

**A STUDY ON EFFECTIVENESS OF POLICY SUPPORT FOR SME'S  
EXPORT**

By

**KIM, Heeran**

**THESIS**

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

**MASTER OF DEVELOPMENT POLICY**

**2016**

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Professor Kye-Woo LEE, Supervisor



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Professor Baran HAN



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Professor Jinsoo LEE



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## **ABSTRACT**

### **A STUDY ON EFFECTIVENESS OF POLICY SUPPORT FOR SME'S EXPORT**

**By**

Heeran Kim

This paper aims to analyze the effectiveness of policy support for SME's export. Since domestic market is already limited and the competitiveness with large enterprises is getting severe, the export expansion is indispensable to improve the growth potential of SMEs. Since SMEs play an important role in the Korean economy, it is necessary to support the export expansion to improve the growth potential of SMEs as well as job creation. To expand the export assistance programs by the Korean government, the effectiveness of SME export support policy should be proved.

For this purpose, OLS (Ordinary Least Squares) regression is applied to 2,439 SMEs including the treatment group of 578 and the control group of 1,861. It observed whether the policy support is directly effective on SME's export, the variable of 'subsidy', which SMEs receive from the government, is included as an independent variable with that of 'export growth', which is the growth rate of SME's export, as a dependent variable. As a result, the policy support for SMEs have a positive impact on export with a statistically significance at the 10% level. Thus, export is the effective means to improve the growth of SMEs.

\* Key Words: SMEs, Policy Support, Export Assistance Program.

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## I. INTRODUCTION

The purpose of this thesis is to analyze the effectiveness of policy support for SME's export. Since domestic market is already limited and the competitiveness with LEs (large enterprises) is getting severe, the export expansion is indispensable to improve the growth potential of SMEs. Since SMEs play an important role in the Korean economy, it is necessary to support the export expansion to improve the growth potential of SMEs as well as job creation. Thus, the Korean government should complement and expand the export assistance programs so that SMEs can establish the global capacity by strengthening their export competitiveness and diversifying the overseas markets.

<Table 1> Status of SMEs in Korea

Classification		2009	2010	2011	2012
No. of Enterprises	Total	3,069,400	3,125,457	3,234,687	3,354,320
	SMEs (%)	3,066,484 (99.9)	3,122,332 (99.9)	3,231,634 (99.9)	3,351,404 (99.9)
	LEs (%)	2,916 (0.1)	3,125 (0.1)	3,053 (0.1)	2,916 (0.1)
No. of Employees	Total	13,398,497	14,135,234	14,534,230	14,891,162
	SMEs (%)	11,751,022 (87.7)	12,262,535 (86.8)	12,626,746 (86.9)	13,059,372 (87.7)
	LEs (%)	1,647,475 (12.3)	1,872,699 (13.2)	1,907,484 (13.1)	1,831,790 (12.3)
Added Value (trillion won)	Total	392.7	454.8	501.6	502.2
	SMEs (%)	198.2 (50.5)	215.7 (47.4)	237.4 (47.3)	239.3 (47.7)
	LEs (%)	194.5 (49.5)	239.0 (52.6)	264.2 (52.7)	262.9 (52.3)

Data: SME Status Indicators 2016, Kbiz.

As the market openness has become a more common phenomenon in these days, the competitiveness among markets and enterprises has been more intense. At the firm level, the competitiveness has been accelerated by establishing the global production system through FDI, M&A, global sourcing, etc. At national level, it has been also serious due to the market entry, pioneering and preoccupying by the emergence of BRICs with the major economic zones such as US and EU.

This rapid change of external environment can be simultaneously opportunities and risks for Korean SMEs. Those with the proper international competitiveness will have more chances for growth and overseas expansion by reducing and abolishing non-tariff barriers and duties. On the other hand, it will be more difficult to maintain sales and existing markets by the active market exploitation of foreign enterprises in domestic market for those oriented to domestic market. Thus, it is necessary to provide the systematic support for SMEs, which are weak for the change of external environment, in order to secure the export competitiveness.

