al., 2012). Thus, tax avoidance is used as a tax planning strategy to enhance firm value by saving tax costs through the aggressive tax behavior of retaining taxable costs in the company and thus increasing the resources distributed to the investors. However, excessive tax avoidance carries the risk of prompting additional collection and penalty. Hence, firms seek to explore the optimum level of safe tax avoidance. Typically, managers are incentivized to increase the level of tax avoidance in pursuit of short-term profits. Desai & Dharmapala (2006) verified a significant negative relation between high managerial incentives and the level of their tax avoidance arrangements. In their study, managers of firms with poor corporate governance—characterized by low transparency, large information asymmetry, and consequent difficulty for external investors to monitor managerial behavior—are assumed to use tax avoidance as an opportunity to pursue private interests.

Huseynov & Klamm (2012) performed the first empirical analysis of the effect of three measures of corporate social responsibility—corporate governance, community, and diversity—

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on tax avoidance strategies and tax management in U.S. firms that use external auditors' tax services, and verified the positive effect of the interaction of the community with tax management costs on both generally accepted accounting principles and effective tax rate (ETR) and a negative effect of the interaction of corporate governance and diversity with tax management costs on cash ETR. Wang (2011) devised an opacity index to study the relation between corporate transparency, tax avoidance, and corporate value and argued that corporate transparency has a moderating effect on the relation between tax avoidance and corporate value. Francis et al. (2013) found that expert managers are more sensitive to managerial reputation and are likely to avoid aggressive tax avoidance arrangements. They assumed that direct (e.g., arrears, fines, and tax investigations by tax authorities) and indirect costs (e.g., capital, proxy, and reputation costs) associated with tax avoidance would have a negative effect on corporate value. Moreover, firms with a high level of tax avoidance are assumed to face increased expenditures by running the risk of incurring higher costs of debt owing to a lack of managerial transparency. Aggressive tax strategies are accompanied by complex transaction forms and unnecessary organizational changes intended to avoid being tracked by the tax authorities. These strategies also increase information asymmetry between managers and external shareholders or investors by restricting the disclosure of information, resulting in lower corporate transparency.

SMEs eligible for various tax incentives are less likely to undertake tax avoidance arrangements than larger firms, and conventional notions of corporate tax burden or tax risk may not apply to them. Given that firms seek ways to reduce tax costs (Son et al., 2012; Kang & Kim, 2012), a complicated tax policy or high corporate tax burden can undermine corporate efficiency and erode cash flows. In particular, corporate tax burden can impede the growth of SMEs, whose accounting information transparency is lower than that of listed firms (Farzbod, 2000; Kasipillai, 2004; Yaobin, 2007; Weichenrieder, 2007). Thus, government or tax authorities can implement legal tax policies within the purview of the law to reduce the tax burden on SMEs (Masato, 2009). Typical tax incentives granted to SMEs in Korea include tax credits under the Restriction of Special Taxation Act, tax reduction and exemption schemes, and tax support provided by tax authorities.

Each country has its own classification of SMEs eligible for tax incentives set out in different laws or guidelines, depending on the characteristics of individual industries and timing. In Korea, an SME is defined in Article 2 (1) of the Framework Act on Small and Medium Enterprises (Article 2, Paragraph 1) as follows: *"An SME shall, by industry, satisfy the criteria such as the number of full-time employees, capital amount, total sales or total assets, etc. as well as another standard of substantial independence of management from ownership based on ownership and investment relationship, as stipulated by the Presidential Decree."* Additionally, to compensate for the disadvantage of single-choice options for limitations on mutual investment in applying the actual independence standard of ownership and management, the government applies upper limits in cases where the number of full-time employees is equal to or exceeds 1,000 and the amount of total assets is equal to or exceeds KRW 500 billion, even if other conditions are met. A firm unaffiliated to a corporate group with total assets equal to or exceeding KRW 500 billion must not own more than 30% of the total number of issued shares. A corporate group subject to limitations on mutual investment refers to a group of companies belonging to a conglomerate with minimum total assets of KRW 5 trillion (USD 4.25 billion). A list of such corporate groups is released by an official notification of the Fair Trade Commission on a monthly basis. In the case of a firm co-owned by another firm whose share exceeds 30%,

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the independence standard is not met when the total assets of the latter firm exceed KRW 500 billion because the former, a co-owned firm, cannot be considered an entity independent of the latter firm. Since 2018, Korea has recorded 3,809,011 SMEs nationwide across industries, accounting for 99.8% of all enterprises (3,813,723). SMEs account for 99.6% of the total number of enterprises in the manufacturing industry (431,085 out of 432,815), 99.8% in the construction industry (142,240 out of 142,564), and 99.9% in the wholesale and retail businesses (1,0616,064).

