

**Innovation and SME Development**  
**- Korea's Perspective and APEC Cooperation**  
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**1. Introduction**

APEC or the Asia-Pacific Economic Cooperation consists of 21 member economies in the Asia-Pacific region. It is a forum for facilitating economic growth, cooperation, trade and investment in the Asia-Pacific region. APEC aims to further enhance economic growth and prosperity for the region and to strengthen the Asia-Pacific Community.<sup>1</sup> APEC differs from many other regional economic cooperation entities in that it includes a broad spectrum of member economies in terms of, economic development and regional distribution. For this reason, both trade and investment liberalization and facilitation (TILF) and economic and technical cooperation (ECOTECH) are discussed and implemented as two pillars of APEC. Even with the significant gap among APEC member economies, they share many concerns and interests in the area of small and medium enterprises (SMEs). In all APEC member economies, SMEs explain a large portion of the total number of establishments and employment. APEC recognizes the importance of SMEs in both domestic economy and in regional economic cooperation. APEC discusses SME related issues and tries to identify cooperative policy directions in SME Ministerial Meetings (SMEMM) and SME Working Group (SMEWG).

APEC member economies have been experiencing structural changes largely due to rapid globalization. SMEs have relatively more difficulties in their adjustment since they typically operate on a small scale and concentrate more on domestic markets. Especially, they are underrepresented in terms of investment and globalization. Innovation of SMEs is regarded as one of the most important factors to solve the problem. SMEs have greater potential to innovate and globalize themselves than large enterprises. They can be more active players in innovation and globalization by substantially lowering entry barriers with the help of information and communication technology (ICT).

Discussions in this paper start from the point that even with the wide spectrum of APEC member economy, they share common problems and interests in SMEs. They can be a new source of economic growth and function as a social safety net through job creation. In the following parts, we will analyze structural characteristics of Korean SMEs, discussions and

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<sup>1</sup> Refer to APEC website <http://www.apec.org>.

interests in APEC SMEEMM and SMEWG and identify some policy implications for APEC cooperation in the area of SME development and innovation.

## **2. Characteristics of Korean SMEs**

The definitions used for SMEs in APEC member economies vary widely. In general, SMEs are defined as having less than 100 or 200 employees in APEC. According to Hall (2002), SMEs are structurally important in APEC member economies. Especially, SMEs make up over 98 percent of all enterprises, provide over 60 percent of the private sector employment (or over 30 percent of total employment), and generate about 50 percent of value added or sales. The shares are not much different among APEC member economies. However, SMEs are underrepresented typically in the APEC international economy. More specifically, they explain about 30 percent of direct exports and contribute about 10 percent of foreign direct investment (FDI) in amount in APEC member economies. If structural changes allow for a more business-friendly environment in and out of each member economy, or if impediments to SME internationalization in particular can be reduced, SME exports and FDI will grow significantly. SMEs are also important in a social context as well as in an economic sense since they offer jobs to relatively less skilled workers and are regionally more dispersed.

In the following part, Korea's SME structure is analyzed as a reference and some implications will be derived.

### **2.1 Korea's SME Structure**

The analysis of Korea's SME structure is based on the industry survey data from Korea National Statistical Office published in 2003 and 2004. In this analysis, SME denotes an establishment that has 5 to 299 employees.<sup>2</sup> The manufacturing sector is divided by 23 two-digit sub-sectors according to Korea Standard Industrial Classification (KSIC) from food products and beverages, tobacco, textiles, and up to recycling.