<Table 2> Export by Enterprise Size

(Unit: 100 mil USD, %)

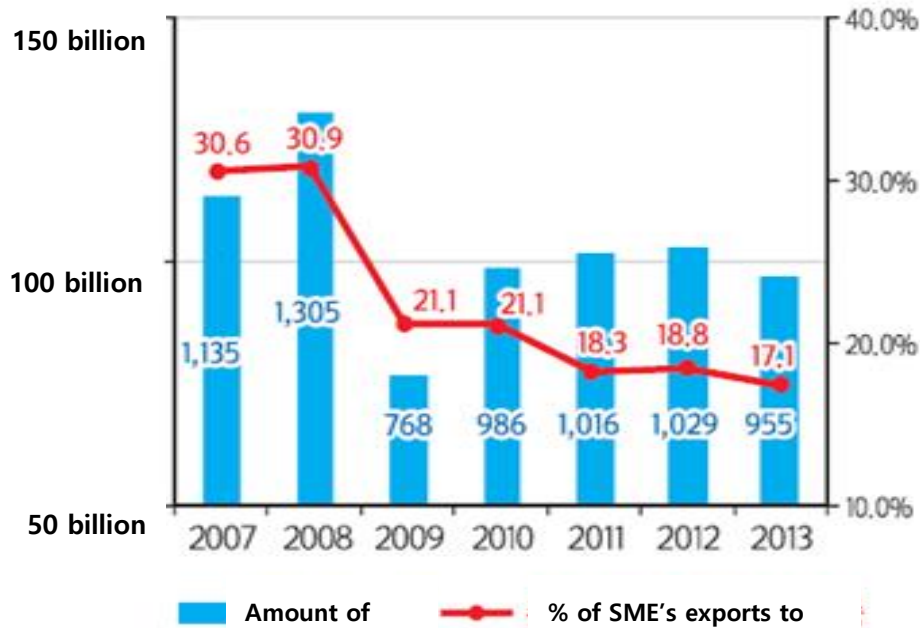
Classification	2009	2010	2011	2012
Total amount of export(A)	3,635 (-13.9)	4,664 (28.3)	5,552 (19.1)	5,479 (-1.3)
- Export by SMEs(B)	768 (-14.0)	986 (28.45)	1,016 (3.0)	1,029 (1.3)
- Export by LEs(C)	2,282 (-12.8)	3,035 (32.96)	3,710 (22.2)	3,712 (0.05)
Ratio of SME's export(B/A)	21.1	21.2	<b>18.3</b>	<b>18.8</b>
Ratio of LE's export(C/A)	62.8	65.1	66.8	67.8

An increasing rate compared to the previous year is in parenthesis.

Data: SME Status Indicators, Kbiz.



<Figure 1> Trend in Export of SMEs



Data: SME Status Indicators, Kbiz.

The major problems of export SMEs in Korea are not only their small sizes but also a high dependency on the specific countries with specific items. Although the amount of export by SMEs is continuously increasing, their share of total Korea's export has been stagnant at about 18%. The number of exporting SMEs has also been increasing by 2,000 to 3,000 per year, however, accounting for only 2.7% from the entire SMEs of 3 million. While there are many export destination countries, more than 80% of Korean SMEs are exporting with only three major countries of China, Japan and US. They also export 1,175 items on the basis of HS (Harmonized Commodity Description and Coding System) code. Among them, 337 items reach more than 5,000 USD in exports, accounting for about 95% of SME's entire export.

After the global financial crisis in 2009, Korean SMEs have struggled to expand the markets in order to overcome their limitations of domestic market with sluggish sales.

However, they have been still in difficulty of foreign market entry due to different rules and customs. Although there are many SMEs combining with export competitiveness of a high quality product and technology, they still feel unprepared in foreign market due to lack of brand popularity, a low level of design, and the absence of local distribution network. Thus, the policy support especially for exporting SMEs should be provided in diverse aspects. However, one of the preconditions for expanding support policy for SME exports is to ensure the effectiveness of such SME export support policy, and therefore the following hypothesis test is proposed.

*Hypothesis: The policy support for SMEs has a positive impact on export.*

In 2012, the export-related budget for SMEs amounted to 239.2 billion won with a total of 169 programs, covering only 1.9% of total support budget for SMEs. Its ratio is far lower than financing (60.1%), technology (16.2%), labor (6.4%), start-ups (4.4%) and micro-enterprises (3.4%). This stems from a lack of the government's interest and policy effort on SME's globalization incurring that the budget for export assistance program is given relatively little weight against that for the entire policy support of SMEs. It is also considered difficult to plan and establish infrastructure 'abroad' when SMEs desperately need the export-related infrastructures as operating their businesses in unfamiliar environments. Despite these obstacles, the demand for exporting programs has been increasing due to the strong assumption on their effectiveness.

