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# Effects of initial public offerings on economic performance of small and medium-sized enterprises

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## ABSTRACT

This study investigates the effects of the initial public offerings (I.P.O.s) of small and medium-sized enterprises (S.M.E.s) and their efforts to cooperate with large conglomerates on S.M.E.s' economic performance and job creation. This study conducted a series of analyses of variance with a  $2 \times 2$  between-subject design (I.P.O.s and cooperation with large conglomerates) and multiple regression analyses for credit ratings using 4419 and 3919 samples, respectively, of S.M.E.s from the Korea Innovation Survey. The results showed that I.P.O.s and cooperation with large conglomerates are positively associated with S.M.E.s' job creation as well as multiple economic outcomes. Moreover, several scholars have argued that more accurate credit rating criteria should be proposed to evaluate the potential values of S.M.E.s because the current criteria mainly focus on their short-term financial and economic performance. Based on the results of the multiple regression analyses, this study found that I.P.O.s have a negative effect on S.M.E.s' credit ratings, whereas cooperation with large conglomerates and job creation have no effect and the growth rates of net income and current assets have a positive effect.

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## JEL CLASSIFICATION

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## 1. Introduction

Statistics Korea (2015) indicated that approximately 80% of South Korean workers were employed by small and medium-sized enterprises (S.M.E.s), which are organisations with fewer than 300 employees. In addition, the approximately 550,000 existing S.M.E.s represent more than 99% of all national business organisations. Given these facts, a large number of previous studies aimed to investigate the effects of S.M.E.s' innovation activities and organisational performance on short- and long-term national economic growth (Cainelli, Evangelista, & Savona, 2006).

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Although several previous studies on South Korea found that S.M.E.s' contribution to the national economy is significantly larger than that of leading conglomerates (Hsieh, 2011), few studies indicated that inter-business cooperative activities between large conglomerates and S.M.E.s have notable effects on economic performance with regard to activities such as job creation and growth (Min & Kim, 2013). In particular, given the increasing strictness of credit ratings for S.M.E.s, exploring the core determinants of their credit ratings has recently begun to be regarded as an essential area of study.

A significant problem in South Korea is that, when studying and noting the majority of the social interest and policy issues, the government classifies companies into two groups: large conglomerates and S.M.E.s. Thus, even if the roles and contributions of medium-sized enterprises are increasing, these entities are not treated as important enough relative to small enterprises, and research outcomes related to their growth plans are insufficient. The reason is that the term 'medium-sized enterprise' has not been completely established academically; generally, these enterprises are defined simply as enterprises whose sizes fall somewhere between those of large and small-mid-size businesses (Maksimov, Wang, & Luo, 2017).

Recently, the South Korean government has emphasised 'nurturing SMEs as the key in developing a creative economy' (Sung, 2015, 90 p.). In particular, social responsibilities such as job creation are emphasised within the economic paradigm relating to the growth of large conglomerates (Tantalo & Priem, 2016). In addition, with the increasing importance of trust in enterprises and credit ratings (Yoshino, Taghizadeh-Hesary et al., 2015), suggesting new implications of S.M.E. growth has become an important research topic in South Korea.

Therefore, by focusing on S.M.E.s – which are expected to lead the South Korean creative economy – this study empirically analyses the effects of external activities, including initial public offerings (I.P.O.s) and inter-business cooperation on S.M.E.s' economic performance and job creation. Moreover, the relationships among S.M.E.s' external activities, economic performance, and credit ratings are also examined. That is, the current study explores the potential determinants of the credit ratings of S.M.E.s to establish a credible high-growth paradigm that can be used to assist them in surviving in a competitive environment. In particular, operational implications to establish policy conditions are also provided. These implications and findings make an academic contribution to economic performance and job creation, including several policy suggestions. In other words, this study examines how the I.P.O.s of S.M.E.s and the cooperation between S.M.E.s and large conglomerates affect S.M.E. economic performance and job creation from various perspectives.

To this end, the current study explores the following research questions. First, do the I.P.O.s of S.M.E.s have significant effects on S.M.E. economic performance and job creation? Second, do inter-business cooperation efforts between S.M.E.s and large conglomerates have notable effects on S.M.E. economic performance and job creation? Third, what are the core determinants of S.M.E.s' credit ratings?

