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A Conglomerate's Effort for Co-Prospering with Its Subcontractors and Firm Value: Evidence from Korea

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Abstract: Shared growth effort, which is also known as mutual growth, has emerged as one of the most important keywords in Korean economy. This study examines whether a conglomerate's shared growth effort evaluated by the Shared Growth Commission is valued by market investors. Using our full sample, we find that firms participating in shared growth evaluation have a higher firm value. The results from the full sample show that firm's effort on shared growth is rewarded in the Korean capital market. However, after matching firms by size of sales and return on assets to better control for firm characteristics, we find that neither the participation nor a higher (lower) rating of the shared growth evaluation is associated with firm value. This implies that the result from the full sample may be capturing firm characteristics, instead of the effects of shared growth effort, thus market investors do not consider conglomerate's shared growth effort as a value-enhancing strategy. Using a recently introduced shared-growth index, the findings in our study provide preliminary but important evidence on how creating shared value (CSV) is related to firm value.

Keywords: creating shared value; corporate social responsibility; firm value

1. Introduction

The ideas that relate the business with the society have drawn much interest in academia. Corporate social responsibility (CSR), sustainability, and Porter and Kramer's shared value propositions are now key issues for firms and the society. While the empirical literature does not provide the conclusive evidence, there is a plethora of research on the consequences of CSR or corporate philanthropy on firm value [1,2]. Furthermore, macroeconomic trends are now increasingly driving firms towards to creating shared value (CSV), which identifies and expands the connections between social and economic progress to create more value [3,4]. While this idea is populated after the Porter and Kamer's recent study [4], little is known about its potential consequences.

Possible explanations for the lack of the empirical evidence include, among others, the lack of clarity and precision in defining shared value [5]. This also leads to lack of theory, operationalization, and measurement of concepts that are related to CSV [5]. To date, the work on shared value has been largely conceptual and supported by anecdotal examples and field interviews. Such studies include Spitzeck, Boechat, and Leão [6] presenting the case of Odebrecht, which adopts corporate social entrepreneurship approach, and Maltz and Schein [3], who conducted more than 50 interviews with senior sustainability executives to explore how managers are implementing shared value initiatives. Thus, our understanding of the potentials that CSV can bring is in its infancy.

Our primary purpose is to introduce a novel index, initiated and developed by a quasi-government body in Korea, which measures large conglomerates' effort for mutual growth with contractors, and to evaluate the consequences of the index from the perspective of shareholders. This index offers many benefits that are not available in prior literature. First, the salient strengths of the index are the

comparability across firms and data availability. To our best knowledge, no studies have reported relatively large-scale and quantitative evidence on how CSV can be operationalized and measured at firm levels and its potential consequences. Second, the survey for the index is conducted and compiled by a quasi-government body, which is less likely to have reporting bias than private organizations. Third, the index incorporates qualitative factors, such as the questionnaire-based survey to contractors. Fourth, one of the guiding principles of the Shared Growth Initiative (SGI) is that large firms should archive co-prosperity with their suppliers in a way that creates profits for themselves. In this respect, SGI is similar to a typical CSV initiative. However, SGI is initiated by a quasi-government and the Shared Growth Commission has effectively encouraged the participation of many conglomerates in the shared growth survey. This enables us to conduct a relatively large data-based empirical study.

Finally, the commission also proposes specific ways of value creation (or value chains) and the evaluation of corporates' shared growth effort. This contrasts with a typical CSV initiative where firms voluntarily define value chain or creation in order to optimize value for shareholders and the broader society in which the firm operates [4,7]. Such voluntary and firm-specific nature of the CSV initiatives are often cited as the primary reason for no universal approach to measuring the shared value being currently extant [8].

In recent years, "mutual growth" has emerged as one of most important keywords in the business ecosystem. "Mutual growth" refers to the mutual success that is driven by large companies to provide cultivation and to support to their suppliers, in order to work together to improve mutual performance and to enhance shared collaboration. The significance of this issue is magnified when the Korean government declared that it would drive shared growth policies in September 2010 [9], and the Korean Fair Trade Commission cited their top enforcement priority as to improve relationships between large and small companies for shared growth [10]. In addition, the Shared Growth Commission was launched in December of that year (English name of the Commission change to National Commission for Corporate Partnership (NCCP) in 2002 and now renamed to Korea Commission for Corporate Partnership although Korean name of the Commission has not been changed. We use the Shared Growth Commission or the Commission throughout this paper). The Commission is a private institution that is formally independent from, but actually supported by, the government. The stated goal of the Shared Growth Commission is to promote and enhance the balanced competitiveness amongst large and small companies of the Korean economy, through conflict resolution, discussion, and agreement between them. One of the commission's main task to achieve its goals is to evaluate and announce large conglomerates' efforts towards shared-growth. The evaluation includes how much implementation of corporate partnership efforts by conglomerates can be felt by their small subcontractors, as well as the corporate partnership performance of conglomerates. Since the Commission was established, the Commission claims that the use of standard subcontracting contracts, price per unit, cash settlement ratio, employment, and the frequency of education and training has increased [11]. According to the Commission' analysis in 2016, the market share and profits of SMEs in 2013 increased by 4.1% as compared to 2014.