The paper will test and prove this hypothesis to put more emphasis on the supporting policy for SME's export. Section II will provide the literature review as introducing the existing programs for assisting SME's export. Section III will show the methodology model with supporting data to test the effectiveness of the hypothesis. Section IV will evaluate the

results of the methodology model. Section V will conclude the paper and provide policy implications.

## **II. LITERATURE REVIEW**

This section examines which institutes implement export assistance programs for SMEs and what kinds of export assistance programs SMEs can participate in. It specifically describes the characteristics of the trade promotion programs performed by the public institutions.

### **2.1 Support Program for SME's Export**

Policy support for SME's support is implemented by 14 public organizations including programs for export administration, overseas marketing, export finance, infrastructure, and improvement of competitiveness. K-biz (Korea Federation of SMEs) has been promoting total four 'dispatch programs of trade promotion' including trade remedies and foreign exchange risk management commissioned by SMBA (Small and Medium Business Administration). K-biz focuses on the enhancement of the foreign market access and the risk management sector such as exchange risk and unfair trade for SMEs. SBC (Small and Medium Business Corporation) been implementing 11 programs for strengthening the capacity of SME's export commissioned by SMBA.

SBC conducts the domestic activities promoted by municipalities due to 'simplification initiatives of execution window for overseas marketing' by the government. It also promotes the connected support programs including fund support and training to

improve the performance for SMEs which participate in the overseas marketing program. In addition, it includes export incubator, technological cooperation with overseas industry and export financing. These programs include not only the early stage such as export-capacity building but also entry stage such as trade finance, export incubator and overseas private network.

There are many affiliates of KOTRA (Korea Trade-Investment Promotion Agency) for supporting SMEs to adjust to the overseas market smoothly. KOTRA's supports for SME's export are composed of seven programs including overseas exhibition, dispatch of trade mission, overseas market research, online marketing, overseas business trips, etc. It also promotes Promote the related supports such as financing and training to improve the performance of SMEs which participate in the overseas marketing program. These programs focus on the early stage of SME's export including information provision and access to overseas market.

KITA (Korea International Trade Association) promotes 5 programs including trade-related education and training. Major programs are export consulting, supporting the participation in overseas exhibition, dispatching a trade mission, expansion of trade infrastructure, trade-related education and training, and market research studies. K-sure (Korea Trade Insurance Corporation) covers the risks occurring in the export process including export credit guarantee, export insurance against unredeemed export price and exchange fluctuation insurance. AKEI (Association of Korea Exhibition Industry) supports to open domestic and foreign exhibition as well as to participate in the overseas exhibition individually, and promotes manpower training through foreign internship system. KODIT (Korea Credit Guarantee Fund) and KIBO (Korea Technology Finance Corporation) support

credit guarantee for exporting SMEs and provide preference such as the limitation, interest rate and fee for guarantee.

KTL (Korea Testing Laboratory), KTNET (Korea Trade Network), KOSTI (Korea Strategic Trade Institute), KCAB (The Korean Commercial Arbitration Board) OKTA (World Federation of Overseas Korean Traders Association), KCCI (Korea Chamber of Commerce and Industry) and etc. support SME's exporting activities with their own budget or commissioned by the government. KTL conducts the support program of foreign standard certification, commissioned by SMBA. KTNET supports to expand infrastructure of e-trade, KOSTI supports to export strategic materials, and KCAB supports to solve trade disputes for SMEs. OKTA supports SME's export through finding out the buyers and training at overseas markets.

Regional local governments are benchmarking the programs of the central government or implementing 8~28 of those through securing their own budget. All of 16 regional local governments support the participation in overseas exhibition and exposition, and that for trade delegation and market exploitation group. They also support for inviting and introducing foreign buyers, online-marketing, export insurance (guarantee), interpretation and translation, trade experts incubating and training, and provision of overseas market information.

<Table 3> Support Programs for Overseas Expansion by Domestic Organizations

Organization	Title of Programs	Characteristics
<b>K-biz</b>	trade remedy system, foreign private ambassador program, dispatch program of trade promotion	Focus on risk management of exchange risk and unfair trade, and enhancing the overseas market access