## **2. Literature review**

### **2.1. Determinants of S.M.E.s' economic performance**

Several previous studies on S.M.E.s indicated that their strategies and economic performance are generally determined by their founders' entrepreneurial tendencies (Eggers, Kraus, Hughes, Laraway, & Snycerski, 2013). For example, Baldwin and Johnson (1996) found that innovative technology-oriented enterprises are more active than less innovative enterprises in exploring new business opportunities. In addition, several previous studies examined the determinants of the innovation activities and economic performance of enterprises. Souitaris (2002) indicated that S.M.E.s can achieve better economic performance when they have a high-intensity internal R&D capacity, attempt actively to seek external opportunities (Berchicci, 2013), carry out systematically well-made business strategies with the support of well-organised management teams, or have better marketing capabilities (Souitaris, 2002).

However, because the majority of previous studies were conducted with result-oriented analyses, it can be difficult to extract significant implications that can be directly applied to dynamic business environments. In addition, because of the increasing emphasis of new strategic plans on new job creation, credit, and social responsibility among S.M.E.s, intensive studies on the innovation and economic activities of S.M.E.s are becoming essential.

Meanwhile, the importance and necessity of research on job creation by S.M.E.s is increasing because generating jobs is considered one of the most important social responsibilities of enterprises in South Korea. Prior studies presented evidence that S.M.E.s have a stronger effect than large conglomerates on job creation (Wagner, 1995). Connected to the findings of the studies previously mentioned, S.M.E.s in South Korea generally not only have better innovation capabilities but also indicate better economic ripple effects by creating more jobs than do large conglomerates.

As S.M.E.s can create new jobs and serve as a tonic for society and the economy, they are acknowledged as drivers of the domestic economy (Doh & Kim, 2014). However, the majority of previous studies on job creation in South Korea focused on presenting comparative results between S.M.E.s and large conglomerates. Therefore, the current study explores the determinants of and motivations for new job creation by S.M.E.s.

### **2.2. Growth factors of medium-sized enterprises and job creation**

As the term 'medium-sized enterprise' is not academically well-established, several attempts have been made to define it within the South Korean context. In general, enterprises grow from foundation to stability by passing through various stages, including a take-off stage (Turner, Ledwith, & Kelly, 2012). Given these stages, 'medium-sized enterprises' usually refers to enterprises in the take-off stage after an I.P.O. (Guo, Wang, Li, & Fung, 2014). Thus, these enterprises generally attempt to strengthen their positions in the domestic and global markets as well as diversify their services and products by achieving financial strength (Park & Jang, 2010).

As previously mentioned, although the academic definition of a medium-sized enterprise is not exactly established, the standard definition of these enterprises in South Korea is generally 'enterprises that have at least US\$10 million in revenues and are not subject to the mutual investment limit law' (Financial Services Commission, 2015). Specifically, the South Korean Academy of High Potential Enterprises and IBK Economy Research Institute (2015) indicated that medium-sized enterprises are defined as those with 300–999 employees and US\$40 million to US\$1 billion in revenues.

As the South Korean economy depends heavily on foreign trade, localisation and global strategies for international markets are emphasised for medium-sized enterprises to achieve growth (Cheng, Blankson, Wu, & Chen, 2005). Previous studies also failed to present how medium-sized enterprises achieve economic performance and the impacts of cooperation with larger conglomerates on the growth and credit ratings of such enterprises (Islam, 2014). In particular, because I.P.O.s, job creation, and inter-business cooperation with large conglomerates are regarded as factors significant to successful S.M.E. growth, investigating the relationships between these factors and the growth of medium-sized enterprises could provide several notable implications.

### ***2.3. I.P.O. and inter-business cooperation with large conglomerates***

Many studies focused on the relationships between ownership and enterprises' financial performance (Minichilli, Brogi, & Calabrò, 2016). For example, the operational performance of enterprises decreases with ownership decentralisation, which can occur in several ways, including an I.P.O. (Mikkelsen, Partch, & Shah, 1997). Another example is that enterprises' profitability can decrease as the shareholdings of the first owner decrease after an I.P.O. (Pagano, Panetta, & Zingales, 1998).