Some indicators of Korea's SMEs by manufacturing sector are characterized as follows. In the manufacturing sector as a whole, SMEs make up about 99.4 percent of establishments, 77.0 percent of employees, 51.0 percent of gross output, 51.9 percent of value added and 46.3

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<sup>2</sup> This is based on two factors. First, the Korean government's definition of SMEs in the Article 2 of the Framework Act on Small and Medium Enterprises and Article 3 of its enforcement decree: "establishments have less than 300 regular employees or paid-in-capital less than or equal to 8 billion Won (about 8 million U.S. dollars)." Second, *Report on Mining and Manufacturing Survey* by Korea National Statistical Office covers mining and manufacturing establishments that engage five or more workers.

percent of tangible assets in 2002. (refer to Table 1) No significant differences among most manufacturing sectors in the SMEs' share of number of establishments. SMEs explain at least 94.5 percent in coke and refined petroleum products, and mostly 98 percent and above in other sectors except the tobacco products sector (64.3 percent). However, we can observe significant differences among manufacturing sectors in other indicators. For example, SMEs' share of total manufacturing has a wide range from 21.4 percent (coke and refined petroleum products) to 98.2 percent (recycling) in number of workers; from 6.4 percent (coke and refined petroleum products, manufacture of basic metals) to 97.1 percent (recycling) in value added; and from 2.2 percent (coke and refined petroleum products, manufacture of basic metals) to 93.9 percent (recycling) in tangible assets.

For our purpose of analysis, manufacturing sectors can be roughly divided into SME-oriented sectors and large-enterprise-oriented sectors based on SME shares based on major indicators such as number of workers, gross output, value added and tangible assets. That is, if a manufacturing sector has a relatively larger SME share than other sectors (or a significantly larger SME share than that of manufacturing as a whole) in number of workers, gross output, value added and tangible assets, it can be classified as a SME-oriented one. SME-oriented sectors are identified as food products and beverages, textiles, apparel, leather, wood and wood products, paper and paper products, publishing and printing, rubber and plastics products, non-metallic mineral products, fabricated metal products, manufacture of other machinery, electrical machinery and apparatus, medical and optical instrument, furniture and other articles, and recycling. The remaining sectors identified as large-enterprise-oriented sectors are as follows; tobacco products, coke and refined petroleum products, chemicals and chemical products, manufacture of basic metals, computer and office machinery, telecommunications equipment, motor vehicles and trailer manufacture, and manufacture of other transport equipment.

Table 1 Share of SMEs by Manufacturing Sector in Korea (2002)<sup>1</sup>

(unit: percent)

Sectoral Classification <sup>2</sup>	Number of Establishments	Number of Workers	Wages and Salaries	Gross Output	Value Added	Tangible Assets
MANUFACTURING	99.4	77.0	65.1	51.0	51.9	46.3
<b>food products and beverages<sup>3</sup></b>	<b>99.3</b>	<b>85.9</b>	<b>79.3</b>	<b>80.2</b>	<b>76.2</b>	<b>81.5</b>
Tobacco products	64.3	32.7	26.7	34.1	41.8	36.7
<b>Textiles</b>	<b>99.6</b>	<b>90.5</b>	<b>89.9</b>	<b>86.4</b>	<b>94.7</b>	<b>80.3</b>
<b>sewn wearing apparel and fur articles</b>	<b>99.8</b>	<b>94.9</b>	<b>91.3</b>	<b>85.6</b>	<b>84.6</b>	<b>76.4</b>
<b>tanning and dressing of leather</b>	<b>99.7</b>	<b>92.9</b>	<b>89.8</b>	<b>85.9</b>	<b>83.7</b>	<b>82.2</b>
<b>wood and products of wood and cork (except furniture)</b>	<b>99.8</b>	<b>87.9</b>	<b>84.8</b>	<b>83.0</b>	<b>85.3</b>	<b>64.7</b>
<b>pulp, paper and paper products</b>	<b>99.5</b>	<b>90.4</b>	<b>83.6</b>	<b>74.7</b>	<b>72.6</b>	<b>68.9</b>
<b>publishing, printing and reproduction</b>	<b>99.5</b>	<b>81.5</b>	<b>75.1</b>	<b>68.1</b>	<b>63.3</b>	<b>63.1</b>
coke, refined petroleum products	94.5	21.4	11.9	2.6	6.4	2.2
chemicals and chemical products	98.2	74.1	66.6	59.4	64.2	48.9
<b>rubber and plastics products</b>	<b>99.6</b>	<b>86.3</b>	<b>80.5</b>	<b>74.1</b>	<b>72.6</b>	<b>68.9</b>
<b>non-metallic mineral products</b>	<b>99.3</b>	<b>84.9</b>	<b>75.3</b>	<b>75.3</b>	<b>63.3</b>	<b>63.1</b>
manufacture of basic metals	98.5	61.6	50.8	40.3	6.4	2.2
<b>fabricated metal products (except machinery and equipment)</b>	<b>99.9</b>	<b>93.5</b>	<b>88.1</b>	<b>88.0</b>	<b>64.2</b>	<b>48.9</b>
<b>manufacture of other machinery</b>	<b>99.6</b>	<b>85.8</b>	<b>77.8</b>	<b>67.1</b>	<b>70.0</b>	<b>70.0</b>
computer and office machinery	98.2	52.8	34.7	18.1	42.1	32.6
<b>electrical machinery and apparatus</b>	<b>99.4</b>	<b>85.7</b>	<b>77.8</b>	<b>74.6</b>	<b>74.0</b>	<b>65.8</b>
radio, TV and communication equipment	97.4	50.8	37.6	24.3	19.6	18.4
<b>medical, precision, and optical instrument</b>	<b>99.8</b>	<b>95.7</b>	<b>94.0</b>	<b>91.6</b>	<b>91.9</b>	<b>92.3</b>
motor vehicles and trailers manufacture	98.3	51.3	37.1	27.7	26.5	28.8
manufacture of other transport equipment	98.4	35.5	24.0	13.7	16.4	8.6
<b>furniture and articles, nec</b>	<b>99.8</b>	<b>91.6</b>	<b>89.7</b>	<b>88.3</b>	<b>85.2</b>	<b>83.4</b>
<b>recycling</b>	<b>100.0</b>	<b>98.2</b>	<b>97.7</b>	<b>93.1</b>	<b>97.1</b>	<b>93.9</b>