<b>SBC</b>	Strengthen export capacity, use of foreign private network, domestic export support, matching with global buyers for domestic sourcing, online support for export, cooperation between industry and technology, APEC SME Innovation Center, export financing, capacity building through FTA	Include strengthening export capability(early-stage) and trade finance, foreign private network business(entry-stage)
<b>KODIT</b> <b>KIBO</b>	Credit guarantee support project for exporting SMEs	Provide preference to the limit, ratio and fee for guarantee
<b>KOTRA</b>	Dispatch programs of trade promotion, export incubator, overseas market research, support for business trip, online marketing program, overseas exhibition, provision of overseas expansion-related information and consulting	Focus on the initial stage of SME's expansion such as provide information to access foreign market
<b>KITA</b>	Support service for trading enterprises, strategic commerce activities, trade promotion and infra-expansion, trade-related training, international trade-related research	Support for export-related education and consulting, and exhibition participation
<b>KCCI</b>	Operate the foreign offices	Operate the local office to support the market entry in China and Vietnam
<b>K-sure</b>	Export credit guarantee, export insurance for long and short term, insurance for exchange fluctuation	Cover the risks occurring during the export process for SMEs
<b>AKEI</b>	Support for domestic and foreign exhibition, foreign internship of exhibition	Professional training in exhibition and resolution of youth unemployment
<b>KTL</b>	Support to secure international standard certification	Support a part of cost for securing foreign standard certification mark required from foreign countries
<b>KTNET</b>	Advancement of infrastructure for e-trade	Aim to expand e-trade service
<b>KOSTI</b>	Strengthen promotion and training for export control of strategic materials	Spread awareness for export control of strategic materials and promotion especially for related enterprises, operate customized-

		training for capacity building of export control
<b>KCAB</b>	Report and handle mediation cases	Establish business transaction order and promote trade activities by arbitrating trade disputes
<b>OKTA</b>	Support to pioneer the overseas market for SMEs	Support to secure a local foothold through overseas Koreans well experienced in foreign language and culture
<b>Regional local governments</b>	Each implements 8~28 programs for supporting SMEs for market expansion	Benchmarking the programs of central government

According to the below table, the subsidy of export-related supports for SMEs was estimated by 239.2 billion won in 169 programs in 2012. The central government's budget for supporting SME's export and market was 155.9 billion won with 26 programs, covering only 1.55% of total subsidy for supporting SMEs with 10,073.8 billion won.

<Table 4> Size of Subsidy for SMEs in 2012

(Unit: billion won, %)

<b>Classification</b>	<b>Central Gov.</b>	<b>Local Gov.</b>	<b>Total</b>
Total subsidy for SMEs (A)	10,073.8	2,211.2	12,285.0
Subsidy for Export (B)	155.9	83.3	239.2
Ratio (B/A)	1.55%	3.77%	1.95%
No. of assistance programs	26	143	169

Total subsidy for SME's export by central and local government in 2012 covered only 1.95% (239.2 billion won) out of total subsidy for SMEs. This figure is far less than financing (60.1%), technology (16.2%), labor (6.4%), start-ups (4.4%) and micro-enterprises (3.4%).

<Table 5> Subsidy for SME's export by the Central Government's Programs

(Unit: mil won)

Central Gov.	Program	2010	2011	2012
<b>Korea Customs Service</b>	AEO(Authorized Economic Operator)	-	600	900
<b>MOLIT</b>	SME-Contractors Center	600	526	526
<b>MAFRA</b>	Sales promotion for agricultural	41,535	39,458	40,972
<b>MCST</b>	Promotion of sports	1,610	1,810	1,810
<b>SMBA</b>	Trade promotion	9,999	13,000	12,998
	Capability building for SME's export	23,000	25,450	27,150
	International standard certification	12,000	10,000	10,000
	Foreign private network	8,399	7,840	7,599
	APEC Innovation Center	360	342	342
	Domestic support for export	910	1,780	1,791
	Export incubator	6,700	7,450	7,450
	Online support for export	2,756	2,618	2,262
	Support for cooperation of foreign industry	2,019	2,198	2,831
	Domestic sourcing for global buyers	1,007	-	-
	Public e-procurement	355	300	-
	Public procurement system	3,700	5,020	5,519
	Marketing	6,420	8,000	13,130
	Knowledge sharing for production	254	229	218
Marketing information system	228	200	-	
<b>MOTIE</b>	Establishment of export infrastructure abroad	-	1,190	1,500
	Industrialization for exports	3,491	2,819	3,000
	Capability building for export of SW industry	4,200	3,800	3,320
	Support for export of IT	2,670	3,449	2,726
	Expansion of foreign plant	3,000	4,000	3,300