This study examines whether a conglomerate's shared growth effort evaluated by the Shared Growth Commission is valued by market investors. Putting emphasis on creating values or sustainable growth by resolving a social issue, a conglomerate's effort on shared growth is in line with the concept of creating shared value, as recently introduced by Porter and Kramer [4]. Although the shared value perspective shapes the strategies of large conglomerate, it is less known on the consequence of the strategic outcome. The findings in our study provide some insights on this area by using a recently introduced shared-growth index in Korea.

In addition, this study also illuminates important implications to the ongoing debate on the effectiveness of the shared growth index, of whether corporate policies and practice bring economic value when firms incorporate societal issues into their strategies and operations. Small- and medium-sized firms welcome the commission's evaluation on large companies' shared growth effort and desire an adequate enforcement mechanism for poorly participating companies. In contrast, large corporations express their concern that, even though participating companies generally spend higher fraction of sales

in helping their sub-contractors than non-participating companies, the index stigmatizes large companies who participated, but with bottom grades look which so becomes subject to criticism. They also question the validity and accuracy of the index, arguing that the index does not account for operating and financial characteristics across industries.

While the potential consequences of CSV should be evaluated from multiple perspectives, the examination of the impact of the index on market valuation addresses the issue of whether firms are rewarded for making co-prospering efforts with its subcontractors. Positive market valuation on firm's shared-growth effort would act as incentives and pressures to firms, which motivates and challenges them to improve shared growth. Market mechanisms are particularly important since firms' shared-growth effort is on a fundamentally voluntary basis, and the capabilities of the Commission to monitor and enforcement shared-growth are limited. This approach is consistent with a growing body of research pointing to the fact that the market valuation or reaction provides incentives for firms to participate in social actions or initiatives [2,9,10,12,13]. However, the absence of views from societal stakeholders is a critical shortcoming. In contrast, no association between the corporate shared-growth efforts and firm value suggests that the usefulness of the shared-growth index is questionable, particularly to capital market investors. Based on the full and matched samples, we provide empirical evidence of whether corporate efforts on shared-growth are positively evaluated by the market.

Using the shared growth index from 2011 to 2016, we empirically address whether there are differences in firm value between participating and non-participating firms of the Shared Growth Commission's shared growth program, and whether firm's ratings in the index affect Tobin's q, a proxy for firm value. To mitigate the concern that participating firms may have different firm characteristics, we use coarsened exact matching, as the matching methodology, to control for size and profitability [14]. Using our full samples, we find that a firm participating in the shared growth evaluation has a higher firm value. However, there is no statistically significant difference in the effect of the shared growth effort on firm value between firms with high ratings and firms with low ratings.

The full sample results appear that the firm's effort on the shared growth is rewarded in the Korean capital market. However, matching between the participating firms and non-participating firms on size of sales, return on assets, and Tobin's q to better control for firm characteristics, we find that neither the participation nor a higher (lower) rating is associated with firm value. This implies that the full sample results may be a reflection of firm characteristics.

Collectively, our results have the potential significance at both the policy-setting level and empirical research implementations on studying how corporate efforts toward creating shared value influence firm value. First, at the policy-setting level, this study suggests that the recently introduced share-growth index may not be meaningful information to capital market investors, since the effectiveness of firms' shared growth effort on firm value or the validity of the index is questionable. Thus, improvements on the index should be explored if the commission wishes the index to act as incentive for firms to participate and to improve their shared growth efforts. Second, at the research level, our findings highlight the importance of acknowledging firm characteristics in the analysis of how corporate social activities influence firm value.

The next section describes the background of the shared-growth index and develops hypotheses. Section 3 presents empirical framework, the sample selection process, and descriptive statistics. Section 4 presents empirical results. The study concludes with a discussion of the results.

2. Background and Hypothesis Development

2.1. Shared Growth Commission and Shared Growth Index

Large Korean companies have expanded and have grown to become global players over the years, contributing to the rapid growth of the Korean Economy. However, they have been also criticized in recent years for reaping financial gains at the expense of small businesses. Some large companies have slashed payments for parts and materials that are sourced from small firms to realize greater profits, while others have encroached upon business areas that were previously dominated by small firms.

To correct such unfair practices that were allegedly committed by large firms against small ones, the Korean government has placed shared growth for large corporations and Small and medium-sized enterprises (SMEs) as the top priority in its economic policy since the Lee Myung-bak administration, which pressures Chaebols, the country's family-controlled conglomerates, to make more efforts to help small firms and to achieve shared growth.

