Chapter 10

Small and Medium Enterprises in Regional Production Networks: An Indonesian Case

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This study attempts to identify and examine key characteristics and constraints faced by Indonesian SMEs, in general and according to their status in production networks, as well as to draw some policy implications. The study utilizes a survey of selected manufacturing industries that was recently conducted in three provinces in Java. The key characteristics findings are as follows: Overall, the majority of SMEs surveyed are domestically owned, traditionally organized and still domestic-oriented. On average, they have been established for more than 15 years, employ up to 50 workers, of whom a large proportion are males with high school-level education or less, they still rely on their own money to finance their business, and they sell their product primarily to local final assemblers and wholesalers/retailers. The SMEs surveyed also mainly acquire raw materials from local suppliers. While the characteristics of out-of-production network SMEs have a lot in common with the overall sample, the characteristics of production network SMEs vary greatly. Although only a small number were included in the survey, production network SMEs are on average bigger in size, conduct their businesses using modern methods, and are more open internationally. The significant variation in characteristics between the two groups is also reflected in the groups' perceived barriers to SME growth and development, as well as in the effectiveness of assistance received. While out-of-productionnetwork SMEs are more concerned about internal barriers, those working within production networks focus more on external barriers. Taking into account these differences in characteristics and perceptions, separate policy measures should be addressed for each group.

1. Introduction

Economic integration has been one of the significant implications of globalization. Parallel to this, globalization has also transformed the global production process, from a fully integrated one into a sequence of interconnected chains of processes. Two key features of this transformation are: (1) *outsourcing* – sub-contracting parts of the process to other (upstream or downstream) business entities; and (2) *off-shoring* – sub-contracting the process abroad as part of cost reduction program. These features have increased the opportunity for local enterprises, including Small and Medium Enterprises (SMEs), to be involved in global production networks.

Understanding how to establish connections between local SMEs and global production networks has attracted extensive attention of many stakeholders, including academics and policy makers. Over the past few decades, a large body of theoretical and empirical literature on global production networks and its influence on economic development have been developed, postulating many advantages of participating in networks. It is also clearly important for policy makers to understand this connection as it provides support for industrial and development policy formulation. However, studies focusing on SME participation in production networks are relatively limited.

To shed light on this issue, this study attempts to gain a better understanding of SMEs and their participation in production networks. First, the study examines the internal characteristics of SMEs in Indonesia, along with the perceived barriers they face, and assesses the government support they receive. Second, the study analyzes comparisons of these characteristics, barriers and assessments between SMEs that participate in production networks and non-participating SMEs. To achieve this goal, the study utilizes information from a recent survey conducted by Lembaga Penyelidikan Ekonomi dan Masyarakat Fakultas Ekonomi Universitas Indonesia (LPEM FEUI), which gathered firm-level information. Three pre-selected manufacturing industries are covered in the survey, they are clothing and garments, parts and components of automotives, and parts and components of electronics and machineries.

Overall, this study comprises six sections. After the introduction, section 2 highlights some main characteristics of SMEs, and their contributionto the Indonesian

economy. Section 3 reviews some literature on SMEs in Indonesia, as well as policy measures to promote SMEs that have been undertaken by the Government of Indonesia. A small survey of manufacturing SMEs in selected industries, and descriptions of respondents' profiles, are analyzed on section 4, followed by Section 5 that elaborates on the survey results with respect to status of SMEs' involvement in production networks. Some perceptions of barriers toward this end are also discussed in this section. Lastly, section 6 concludes the paper by providing a summary and some policy recommendations.

2. SMEs in the Indonesia Economy

There were several definitions of small and medium enterprises (SMEs) which were commonly used in Indonesia prior to the enactment of Law no. 20 of 2008. While the Ministry of Cooperatives, Small and Medium Business Enterprises, defines an SME based merely on annual sales, the Central Statistics Agency uses number of employees as the main criterion to define an SME. The Central Bank employs different criteria to define SMEs, which include not only the value of assets and annual sales, but also the amount of loan funding they have received. Therefore it is not surprising to see that this leads to coordination policy problems among the agencies.