I.P.O.s are among the most significant catalysts that can improve the work efficiency of organisational members and the value of enterprises because these events can directly mobilise financial capital (FKILSC, 2006). Therefore, S.M.E.s generally use I.P.O.s to overcome limited growth through support from appropriate financing. In addition, previous studies explored the effects of inter-business cooperation with large conglomerates on S.M.E.s (Wang, Peverelli, & Bossink, 2015). The majority of these studies illustrated that most capital is concentrated in large conglomerates, whereas the majority of worker labour efforts are affiliated with S.M.E.s. Accordingly, these studies suggested that the solution for such an asymmetrical situation is inter-business cooperation between large conglomerates and S.M.E.s (Martínez-Román, Gamero, & Tamayo, 2011).

For S.M.E.s, which struggle with chronic shortages of highly qualified labour, cooperation with large conglomerates and transparent funding through I.P.O.s are important to achieving sustainable growth and securing talented workers. However, the majority of S.M.E.s in South Korea still receive unfair credit ratings and, thus, experience notable financing difficulties, resulting in a lack of a talented workforce (Lee & Park, 2005). Because the majority of credit ratings used in South Korea are

**Table 1.** S.M.E. employment and status in South Korea between 2007 and 2014.

Category	Employment		No. of enterprises	
	2007	2014	2007	2014
Total manufacturing industry	12,612,692	15,962,745	2,976,646	3,545,473
S.M.E.s	11,149,134	14,027,636	2,974,185	3,542,350
Large conglomerates	1,463,558	1,935,109	2461	3123

Source: The results are computed by SPSS 18.0 (operated by the authors).

also used to determine the industrial and social status of enterprises (Service, 2005), a deep understanding and consideration of the core factors that determine S.M.E.s' credit ratings are also relevant to improving the performance of enterprises (García-Teruel & Martínez-Solano, 2010). In particular, credit rating transparency and job creation are becoming increasingly important and timely tasks assigned to S.M.E.s. Therefore, this study examines the core determinants of credit rating transparency and job creation, thereby providing important operational implications and academic contributions.

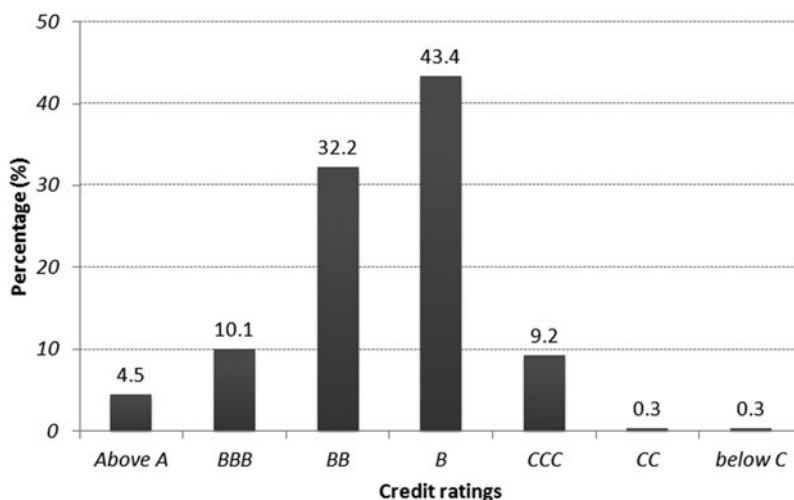
### 3. The status of South Korean small and medium-sized enterprises

#### 3.1. Status of South Korean small enterprises

In 2016, approximately 3.23 million S.M.E.s existed in South Korea that employed 12.63 million workers. These figures account for 99.9% of total enterprises and approximately 88% of workers at S.M.E.s (Jin, Jung, & Jeong, 2017), indicating that S.M.E.s play a leading role in improving economic growth and job creation in South Korea. However, the number of I.P.O.s among South Korean S.M.E.s is very low (Heo, Sohn, & Ji, 2014). Although the South Korean government and its agencies have consistently revised I.P.O.-related policies since 2000, there has been little improvement in this situation. Moreover, because of the South Korean economic recession, many S.M.E.s are in trouble. Recently, S.M.E.s have fulfilled their social, industrial, and periodic responsibilities by creating more new jobs than large conglomerates. Table 1 shows how many S.M.E.s in South Korea contribute to the national economy by generating new employment.

Nevertheless, the progress in inter-business cooperation between large conglomerates and S.M.E.s is still slow. In fact, Hahn (2013) indicated that polarisation between large conglomerates and S.M.E.s is intensifying, whereas Yang (2006) pointed out that trickle-down effects from large conglomerates are insignificant and the accompanying growth plans have hardly been realised.