The center of execution and expansion of the shared growth movement is the Shared Growth Commission, which was created by the 2010 amendment of the Act on the Promotion of Collaborative Cooperation between Large Enterprises and SMEs. The members of the commission are composed of one chairman, nine conglomerate representatives, nine SME representatives, and six non-partisan public representatives (mostly, university professors). While it is a legally private organization, the commission partially relies on government funding and that the commission chair is also appointed by the government. Due to such a connection to the government, the Office of the US Trade Representative identifies the commission as more similar to a government agency [15]. The stated goal of the Commission is to promote and enhance the balanced competitiveness of the Korean economy through the conflict resolution, discussion, and mutual agreement amongst large and small companies. One of the commission's main task to achieve its goals is to evaluate and announce large conglomerates' efforts towards shared-growth. The commission tallies and publishes the annual shared growth index for large conglomerates. The candidate conglomerates are selected and announced at the first quarter of the year based on: their business areas; the level of involvement with SMEs, such as suppliers or contractor; and, the level of economic impact. The index is to be published generally in May or June of the following year (during Shared Growth Commission's press release on 23 February 2011). The introduction of the shared-growth index encouraged voluntary participation of large conglomerates. Over the past five years, the number of large conglomerates participating in the shared-growth survey increased from 56 firms in 2011, to 73 firms in 2012, 108 firms in 2013, 132 firms in 2014, 149 firms in 2014, and 169 firms in 2016. According to the Commission's analysis in 2016, 85 participating firms have created the department that is designated to promote shared-growth activities.

Although participating firms represent only a very small fraction of the population of Korean firms, they generally have a significant portion of total sales of the industry they belong to, as indicated in Table 4.

Table 1 summarizes the structure of the shared-growth performance assessments. The index is based on the on the two assessments of large businesses' shared growth performance. One assessment that was conducted by the Korean Fair Trade Commission includes conglomerates' compliance with the fair trade agreement and support to their contractors and subcontractors. The other assessment is based on the survey results that were conducted by the Commission on subcontractors' subjective assessment of large companies' commitment to fair trade and shared growth. It asks executives of SMEs about unfair practices, such as oral orders or technology theft; satisfaction with the unit cost of delivery goods and payments; and, the intrusion of large companies into their business areas.

Table 1. Structure of the shared-growth performance assessments.

	Conglomerates	Contractors and Subcontractors of Conglomerates
Evaluator	The National Commission for Corporate Partnership and The Fair Trade Commission	National Commission for Corporate Partnership conducts the survey to Contractors
Evaluation Items	Faithfulness of the agreement Implementation of the agreement Violation of laws, public criticism Participation of shared growth	Trade connections Cooperation Corporate partnership system Non-fulfillment of types of business suitable to SMEs Violation of corporate partnership guidelines Types of business suitable to SMEs, benefit sharing, cooperative profit distribution system, investment and support for corporate partnership

Based on these two assessments, each candidate company receives one of the four ratings: excellent, good, fair, and improvement required. Beginning with 2014, the NCCP change "good", "fair", and "improved required" to "very good", "good", and "fair", respectively, stressing that firms, even in the lowest quartile, have been making a reasonable effort on the shared-growth relative to non-participating companies. In 2016, NCCP added back "Improvement Required" and thus participating firms now receive the grade among "Excellent", "Very Good", "Good", "Fair", and "Improvement Required". Companies that received "excellent" or "very good" grades are awarded with additional points when entering tenders for government procurement projects and get a one-year exemption from the Fair Trade Commission's investigation on treatment of in-house subcontractors. There are no penalties for companies with low grades, but the Commission offers consulting services to companies that receive the lowest grade for three years in a row.

The creation and public announcement of the index have met with a mixed response. Large conglomerates express their concern through lobby groups they are part of. The Federation of Korean Industries, the nation's biggest pro-business lobbying group, argues that the index makes large conglomerates participants with the bottom grade be subject to criticism, even though participating companies generally spend higher fraction of sales in helping SMEs than non-participating companies. Opposing to a ranking system, they further argue that bottom-rated companies are likely to harm their reputation abroad. In contrast, Korean Federation of SMEs welcomed the commission's initiative, hoping that larger conglomerates would cooperate with the commission for effective implementation of the index.

When the index was announced, firms reacted differently to the results of the shared-index; companies with the top grade generally highlighted their excellent rating through the press release. For instance, according to a press release by SK C&C, immediately after the announcement of 2013 index, SK C&C addresses that it earned an excellent rating, which were given only to 14 companies out of 109 companies and further underscored its commitment and various activities to achieve the shared growth (SK C&C's press release on 11 June 2014). In contrast, Homeplus, which received the lowest grade three years in a row, expressed regret over its poor rating despite their efforts, including the set-up of the Shared Growth Center under the leadership of the managing director. Bottom rated companies also complained that the index did not account for operating and financial characteristics across industries.

While major chaebols and their lobby groups complain about the shared-growth measures, they nevertheless unveil plans to support subcontractors aiming for a higher spot in the index ranking. Hyundai Motors, for example, implemented a comprehensive shared-growth programs in 2011, including a $600 million fund for loans, research, and development costs to layers of subcontractors [16]. E-mart, the largest supermarket chain in South Korea, promised to provide financial support of 300 billion won ($260 million) to its partner firms as part of its shared growth plan [17].

2.2. Hypothesis Development

The shared growth effort has facets of CSV activities, as recently introduced by Porter and Kramer [4]. The core idea of the shared growth effort is that large companies and their suppliers work together to create improved performance and achieve co-prosperity. Unlike the CSR perspective, which mainly emphasizes the philanthropic and economic responsibilities of 'focal' firm [18], CSV is casting its shadow on 'mutual' benefit between focal firm and all possible business partners in the market. In many companies' sustainability reports, it is often found that the phrase "shared growth" is associated with the ecosystem, mutual prosperity, and shared values, solving social problems. This is consistent with the notion of CSV, which puts emphasis on creating value by resolving social issues, unlike corporate social responsibility or philanthropy.