Despite that, Small and Medium Enterprises (SMEs) are strategically vital to the Indonesian economy. In 2006/2007 they accounted for more than 95% of total enterprises, and were also the largest employment generator (absorbing over 90% of the total workforce) in the country. Further, SMEs also contribute just over 50% of national output, both in current and constant prices. Typically, SMEs in Indonesia are concentrated in the agricultural sector, followed by trade, hotels and restaurants as the second, and manufacturing as the third largest sector, accounting for 52%, 28% and 6.5% respectively. Furthermore, within the manufacturing sector, SMEs are involved mainly in low technology manufacturing industries such as the food and beverage, textile and garment, and wood product industries, while only small numbers of them are involved in high technology industries.

Geographically, a large proportion of SMEs in Indonesia are scattered widely throughout rural areas. This is in line with the fact that a considerable number of SMEs are involved in the agricultural sector. Despite there being a slight upward trend in the volume of SME export, SME export is historically very small in amount, relative to that of large-scale enterprises. This may imply that the SME sector in Indonesia is predominantly domestic-oriented. Overall, they contribute only 15% to 16% of total national exports, most of which comes from medium enterprises. Another interesting feature of export-oriented SMEs in Indonesia is that the majority of them do not export directly, but rather indirectly through intermediaries like traders, trading houses, and exporting companies (Tambunan 2007).

3. Some Studies on Indonesia SMEs

As is the case in many developing countries, the development of SMEs in Indonesia is still lagging behind, relative to those in developed countries. A number of studies have provided examination of the state of SMEs in Indonesia and relevant policies. These include Urata (2000), Turner (2003), World Bank (2005), Thee (2006), and Tambunan (2006, 2007). Relative to other studies, Urata (2000) provides a comprehensive look at SMEs in Indonesia. According to Urata (2000), problems faced by the SME sector can be classified into three aspects., namely: (i) the financial aspect (i.e. access to financial resources/markets), (ii) the non-financial aspect (i.e. human resources, technology, and information) and (iii) the administrative aspect (i.e. coordination, monitoring and assessment).

Despite their relative underdeveloped state, SMEs also have several positive features. SMEs can still contribute to the stabilization process in times of crises (Barry *et al* 1999) and can also be an essential development agent due to their ability to react fast to change and innovation (Urata 2000). These abilities allow them to create new markets and opportunities.

3.1. Studies on SMEs in Production Networks

The above mentioned studies examine SMEs in a general fashion. To the best of our knowledge, only a few studies have investigated the participation of Indonesian SMEs in production networks. Among them are industry case studies conducted by Tambunan (2007) and Sandee *et al*. (2002). The main advantage of conducting industry case studies is that they provide more understanding of the drivers and mechanics of production networks. Tambunan conducted a study on SMEs in a metalworking industry cluster in Tegal, Central Java, whereas Sandee *et.al*. studied metal casting SME clusters in Klaten, also in Central Java. Both studies have shown that SMEs located in industrial clusters show a greater likelihood of having business linkages with large enterprises and wholesale distributors through sub-contracting systems. Moreover, they revealed that SMEs located in industrial clusters were also more able to improve their technological and innovation capability.

3.2. Overview of SME Policies in Indonesia

The Indonesian government has encouraged and promoted the importance of SMEs to the country's economic development. Until now, it has formulated and implemented various types of policy measures to further enhance the SME sector. To address financial problems, the government has launched various types of small-scale subsidized credit schemes including Kredit Investasi Kecil (KIK), Kredit Modal Kerja Permanen (KMKP), Kredit Usaha Kecil (KUK). With respect to non-financial problems, the government has initiated many kinds of technical assistance, covering aspects such as human resources, production, general management, quality control, technology, establishing small-scale industrial clusters/estates, small business coaching, small business incubator systems, foster parent programs, an SME innovation center and many more. To tackle administrative problems, the government has introduced several measures including simplifying rules and regulations for small business, enacting Presidential Decree no. 6 in 2007 on Policy to Accelerate Primary Sector and Empowerment of Micro, Small and Medium Scale Business, as well as unifying the definition of an SME (Law no.20/2008).

Although quite extensive policy measures have been undertaken, the results are still in question. A large part of this is due to coordination problems within government institutions.