Notes: 1. SME denotes an establishment that has 5 to 299 employees.

2. Sectoral classification is based on 23 two-digit manufacturing sectors by Korea Standard Industrial Classification (KSIC).

3. Boldfaced and shaded sectors can be classified as SME-oriented sectors.

Data Sources: Korea National Statistical Office (2003), *Report on Mining and Manufacturing Survey*, December.

SME-oriented sectors can be compared with large-enterprise-oriented sectors in terms of some per capita indexes. Overall, we can observe that SMEs are in an extremely frail condition in per capita terms. For example, SMEs' per capita wages and salaries correspond to about 55.7 percent of those in large enterprises in manufacturing as a whole. (refer to Table 2) SMEs' per capita gross output or value added is about 31.1 percent or 32.2 percent of that in large enterprises in manufacturing as a whole, respectively. Furthermore, SMEs' per capita tangible assets are estimated only about 25.8 percent of those in large enterprises in manufacturing as a whole. We can also observe somewhat differentiated trends by manufacturing sectors. Overall, SMEs' per capita indexes relative to those of large enterprises are significantly smaller numbers in most of the large-enterprise-oriented sectors. For example, SMEs' per capita tangible assets relative to those of large enterprises are significantly small in manufacture of basic metals (1.4 when that of large enterprises are set to 100.0), fabricated metal products (6.7), coke and refined petroleum products (7.9), manufacture of other transport equipment (17.0), sewn wearing apparel and fur articles (17.4), and radio, TV and communication equipment (21.8).<sup>3</sup>

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<sup>3</sup> We can find similar facts from Kim (2005) that SMEs significantly lag behind large enterprises, especially, in investment or per capita capital stock.