In fact, many large companies highlight their mutual growth efforts towards SMEs as an example of a CSV management. For example, Min Hee-kyung, executive vice president of CJ Corp., (Seoul, Korea), said in an interview with The Korea Herald that "CJ has already developed a number of CSV

projects on a group level . . . (omission) . . . For instance, CJ O Shopping, CJ's cable TV home shopping channel, runs a "co-existence" program with small and medium-sized companies that are competitive but lack marketing and sales resources". In its 2013 sustainability report, POSCO presented its unique band program (which was POSCO's shared growth program) as example of its CSV activities:

> *POSCO will develop "Creating Shared Value" programs and policies which promote ways to achieve sustainable partnerships with cooperating companies and plans to continue operating as an exemplary company of shared growth by actively promoting these programs.*

However, there is little known about the effect of firm's CSV activities, such as mutual growth efforts on firm value. While CSV is argued to be distinguished as a distinct model, Crane, Pallazzo and Spense [19] contend that shared value overlaps with other concepts such as CSR. Based on literature on CSR and firm value, we develop the following competing hypotheses. First, a conglomerate's mutual growth effort is beneficial to firm value. The mechanism of CSV on firm value can be conceptualized that conglomerates' effort on mutual growth has a long run cash flow and risk consequences for them. The decision of conglomerates to engage in mutual growth effort may be due to the expected future benefits and costs. This idea is aligned with previous studies on CSR. Jensen [20] suggests that manager can utilize CSR to improve corporate strategies by brining transparency. McElhaney [21] also argues that CSR helps firms to integrate core business objectives and competencies and to eventually increase firm value. Clarkson [22] argues that the dissatisfaction of any stakeholder group can potentially affect current financial performance and even compromise a company's future. CSR is therefore one of corporate strategies to protect corporate financial performance [23]. Thus, if CSR is effectively managed, it will not only improve the satisfaction of these stakeholders but it will also lead to improved financial performance [24].

The participation signals a firm's commitment to resolve social issues. The Commission emphasizes that companies, even with the lowest grade of the shared-growth index, are more committed to shared growth than non-participating ones. Conglomerates' effort on the shared growth may have a positive effect on consumers' evaluations of a firm's brand image and reputation. Thus, the disclosure of participation in the program may positively affect the demand for the company's products by indirectly influencing growing customers who are more sensitive to social issue. This possibility is a simple extension of the finding in the market literature that there is a positive relationship between a company's CSR actions and consumers' attitudes toward that company and its products [8–12].

Firms that make greater efforts on shared-growth with their subcontractors may have less risk of negative rare events. Because the shared growth principle has been one of the top economic priorities on the political agenda of all Korean parties since 2010, the participation and disclosure of conglomerates' effort may reduce the likelihood of future regulatory action. In fact, firms in the excellent category will receive a one-year exemption from the Korean Fair Trade Commission's probe on how they treat their contractors. Firms participating in the shared-growth evaluation may also reduce the likelihood of a public backlash against them on the mounting criticism. Such criticism of chaebols include squeezing subcontractors by cutting price, preventing the growth of SMES, and granting lucrative orders to their own subsidiaries.

As a result of the conglomerates' aid to their suppliers, suppliers can enhance their quality of supplies while lowering costs. This, in turn, increases product competitiveness of the supporting conglomerate. Capital market may therefore value companies' shared growth efforts as value-enhancing activities. This position is reflected in the following quotations:

> *In 2014, we conducted design support and technology review for new construction methods jointly developed by Jangpyoung Construction, applied these new construction methods to POSCO E&C's project sites on priority basis, and implemented technology promotion. As a result, Jangpyoung Construction achieved better performance such as securing unique technology and a direct increase in*

> *sales, while POSCO E&C raised business competitiveness by reducing onsite costs. (POSCO E&C 2014 Sustainable Report)*

Second, corporate shared value has a negative impact on firm value. Goel and Thakor [25] emphasize the 'managerial risk' and suggest that overconfident managers overinvest on CSR and finally destroy firm value. Cai, Jo, and Pan [26] argue that investors are to underestimate this overinvestment on CSR, and thus, CSR will negatively influence firm value. They document this phenomenon as window-dressing hypothesis. This negative relationship does not necessarily imply the abandonment of social initiatives by corporations. Christensen, Mackey, and Whetten [27] argue that ethical shareholders may require socially responsible action even when doing so at the cost of reduced financial performance.

Another perspective on this adverse consequence is related with the political CSR. Fooks, Gilmore, and Collin [28] and Cai, Jo, and Pan [29] examine the controversial industry, such as tobacco and gambling industry, and argue that firms in these industries conduct CSR only to neutralize the forced policy and regulatory pressure. In 2018, Lee Jae-yong, the vice president of Samsung and only son of South Korean electronics giant has been jailed for five years as part of a whopping corruption scandal that also prompted the impeachment of the Korean former President Park Geun-hye. Samsung is the largest donor in Korea and it is heavily involved both in CSR and in CSV. Lee had ordered his firm to participate in a troubled sports sponsorship deal. If this sponsorship is legitimate, these activities can be good examples for CSR because sponsored horse riders won the medals in the international horse riding game. However, the court concluded that Samsung was a victim of politics as in the following sentencing:

> *Former President Park threatened Samsung Electronics executives, and the defendant (Lee) provided a bribe, knowing it was bribery...but was unable to refuse. This is the case as a matter of foremost political leader Park Geun-hye coercing executives at the Samsung Group, South Korea's largest business group, with Choi Soon-sil seen as having pursued private gains out of a misguided sense of maternal affection*.