4. Survey of Manufacturing SMEs in Indonesia

4.1. Survey Design and Methodology

First, the study employs a formal definition of SMEs, according to Law no.20/2008, that defines a small-scale enterprise as a business unit which has fixed assets (excluding land and buildings) of Rp 50 million to Rp 500 million, or annual sales of Rp 300 million to Rp 2.5 billion. Meanwhile, medium-scale enterprise is defined as a business unit which has fixed assets (excluding land and buildings) of Rp 500 million to Rp 10 billion, or annual sales of Rp 2.5 billion to Rp 50 billion.

As mentioned earlier, a survey of three pre-determined manufacturing industries was conducted. They were: clothing and garments (CG), parts and components of automotives (PCA), and parts and components of electronics and machineries (PCEM).[1] The survey was administered by LPEM FEUI from late October to December 2009, and utilized the latest Indonesian Economic Census 2006, published by the Central Statistics Agency (BPS) to construct sampling frames.

From the census, the three Indonesian provinces with the largest percentages of manufacturing SMEs are selected, consisting of West Java province (20%), Central Java province (17.7%) and East Java province (17.3%). Overall, these three provinces account for 55% of total manufacturing SMEs in Indonesia, which justifies the decision to select these provinces as the survey target locations. Further analysis of the census

[1] The Clothing and Garment industry comprises Indonesian Standards of Industrial Classifications (ISIC) code 17 and 18, the Parts and components of automotive industry consists of ISIC code 34 and 35, and the Parts and components of machinery and electronics industry contains ISIC code 29 – 32. Further detailed explanation of these selected industries can found in Appendix 1.

suggests that, rather than being evenly distributed throughout each province, SMEs tend to be concentrated in only a few districts or cities.

With a total of 105[2] randomly selected companies from the three manufacturing industries, the distribution of respondents is seen in table 1 below.

Table 1. Distribution of Respondents

Province	Districts	Industry			TOTAL
		CG	PCA	PCEM	
West Java	Bogor	2	4	5	47
	Bekasi	0	3	5	
	Bandung	8	2	0	
	Bandung City	8	3	7	
Central Java	Tegal	5	8	10	39
	Pekalongan	6	1	0	
	Pekalongan City	4	0	1	
	Semarang	0	1	3	
East Java	Sidoarjo	2	2	5	19
	Gresik	2	0	2	
	Surabaya City	3	3	0	
TOTAL		40	27	38	105

The survey used a similarly structured questionnaire to those applied in other member countries of the ERIA-SME working group. Since the information to be gathered is quite extensive, the target respondents are middle managers and above, or the owners of the companies.

4.2. Overall SME Respondent Profile

On average, our respondents have already been established for more than 15 years. The oldest was established in 1940 (in the Clothing Garment industry), while the youngest was established in 2004 (in the Clothing Garment and Parts and Components

[2] Initially, the survey was aiming for 125 manufacturing SME respondents. However, due to incomplete information it was trimmed down to 105 respondents.

of Electronics and Machinery Industries). Relative to the other industries, the PCEM industry is a recently developed one, as the oldest PCEM firm was established in 1972.

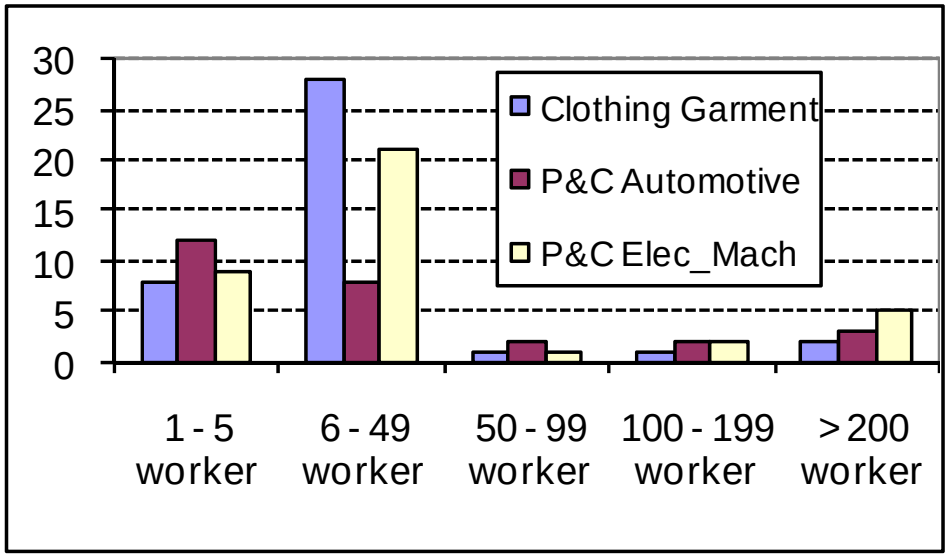
Table 2. Age Profile of Sample

YEAR EST	CG	PCA	PCEM
Year max	2004	2003	2004
Year avg	1992	1992	1991
Year min	1940	1945	1972