	Revitalization of e-trade	170	160	140
	Establishment of service for integrated trade information	-	800	1,200
	Establishment of industrial technology research	4,400	1,650	1,200
	Support for domestic exhibition	3,260	1,990	4,000
	<b>Total</b>	<b>143,043</b>	<b>146,679</b>	<b>155,884</b>

## 2.2 Problem of Support Program

Policy support for SMEs has been established to enhance their business activities so that they can strengthen the competitiveness even in the overseas market with foreign enterprises. However, there have been many programs for supporting SMEs following the several problems. First, the target and size of subsidy are small scale with a lack of connection or linkage among support policies due to the complicated and duplicated programs. The similar policies are competitively implemented among supporting institutes including 'government departments' such as SMBA and MOTIE, 'related agencies' such as KOTRA, SBC, K-sure, KODIT, and even 'local governments'.<sup>1</sup>

The more supporting institutes SMEs have, the more expensive cost for accessing information SMEs pay. On the other hand, the fact that there are many supporting institutes incurs splitting the budget for supporting SMEs. It comes down to the problem of small-scale for targets and subsidy because the institutes should maintain their minimum function of establishment for justifiability. As a result, the small-sized subsidies under 1 million won account for the majority. The number of beneficiaries, which are even willing to receive these

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<sup>1</sup> According to the report by Industry Academy Cooperation Foundation of Hannam University (2012), the number of programs for supporting SME's exports is 189.

small amount of subsidies, is also small due to the limitation of budget. The connectivity is insufficient since there is lack of mutual cooperation of business among institutes.

Second, the overall policy for supporting SME's exports places too much emphasis on the 2<sup>nd</sup> stage of implementation rather than the 1<sup>st</sup> stage of preparation and the 3<sup>rd</sup> stage of direct entry stage. This unequal distribution of policy program is not only applied to the supporting stages but also the target regions for exporting. The current supporting policies consist of the existing partners of US, China and Europe due to the frequent trade transactions. Since the interest and expectation are recently increasing for the emerging big markets in ASEAN and the Middle East, and the new markets in Latin America and Africa, it is required to expand the relevant information as well as infrastructure.

Third, the infrastructure related to overseas expansion is necessary on the ground. If the on-site infrastructure is not properly established, both SMEs and supporting institutes should accept an inconvenience. Regarding the program of establishing infrastructure for overseas expansion, there are examples of export incubator<sup>2</sup> and foreign private network<sup>3</sup> by SMBA. Since it is expected that the overseas expansion for domestic enterprises is greatly increased, it is designated that the establishment of infrastructure is absolutely insufficient.

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<sup>2</sup> Export incubator program supports accounting and legal consulting, on-site marketing, and the provision of office at low costs to promote export expansion and foreign market entry through building SMEs' capacity of overseas marketing as well as to assist early settlement by reducing risks for those willing to establish branch or local subsidiary at the early stage.

<sup>3</sup> Foreign private network program supports diverse services for establishing marketing strategy, matching buyers, providing market information, and conducting feasibility study on foreign investment through networking with local private consulting or marketing companies and one-to-one matching for SMEs.

This paper seeks to estimate the effectiveness of the existing support systems for SME's export implemented by public institutes. It will use the general information of exporting SMEs including export growth rates, debt ratio, age of business, number of employees, sales, location, type of industry and the amount of subsidy for those participated in the export assistance programs. Then, it will analyze the relationship between the export growth rate and subsidy to find out the effectiveness of policy support. In this paper, the subject would be the participants of SMEs in export assistance program as the treatment group and non-participants as the control group, using OLS method.

### **III. METHODOLOGY AND DATA**

#### **3.1. Methodology**

To analyze whether the policy support for SME's export has been effective or not, an OLS (Ordinary Least Squares) regression is used. OLS estimates the unknown parameters in a linear regression model, with the goal of minimizing the differences between the observed responses in some arbitrary dataset and the responses predicted by the linear approximation of the data. (Stock, 2003). In order to observe whether the policy support is directly effective on SME's export, the variable of 'subsidy', which SMEs receive from the government, is included as an independent variable with that of 'export growth', which is the growth rate of SME's export, as a dependent variable. If the coefficient of subsidy is positive significantly, the policy support has contributed the

positive impact on export growth for SMEs and vice versa.

The logarithm is applied for both an independent variable and control variables, except debt ratio. In this case, the coefficients represent an elasticity as long as the changes are 'small' relative. (Stock, 2003). It should be cautious when interpreting the variables. In case of using the logarithm, the interpretation should be in terms of percentage change while the general OLS interpretation is in terms of one unit. For example, the dependent variable should be interpreted by percentage change when the independent variable changes by 1%.