SMEs make up an absolute majority of the Korean economy and play a pivotal role in economic activities across the country. They are actively promoted under the Restriction of Special Taxation Act for the balanced development of the national economy. Various tax incentives are available to SMEs, such as startup tax reduction/exemption and special tax rates, as preferential tax treatment over larger enterprises. For SME classification under the tax law, the requirements of industry type, size, independence, and graduation standards should be met. The industry type is determined by the Korean Standard Industrial Classification set out by the Director General of Statistics Korea, except for special provisions under the Restriction of Special Taxation Act. A firm's size is determined by its sales and total assets. The cutoff for total assets for SMEs is KRW 500 billion. The sales cutoff is stratified: KRW 150 billion for the textiles, leather, pulp, and primary metal manufacturing sectors; KRW 100 billion for the mining, grocery, agriculture, and construction sectors; KRW 80 billion for the wholesale and retail, drug manufacturing, transportation and warehousing, and ICT sectors; KRW 60 billion for the professional, science and technology, health care, and arts service sectors; and KRW 40 billion for the hospitality (lodging and restaurant) and finance sectors. The independence standard for the classification of SMEs is as follows: among the firms affiliated with a corporate group subject to limitations on cross-shareholding, as designated in Article 14 (1) of the Monopoly Regulation and Fair Trade Act, and the firms notified to be a member of a corporate group subject to disclosure under Article 14 (3) of the same act, those unaffiliated with a corporate group subject to limitations on cross-shareholding fall under the category of SMEs. Details of the tax support policies for SMEs are outlined in Table 1.

Studies have been conducted on the effectiveness of these preferential tax policies for SMEs. Lee & Loh (2002) analyzed the effects of direct and indirect tax support policies for SMEs in Korea and found that every 1% increase in direct tax support leads to a 0.707% increase in the total manufacturing output, whereas indirect tax support policies do not significantly enhance the productivity and per capita value added. Thus, more emphasis needs to be given to direct than indirect tax support to enhance the growth potential and competitiveness of SMEs. Kwon (2011) examined the effectiveness of tax support for Korean SMEs and reported a positive effect on profitability and growth, but no significant effect on job creation. Tax support in the form of tax expenditures brings about tax losses and distortion of fairness and resource allocation. Accordingly, Kwon (2011) recommended functionality support, such as R&D and job creation, rather than tax support in the choice of SME support policy. Na et al. (2014) found that SMEs have a lower tax burden than larger firms and, thus, are less likely to attempt tax avoidance owing to a lower probability of cash outflow. A positive relation between tax burden and firm size and tax reduction incentives among firms listed in the Korea Securities Dealers Automated Quotations (KOSDAQ). They investigated the effects of various SME-related tax incentives on added value, such as productivity, as well as the differences in tax avoidance practices between SMEs and large companies and influencing factors.

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Table 1
TAX SUPPORT POLITICS FOR SMALL- AND MEDIUM-SIZED ENTERPRISES (SMEs)

Stage	Description
Startup	Income tax reduction of 50% for five years from the first year of income generation
	Registration and license tax exemption, such as incorporation registration
	Acquisition tax reduction of 75% on assets acquired within four years after startup
	Property tax exemption for three years after startup, 50% reduction for two more years
	Low-rate gift tax (10%) on startup funds from parents over 60 years old
Investment and fundraising	SME investment tax credit (3.4% of investment amount)
	Investment tax credit on amount spent on facilities
	Income tax credit of 10% on amount funded by the Startup and Venture Fund
Business	Special tax reduction or exemption
	Tax credit on research staff development expenses
	Tax credit on facility investment for research and human resources development
	Tax credit or exemption for technology transfer and technology acquisition
	Additional recognition of the standard amount of entertainment expenses
	Preferential tax treatment (application of a minimum tax) for
Financial improvement and restructuring	Tax support for mergers
	Reduced capital gains taxes on core business change
	Reduced income tax (50%) for four years after a core business change
	Capital gains tax carried forward on the conversion of a private firm to a public firm
	Capital gains tax deferral on investment in kind when establishing a holding company
	Reduced taxes on unlisted stock exchange for strategic alliance of venture firms

Source: Korea Tax Administration, 2015

Extending the findings of previous studies, our study aimed to analyze the differences in the effect of the tax burden on future performance between SMEs and large companies. One of the key reasons for tax reduction or exemption is inducing reinvestment by reducing cash outflow or saving cash for future investments or performance creation. In this context, the effect of the tax burden on future performance is likely to be greater for SMEs than for large firms.

Research Hypotheses

Tax avoidance based on tax planning strategies that do not violate tax laws is regarded as managerial capability (Francis et al., 2013). Cash holdings retained through these efforts may be used to create value for a firm's future performance (Son et al., 2012). The more competent the managers, the more skilled they are at reducing tax costs, applying a cost–benefit approach to tax issues (Bankman, 1998). In the traditional view of tax costs, competent managers should be able to reduce cash outflow and increase tax shelter investment to contribute to future performance (Blaylock et al., 2012). Bankman (1998) assumed that, for growing firms, successful tax shelter investments could have a more positive effect on performance and more competent executives are better at resource allocation, particularly in using the saved tax money in reinvestment for the future growth of the company. Blaycok et al. (2012) found that excellent executives have excellent skills in reducing tax liabilities and expected them to achieve greater performance by making tax shelter investments in projects that maximize net present value. Thus, the corporate tax burden is lowered depending on the extent of managerial competence in corporate tax avoidance, leading to reduced cash outflow and contributing to future corporate performance.