Source: author's calculation

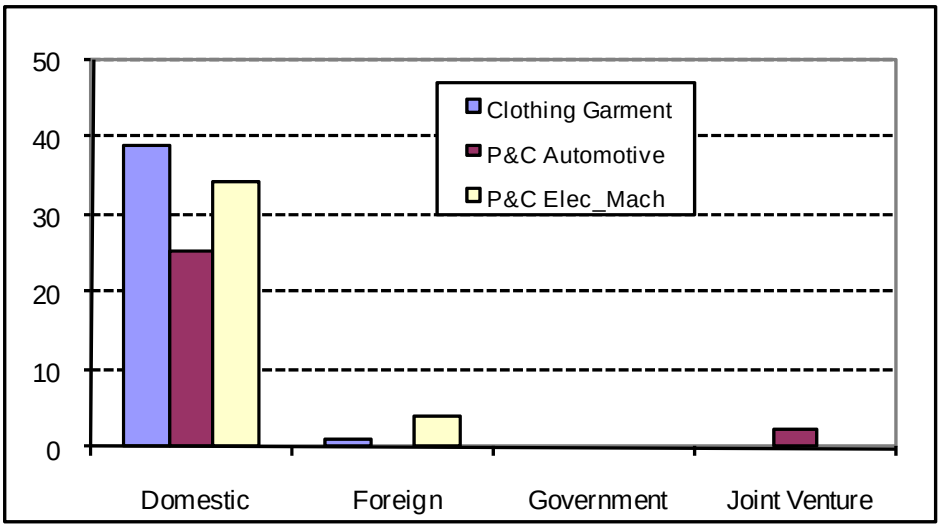
In terms of workforce size, the general pattern reveals that large fractions of our SME respondents (86 of 105) have less than 50 workers, with most (57 of 86) having from 6 to 49 workers. Only 10 of 105 firms have more than 200 workers. Conversely, a large proportion of SMEs in the PCA industry only have between 1 and 5 workers. Figure 1 below describes the workforce size by industry type.

Figure 1. Distribution of Respondents according to Company Size



Source: Author's calculation

Figure 2. Distribution of Respondents according to Ownership



In total, more than 90% of the SME respondents are domestically owned. Only a few SMEs are foreign owned, or are a joint venture with foreign firms. Such types of ownership status are common in the PCA and PCEM industries, and the people or foreign firms involved are mainly from Japan and Korea. The status of SMEs by industry type can be seen in Figure 2 above.

Material costs remain the largest part of total costs for the respondents, on average accounting for more than 50% of their cost structure. The second and third largest part of total costs are labor (greater than 20% on average) and utilities (above 10% on average) respectively. This pattern is similar across industries. Table 3 below reveals the average cost structure by industry type.

Table 3. Cost Profile of Sample

COST STR (AVG)	CG		PCA		PCEM	
	2007	2008	2007	2008	2007	2008
Profit (%)	14.9	14.8	18.2	16.3	18.4	17.9
Labour cost (%)	22.5	22.3	23.1	23.7	21.8	21.5
Material cost (%)	57.4	57.0	56.3	56.2	56.1	55.8
Utilities cost (%)	10.4	10.7	11.1	11.8	11.1	11.4
Interest pay't (%)	5.0	5.1	2.1	1.9	4.0	4.1
Other cost (%)	4.9	4.9	7.3	6.4	7.0	7.1

Source: Author's calculation
Note: Profit is percentage of sales
Cost variables are percentages of Total Cost

In 2008, the average number of employees per firm across all industries wass about 57, and more than 90% of them are educated to high school graduate level or lower. This explains the low productivity of the labor force in SMEs. Another crucial point related to employment in SMEs is that most of the workforce is male, regardless of their level of education.