In this case, CSR or CSV is not related with enhancing firm value but is just a forced tax that firms must pay. Firms that reject the political CSR, which politicians demand, are often subject to several sanctions. Therefore, a political CSR is regarded as a requirement only to preserve the *status quo* and not to reap benefits actively [29].

Finally, there could be no relation between corporate social actions and firm value. The positive and negative effects of corporate social actions may cancel themselves out. Taken together, it is evident that the empirical literature does not provide conclusive evidence on the relationship between corporate social initiatives and financial performance. We accordingly propose two hypotheses that are stated in null form:

Hypothesis 1 (H1). *Firms' participation in the share-growth survey does not affect its firm value.*

Hypothesis 2 (H2). *Higher or lower ratings in the shared-growth survey do not affect firm value.*

Testing for the value of firm's shared growth effort is a joint test of market valuation of a firm's shared growth efforts and the reliability of the shared growth index. Market valuation of a firm's shared growth effort indicates that market investors perceive the economic value of firms' share-growth efforts and confirms the reliability of the shared growth index. In contrast, accepting the null-hypothesis implies that firms' growth efforts are neither a valued nor reliable measure. Investors consider them as conglomerates' ostensible social contribution activities to ameliorate the anti-chaebol sentiment or to toe the government line by labeling them obedient to its policy. As such, economic value of large companies' growth efforts may not exist. Alternatively, the index may not reliably measure firms' shared growth effort, because the unparalleled indexing and technical problems with opinion polls on subcontractors primarily focus on conglomerates' financial contributions to subcontractors, while ignoring structural

differences among industries. The reliability issue may limit investors' use of the shared-growth index in their investment process.

3. Sample and Methodology

3.1. Data Description

We collect the annual shared-growth index, as calculated by the Shared Growth Commission, which covers from year 2011 to year 2016. The index for the year t has been announced by the end of June in the year $t + 1$. For example, the 2011 shared growth index was announced on the 28th of June in 2012. For the 2011 shared growth index, 56 companies participated, and the number of participating companies increased to 145 for the 2016 index, which all belong to the non-financial sectors.

Beginning with a sample of 620 firm-years of the shared-growth index, we eliminate 191 firm-years that are not publicly traded. We eliminate nine firm-years without stock market and accounting data, which is required for the empirical analysis. Finally, we eliminate 11 firm-years with negative values of net assets, sales growth rate less than or equal to −100 percent, and absolute values of returns on assets (ROA) greater than 80 percent. Panel A of Table 2 summarizes the sample selection process and its composition by year.

Table 2. Sample Process.

Panel A: Participating Firm-Years	
	Number of Firm-Years
Total Participating Firm-Years	620
Exclude: Non-public Firm-years	(191)
Exclude: Firm-years with missing variables	(18)
Exclude: Firm-years with sales growth <−1 or absolute value of ROA > 8	(2)
Total	409
Panel B: Non-participating Firm-Years	
	Number of Firm-Years
Total Non-participating Firm-Years (excluding firm-years in financial sectors)	10,747
Exclude: Non-public Firm-years	(0)
Exclude: Firm-years with missing variables	(1962)
Exclude: Firm-years with sales growth <−1 or absolute value of ROA > 8	(47)
Total	8738

For each firm-year, we collect data for a matched firm-year that does not participate in the share-growth index program. The matched pair methodology is used to generate samples in which the participating and non-participating firm is similar, providing a natural framework to parse out the effects of firm characteristic on firm value. A matched firm-year is selected from non-financial firm-years in the DataGuide database, then matched on size of sales revenues, return on assets, Tobin's q, and the same fiscal-year-end using the coarsened exact matching [14]. The 64 participating firm-years that do not have matches were eliminated from our sample. Panel B of Table 2 summarizes the sample selection for non-participating firm-years. Table 3 presents the sample composition of matched and unmatched sample by year and rating.

Table 3. Sample Composition by Year and Rating.