Table 2 Per Capita Indexes of SMEs by Manufacturing Sector in Korea (2002)<sup>1</sup>

(unit: large enterprises=100.0)

Sectoral Classification <sup>2</sup>	Wages and Salaries	Gross Output	Value Added	Tangible Assets
MANUFACTURING	55.7	31.1	32.2	25.8
<b>food products and beverages<sup>3</sup></b>	<b>63.3</b>	<b>66.7</b>	<b>52.8</b>	<b>72.8</b>
tobacco products	81.7	114.8	177.7	120.4
<b>Textiles</b>	<b>93.2</b>	<b>74.8</b>	<b>66.9</b>	<b>42.5</b>
<b>sewn wearing apparel and fur articles</b>	<b>56.3</b>	<b>32.1</b>	<b>29.6</b>	<b>17.4</b>
<b>tanning and dressing of leather</b>	<b>68.2</b>	<b>48.6</b>	<b>34.9</b>	<b>33.7</b>
<b>wood and products of wood and cork (except furniture)</b>	<b>76.8</b>	<b>67.5</b>	<b>80.0</b>	<b>25.3</b>
<b>pulp, paper and paper products</b>	<b>55.6</b>	<b>32.9</b>	<b>31.8</b>	<b>27.9</b>
<b>publishing, printing and reproduction</b>	<b>68.5</b>	<b>48.6</b>	<b>39.3</b>	<b>38.8</b>
coke, refined petroleum products	48.8	9.6	24.5	7.9
chemicals and chemical products	69.7	51.2	62.5	33.4
<b>rubber and plastics products</b>	<b>65.6</b>	<b>45.5</b>	<b>63.0</b>	<b>55.2</b>
<b>non-metallic mineral products</b>	<b>54.2</b>	<b>54.0</b>	<b>30.6</b>	<b>30.3</b>
manufacture of basic metals	64.5	42.1	4.4	1.4
<b>fabricated metal products (except machinery and equipment)</b>	<b>51.5</b>	<b>51.1</b>	<b>12.4</b>	<b>6.7</b>
<b>manufacture of other machinery</b>	<b>58.2</b>	<b>33.9</b>	<b>38.7</b>	<b>38.8</b>
computer and office machinery	47.4	19.8	20.0	43.2
<b>electrical machinery and apparatus</b>	<b>58.3</b>	<b>48.9</b>	<b>47.4</b>	<b>32.0</b>
radio, TV and communication equipment	58.3	31.0	23.6	21.8
<b>medical, precision, and optical instrument</b>	<b>88.0</b>	<b>67.4</b>	<b>52.4</b>	<b>68.1</b>
motor vehicles and trailers manufacture	56.0	36.5	34.2	38.5
manufacture of other transport equipment	57.3	28.9	35.5	17.0
<b>furniture and articles, nec</b>	<b>80.2</b>	<b>69.0</b>	<b>52.9</b>	<b>46.1</b>
<b>recycling</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>

Notes: 1. SME denotes an establishment that has 5 to 299 employees.

2. Sectoral classification is based on 23 two-digit manufacturing sectors by Korea Standard Industrial Classification (KSIC).

3. Boldfaced and shaded sectors can be classified as SME-oriented sectors.

Data Sources: Korea National Statistical Office (2003), *Report on Mining and Manufacturing Survey*, December.

Korea National Statistical Office (2004), *Korea Statistical Yearbook 2003*, April.

## 2.2 Productivity Growth and Potential<sup>4</sup>

For a dynamic aspect, we can utilize the concept of total factor productivity (TFP) growth rates by manufacturing sector and compare the performance of SME oriented sectors with that of large-enterprise-oriented ones. TFP tries to measure the part of the changes in output that cannot be explained by the change of inputs. It is often called the “Solow residual.” The concept of productivity is based on the production function in that the amount of output depends on the amount of inputs used in the process of production and on production technology. As technology advances, more output can be produced with the same amount of inputs.

We can use the simple Cobb-Douglas production function as,<sup>5</sup>

$$Q = A K^\alpha L^\beta M^\gamma.$$

In this production function,  $A$  denotes the technology scale that delivers the amount of gross output  $Q$  obtained from given quantities of capital ( $K$ ), labor ( $L$ ), and intermediate inputs ( $M$ ). The parameters  $\alpha$ ,  $\beta$  and  $\gamma$  are related to the marginal product of factors and intermediate inputs (or percentage shares of gross income) under competitive market conditions. If the production function is assumed to have no scale economies, they add up to 1.0, i.e.  $\alpha+\beta+\gamma=1$ . If any cost-reducing technological changes occur over time, they will be reflected in the shift of parameter  $A$ . The rate of change in the productivity parameter  $A$  can be calculated as the difference between the rate of change in output and a weighted average of the rates of change in the inputs as,<sup>6</sup>

$$\Delta A / A = \Delta Q / Q - \alpha \Delta K / K - \beta \Delta L / L - \gamma \Delta M / M .$$