Figure 1 shows that the current credit ratings of South Korean S.M.E.s are generally low. These low ratings may result from the fact that credit evaluation organisations focus solely on short-term financial status and outcomes rather than enterprises' potential or future innovation or growth capabilities (Korea Small Business Institute, 2009). In other words, even if S.M.E.s endeavour to create more jobs and cooperate with large conglomerates, improving their credit ratings within the current system would be difficult.



**Figure 1.** Distributions of S.M.E.s' current credit ratings in South Korea.

Source: <https://www.dropbox.com/s/y0ixcf0zcklc36/figure%201.xlsx?dl=0>

### 3.2. Status of South Korean medium-sized enterprises

After 2011, on the basis of the legal definition of S.M.E.s in South Korea, medium-sized enterprises have been regarded as a promising group with high growth and job creation rates. The term medium-sized enterprise is defined as an enterprise that differs from small enterprises in accordance with industry development law Article 10 and that is not included in a cross-shareholding limited company group in accordance with the fair-trade law. Although medium-sized enterprises represent only 0.04% of all enterprises, they exhibit high job creation capability by employing 7.7% of South Korean workers.

The number of medium-sized enterprises has been increasing at an average annual rate of approximately 10% for the last five years, whereas the number of total employees in these enterprises has increased by approximately 5.2% higher growth than for large conglomerates. In addition, more than 50% of medium-sized enterprises are listed on public markets and the majority of such enterprises are generally in good financial condition.

A large number of medium-sized enterprises are, however, still underestimated by the stock market (Hoffmann & Schlosser, 2001). Because medium-sized enterprises are relatively larger and exhibit higher growth rates than small enterprises, the effects on their credit ratings from I.P.O.s and cooperation with large conglomerates may be weaker. Therefore, credit-rating guidelines should be improved to enable potential I.P.O.s of medium-sized enterprises to have significant effects on credit ratings. The Association of High-Potential Enterprises of Korea indicated that medium-sized enterprises encounter several difficulties when obtaining financing and managing resources for growth, with 31.4% of them in 2012 struggling to obtain financing and others lacking protections such as subcontracts (23.2%) and reductions of tax (37.3%) (The Ministry of Trade, Industry and Energy in Korea, 2014). Therefore, government policies should equally support

**Table 2.** Information on selected sample enterprises.

					I.P.O.			
					2011	O	X	Total
Building cooperative relationships with large conglomerates					O	91	1159	1250
Total					X	532	2667	3199
Category	Credit ratings (for 3919 companies)	Net profits (thousand KRW)	Growth rate of total assets (%)	Growth rate of current assets (%)	Growth rate of revenues (%)	Growth rate of net profits (%)	Growth rate of new job creation (%)	
Min	1	748	-99.9	-99.9	-99.9	-99.9	-	
Max	10	490,818,804	558	1286	2211	20,232	1400	
Mean	5.23	5,546,247	18.04	21.16	25.45	111.46	93.7	
Standard deviation	1.71	19,268	33.33	47.56	66.16	606.92	44.58	

Source: The results are computed by SPSS 18.0 (operated by the authors). O: It means "Yes" for I.P.O. or Building relationships with large conglomerates; X: It means "No" for I.P.O. or Building relationships with large conglomerates; KRW: South Korean currency unit (Won).

medium-sized and small enterprises. Systematically improving and complementing evaluation systems would allow both medium-sized and small enterprises to cooperate with large conglomerates, efficiently obtain financing, and improve I.P.O. systems. Therefore, both medium-sized and small enterprises would be evaluated not only according to their quantitative outputs but also by their future values and innovation capabilities.

## 4. Study method

This study investigated how I.P.O.s and cooperation activities among S.M.E.s affect their economic performance and the key determinants of S.M.E. job creation and credit ratings. Thus, a multivariate variance analysis (a series of analyses of variance (ANOVAs)) was employed, with both the I.P.O. and S.M.E.s' cooperation activities with large conglomerates as between subjects. Multiple linear regression analyses were applied to explore the factors of job creation and credit ratings.