H_1 *A firm's tax burden has a negative effect on its future performance.*

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In Korea, although tax support schemes vary according to the development stage, all SMEs are eligible for tax advantages aimed at SME promotion and growth. In other words, tax policies have been designed to promote SMEs and encourage investment activities. A higher tax rate is associated with a higher cash outflow, which impedes investment activities and induces liquidity shortages. Unlike large firms, SMEs have difficulty raising financial resources and have a high share of borrowed funds involving interest payments. Therefore, the tax burden of an SME can negatively affect its future performance. In contrast, the future performance of large- and middle-standing enterprises is less likely to be affected by corporate tax burden because they have easier access to financial resources and are more likely to have sufficient cash reserves through retained income. Thus, the following hypotheses were established:

$H_{2\text{-}1}$ *The level of tax burden on SMEs negatively affects their future performance.*

$H_{2\text{-}2}$ *The level of tax burden of large- and middle-standing enterprises does not affect their future performance.*

Our study considered not only the size of a firm but also its affiliation with a corporate group in determining its eligibility to receive tax incentives for SMEs. An SME may operate as an independent company or as a member of a corporate group by forming a new company or acquiring an equity share in an operating company according to the strategic needs for business growth or diversification. In tax issues, SMEs are classified into firms that belong to a corporate group and those that do not. A corporate group refers to a group of firms affiliated with the same controlling shareholder and linked in the internal capital market through cross-shareholding or debt guarantees.

SMEs belonging to a corporate group have easier access to financial resources than those that do not because they can obtain collateral or payment guarantees from other member companies. Firms belonging to a corporate group can easily raise funds internally and manage funds more efficiently than independent firms because their loan applications are preferentially treated by banks. Therefore, companies belonging to a corporate group can have a better liquidity status and lower financial constraints, which would ease the effect of the corporate tax burden on future corporate performance.

Jung et al. (2009) noted that firms affiliated with large corporate groups can increase investment efficiency by investing in projects with positive net present value, using the internal capital market, even when they do not have sufficient investment funds (Shin & Stulz, 1998). Such group affiliation facilitates the restructuring and rehabilitation of a distressed member firm with support from other group member firms (Park & Jung, 2011). This characteristic also reduces the tax risk for firms belonging to a large corporate group, which in turn reduces the effect of the corporate tax burden on their future performance.

Firms belonging to large corporate groups increase their tax burden as their management transparency increases and then use such increase as a means to provide information to the outside. Regarding the related financial statement costs, which are non-tax costs, no negative effect of tax burden on their future performance can be assumed. Firms affiliated with large corporate groups are likewise expected to have less difficulty in maintaining tax plans than unaffiliated firms. This rationale suggests that firms belonging to large corporate groups, compared with unaffiliated firms, can better cope with tax risks via income transfer between affiliates and the internal capital market. Thus, we assumed differences in the relation between

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tax burden and management performance depending on whether a firm is affiliated with a corporate group.

$H_{3\text{-}1}$ *The level of tax burden of a firm affiliated with a corporate group will have no effect on its future performance.*

$H_{3\text{-}2}$ *The level of tax burden of a firm unaffiliated with a corporate group will have a negative effect on its future performance.*

Research Model and Variable Measurement

We formulated the following equation to test the association between corporate tax burden and future corporate performance:

$$Returnk_{,i,t+1} = b_o + b_1 Tax_{i,t} + b_2 Lev_{i,t} + b_3 \triangle Sales_{i,t} + b_4 For_{i,t} + b_5 Return_{i,t} + b_7 Size_{i,t} + b_8 Group_{i,t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}, \quad (1)$$

Where

$Returnk_{,i,t+1}$ = net income of company i in period $t + 1$
($k = 1$: pretax income in period $t + 1$/total assets at the end of period t; $k = 2$: net income in period $t + 1$/total assets at the end of period t).

-$Tax_{i,t}$ = tax burden on company i in period t

-$Lev_{i,t}$ = debt-to-equity ratio of company i in period t (total liabilities/total assets in period t)

-$\triangle Sales_{i,t}$ = sales growth rate of company i in period t [(sales in period t - sales in period $t - 1$)/ sales in period $t - 1$]

-$For_{i,t}$ = equity ratio of foreign investors of company i in period t

-$Size_{i,t}$ = size of company i in period t (1 for SME, 0 otherwise)

-$Group_{i,t}$ = company i's affiliation to a corporate group in period t (1 for affiliation, 0 otherwise)

-$Year\_Dummy_t$ = year dummy variable in period t (1 for year t, 0 otherwise)

-$Industry\_Dummy_i$ = industry dummy variable for company i (1 for company i, 0 otherwise)

Using Equation (1), we could verify that, if the regression coefficient b_1 would have a significant negative value, the tax burden calculated as the cash ETR would affect future performance. As control variables, the model included the debt-to-equity ratio and growth potential of the firm as factors affecting future performance. The debt-to-equity ratio was obtained by dividing the total liabilities of period t by total assets. As the growth potential, which is the growth rate, we took the sales growth rate: it was obtained by dividing the value that remains after subtracting the sales of period $t\text{-}1$ from the sales of period t by the sales of period $t\text{-}1$. Additional variables were the industry and year dummy variables necessary to control for the impact of specific industries and years. A higher equity ratio of foreign investors has been found to be associated with the potential to generate higher future performance (Jeong & Kim, 2009). For firm size, we applied the SME classification criteria set for tax policy purposes, and for affiliation with a corporate group, we used a dummy variable, assigning a value of 1 or 0 depending on affiliation or non-affiliation.