According to Nam (1999), annual average TFP growth rates in Korea’s manufacturing sector for 1971~1996 were calculated as being relatively high in mostly large-enterprise-oriented sectors such as electric and electronic products (7.2 percent); metal products and machines (5.2

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<sup>4</sup> Refer to Nam (1999).

<sup>5</sup> Various other types of production functions are available. However, since weighting differences have relatively little impact on the changes in productivity at least over intermediate time periods, the simple Cobb-Douglas function is used in this calculation.

<sup>6</sup> We can also linearize the production function by taking logarithm as,

$$\ln Q = \ln A + \alpha \ln K + \beta \ln L + \gamma \ln M$$

and by differentiation

$$\begin{aligned} \Delta A / A &= d(\ln A) \\ &= d(\ln Q) - \alpha d(\ln L) - \beta d(\ln K) - \gamma d(\ln M) \end{aligned}$$

percent); and transportation equipment (5.0 percent).<sup>7</sup> On the contrary, TFP growth rates were calculated as being relatively low or even negative in many SME-oriented sectors. (refer to Table 3) Export growth rates (adjusted by the share of exports to output in each sector) seem to be one of the most important factors in explaining the TFP growth rates. The correlation coefficient between the TFP growth rates and the adjusted exports growth rates by manufacturing sector was calculated at 0.93, implying that external trade orientation and foreign competition is an important factor for enhancing the TFP growth rates in manufacturing sectors. (refer to Table 4)

Common interests of APEC member economies in developing SMEs, SMEs' flexibility and potential to increase exports, and benefits of exports to improve efficiency will form a stable basis of cooperation among APEC member economies for SME development.

Table 3 Productivity Growth Rates by Manufacturing Sector in Korea (1971~1996)

(unit: percent, annual average)

Sector	Capital-Productivity Growth Rate	Labor-Productivity Growth Rate	Intermediate Input-Productivity Growth Rate	TFP Growth Rate
(a)	<b>-0.48</b>	<b>9.69</b>	<b>0.87</b>	<b>-0.64</b>
(b)	<b>2.28</b>	<b>10.72</b>	<b>1.89</b>	<b>2.45</b>
(c)	<b>-2.04</b>	<b>7.29</b>	<b>-0.81</b>	<b>-1.09</b>
(d)	<b>0.33</b>	<b>10.77</b>	<b>1.35</b>	<b>2.58</b>
(e)	0.25	10.64	0.22	1.21
(f)	<b>2.91</b>	<b>13.51</b>	<b>2.16</b>	<b>3.23</b>
(g)	5.75	16.09	3.10	5.18
(h)	7.76	19.21	7.23	7.24
(i)	6.04	16.12	4.60	5.02

- Notes:
1. Numbers are annual averages in real terms.
  2. Each character in the first column denotes manufacturing sector as: (a) Food, beverage and tobacco; (b) Textiles, apparel and related products; (c) Wood and furniture; (d) Paper, publishing, printing and recording; (e) Chemicals, rubber and plastics; (f) Basic metals; (g) Metal products and machines; (h) Electric and electronic products; and (i) Transportation equipment.
  3. Boldfaced and shaded sectors can be classified as SME-oriented sectors.
  4. Here, single factor productivity growth rates are denoted by simple differences in the growth rates between output and each input factor. In strict terms, however, they should be multiplied by a scale factor, the ratio of output to each input factor.

Source: Nam (1999).

<sup>7</sup> The sectoral classification is more aggregated than that in the previous part.