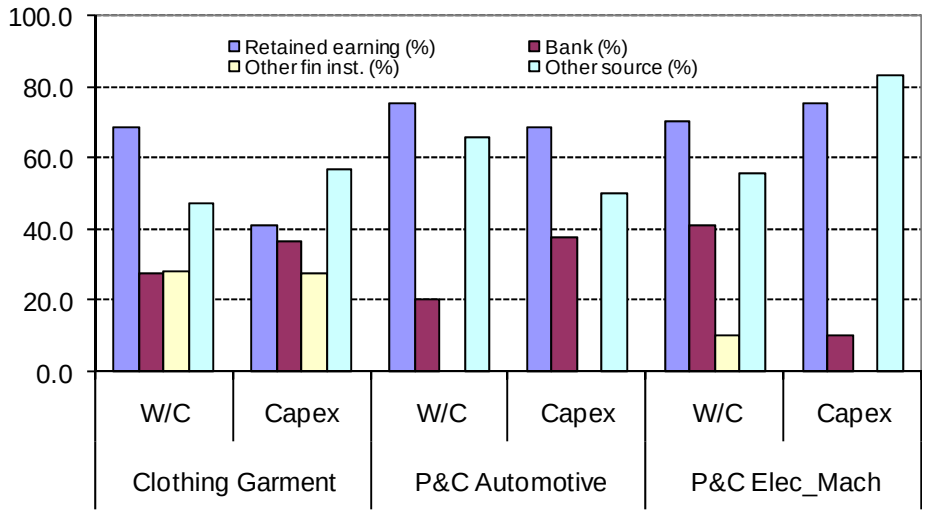
Table 4. Employment Profile of Sample

EMPL 2008 (AVG)	CG	PCA	PCEM	TOTAL
Number	25.3	81.8	73.3	57.2
% Female	36.0	5.7	13.8	20.2
% Tertiary	1.7	5.7	2.8	3.1
% Female	4.9	6.2	7.6	6.2
% Vocation	0.5	2.1	4.2	2.3
% Female	2.8	10.0	9.5	7.1
% High School/less	97.9	92.3	93.3	94.8
% Female	36.0	5.8	14.1	20.3

Source: Author's calculation

There is a slight variation in terms of SME sourcing of funds, Retained earnings is the primary source of funds for working capital (W/C) in all selected industries, with an average usage per firm of around 70%. In contrast, for capital expansion (Capex), SMEs in the CG and PCEM industries would prefer to use 'others' (i.e. personal savings) as the main source of funds to finance their expansion, while PCA firms still prefer to use retained earnings. The second source of funds is the bank, followed by other financial institutions. This may suggest that a large proportion of SMEs are still relying on their own money, and hence are not exposed to banks or other financial institutions yet. This may reflect a strong traditional mindset.

Figure 3. Distribution of Respondents' Financial Source (%)



Source: Author's calculation

From a total of 105 SMEs, only 12 import part or all of their raw materials from abroad, most of which comes from China and Japan. The Industry that uses a relatively large amount of imported raw materials is PCME. A large fraction of SMEs obtain their raw materials from domestic market. T able 5 shows that respondents obtain their input from various sources. In the domestic market, the main source is from local SMEs which, on average, fulfills 34% of their firms' input needs, followed consecutively by other domestic suppliers and large local firms with 31.2% and 28.9% respectively. There are some variations across industries in this regard. Firms in the clothing and

garment industry use other domestic suppliers and local SMEs as their main source of input. For firms in the automotive industry, the main source of input is from large local firms, while those in the electronics and machinery industry obtain their input materials largely from local SMEs.

On average, more than 90% of SMEs' products are sold to the domestic market. This supports the strong domestic orientation of Indonesian manufacturing SMEs. For those firms which sell domestically, on average each of those selling to final assemblers around 79%, selling to wholesalers/retailers around 65%, and the rest to the 3rd tier and higher (57.5%), to the 2nd tier (49%) and to the 1st tier (43.4%)[3].. Besides the domestic market, only 12 SMEs exported their products abroad with, on average, each of those firms exporting around 49% of their production. Of these 12 exporters, there are 7 exporting SMEs from the Clothing Garment industry, 4 from the Parts and Components of Electronics and Machinery industry, and only 1 from the Parts and Components of Automotive industry. Their main export destinations include ASEAN, Europe, USA, Australia, and Korea.