Panel A: Pre-Matched Sample							
	2011	2012	2013	2014	2015	2016	Total
1: Improvement Required	5	7	4	8	N.A	4	28
2: Fair	15	18	27	24	11	5	100
3: Good	12	19	23	29	26	32	141
4: Very Good	5	7	11	14	30	35	102
5: Excellent	N.A	N.A	N.A	N.A	19	19	38
Number of Firms	37	51	65	75	86	95	409

Table 3. *Cont.*

Panel B: Matched Samples							
1: Improvement Required	5	7	4	8	N.A	4	28
2: Fair	13	17	26	22	10	5	93
3: Good	8	16	18	22	25	31	120
4: Very Good	3	6	7	9	25	32	82
5: Excellent	N.A	N.A	N.A	N.A	10	12	22
Number of Firms	29	46	55	61	70	84	345

3.2. Regression Models

To test whether there is difference of firm value between participating and non-participating firms in the shared growth initiative (H1), we first estimate the following model used in Fang, Palmatier, and Steenkamp [30] and Vomberg, Homburg, and Torsten [31]:

$$\begin{aligned} \text{Firm\_Value}_{i,t} = a_0 + b_1\text{Shared\_Growth}_{i,t} + b_2\text{Herfindahl\_Index}_{i,t} + b_3\text{ROA}_{i,t} + \\ b_4\text{Market\_Share}_{i,t} + b_5\text{Sales\_Growth}_{i,t} + b_6\text{Cap\_Intensity}_{i,t} + \\ b_7\text{Num\_Employees}_{i,t} + \epsilon_{i,t}, \end{aligned} \quad (1)$$

where Firm_Value is Tobin's q. Tobin's q is calculated using Chung and Pruitt's method [32]: $q = \frac{\text{MVE} + \text{PS} + \text{DEBT}}{\text{TA}}$, where MVE is the market value of equity at the end of June in year t, PS is the market value of preferred stock (if exist), DEBT is the book value of total liabilities, and TA is the book value of total assets. DEBT and TA are measured from the most recent financial statements. Shared_Growth is a dummy variable, which equals 1 if a firm participates in the shared-growth survey, and 0 otherwise. Herfindahl_Index is a sales-based Herfindahl index of industry-level, where the industry is defined by its two-digit KSIC code. ROA is a return on assets, measured as the firm's net income divided by its total assets using a firm's trailing 12-month accounting data. For example, a firm's trailing 12-month net income is the sum of the second, third, fourth quarter of net income of year $t-1$ and the first quarter of net income of the year t. Market_Share is a firm market share, measured as a ratio of a firm's overall sales revenues to the sales revenues of all firms in the same two-digit KSIC code. Cap_Intensity is a capital intensity computed as a firm's property, plant, and equipment divided by the number of employees. Firm size is controlled for using the number of employees in the company, Num_Employee.

Hypothesis 1 suggests that the coefficient on Shared_Growth, b1, should be positive since market investors perceive the economic value of firms' share-growth efforts and confirms the reliability of the shared growth index. To test hypothesis 2, we estimate the following model:

$$\begin{aligned} \text{Firm\_Value}_{i,t} = \; & a_0 + b_1\text{High\_Effort}_{i,t} + b_2\text{Low\_Effort}_{i,t} + b_3\text{Herfindahl\_Index}_{i,t} \\ & + b_4\text{ROA}_{i,t} + b_5\text{Market\_Share}_{i,t} + b_6\text{Sales\_Growth}_{i,t} \\ & + b_7\text{Cap\_Intensity}_{i,t} + b_8\text{Num\_Employees}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (2)$$

We make two dummy variables: High_Effort is a dummy variable equal to 1 if a participating firm earned the grade of either "Very Good" or "Excellent" in the Shared-Growth survey, while Low_Effort is a dummy variable, which is equal to 1 if a participating firm earned "Fair" or "Improvement Required". "Good" category does not belong to "High_Effort" or "Low_Effort" and becomes, thus, the base (or reference) category. Other variables are previously defined. Hypothesis 2 suggests that the coefficient on High_Effort, b1, should be greater than the coefficient on Low_Effort, b2, if market investors values firms' effort for mutual growth and differences between the high and low rating of firms' effort.

4. Empirical Results

Table 4 contains descriptive statistics for the main variables in the regression analysis for participating firm-years, and separately for non-participating firm-years. In Panel A, the sales of

participating firms are significantly higher than those of the non-participating firm. The difference is also sailent in total assets and profitability (ROA), indicating that participating firms are significantly larger (16.34 trillion Won for participating firms versus 811 billion Won for non-participating firms) and more profitable (ROA: 3.2% for participating firms versus 1.4% for non-participating firms) than non-participating firms. Non-participating firms' Tobin's qs are slightly higher (1.48 for non-participating versus 1.26 for participating firms) than participating firms' Tobin's qs. This is because non-participating firms are smaller and likely to have growth potential in the future, which is likely to be reflected in the market value but not in the book value. The sample statistics clearly highlight the importance of controlling for firm characteristics in estimating regression models.

Panel B of Table 4 reports the descriptive statistics for the matched sample. The coarsened matching process appears to be have worked very well. Sales levels for the participating and non-participating firms are comparable, indicating no statistically significant difference. ROA and Tobin's q are much the same, in contrast to the differences in the Panel A of Table 4. While there is no attempt to match total assets, two groups are also very similar in total assets. Among main variables presented in Panel B, the difference between the participating and non-participating firms is insignificant. Thus, we have a reasonable assurance that two groups are comparable in terms of size, profitability, and firm value.

Table 4. Descriptive Statistics.