Table 4 Correlation between TFP and Real Export Growth Rate (1971~1996)

(unit: percent, annual average)

Sector	Export Growth Rate (A)	TFP Growth Rate (B)	Export /Output Share (C)	Adjusted Export Growth (D)	Correlation Coefficient (A,B)	Correlation, Adjusted (B,D)
<b>(a)</b>	<b>12.1</b>	<b>-0.64</b>	<b>5.0</b>	<b>0.6</b>	0.62	0.93
<b>(b)</b>	<b>6.6</b>	<b>2.45</b>	<b>56.9</b>	<b>3.8</b>		
<b>(c)</b>	<b>-3.7</b>	<b>-1.09</b>	<b>29.2</b>	<b>-1.1</b>		
<b>(d)</b>	<b>43.5</b>	<b>2.58</b>	<b>6.6</b>	<b>2.9</b>		
(e)	24.3	1.21	24.4	5.9		
<b>(f)</b>	<b>20.2</b>	<b>3.23</b>	<b>17.7</b>	<b>3.6</b>		
(g)	35.5	5.18	32.6	11.6		
(h)	25.4	7.24	64.8	16.5		
(i)	36.3	5.02	29.6	10.7		

- Note:
1. Numbers are annual averages in real terms.
  2. Each character in the first column denotes manufacturing sector as: (a) Food, beverage and tobacco; (b) Textiles, apparel and related products; (c) Wood and furniture; (d) Paper, publishing, printing and recording; (e) Chemicals, rubber and plastics; (f) Basic metals; (g) Metal products and machines; (h) Electric and electronic products; and (i) Transportation equipment.
  3. Adjusted export growth rates are export growth rates deflated by corresponding export/output shares.
  4. Boldfaced and shaded sectors can be classified as SME-oriented sectors.

Source: Nam (1999).

### 2.3 Exports and Investment

SMEs' share is relatively smaller than that of large enterprises in Korea's exports. SMEs explain 42.9 percent and 42.2 percent of Korea's exports in 2002 and 2003, respectively. (refer to Table 5) The share has decreased to 39.1 percent in 2004 (January to September). SMEs' share is also significantly smaller than that of large enterprises in Korea's overseas investment in amount, even though it is increasing. SMEs explain 37.8 of Korea's overseas investment in amount in 2004. The share has increased fast from 16.8 percent in 2001. (refer to Table 6) Those SMEs' shares in international economy are much smaller than their share in gross output or value added in Korea's manufacturing sector (51.0 percent and 51.9 percent in 2002, respectively) as well as in number of enterprises or number of workers (99.4 percent and 77.0 percent in 2002, respectively).

Current rapid trend of globalization is surely a challenge to SMEs. However, it can be a good chance to improve their relatively underdeveloped potential in international economy as well. To fully utilize that it surely requires active participation of SMEs in the globalization process as well as more favorable environment by lowering entry barriers for SMEs. Innovation

will be one of the key factors that SMEs should pursue actively and by themselves. Besides, networking, for example, by utilizing information and communication technology (ICT) is expected to effectively decrease entry barriers for SMEs relative to large enterprises.

Table 5 Exports by SMEs in Korea

(units: million US dollar, percent)

	2002	2003	2004 (January to September)
Total Exports	162,471 (100.0)	193,817 (100.0)	184,883 (100.0)
SMEs	68,309 (42.0)	81,699 (42.2)	72,208 (39.1)
Large Enterprises	94,053 (57.9)	112,015 (57.7)	112,460 (60.8)
Other (public sector)	110 (0.1)	103 (0.1)	216 (0.1)

Note: The numbers in the parenthesis are the shares in total exports.

Source: The Import-Export Bank of Korea.

Table 6 Overseas Investment of Korea's SMEs

(units: million US dollar, number)

		2001	2002	2003	2004
Total Overseas Investment	amount	5,063.2	3,525.3	3,736.4	2,959
	number	2,123	2,439	2,767	2,728
SMEs' Overseas Investment	amount	848.8	1,108.2	1,388.2	1,495.0
	number	1,334	1,532	1,671	1,292
Share of SMEs (percent)	amount	16.8	31.4	37.2	37.8
	number	62.8	62.8	60.4	47.4

Source: The Import-Export Bank of Korea.