### 4.1. Sample selection

This study used data on enterprises from the Korea Innovation Survey (K.I.S.) as conducted by one of the South Korean government-funded research institutes to analyse how S.M.E.s' I.P.O. and cooperation activities affect their economic performance (Science & Technology Policy Institute, 2015). The following process was carried out. First, among the 36,724 enterprises taken from K.I.S., large conglomerates (according to the fair-trade law) were excluded from the list, and only S.M.E.s (according to the industry development law and the minor enterprise basic law) were selected. Then, enterprises with incomplete responses (e.g., occurrence of an I.P.O. in the last 20 years, cooperation with large conglomerates, revenue growth, and so on) were excluded. After applying outlier exclusion methods, 4449 S.M.E.s were selected as samples for statistical analysis from 36,724 initial enterprises.



However, the credit ratings of only 3919 enterprises (the higher, the better) were evaluated by K.I.S.

## **4.2. Sample selection results**

Table 2 presents data on 4449 S.M.E.s selected according to the sample selection process previously described with regard to the following: occurrence of an I.P.O. in the last 20 years; cooperation with large conglomerates; credit ratings; five years' annualised revenues and net income in 2011; and five years' annualised average/minimum/maximum values of total assets, current assets, revenues, net income, and job creation growth rate in 2011 compared with 2010.

## **5. Results**

### **5.1. Research results 1: effects of S.M.E.s' I.P.O.s and cooperation with large conglomerates**

#### **5.1.1. Effects of S.M.E. I.P.O.s**

Based on a series of ANOVAs, S.M.E.s that conducted I.P.O.s showed a significantly higher total asset growth rate than S.M.E.s that did not (29.75% vs. 16.13%),  $F(1, 4445)=629.79$ ,  $p < 0.001$ . Moreover, the current asset growth rate of S.M.E.s that conducted I.P.O.s was also greater than that of non-I.P.O. S.M.E.s (31.68% vs. 19.44%),  $F(1, 4445)=232.67$ ,  $p < 0.001$ . In addition, I.P.O.s were significantly related to growth in revenues and job creation. S.M.E.s that conducted I.P.O.s exhibited significantly higher revenue and job creation growth than non-I.P.O. S.M.E.s (36.34% vs. 23.67%; 17.91% vs. 7.98%),  $F(1, 4445)=155.27$ ,  $p < 0.001$ ;  $F(1, 4445)=319.38$ ,  $p < 0.001$ . However, I.P.O.s did not affect net income growth,  $p = 0.325$ .

#### **5.1.2. Effects of cooperation with large conglomerates**

S.M.E.s that cooperated with large conglomerates showed better total asset growth rates than S.M.E.s that did not (25.75% vs. 15.02%),  $F(1, 4445)=629.79$ ,  $p < 0.001$ . Moreover, cooperative S.M.E.s tended to have greater current asset growth rates than non-cooperative S.M.E.s (30.59% vs. 17.47%),  $F(1, 4445)=232.67$ ,  $p < 0.001$ . In addition, cooperation between S.M.E.s and large conglomerates also had notable effects on growth in revenues and job creation. Cooperative S.M.E.s have higher revenue growth than their non-cooperative counterparts (36.76% vs. 21.03%), whereas the increase in the job creation rate among non-cooperative S.M.E.s was lower than that among cooperative S.M.E.s (5.97% vs. 18.08%),  $F(1, 4445)=216.56$ ,  $p < 0.001$ ;  $F(1, 4445)=446.75$ ,  $p < 0.001$ , respectively. Moreover, in contrast to the effects of I.P.O.s on the net income growth rate, S.M.E.s that cooperate with large conglomerates also showed higher net income growth rates than non-cooperative S.M.E.s (132.45% vs. 103.25%),  $F(1, 4445)=6.15$ ,  $p < 0.05$ .

#### **5.1.3. Interaction effects of S.M.E.s' I.P.O. and cooperation**

Moreover, there were notable interaction effects of S.M.E. I.P.O.s and cooperation on the growth rates of total assets ( $F(1, 4445)=591.20$ ,  $p < 0.001$ ), current assets ( $F(1,$

4445)=212.83,  $p < 0.001$ ), revenues ( $F(1, 4445)=151.97$ ,  $p < 0.001$ ), net income ( $F(1, 4445)=4.30$ ,  $p < 0.05$ ), and job creation ( $F(1, 4445)=370.77$ ,  $p < 0.001$ ). These results indicate that synergies exist between I.P.O.s and cooperation with large conglomerates that affected financial performance and job creation.