Table 5. Respondents' Source of Input Material

Source of Material (AVG)	CG	PCA	PCEM	TOTAL
Local SME (%)	36.8	29.3	34.3	34
Local Large Firms (%)	22.8	37.4	29.3	28.9
Other Domestic Supplier (%)	39.3	27	25.8	31.2
Import (%)	1.3	6.3	10.5	5.9
Total (%)	100	100	100	100
No. of importing firm	2	3	7	12
Avg.Import of Importing firms (%)	25.0	56.7	57.0	51.6
Source of import countries	Italy, China	China, Japan, Vietnam	China, Japan, Korea	

Source: Author's calculation

[3] Implementation of the survey suggests that respondents often did not have certain information about their relative position in the value chain networks. Therefore, we should be careful in interpreting the average percentages of their sales patterns.

Table 6. Respondents' Sales Patern

Sales Patern (AVG)	CG	PCA	PCEM	TOTAL
Domestic (%)	91.4	97.8	95.1	94.4
- Final Assembler (%)	85.6	74.7	76.7	79.0
- 1st tier (%)	49.2	28.8	46.1	43.4
- 2nd tier (%)	56.3	48.3	44.7	49.1
- 3rd tier and more (%)	-	68.3	38.8	57.5
- Wholesale/Retail (%)	72.2	61.0	59.3	64.9
Export (%)	49.4	60.0	46.3	49.3
No. of exporting firm	7	1	4	**12**
Target of export countries	ASEAN, USA, AUS	Europe	ASEAN,	
	Korea, Europe		Colombia	

Source: Author's calculation

In terms of location, an average SME respondent is about 35.5 km from a main port and 18.5 km from an EPZ or Industrial Park. There is, however, some variation across industries. The total number of SMEs inside versus outside EPZs or industrial parks is relatively similar, with 46 SMEs inside and 59 SMEs outside. Table 7 below presents the average distance of SMEs from main ports and EPZs or Industrial parks.

Table 7. Respondents' Profile according to Location

Location (AVG)	CG	PCA	PCEM	TOTAL
Dist from port (km)	43.4	26.2	33.9	35.5
Dist from EPZ/Ind Park (km)	21.0	16.4	17.3	18.5
No. Inside EPZ/Ind Park	17	12	17	46
No. Outside EPZ/Ind Park	23	15	21	59

Source: Author's calculation

5. Analysis of SMEs by Status in Production Network

5.1. Comparison between SMEs In and Out of Production Networks

There are various definitions of production networks being used in this study, however SMEs that participate in production networks are defined as either firms that sell their products to subsequent (downstream) business entities (i.e. 3rd tier, 2nd tier, 1st tier or final assemblers), excluding wholesalers/retailers, and export their production abroad, or firms that sell their products to subsequent (downstream) business entities (i.e. 3rd tier, 2nd tier, 1st tier or final assemblers), excluding wholesalers/retailers, and import their materials from abroad. This definition requires three strong assumptions. First, only direct export or import activity tcan be seen as participation in production networks. Second, it is implicitly assumed that foreign buyers are always downstream businesses that further process the products or, in a parallel way, foreign sellers are always upstream businesses that sell their products to be further processed. Third, wholesalers/retailers are pressumed to be only involved in reselling products to end consumers, with no value added creation process.[4]

Taking the above definition, distribution of respondents by type of industry and their particpation in production networks are presented in Table 8 below.

[4] This definition is not without limitation and may still be arguable. First, to a large extent, this is conflicting with the fact that the majority of export-oriented SMEs in Indonesia export their products indirectly, through intermediaries like traders, trading houses, and exporting companies, rather than exporting directly (Tambunan 2007). Second, there is no detailed information available from respondents regarding their foreign buyers or foreign sellers. Third, wholesalers/retailers could also perform other tasks rather than just reselling. For instance, a modern supermarket like Carrefour not only sells consumer goods to the final consumer, but also carries out other activities/functions such as producing ready-prepared food, repackaging and creating a home brand, all of which may create value added to the product sold. However, for simplicity it is still reasonable to use such a definition .