The methodology model in this paper is as follows:

$$\text{EXPORT}_{it} = \beta_0 + \beta_1 \ln(\text{S}_{it}) + \beta_2 (\text{DEBT}_{it}) + \beta_3 \ln(\text{AGE}_{it}) + \beta_4 \ln(\text{LABOR}_{it}) + \beta_5 \ln(\text{SALE}_{it}) + \beta_6 d(\text{LOCATION}_{it}) + \beta_7 d(\text{INDUSTRY}_{it}) + \varepsilon_{it}$$

Where,

- $\text{EXPORT}_{it}$ : a dependent variable as a growth rate of export for SME  $it$
- $\text{S}_{it}$  : an independent variable as an amount of subsidy for SME  $it$
- $\text{DEBT}_{it}$ : a control variable as the ratio dividing total debt by total asset for SME  $it$
- $\text{AGE}_{it}$  : a control variable as subtracting establishment year from the current business year for SME  $it$
- $\text{LABOR}_{it}$  : a control variable as the number of employees for SME  $it$
- $\text{SALE}_{it}$  : total sales for SME  $it$  (unit: million won)
- $\text{LOCATION}_{it}$  : a control variable as a location dummy taking 1 for Seoul, Kyung-gi and Inchon, and 0 for other provinces for SME  $it$
- $\text{INDUSTRY}_{it}$  : a control variable as an industry dummy taking 1 for manufacturing and 0 for other industries for SME  $it$

In this model, the data for control variables have come from KED (Korea Enterprise Data) which provides the general information of enterprises including the amount of subsidy, sales, labor, liability, location, type of industry, year of establishment and etc. In addition, the indices for SME's export from 2011 to 2012 are provided by Korea Customs Service. To prevent omitted variable bias, the above six control variables are used.

### 3.2. Data

The total number of observations used in this thesis is 2,439 including the treatment group of 578 and the control group of 1,861. While the treatment group represents the SMEs which participated in the export assistance program as receiving subsidy, the control group indicates the SMEs without participating in the subsidy program. The sample is selected by the method of stratified sampling on the basis of year from 2011 to 2012 because the statistic data for SME's exports are available for only that period. After stratifying treatment and control groups by year, the real sample for analysis is filtered by applying six control variables to prevent omitted variable bias in order to have homogeneous characteristics among all samples.

<Table 6> Sampling for Analysis

Year	Before Analysis		After Analysis	
	Treatment	Control	Treatment	Control
2011	701	7,010	343	691
2012	1,157	11,570	235	1,170
Total	1,858	18,580	578	1,861

The descriptive statistics are as follows:

<Table 7> Descriptive Statistics (All Samples: Treatment and Control Groups)

Variables	2011 (Sample : 1,034)				2012 (Sample : 1,405)			
	Mean	Std	Min	Max	Mean	Std	Min	Max
Sales (mil won)	33,511	235,991	28.0	6,580,755	64,156	1,007,123	9.0	35,700,000
Age (year)	11.9	8.5	1	65	12.5	8.4	1	55
Labor (person)	47.1	185.4	1	4,280	63.0	328.7	1	8,960
Liability (mil won)	18,120	154,137	0.05	4,219,681	27,902	387,397	0.17	13,200,000
Export (mil won)	7,322	76,298	0.08	2,341,762	10,505	150,253	0.008	4,948,610
Export (100 USD)	66,073	689,000	0.74	21,100,000	93,223	1,330,000	0.07	43,900,000
Location	0.66	0.47	0.00	1.00	0.67	0.47	0.00	1.00
Industry	0.73	0.45	0.00	1.00	0.70	0.46	0.00	1.00

In 2011, the total of 1,034 SMEs have been observed with the average number of employees as 47.07 persons. The mean values of age, sales and liability are 11.9 years, 33.5 and 18.1 billion won. The exports have averaged 7.3 billion won (6.61 million USD). In 2012, the total 1,405 SMEs have been observed with the average number of employees as 63.0 persons. The mean values of age, sales and liability are 12.5 years, 64.2 and 27.9 billion won. The exports have averaged 10.5 billion won (9.32 million USD). During a leap in sales by 91.4%, exports have been also increased by 43.5% in 2012 compared to those in 2011.