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In Equation (1), the tax burden is calculated using cash ETR, which is typically measured as the ratio of tax to pretax income. This method can assess the actual tax burden, but has the drawback of inaccurate period matching, with the denominator being an accounting income and the numerator, the legally due tax liability (Dyreng, 2008). Further limitations include sensitivity to the effects of valuation allowances and tax reserves, and non-reflection of tax-related decisions (Gupta & Newberry, 1997). Thus, we measured the cash ETR by including the current-period tax burden and deferred tax, thus overcoming the problem posed by the exclusion of the effect of deferred tax, which affects future tax burden (Ayers et al., 2009; Shim, 2009).

Corporate tax burden = Corporate tax/Net pretax income (2)

We performed an empirical analysis of the effect of the tax burden on future performance, using the gross return on assets (ROA) and value obtained by dividing the net pretax income for the next period by the total assets as the proxy variables for future performance. ROA, which is the most widely used accounting income measure of a firm's asset management efficiency, is obtained by dividing the net income of a specific period by assets and used as a representative corporate performance variable (Cannella & Shen, 2017; Datta & Guthrie, 1994). To control for its effect on tax expenses, we additionally used the pretax income divided by total assets as a substitute for future performance.

We reformulated Equation (1) to examine the difference in the relation between tax burden and future performance between large firms and SMEs among KOSDAQ-listed companies. The model of the resulting Equation (3) classified firms into SMEs, middle-standing enterprises, and large enterprises. Equation (3) was then reanalyzed for two groups of firms: those affiliated and those unaffiliated to a corporate group.

$$Returnk_{,i,t+1} = b_o + b_1 Tax_{i,t} + b_2 Lev_{i,t} + b_3 \triangle Sales_{i,t} + b_4 For_{i,t} + b_5 Return_{i,t\ t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}, \quad (3)$$

Research Model and Variable Measurement

We analyzed the relation between tax burden and future performance in KOSDAQ-listed SMEs in the period from 2016 to 2018, for which the data collection period included 2015 (in part) and 2019 (in whole), to measure future performance, the dependent variable. For our data collection, TS-2000 provided by the Korea Listed Companies Association was used.

We excluded firms with a net negative tax burden from the analysis because they had no tax liabilities. After applying the exclusion criteria listed in Table 2, we selected 1,376 datasets (firm–year observations) for analysis.

Table 2
SAMPLING PROCEDURE FOR SELECTING THE SAMPLE FIRMS

Sample selection procedure	Number of firm–year observations
December settlement non-financial listed firms (2016–2018)	4,164
Samples with missing variable measurements	-1,462
Firms with negative equity	-321
Firms with zero or negative tax liabilities	-940
Removal of outliers	-65
Final sample	1.376

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RESULTS

Descriptive Statistics of the Major Variables

The results of the descriptive statistical analysis of the major variables are presented in Table 3.

Table 3
DESCRIPTIVE STATISTICS OF THE MAJOR VARIABLES

Variable	Mean	Std Dev	Median	Minimum	Maximum
$Return_{1,i,t+1}$	0.041	0.147	0.043	-1.211	0.886
$Return_{2,i,t+1}$	0.028	0.135	0.037	-1.177	0.694
$Tax_{i,t}$	0.195	0.14	0.184	0	0.996
$Lev_{i,t}$	0.339	0.19	0.323	0.018	0.961
$\triangle Sales_{i,t}$	0.108	0.377	0.055	-0.883	3.979
$For_{i,t}$	0.056	0.086	0.023	0	0.547
$Return_{1,i,t}$	0.066	0.141	0.057	-0.658	0.921
$Return_{2,i,t}$	0.052	0.121	0.873	-0.641	0.873

Note: Variable measurement

$Returnk_{,i,t+1}$ = net income of company i in period t + 1 (k = 1: pretax income in period t + 1/total assets at the end of period t; k = 2: net income in period t + 1/ total assets at the end of period t)

$Tax_{i,t}$ = tax burden of company i in period t

$Lev_{i,t}$ = debt-to-equity ratio of company i in period t (total liabilities/total assets in period t)

$\triangle Sales_{i,t}$ = sales growth rate of company i in period t [(sales in period t – sales in period t - 1)/ sales in period t - 1]