## 5.2. Research results 2: determinants of S.M.E.s' credit ratings

The previous section clearly revealed that I.P.O.s and cooperation among S.M.E.s positively affected economic performance. In this section, a set of multiple regression analyses are conducted to explore the determinants of S.M.E.s' credit ratings. Because the majority of credit-rating agencies in South Korea mainly use enterprises' economic performance to rate their conditions, this study also carried out multiple regression analyses with I.P.O.s, cooperation, job creation growth rates, and other economic indicators as key determinants of credit ratings.

However, because the current asset and revenue growth rates are related to total asset and net income growth rates, respectively, this study conducted an additional analysis including current asset and revenue growth rates. Therefore, the current study aimed to investigate the following two regression equations. Equation (1) is presented as follows:

$$y = \beta_0 + \beta_1 \times IPO + \beta_2 \times Cooperate + \beta_3 \times R_{\text{Employment}} + \beta_4 \times R_{\text{casset}} + \beta_5 \times R_{\text{netincome}} + \epsilon \quad (1)$$

In Equation (1), the current study makes the following assumptions:

$y$ =credit rating

$IPO$ =whether an enterprise conducted an I.P.O. in the last 20 years (1: $IPO$ ,0: $non-IPO$ )

$Cooperate$ =whether an enterprise actively cooperates with large conglomerates (1: $cooperate$ ,0: $does not cooperate$ )

$R_{\text{Employment}}$ =job creation growth rate

$R_{\text{casset}}$ =total asset growth rate

$R_{\text{revenue}}$ =net income growth rat.

In addition, Equation (2) is presented as follows:

$$y = \beta_0 + \beta_1 \times IPO + \beta_2 \times Cooperate + \beta_3 \times R_{\text{Employment}} + \beta_4 \times R_{\text{casset}} + \beta_5 \times R_{\text{revenue}} + \epsilon \quad (2)$$

In Equation (2), the current study makes the following assumptions:

$y$ =credit rating

$IPO$ =whether an enterprise conducted an I.P.O. in the last 20 years (1: $IPO$ ,0: $non-IPO$ )

**Table 3.** Regression results.

	Equation (1) Coefficient	t-Value	Equation (2) Coefficient	t-Value
Intercept	5.348	141.525***	5.336	142.330***
I.P.O.	-0.161	-9.974***	-0.166	-10.336***
Cooperate	0.025	1.529	0.021	1.327
$R_{\text{Employment}}$	0.026	1.557	0.019	1.176
$R_{\text{tasset}}$	0.050	3.007**	-	-
$R_{\text{netincome}}$	0.029	1.860*	-	-
$R_{\text{casset}}$	-	-	0.049	2.984**
$R_{\text{revenue}}$	-	-	0.019	1.117
Revised $R^2$		0.180		0.172

Source: The results are computed by SPSS 18.0 (operated by the authors).

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ .

$Cooperate$ =whether an enterprise actively cooperates with large conglomerates (1:cooperate,0:does not cooperate)

$R_{\text{Employment}}$ =job creation growth rate

$R_{\text{casset}}$ =current asset growth rate

$R_{\text{revenue}}$ =revenue income growth rat.

### 5.2.1. Results of multiple regression analyses

Table 3 presents the results of two regression analyses. Given that the results for the revised  $R^2$  were higher than 17.2%, the explanations of the two regression analyses were adequately credible. As shown in Table 3, I.P.O.s have a negative effect on enterprises' credit ratings. Therefore, credit-rating agencies may require stricter enterprise-evaluation standard guidelines because they can acquire detailed information about enterprises given the greater information transparency resulting from their I.P.O.s.

As presented in the results for Equation (1) in Table 3, growth in total assets negatively affected enterprises' credit ratings, whereas growth in net income had a positive effect. This result indicates that enterprises' credit ratings were generally determined by short-term financial outcomes and profits rather than enterprise size.

According to the results for Equation (2) in Table 3, enterprises' current asset growth rate was positively related to their credit ratings, whereas their revenue growth rate had no effect. These results indicate that liquidity, such as that related to short-term financial outcomes, was regarded as a more important aspect in evaluating credit ratings.

The results also showed that both S.M.E. cooperation with large conglomerates and the job creation growth rate had no significant effects on enterprises' credit ratings. The results for Equation (1) could indicate that cooperation with large conglomerates and the job creation growth rate had indirect effects on enterprises' credit ratings. However, both S.M.E. cooperation with large conglomerates and job creation growth were considered among important future value-creating activities for sustainable S.M.E. growth. Therefore, the current study suggests that these indicators should be seriously considered when evaluating the credit ratings and statuses of enterprises.