<Table 8> Descriptive Statistics: Treatment Group Only

Variables	2011 (Sample : 343)				2012 (Sample : 235)			
	Mean	Std	Min	Max	Mean	Std	Min	Max
Sales (mil won)	13,381	22,176	105.1	204,134	16,965	23,352	235.5	174,582
Age (year)	12.8	8.9	1	57	13.4	7.7	1	44
Labor (person)	36.4	52.8	1	458	50.1	57.7	1	377

Liability (mil won)	7,659	14,804	26.1	141,858	7,969	13,067	8.6	129,111
Export (mil won)	3,836	8,622	0.4	99,740	4,269	7,074	2.7	48,137
Export (100 USD)	34,614	7,780,338	3.6	900,095	37,882	6,277,593	24.0	427,170
Location	0.71	0.46	0.00	1.00	0.71	0.46	0.00	1.00
Industry	0.86	0.35	0.00	1.00	0.89	0.31	0.00	1.00

For treatment group, 343 SMEs have been selected in 2011 with the average number of employees as 36.35 persons. The mean values of age, sales and liability are 12.8 years, 13.4 and 7.66 billion won. In addition, the exports have averaged 3.84 billion won (3.46 million USD). In 2012, 234 SMEs have been selected with the average number of employees as 50.05 persons, which have been increased by 37.7% against the previous year. The mean values of age, sales and liability are 13.37 years, 16.96 and 7.97 billion won. The exports have averaged 4.27 billion won (3.79 million USD). In general, both sales and exports for SMEs in treatment have been increased during the period of 2011-2012.

<Table 9> Descriptive Statistics: Control Group Only

Variables	2011 (Sample : 691)				2012 (Sample : 1,170)			
	Mean	Std	Min	Max	Mean	Std	Min	Max
Sales (mil won)	43,503	287,804	28.0	6,580,755	73,635	1,103,426	9.04	35,664,933
Age (year)	11.5	8.3	1	65	12.3	8.5	1	55
Labor (person)	52.4	223.6	1	4,280	65.6	359.2	1	8,960
Liability (mil won)	23,313	188,092	0.05	4,219,682	31,906	424,401	0.17	13,155,888
Export (mil won)	9,052	93,109	0.08	2,341,762	11,758	164,606	0.01	4,948,610
Export (100 USD)	81,690	84,024,981	0.74	21,132,934	104,338	146,071,992	0.07	43,914,260
Location	0.64	0.48	0.00	1.00	0.66	0.47	0.00	1.00
Industry	0.66	0.47	0.00	1.00	0.65	0.48	0.00	1.00

For control group, 691 SMEs have been selected in 2011 with the average number of employees as 11.47 persons. The mean values of age, sales and liability are 11.5 years, 43.5 and 23.3 billion won. The exports have averaged 9.05 billion won (81.69 million USD). In 2012, 1,170 SMEs have been selected with the average number of employees as 65.57 persons. The mean values of age, sales and liability are 12.3 years, 73.6 and 31.9 billion won. The exports have averaged 11.76 billion won (104.3 million USD).

#### **IV. ANALYSIS RESULT**

This section will indicate a detailed account on the results of this paper's methodology model using OLS estimation for 2,439 SMEs from 2011 to 2012 including 578 participating SMEs and 1,861 non-participating SMEs.

##### **4.1 Results and Interpretation**

OLS method is used to estimate this study's model which is indicated in section III. As a result, the null-hypothesis, which is that the policy support for SMEs has a positive impact on export, cannot be rejected because the coefficient of an independent variable, 'Subsidy', is statistically significant at the 10% level. The policy support of export subsidy has a positive impact on growth of export as subsidy increases by 1%, export growth increases by 0.063%.



<Table 10> Estimation Results

Dependent Variable: EXPORT GROWTH RATE						
Variables	Coefficient	Robust Std. Err.	t	P>  t	95% Conf. Interval	Interval
ln(Subsidy)	0.0631	0.0383	1.65	0.099*	-0.0119	0.1383
Debt ratio	-0.0083	0.0034	-2.47	0.014**	-0.0149	-0.0017
ln(Age)	-0.1230	0.0504	-2.44	0.015**	-0.2219	-0.0241
ln(Labor)	-0.0744	0.03997	-1.86	0.063*	-0.1528	0.0039
ln(Sales)	0.1097	0.0380	2.89	0.004***	0.0352	0.1842
Location	0.0092	0.0650	0.14	0.888	-0.1184	0.1368
Industry	0.123	0.0845	1.46	0.145	-0.0426	0.2886
2012	-0.1866	0.0630	-2.96	0.003	-0.3100	-0.063
Constant	-0.3238	0.3137	-1.03	0.302	-0.9390	0.2914

Level of significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

SMEs with a high debt ratio and long age of business are statistically significant at the 5% level but have a negative impact on growth of export. Number of employees is statistically significant at the 10% level but has a negative impact. Export growth decreases by 0.074% when labor increases by 1%. It seems reasonable that SMEs with a high debt ratio do not have a good performance on export. However, it is interesting that the same result applies to those with a long history from the establishment and large number of employees.