### 3. Innovation, SME Development and APEC Cooperation

#### 3.1 APEC Discussions on SMEs

APEC recognizes that SMEs create most of the employment in the Asia-Pacific region and represent the sources of regional economic growth. APEC SMEWG had started as an Ad Hoc Policy Level Group on SMEs (PLGSME) in February 1995. It was then given its current name and granted permanent status. Its main objective is to assist SMEs improve their competitiveness and to facilitate a more open trade and investment environment. The SMEWG also provides the foundation for other APEC fora to incorporate SME considerations into their

mandates and activities. In addition, the meeting of Ministers responsible for SMEs has been held annually since 1994 and further invigorated SME related discussions and cooperation in APEC.<sup>8</sup>

SME issues and discussions can be best identified by analyzing the agenda and Ministerial Joint Statement of each year. The first three SMEMM years (1994-1996) can be summarized as a period of establishing broad targets and offering visions for APEC SMEs and cooperation among members. Major topics of discussion were facilitation of SME growth and development, deregulation of SME related policies, and improving SME infrastructure. The next three years (1997-1999) can be characterized as a period of broadening and substantiating discussion topics suggested in the previous period. Major topics of discussion in this period were the strengthening of SMEs' access to the market, technology, human resources, finance, and information; lowering trade barriers; and consulting with the private sector. The APEC Integrated Plan of Action for the Development of SMEs (SPAN) was also established based on the Osaka Action Agenda (OAA) in this period. The third period (2000-2002) can be characterized by discussions on meeting new challenges and SME environment. Discussion in this period had been redirected to SME cooperation in the new environment such as Knowledge-Based Economy (KBE), electronic commerce, innovation and sustainable growth. In the recent two years (2003-2004), discussions in the APEC SME processes had been transformed into identifying active role of SMEs to participate in the new environment. Entrepreneurship was the theme of the two consecutive years and emphasis had been on implementation in key areas such as regulation, financial accessibility, human resources, innovation and technology, and capacity building on globalization, particularly in exports. Emphasis was also on the creation of business opportunities by establishing APEC SME networks. In consideration of these trends, "Promoting Innovation of SMEs" was adopted as the theme of APEC SME 2005. Emphasis was placed on the pursuit of innovation in conjunction with entrepreneurship and globalization. To help the innovation of SMEs and capacity building, three sub-themes for APEC SME 2005 have been adopted as "Human Resources and Technology Development Industry and Academia Linkage," "Enhancing Availability of Capital to Innovate SMEs," "Networking and Clustering for Innovative SMEs."

### 3.2 SME Development Cooperation

Innovation drives economic growth and innovation, in turn, depends on market forces. Globalization can accelerate innovation and growth. It is now an accepted consensus that there

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<sup>8</sup> Refer to APEC website <http://www.apec.org>.

is a positive relationship between openness in trade and investment and economic growth.<sup>9</sup> Globalization increases both the stock of knowledge and the size of the potential market. SMEs can play a vital role in innovation since they are more flexible and responsive relative to large enterprises. There is a need for an appropriate environment in order for SMEs to respond to opportunities created by a changing market. APEC member economies can cooperate to bring about an appropriate environment so that SMEs can innovate themselves and attain their potential.

SME problems and attaining SME development potential, including innovation and external trade, are common interests to every APEC member economy, irrespective of whether they are developed or developing. Therefore, there is a relatively stable and favorable foundation for cooperation among members to develop SMEs.<sup>10</sup> SMEs are related more vertically than horizontally with other industries in and out of an economy through industrial linkages. Some efforts are needed to enhance linkages and trade by promoting the trade of parts or intermediate goods and counter trade of final goods and vice versa, among APEC member economies. Therefore, deeper integration and more stable trade relationships among APEC member economies will be obtainable by enhancing SMEs' innovation and globalization.