**Table 4.** Effects of S.M.E. I.P.O.s and cooperation with large conglomerates.

Main factor	Growth rate of total assets	Growth rate of current assets	Growth rate of revenues	Growth rate of net income	Growth rate of new employment
I.P.O.	+	+	+	X	+
Cooperation with large conglomerates	+	+	+	+	+
I.P.O. and cooperation with large conglomerates	+	+	+	+	+

Source: The findings are generated from the regression results (Table 3).

+: Positive effects; X: no effect.

**Table 5.** Determinants of S.M.E.s' credit ratings.

Main determinants	Credit ratings
Growth rates of current assets and net income	+ (positive effect)
I.P.O., growth rate of total assets	- (negative effect)
Cooperation with large conglomerates, revenue growth rates, and new employment	No effect

Source: The findings are generated from the regression results (Table 3).

## 6. Discussion and policy suggestions

This study shows that S.M.E.s' cooperation with large conglomerates, I.P.O.s, and credit ratings have complex inter-relationships which positively or negatively affect one another. The results of Equation (1) show that I.P.O.s and cooperation have notable effects on economic performance (total assets, current assets, revenues, and net income) and job creation, whereas the results of Equation (2) attempt to address the effects of I.P.O.s and cooperation on S.M.E.s' credit ratings. Tables 4 and 5 summarise the results of the analyses conducted.

According to the results, national policies should be revised to focus on invigorating the national economy by promoting cooperation activities among S.M.E.s. For example, the national policy on cooperation with large conglomerates and I.P.O.s among S.M.E.s should be examined and reviewed. In addition, overcoming the limitations related to S.M.E. size and promoting networks with large conglomerates or other organisations to improve S.M.E. competitiveness could serve as better drivers of growth.

The South Korean government should plan to create conditions in which cooperation activities can be pushed forward by encouraging, rather than forcing in legal or institutional terms, large conglomerates to improve the competitiveness of entire industries' ecosystems. For example, generating collaborative partnerships among large conglomerates, S.M.E.s, and national organisations for shared growth could improve the economic performance of S.M.E.s, thus providing more jobs and securing a more stable national economy.

Furthermore, the most pressing concern is to improve credit-rating evaluations for S.M.E.s. Securing resources is one of the biggest obstacles to S.M.E. growth, and obtaining financing is the greatest challenge that they face. Nevertheless, the national loan policy for S.M.E.s should be revised to resolve their chronic financial difficulties to enhance their financial conditions and build an ecosystem conducive to a virtuous cycle of S.M.E. growth. However, the results clearly indicate that the current credit-

rating criteria do not function properly because they mainly focus on S.M.E.s' current assets or net income rather than their future values or growth prospects. The S.M.E. loan programmes of domestic South Korean banks moderate this bias; however, S.M.E.s' credit risks are still high. Therefore, the majority of credit-rating agencies in South Korea do not consider S.M.E.s' future values (e.g., increases in their inter-business cooperation activities and job creation volume); rather, they focus only on debt redemption levels and short-term financial stability (e.g., net income and current assets). From this, the results of this study, which show that the I.P.O.s of S.M.E.s hurt their credit ratings, are relevant to the authorities that develop domestic policies.

As suggested by the results, S.M.E. management teams should set more prudent roadmaps for cooperating with large conglomerates and to conduct I.P.O.s to serve long-term growth. In addition, managers should promote their needs to government policy-makers with respect to cooperating with large conglomerates and conducting I.P.O.s – both of which improve economic performance and positively influence job creation.

One of the most important concerns is the government's willingness to support S.M.E.s. Since 2011, the South Korean government has emphasised growth of the national economy, vitalisation of the market economy, and entrepreneurship through S.M.E.s. Although several suggestions have been made regarding S.M.E.s in South Korea, cooperation with large conglomerates and appropriate financing solutions through I.P.O.s could be critical to their successful economic performance and job creation. To boost S.M.E.s in South Korea, the government should set clear standards or plans to support collaboration between large conglomerates and S.M.E.s. The government should also provide I.P.O. support programmes to reinforce sustainable growth among S.M.E.s.

In particular, the government should recognise the importance of promoting cooperation through various support programmes, such as incentives and tax reductions, while revising the credit-rating criteria to reflect the future value-creation capabilities and economic performance of enterprises.