In addition, those with high sales are statistically significant at the 1% level and has a positive impact on export. As the sales of SMEs received subsidy increase by 1%, their export growth also increases by 0.11%.

On the other hand, both location and industry variables do not have any significant

impact on export growth of SMEs. Since the 'Industry' variable is used as a dummy variable taking 1 for manufacturing, the results show that any specific type of industry is not important for export growth rate. Similarly, as the 'Location' dummy variable taking 1 for Seoul, Kyung-gi and Inchon, it can be stated that where the SMEs are located does not have a great influence on export.

According to the <Table 7>, the mean values of both 'location' and 'industry' variables in 2011 and 2012 are more than 0.5 which indicates that more than 50% of the client SMEs are located in Seoul, Kyung-gi and Inchon, and belonged to manufacturing. Since the estimated results show that both variables are not important, the policy support should include the diverse industries and other provinces rather than metros.

## **V. CONCLUSION**

This study aims to evaluate the impact of policy support for SME's export. For this purpose, the ordinary least square model is applied to a panel data of 2,439 enterprises, including 578 participants and 1,861 non-participants covering the period of 2011-2012. The results indicate that the policy support had significantly positive impact on SME's export.

While the manufacturing of Korean SMEs has a higher proportion, in terms of number of enterprises and employees as well as production, compared to US, Japan and Taiwan, the overall export of SMEs have been decreasing as they are becoming reluctant to participate in exporting and to have an export-driven tendency. This is because many SMEs pay more account to sales activities of supplying products to parent enterprises rather than

direct export. About 46% of SMEs in manufacturing depend on supplying to parent enterprises because they do not have sufficient challenges and prefer safety-oriented export.

Although SMEs had an increasing trend in exports from 2011 to 2012, the amount of export was smaller than \$100,000 for more than half of exporting SMEs. According to the Korea International Trade Association, SMEs under \$50,000 for exports accounted for 42% and those under \$100,000 accounted for 52%. SMEs exporting more than 5 million dollars accounted for only 4.7%. This shows that it is necessary to put more efforts on promoting global small giants to increase exports as well as their global competitiveness in overseas market. In addition, it is also necessary to diversify the exporting items and markets since SMEs exporting with only one item and one partner country accounted for 44% and 55%.

To increase the effectiveness of export policy support more, the process of selecting participants should be diversified. The targeting should not concentrate on the only strategic field but should cover all fields so that as many as SMEs from diverse fields can have an opportunity to participate and thus expand the market. Therefore, the scope of support should be expanded especially for micro-enterprises and export-beginners. For micro enterprises and export-beginners, especially those with the advanced technology and product, the entry to overseas market can be the significant opportunity for their growth and survival.

The support level should be differentiated. While basically maintaining the existing principle, it is necessary to induce the enterprises which have a certain level of technology, such as ventures and those with certification of new technology or new product, for market expansion more actively. In case of overseas marketing support, there are duplicated programs with different support targets and different requirements. Most support programs have qualification requirement for the participants so that only high-potential SMEs can participate. An export market can be the foundation for growth engine to strengthen the

competitiveness of small enterprises and start-ups

Information regarding export assistance programs should be constantly provided. Although 'SME overseas expo portal' is already established to notify the qualification, procedure, due date, scope and level of support programs, there are still many SMEs, which have no experience in participation, having a difficulty in accessing these information. Since there are diverse programs, it is necessary to provide one-stop service through cooperation and linkage among related organizations. In this way, SMEs can have access to information related to the entire export assistance programs.

Export is the effective means to cultivate entrepreneurship and improve the competitiveness and growth of SMEs. The Korean government should put a multilateral effort to induce SMEs to extend their businesses abroad. However, despite of such an active policy support, it would not have any impact if SMEs are not in a positive manner to enhance the quality of their products with improving the competitiveness. Thus, both SMEs and the government should have more interest in overseas markets to revitalize export as well as the entire economy of Korea.

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