Identification, central filing, evaluation and monitoring of impediments specific to SMEs might be a starting point to enhance SMEs' innovation and globalization. Information on the impediments to SMEs' innovation and globalization (mostly specific to each economy) needs to be identified and gathered collectively and continuously from SMEs. It would incur high costs if we depend on the traditional way of conducting independent surveys. APEC needs an APEC-wide centralized online identification (enquiry and filing) and monitoring system that would assist in finding a solution with broad and cooperative participation from member economies. As tariff barriers decline and subregional integrations proliferate, other institutional trade barriers emerge. Some examples are non-tariff barriers both on and beyond border such as strict rules of origin, technical or sanitary regulations, measures related to environmental protection and so on. SMEs with low technology will encounter much more difficulties than large enterprises. To enhance efficiency, it would be helpful to examine if there are any structural differences between SMEs in developed and developing economies or between SMEs and micro enterprises. After some impediments are identified, they need to be classified by priority, for example, in the categories of urgency and timeframe. To determine this, the potential impacts of

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<sup>9</sup> Barrow and Sala-I-Martin (2004).

<sup>10</sup> In contrast, for example, sectoral issues such as agriculture or services represent a clear distinction of interests among member economies. For other overall issues including special and differential treatment for developing and least-developed countries, and multilateral trade relationships are mostly characterized by one-way flow of measures that render unilateral costs or benefits. Thus it is hard to implement measures or form cooperative relationships among member economies.

each impediment need to be evaluated. For the evaluation, some member economies related to the impediment might be assigned or volunteer based on specific interests and abilities. Five priorities or common difficulties faced by SMEs in all APEC economies outlined in the OAA SME Common Policy Concepts will also be a criterion: human resource development, access to information, technology and technology sharing, financing, and market access.<sup>11</sup>

To minimize any possibility of duplication and to enhance the efficiency of APEC cooperation, a database is needed on similar works in and out of APEC, for example, related to impediments specific to SMEs or those related to innovation and globalization in general. Some examples are notifications to the WTO Committee on Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS), OECD's series of works on SME policy cooperation and non-tariff barriers, and annual reports on trade barriers from member economies. Besides, there need a comparable or common definition of SMEs among APEC member economies as a basis of APEC-wide cooperation. Basic data on APEC SMEs can be established with the common definition. The database might include information on basic factor input and output relationship (or preferably productivity), international trade and investment, and major difficulties in business environment. APEC will be an appropriate institution for collecting, comparing, and outlining member economies' SME-support policies and ultimately identifying best practices. Virtually every APEC member economy adopts SME-supportive policies and programs that aim at making their SMEs more globally competitive.<sup>12</sup>

#### **4. Summary and Conclusion**

Various problems to SMEs and some ways to address those problems by improving the environment have already been discussed in series of fora, especially under the APEC SMEMM, SMEWG and consultations with business society. It is time to identify some common priorities among APEC member economies and to implement concrete measures. For domestic measures, APEC is an appropriate forum to identify best practices from preexisting domestic policy measures, especially, to promote SMEs' innovation and external trade in member economies. Some examples are domestic infrastructure (HRD, technology, R&D, financing, and information) and supportive measures. For foreign trade related issues, APEC can be a focal

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<sup>11</sup> In 2002, policy environment was added as a sixth priority area by updating the APEC Integrated Plan of Action for the Development of SMEs (SPAN).

<sup>12</sup> For example, Korea plans to enlarge export-related financing, export credit and insurance to be more accessible to external trade-related SMEs. SMEs are also encouraged and supported to penetrate new foreign markets with the help of foreign branches of KOTRA. They are aided in acquiring related international standards and building cyber trade capacity (offering related business information through an integrated network).

point to identify impediments (especially specific to each member economy) and to find solutions collectively at APEC as a whole to pursue some collective and efficient solutions for problems previously regarded bilateral problems. Some examples can be market access related measures, other structural problems specific to SMEs, structural differences in micro enterprises, women entrepreneurs, and impact of globalization to SMEs. Besides, networking both within a member economy and among APEC as a whole based on information and communication technology, for example, an APEC-wide institution on SME innovation will greatly enhance the efficiency of SME development in APEC region.

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