## **7. Conclusion and implications**

### ***7.1. Academic contributions and operational implications***

This study has analysed the effects of I.P.O.s and cooperation with large conglomerates on economic performance and job creation among S.M.E.s. Then, using the results, the core determinants of S.M.E. credit ratings were examined. Finally, future directions for the efforts of S.M.E.s and the role of the South Korean government were also presented.

It is true that, given economic polarisation and a wide growth gap, the structure of the South Korean domestic economy has strongly focused on large conglomerates. However, the role of S.M.E.s in this economy is becoming increasingly important.

Many previous studies on S.M.E.s focused on external environmental impact, entrepreneurial orientation, human resource management competencies, and external network activity (Nolan & Garavan, 2016; Souitaris, 2002) as the key variables that

determine the success of S.M.E.s. This study adds the factors of I.P.O.s, job creation, and credit ratings as having a critical impact on S.M.E.s.

In addition, several previous studies on job creation mainly focused on either simple comparisons between larger conglomerates and S.M.E.s or result-oriented analysis that concentrated on only the number of jobs created by S.M.E.s (Kwon, Park, Ohm & Yoo, 2015). Given the findings of prior studies, the current study used I.P.O.s and cooperation with large conglomerates as two potential determinants of new job creation by S.M.E.s.

In addition, prior studies on I.P.O.s indicated that enterprises' outcomes improve after I.P.O.s. However, the results of the current study indicate that a negative relationship exists between I.P.O.s and S.M.E.s' credit ratings, which may result from the current study's focus on S.M.E.s rather than on all companies in general.

Although previous research mentioned the importance of job creation, economic growth, I.P.O.s, and credit ratings in the growth and innovation of S.M.E.s, the direct or indirect effects of these key factors on growth have not been intensively studied in South Korea. Moreover, the mixed results suggested by the current study also indicate that more intensive analyses should be conducted for S.M.E.s. As a result, this study proposes a new research paradigm and makes several academic contributions by suggesting less studied points. In addition, this research has the following practical implications.

First, before the 1980s, national policy focused on protecting and nurturing S.M.E.s, whereas most of the capital investments started to support venture enterprises in the 1990s. Since 2000, the emphasis of government policies has shifted to cultivating innovative and global S.M.E.s. However, a considerable number of national policies are not systematically designed for S.M.E.s. Therefore, the South Korean government should focus on establishing and managing policies that encourage transparent I.P.O.s and effective growth among S.M.E.s to supplement the transparency and credibility of enterprises such that a virtuous cycle of growth with adequate manpower can be developed. Second, from S.M.E.s' perspective, implementing both I.P.O.s and cooperation with large conglomerates has positive effects on the quantitative financial results of enterprises as well as job creation. Thus, S.M.E.s' management teams should implement more systematic and appropriate programmes with well-defined strategies to encourage synergies between I.P.O.s and cooperation with large conglomerates.

## **7.2. Limitations and future research area**

Although this study has presented several new implications on the economic performance, job creation, and credit ratings of S.M.E.s, it also has several limitations. First, this study selected a sample of S.M.E.s as defined by the industry development law and the fundamental law of S.M.E.s. Therefore, more stable practical implications could be derived if more specific group categories were suggested. Given that many previous studies did not clearly categorise the groups belonging to S.M.E.s, future studies should be conducted to address and present more group categories.

Second, if the factors affecting the outcomes and job creation of enterprises had been categorised by the growth stages or industries of the examined enterprises, this study could have presented more meaningful implications for S.M.E. growth. Thus, future studies should consider categorising enterprises according to industry and growth stage.

Third, it is necessary to conduct cross-country comparative studies. Through the *Creative Startup* paradigm – a major economic paradigm in South Korea – the South Korean economy is consistently attempting to achieve the level of top developed countries. Therefore, the comparative study of S.M.E. growth factors between South Korea and other advanced countries could provide more generalisable results and implications for S.M.E.s.

Finally, because this study covered all industries, and it is possible to come up with objectified conclusions, it is difficult to present definite guidance for the success of individual enterprises. Therefore, academic and practical guidelines that contribute to S.M.E.s' balanced growth should be consolidated by conducting case studies on leading South Korean S.M.E.s.

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## Disclosure statement

The authors declare no conflict of interest.

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