$For_{i,t}$ = equity ratio of foreign investors of company i in period t

In Table 3, the mean and median of future performance (net pretax income) are shown as 0.041 and 0.028, respectively, ranging between -1.211 and 0.886. The mean and median values of future performance based on net after-tax income were 0.028 and 0.037, respectively, with a net income-to-assets ratio of 2.8%, which is lower than the mean annual average ROA of KOSPI-listed firms (3%–4%). The mean and median values of the debt-to-equity ratio were 0.339 and 0.323, respectively, but the maximum value was as high as 0.961 because firms with negative equity were excluded from the sample selection. The mean and median values of tax burden were 0.195 and 0.184, respectively, showing that firms generally paid approximately 19% of net pretax income as taxes. In addition, the average and median of the tax burden were 0.195 and 0.184, respectively. Firms were calculated to bear about 19% of the company's net income before tax. With a mean sales growth rate of 0.108, KOSDAQ-listed firms saw their business grow by 10% from 2016 to 2018. The average foreign ownership was 0.092, indicating that the total number of foreign investors in the KOSDAQ companies was lower than 10%. With the mean equity ratio of foreign investors standing at 0.092, the share of foreign investors among the KOSDAQ-listed firms accounted for less than 10%, which is slightly lower compared with KOSPI-listed firms, where large and blue-chip stocks are traded, attracting foreign investors.

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Table 4
CORRELATIONS BETWEEN MAJOR VARIABLES

Variables	$Return_{1,i,t+1}$	$Return_{2,i,t+1}$	$Tax_{i,t}$	$Lev_{i,t}$	$\triangle Sales_{i,t}$	$For_{i,t}$	$Return_{1,i,t}$	$Return_{2,i,t}$	$Size_{i,t}$
$Return_{2,i,t+1}$	0.988** (0.000)								
$Tax_{i,t}$	-0.029 (0.286)	-0.040 (0.138)							
$Lev_{i,t}$	-0.206** (0.000)	-0.207** (0.000)	0.007 (0.805)						
$\triangle Sales_{i,t}$	0.243** (0.000)	0.239** (0.000)	-0.041* (0.129)	0.073 (0.007)					
$For_{i,t}$	0.235** (0.000)	0.219** (0.000)	-0.044** (0.114)	-0.134** (0.000)	0.134** (0.000)				
$Return_{1,i,t}$	0.588** (0.000)	0.576** (0.000)	0.040 (0.134)	-0.294** (0.000)	0.417** (0.000)	0.246** (0.000)			
$Return_{2,i,t}$	0.587** (0.000)	0.577** (0.000)	0.024 (0.365)	-0.298** (0.000)	0.412** (0.000)	0.233** (0.000)	0.994** (0.000)		
$Size_{i,t}$	-0.040 (0.142)	-0.038 (0.161)	-0.162** (0.000)	-0.104** (0.000)	0.087** (0.001)	-0.234** (0.000)	0.000 (0.989)	0.008 (0.757)	
$Group_{i,t}$	-0.066* (0.014)	0.064* (0.018)	0.045 (0.095)	-0.022 (0.407)	0.014 (0.617)	0.033 (0.243)	0.077** (0.004)	0.074** (0.006)	-0.322** (0.000)

a) Variable definition:
- $Size_{i,t}$: 1 if company i is an SME in period t is SM, and 0 otherwise
- $Group_{i,t}$: 1 if company i is affiliated with a corporate group in period t, and 0 otherwise

b) Parenthesized values are p-values obtained using Pearson's correlation analysis.
c) * and ** indicate statistical significance at the 5% and 1% levels, respectively.

On the differences in tax-related variables between SMEs and middle-standing and large enterprises (data not shown), their tax burdens were calculated to be 0.179 and 0.228 that is, 0.049 lower for SMEs. The ratio of R&D spending to sales of SMEs was 4.4%—1.5% higher than that of middle-standing and large enterprises (2.9%). The sales growth rate of SMEs was 0.131; more than double that of middle-standing and large firms (0.061). In other words, KOSDAQ-listed SMEs had a higher R&D investment level than larger firms, as well as higher sales growth rates, but attracted less foreign capital. We also verified that the preferential tax treatment of SMEs achieves the desired policy effect.

SMEs affiliated and unaffiliated with a corporate group showed differences in financial indicators. The average tax burden of affiliated SMEs was higher than that of unaffiliated SMEs by 1.4% (20.5% vs. 19.1%). The average ratio of R&D spending to sales was 1.2% higher in unaffiliated than in affiliated SMEs (4.4% vs. 3.2%). These findings demonstrated the differences in tax burden and investment trends, in addition to size, of SMEs depending on whether they belonged to a corporate group.

The results of the correlation analysis of the major variables are outlined in Table 4. Corporate tax burden was not correlated with two measures of future performance. Across KOSDAQ-listed firms, the correlation coefficients between corporate tax burden and future performance were not significantly correlated. The debt-to-equity ratio was found to be

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negatively correlated with future performance. In contrast, future corporate performance was found to be correlated with the sales growth rate, equity ratio of foreign investors, and current performance of the firm. The size dummy variable showed no significant correlation with future performance, whereas the group dummy variable showed a negative correlation with future performance. Corporate tax burden showed a significant correlation with the size and group dummies. The negative correlation between corporate tax burden and the size dummy variable suggested that SMEs had lower tax burdens, whereas the positive correlation between corporate tax burden and the group dummy variable indicated that affiliated SMEs had lower tax burdens. The equity ratio of foreign investors showed a negative correlation with the size dummy variable, implying that SMEs had a lower equity ratio for foreign investors. The group dummy variable showed high correlations with the current-period performance and size dummy variable, which suggested that affiliated SMEs performed better in the current year compared with unaffiliated SMEs. We also observed a negative correlation between the group and size dummy variables, which implied that affiliated firms were not SMEs in general.