Panel A: Full Sample					
		Non-participating Firm-Years	Participating Firm-Years		All Firm-Years
		Mean	Mean	Differences in Means	Mean
		Std. Dev.	Std. Dev.	(t-statistics)	Std. Dev.
Characteristics	Sales (in millions WON)	660,216	13,869,808	−13,300,000	1,220,459
		3,684,439	28,116,604	(−39.21) ***	7,268,658
	ROA	0.014	0.032	−0.017	0.015
		0.122	0.058	(−3.33) ***	0.103
	Total Assets (in millions Won)	811,340	16,346,499	−15,700,000	1,484,373
		6,047,725	32,745,703	(−34.34) ***	9,585,540
	Tobin's Q	1.48	1.26	0.22	1.47
		1.41	0.77	(3.07) ***	1.39
	Number of Obs.	8738	409		9141
Panel B: Matched Sample					
		Non-participating Firm-Years	Participating Firm-Years		
		Mean	Mean	Differences in Means	
		Std. Dev.	Std. Dev.	(t-statistics)	
Characteristics	Sales (in millions WON)	8,882,086	10,207,289	−1,325,203	
		13,219,701	19,121,715	(−1.0588)	
	ROA	0.02585	0.027837	−0.0019869	
		0.055572	0.055098	(−0.4716)	
	Total Assets (in millions Won)	11,915,524	11,952,165	−36,641.43	
		27,223,330	21,745,161	(−0.0195)	
	Tobin's Q	1.136152	1.175615	−0.039462	
		0.553917	0.504492	(−0.978)	
	Number of Obs.	345	345		

*, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively, using two-tailed tests.

Hypothesis 1 predicts that a participating firm in the share-growth survey has a higher firm value than a non-participating firm. We report the regression results for Equation (1) in Table 5 for the full sample and separately for the matched sample. There are 9147 firm-year observations in the full sample, of which 409 (4.5 percent) and 8738 (95.5 percent) reflect participating and non-participating firms, respectively. In contrast, we obtain a matched sample of 690 firm-years, of which 345 are participating and 345 are non-participating firm-years.

In Table 5, regressions in all analyses include year and industry fixed effects, and its robust standard errors for coefficients are calculated under heteroscedasticity. In the full sample column, we find a positive and significant Shared_Growth coefficient of 0.13 (t = 2.72; $p < 0.01$). All of the control variables are significant, except for ROA. Thus, the null of Hypothesis 1 seems rejected.

"Exact Coarsen Matched Sample" column of Table 5 presents the results for the matched sample. The higher adjusted R^2 of 0.29 (versus 0.09 in the results for the full sample) implies that the observations of the matched samples are more homogenous than those of the full sample. We find the coefficient of the Share_Growth, −0.01 (t = −0.14; p = 0.889), insignificant. Thus, a firm participating in the share-growth survey does not have a higher firm value than a non-participating firm. All of the control variable coefficients except for Herfindahl_Index and Num_Employees are significant.

Table 5. Effect of the Shared-Growth Effort: Full and Matched Sample.

	Dependent Variables: Tobin's *q*			
	Full Sample		Exact Coarsen Matched Sample	
	Multivariate Estimate		Multivariate Estimate	
	(*t*-statistics)		(*t*-statistics)	
Intercept	1.68	***	1.61	***
	(37.36)		(4.70)	
Shared_Growth	0.13	***	−0.01	
	(2.72)		(−0.14)	
Herfindahl_Index	−0.92	***	0.19	
	(−7.57)		(1.04)	
ROA	−0.82	***	5.84	***
	(−2.71)		(9.38)	
Market_Share	3.89	***	0.61	**
	(5.99)		(2.42)	
Sale_Growth	1.17	***	1.20	***
	(11.00)		(5.03)	
Cap_Intensity	0.00	***	0.00	***
	(−22.21)		(−4.21)	
Num_Employees	0.00	***	0.00	
	(−9.08)		(−0.93)	
Year_FE	Included		Included	
Industry_FE	Included		Included	
Adj. R2	0.09		0.29	
No. Firm-Years	9147		690	

*, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively, using two-tailed tests. This table presents the results of regression estimates based on Equation (1). Standard errors and t-statistics are calculated using robust standard errors. Tobin's q is calculated using Chung and Pruitt's method [32]: q = "MVE + PS + DEBT"/"TA", where MVE is the market value of equity at the end of June in year t, PS is the market value of preferred stock (if exist), DEBT is the book value of total liabilities and TA is the book value of total assets. DEBT and TA are measured from the most recent financial statements. Shared_Growth is a dummy variable, which is equal to 1 if a firm participates in the shared-growth survey, and 0 otherwise. Herfindahl_Index is a sales-based Herfindahl index of industry-level, where the industry is defined by its two-digit KSIC code. ROA is a return on assets, measured as the firm's net income divided by its total assets using a firm's trailing 12 month accounting data. Market_Share is a firm market share, measured as a ratio a firm's overall sales revenues to the sales revenues of all firms in the same two-digit KSIC code. Cap_Intensity is a capital intensity computed as a firm's property, plant, and equipment divided by the number of employees. Num_Employee is the number of employees in the company.

To examine whether a higher or lower rating in the shared growth survey has a different effect on firm value, we report the regression results for Equation (2) in Table 6 for the full sample and separately for the matched sample. In the full sample column, we find positive and significant coefficients for both High_Effort and Low_Effort. This implies that participating firms with low ratings in the survey have a higher firm value than the non-participating firms. However, there is no statistically significant difference in the effect of shared growth effort on firm value between firms with high ratings and firms with low ratings.