Hypothesis Testing

We conducted a multiple regression analysis on the entire sample of KOSDAQ-listed firms to determine the association between tax burden and future performance (Table 5).

Table 5
RESULT OF A MULTIPLE REGRESSION ANALYSIS ON THE ENTIRE SAMPLE TO DETERMINE THE ASSOCIATION BETWEEN CORPORATE TAX BURDEN AND PERFORMANCE

Model: $Returnk_{,i,t+1} = b_o + b_1Tax_{i,t} + b_2Lev_{i,t} + b_3\triangle Sales_{i,t} + b_4For_{i,t} + b_5Return_{i,t} + b_7Size_{i,t} + b_8Group_{i,t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}$ [1]

Variable	a_i (t-value)	a_i (t-value)
$Tax_{i,t}$	-0.083 (-2.521)***	-0.059 (-2.659)***
$Lev_{i,t}$	-0.029 (-1.431)	-0.030 (-1.556)
$\triangle Sales_{i,t}$	0.003 (0.257)	0.007 (0.733)
$For_{i,t}$	0.001 (3.261) ***	0.001 (3.004) ***
$Return_{i,t}$	0.560 (19.046)***	0.589 (18.436) ***
$Size_{i,t}$	-0.014 (-1.817) *	-0.014 (-1.889) *
$Group_{i,t}$	0.005 (0.644)	0.005 (0.644)
Adj. R^2(N), max VIF	0.350 (1.376), 1.565	0.375 (1.376), 1.545

a) Variable definition: see Tables 3 and 4.
Year_Dummy: t period year dummy variation (1 for year t, 0 otherwise)
Industry_Dummyi: i company industry dummy variable (1 for industry i, 0 otherwise)
b) *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Tax burden showed a significant negative effect on future performance, in line with our results that tax-related cash outflows negatively affected the future performance or value of a firm. Future performance had significant positive correlations with the equity ratio of foreign investors and current-period performance, which were verified as variables affecting the future performance of KOSDAQ-listed firms. This relation also applied to two measures of corporate income: net pretax income and net income.

To verify the differences in the relation between tax burden and future performance depending on firm size, we performed a regression analysis using Equation (1). The results are presented in Table 6.

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Table 6
RESULT OF A TESTING THE RELATION BETWEEN TAX BURDEN AND FUTURE PERFORMANCE DEPENDING ON FIRM SIZE: A MODEL USING PRETAX INCOME

Model: $Returnk_{,i,t+1} = b_o + b_1Tax_{i,t} + b_2Lev_{i,t} + b_3\triangle Sales_{i,t} + b_4For_{i,t} + b_5Return_{i,t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}$ [3]

Variable	$Size_{i,t} = 1$	$Size_{i,t} = 0$
	a_i (t-value)	a_i (t-value)
$Tax_{i,t}$	-0.087 (-2.688)***	-0.008 (-0.262)
$Lev_{i,t}$	-0.056 (-2.148)**	0.005 (0.180)
$\triangle Sales_{i,t}$	-0.003 (-0.197)	0.023 (1.295)
$For_{i,t}$	0.001 (2.031) **	0.001 (3.004) ***
$Return_{i,t}$	0.549 (15.378)***	0.562 (9.721) ***
Adj. R^2(N), max VIF	0.341 (926), 1.565	0.375 (450), 1.821

a) Variable definitions: see Tables 3–5.
b) *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

We observed a difference in the effect of the tax burden on future performance between SMEs and non-SMEs. Tax burden had a negative effect on future performance in SMEs, unlike in non-SMEs (middle-standing and large enterprises), for which the tax burden did not have a significant effect on future performance. These results suggested that the corporate tax burden affected the future performance of SMEs—here, firms characterized as small in size, having limited cash flow, and owning low cash holdings for investment for future performance. Therefore, despite the various tax incentives for tax reduction/exemption granted to SMEs, the corporate tax burden remained high. Even if SMEs had a lower corporate tax burden than larger firms, the effect of such burden on future performance was greater for SMEs. In the debt-to-equity ratio as well, only SMEs showed a significant negative correlation with future performance because SMEs are at higher risk of incurring debt-related interest expenses or financial distress.

We calculated future performance using net income and presented the analysis results in Table 7.