To properly control for firm characteristics, we estimated Equation (2) using the matched sample. "Exact Coarsen Matched Sample" column of Table 6 presents the results for the matched sample. The coefficients for both High_Effort and Low_Effort became insignificant. Thus, the level of participating firm's ratings in the shared growth survey does not have a meaningful implication in firm value. Overall, our findings suggest that, once profitability and size are balanced between two groups, the difference in effects between participating firms and non-participating firms with respect to firm value is insignificant. The effect of firms' shared growth effort appears to be attributable to firm characteristics, such as size and profitability.

Table 6. The Effect of the Shared-Growth Effort: Full and Matched Sample.

	Dependent Variables: Tobin's *q*			
	Full Sample		Exact Coarsen Matched Sample	
	Multivariate Estimate		Multivariate Estimate	
	(*t*-statistics)		(*t*-statistics)	
Intercept	1.68	***	1.68	***
	(37.63)		(5.02)	
High_Effort	0.23	***	0.10	
	(2.62)		(1.54)	
Low_Effort	0.18	***	0.05	
	(3.32)		(0.98)	
Herfindahl_Index	−0.93	***	0.18	
	(−7.59)		(1.02)	
ROA	−0.83	***	5.70	***
	(−2.73)		(9.37)	
Market_Share	3.86	***	0.65	**
	(5.91)		(2.60)	
Sale_Growth	1.17	***	1.22	***
	(11.02)		(5.07)	
Cap_Intensity	0.00	***	0.00	***
	(−22.32)		(−4.19)	
Num_Employees	0.00	***	0.00	
	(−9.47)		(−1.35)	
Year_FE	Included		Included	
Industry_FE	Included		Included	
Adj. R2	0.09		0.29	
No. Firm-Years	9147		690	

*, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively, using two-tailed tests. This table presents the results of regression estimates based on Equation (1). Standard errors and t-statistics are calculated using robust standard errors. Tobin's q is calculated using Chung and Pruitt's (1994) method: q = "MVE + PS + DEBT"/"TA", where MVE is the market value of equity at the end of June in year t, PS is the market value of preferred stock (if exist), DEBT is the book value of total liabilities and TA is the book value of total assets. DEBT and TA are measured from the most recent financial statements. High_Effort is a dummy variable equal to 1 if a participating firm earned the grade of either "Very Good" or "Excellent" in the Shared-Growth survey while Low_Effort is a dummy variable which equals 1 if a participating firm earned "Fair" or "Improvement Required". Herfindahl_Index is a sales-based Herfindahl index of industry-level, where the industry is defined by its two-digit KSIC code. ROA is a return on assets, measured as the firm's net income divided by its total assets using a firm's trailing 12-month accounting data. Market_Share is a firm market share, measured as a ratio a firm's overall sales revenues to the sales revenues of all firms in the same two-digit KSIC code. Cap_Intensity is a capital intensity computed as a firm's property, plant, and equipment divided by the number of employees. Num_Employee is the number of employees in the company.

5. Conclusions

Our results have potential significance at both policy-setting levels, and at empirical research levels on studying the relation of how firms' efforts on CSV affect firm value.

Our research contributes to the literature on CSV by providing preliminary, but more advanced empirical evidence on the effect of CSV engagement on firm value. When comparing with CSR research on firm performance, CSV is understudied and lacks intrinsic and theoretical ground. While research on the strategic CSR and its corporate-level consequence have historically emphasized the positive side, our political approaches explore how a firm is forced to be involved in CSV by the government and social pressure. By bringing a theoretical dispute on CSR on firm value, this study explores the positive and negative sides of CSV at the same time.

Our results are also aligned with findings of McWilliams and Siegel [33] that there will be a neutral relationship between CSR and corporate performance. McWilliams and Siegel [33] theoretically suggest that firms that deploy CSR strategy will have higher cost and revenue at the same time, and this results in an equilibrium. Future study may focus on the demand and supply side of CSV and test whether firm can evaluate the ideal level of CSV with internal cost-benefit analysis.

This study contributes to empirical literature of CSV in two ways. First, it is worth noting that most of the existing work on CSV has been analyzed based on samples from developed countries. Accordingly, our sample, based on Korean data, may help the academia to understand the consequence of CSV in emerging countries. Second, by using the matching technique, we address the potential endogeneity issues that have been often overlooked in prior literature. Our results are not biased by either a simultaneity-related endogeneity or any omitted unobservable firm characteristics that are time invariant. However, the absence of views from societal stakeholders is a critical shortcoming. Finally, our analysis has potential managerial implications for corporate decision-makers, in emerging markets, where the governments set the socially desirable level of cooperation between large firms and SMEs.

If, as this study suggests, the recently introduced share-growth index may be not a meaningful information to capital market investors, the effectiveness of firms' shared growth effort or validity of the index is questionable at best. Thus, the need for changes to the index should be explored if the commission wants the index to act as an incentive for firms to participate in shared growth and to improve their efforts.

At the same time, our findings highlight the importance of acknowledging firm characteristics in analyzing the effect of corporate social activity on firm value.

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