Table 7
RESULT OF A TESTING THE RELATION BETWEEN TAX BURDEN AND FUTURE PERFORMANCE DEPENDING ON FIRM SIZE: A MODEL USING NET INCOME

Model: $Returnk_{,i,t+1} = b_o + b_1Tax_{i,t} + b_2Lev_{i,t} + b_3\triangle Sales_{i,t} + b_4For_{i,t} + b_5Return_{i,t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}$ [1]

Variable	$Size_{i,t} = 1$	$Size_{i,t} = 0$
	a_i (t-value)	a_i (t-value)
$Tax_{i,t}$	-0.083 (-2.679)***	-0.015 (-0.521)
$Lev_{i,t}$	-0.060 (-2.283)**	0.004 (0.167)
$\triangle Sales_{i,t}$	0.003 (0.249)	0.022 (1.412)
$For_{i,t}$	0.001 (2.033) **	0.001 (2.574) ***
$Return_{i,t}$	0.575 (14.753)***	0.606 (9.712) ***
Adj. R^2(N), max VIF	0.341 (926), 1.541	0.375 (450), 1.821

a) Variable definitions: see Tables 3–5.
b) *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Thus, the tax burden had a significant effect on future performance only for SMEs. Even in the model measuring future performance using the current-period net income, the tax burden had a negligible negative effect on future performance in middle-standing and larger enterprises,

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similar to the analysis results of the pretax income as future performance. This finding verified that SMEs' tax burden is an important factor in determining their future performance.

We also tested whether the relation between tax burden and future performance varied depending on a firm's affiliation with a corporate group (Table 8).

Table 8
RESULT OF A TESTING THE RELATION BETWEEN TAX BURDEN AND FUTURE PERFORMANCE DEPENDING ON FIRM AFFILIATION WITH AN CORPORATE GROUP: A MODEL USING PRETAX INCOME

Model: $Returnk_{,i,t+1} = b_o + b_1Tax_{i,t} + b_2Lev_{i,t} + b_3\triangle Sales_{i,t} + b_4For_{i,t} + b_5Return_{i,t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}$ [1]

Variable	$Group_{i,t} = 0$	$Group_{i,t} = 1$
	a_i (t-value)	a_i (t-value)
$Tax_{i,t}$	-0.074 (-2.819)***	0.011 (0.239)
$Lev_{i,t}$	-0.028 (-1.158)	-0.010 (-0.268)
$\triangle Sales_{i,t}$	-0.004 (-0.335)	0.014 (0.618)
$For_{i,t}$	0.001 (2.579) ***	0.003 (3.175) ***
$Return_{i,t}$	0.565 (16.252)***	0.535 (13.275) ***
Adj. R2(N), max VIF	0.355(984), 1.637	0.375(392), 1.662

a) Variable definitions: see Tables 3 to 5.
b) *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively

Table 8 represents a model for measuring a firm's future performance as the next-period pretax income. The analysis revealed that tax burden had a significant positive effect on future performance only in unaffiliated SMEs. Tax burden rendered a negligible positive effect on future performance in affiliated SMEs. This difference suggested that, in addition to the size variable, SMEs without group affiliation were more susceptible to cash flow shortages and their future performance was more closely associated with their tax burden. Affiliated SMEs were in a better position to cope with liquidity shortages through payment guarantees and collateral provided by other member firms or internal transactions that could lower their sensitivity to cash outflow.

To test H2, we performed an analysis based on the future performance measured as the next-period net income (Table 9).

Table 9
RESULT OF A TESTING THE RELATION BETWEEN TAX BURDEN AND FUTURE PERFORMANCE DEPENDING ON FIRM AFFILIATION WITH AN CORPORATE GROUP: A MODEL USING CURRENT-PERIOD NET INCOME

Model: $Returnk_{,i,t+1} = b_o + b_1Tax_{i,t} + b_2Lev_{i,t} + b_3\triangle Sales_{i,t} + b_4For_{i,t} + b_5Return_{i,t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}$ [1]

Variable	$Group_{i,t} = 0$	$Group_{i,t} = 1$
	a_i (t-value)	a_i (t-value)
$Tax_{i,t}$	-0.070 (-2.516)***	0.019 (0.434)
$Lev_{i,t}$	-0.027 (-1.183)	-0.011 (-0.315)
$\triangle Sales_{i,t}$	-0.001 (-0.070)	0.022 (1.064)
$For_{i,t}$	0.001 (2.349) **	0.003 (2.906) ***
$Return_{i,t}$	0.604 (15.975)***	0.559 (9.032) ***
Adj. R2(N), max VIF	0.346 (984), 1.625	0.375 (392), 1.415

a) Variable definitions: see Tables 3–5.
b) *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

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The analysis results in Table 9 were similar to those in Table 8. That is, when the future performance was measured as the next-period net income, the tax burden had a significant negative effect on the future performance of unaffiliated SMEs, unlike in affiliated SMEs. Next, we analyzed Equation (1) on the sample subset of unaffiliated SMEs, which are eligible for tax incentives (Table 10).

Table 10 shows SMEs' future performance measured using pretax and after-tax incomes. In both models, corporate tax burden had a significant negative effect on future performance. In other words, the tax burden exerted a significant negative effect on the future performance of KOSDAQ-listed unaffiliated SMEs. Given the difficulty in raising cash and securing investment funds for future performance, the tax burden for unaffiliated SMEs in need of investment translated to the outflow of funds intended for future performance. For larger firms with better access to funds, financial soundness, and liquidity, we detected no effect of corporate tax burden on future performance.

Table 10
RESULT OF A TESTING THE RELATION BETWEEN TAX BURDEN AND FUTURE PERFORMANCE IN UNAFFILIATED SMEs

Model: $Returnk_{,i,t+1} = b_o + b_1Tax_{i,t} + b_2Lev_{i,t} + b_3\triangle Sales_{i,t} + b_4For_{i,t} + b_5Return_{i,t} + Year\_Dummy_t + Industry\_Dummy_i + e_{i,t}$ [1]

Variable	$Returnk_{,i,t+1}$ (k = 1)	$Returnk_{,i,t+1}$ (k = 2)
	a_i (t-value)	a_i (t-value)
$Tax_{i,t}$	-0.087 (-2.462)**	-0.088 (-2.655)***
$Lev_{i,t}$	-0.077 (-1.571)	-0.075 (-2.624)***
$\triangle Sales_{i,t}$	0.004 (0.275)	0.007 (0.476)
$For_{i,t}$	0.001 (1.571)	0.001 (1.569)
$Return_{i,t}$	0.535 (13.275) ***	0.573 (13.089) ***
Adj. R^2(N), max VIF	0.349 (926), 1.662	0.344(450), 1.646

a) Variable definitions: see Tables 3 to 5.
b) *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively

CONCLUSIONS

This study analyzed KOSDAQ-listed firms under the hypothesis that SMEs' future performance will be affected by the corporate tax burden, in contrast with middle-standing and large enterprises. Tax-related cash outflow was shown to be a heavy burden for SMEs, as was sensitively reflected in their investment activities, exerting a negative effect on their future performance. To perform the analysis necessary to test this hypothesis, we investigated the relation between corporate tax burden and future performance in KOSDAQ-listed firms from 2016 to 2018. The same analysis was performed on the sample subsets of SMEs and larger firms (middle-standing and large enterprises). The analysis results are summarized as follows.

First, the analysis of the entire sample set revealed that corporate tax burden had a significant negative effect on future performance. For SMEs, given the difficulty of raising funds and cash holdings for investment activities, the tax burden adversely affected future performance. Considering this aspect, we analyzed the sample subsets of SMEs and non-SMEs (larger firms) and found that SMEs' tax burden had a significant negative effect on their future performance.

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Second, based on an analysis of the effect of a firm's affiliation with a corporate group on the relation between corporate tax burden and future performance, we observed no effect of tax burden on future performance in the firms with group affiliation. Meanwhile, corporate tax burden had a significant negative effect on future performance in the firms without group affiliation, including the SMEs without group affiliation.

SMEs are eligible for preferential tax treatment over large- and middle-standing firms in the form of tax incentives, such as tax deductions and reductions/exemptions pursuant to tax-related special laws and policies. However, despite lower tax rates, SMEs' tax burden has a negative effect on their future performance, and further tax reform is considered necessary for SMEs to grow and generate better performance.

Examining the relationship between tax burden rate and future performance seems necessary in consideration of the characteristics of KOSDAQ-registered companies in the Korean capital market. More importantly, defining the role of corporate size and corporate group characteristics in the relationship between tax burden rate and future performance seems to have advanced the results of previous studies. In addition, this study presented evidence contrary to the opinion that special taxation of SMEs infringes on freedom of market competition. The low tax burden rate of SMEs can increase the ability to maintain and develop enterprises and overcome possible disadvantageous conditions in competition with large enterprises. Therefore, the results of this study suggest the need for research on methods that can further expand special taxation and function efficiently as a national SME protection policy.

Limitations and Future Research

In this study, we focused only on companies registered to KOSDAQ. In the future, the sample range should be extended to include both listed and unlisted companies in Korea. Another limitation is that Korea cannot include examples from other countries because it differs from other countries in terms of tax policies, tax burden ratio, and government policy tasks. Moreover, this study is approached and interpreted from a practical perspective. Therefore, a theoretical approach to explain these results is difficult. Owing to the lack of prior studies suitable for the research topic, adequately explaining the hypothesis is challenging. Therefore, in the future, an analytical technique developed as a theoretical model for the relationship between tax burden and future performance is expected.

For large corporations, tax burden rate and future performance showed a non-significant relationship. Therefore, the characteristics of companies that are affected by the tax burden of large corporations should be considered. In the future, research to find the characteristic variables that affect the tax burden rate of large corporations may be conducted. Further, we used cash ETR to measure the tax burden. However, a diversified approach is required for future research. In particular, tax burden may be a result of various factors, such as managerial competence or other corporate characteristics, which can be regarded as factors influencing future performance. Therefore, follow-up research must be conducted on the relation between tax burden and future performance, considering other corporate types and managerial characteristics. Finally, future performance, which is the dependent variable of the study, was analyzed using the following net asset return and next total asset net income before tax. However, if the tax burden may not be immediately following year, it could affect long-term performance in the future.

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Therefore, in future research, if the period for measuring future performance is extended and analyzed, research in this field will become more robust.

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