Table 8. Sample Profile based on Industries and Involvement in Production Network

Prod. Network	Industry			Total
	CG	PCA	PCEM	
Non-PN	36 (90)	24 (89)	33 (87)	93 (89)
PN	4 (10)	3 (11)	5 (13)	12 (11)
Total	40 (100)	27 (100)	38 (100)	105 (100)

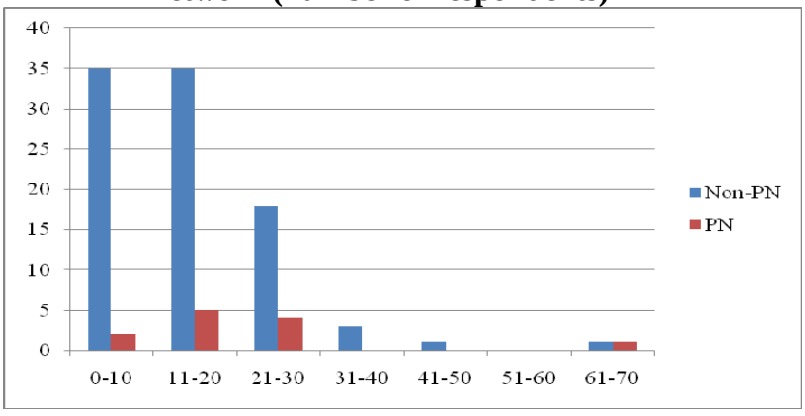
Source: Author's calculation

Figure in brackets are percentages

It is obvious that only a small number of respondents (slightly above 10%) participate in production networks. This pattern is similar across industries. Relative to other industries, the lowest percentage of participation in production networks is found in Clothing Garment industry. This seems reasonable as the type of products in this industry often do not require further processing and can be use directly by consumer. In contrast, products from Parts and Components of Automotive and Parts and Components of Electronics and Machinery industries require further processing before being sold to consumers.

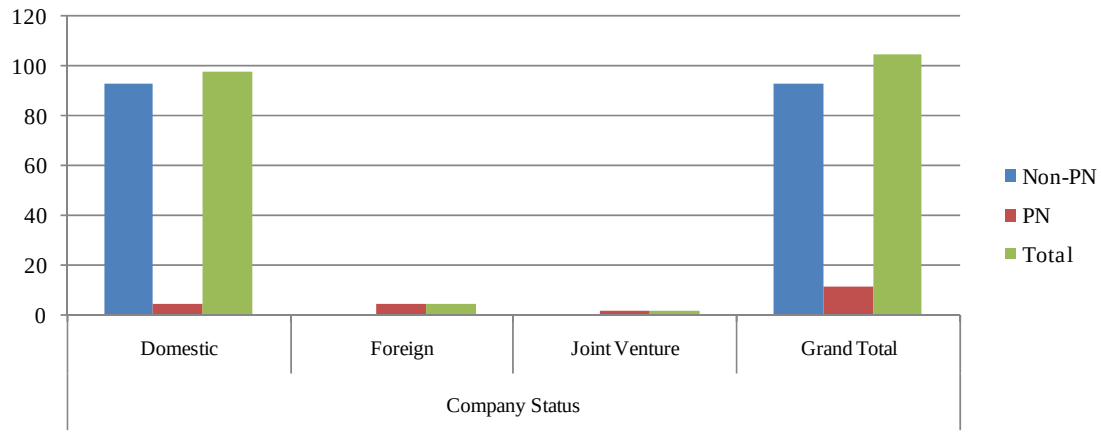
A comparison of the distribution of age groups between in-productionnetwork and out-of-productionnetwork respondents is presented at Figure 4 below. Overall, more than 90 percent of manufacturing SMEs in both groups are less than 30 years old. However, there is no clear pattern of variation evident among the groups, all of which suggests that the age variable has an insignificant effect on differences between the groups.

Figure 4. Sample Profile based on Age Groups and Involvement in Production Network (number of respondents)



In terms of ownership status, almost all respondents that work out of production networks are domestically owned, while only a few are either foreign owned or joint venture companies. In contrast, it is not surprising to find that more than half (58%) of SMEs in the production network group are either foreign-owned or joint venture companies, most of which are established in the PCA and PCEM industries. This may imply that the other 42% of SMEs in the production network group are domestically owned and are capable of participating in global production networks. Figure 5 below provides an illustration of the companies' ownership status.

Figure 5. Sample Profile based on Ownership and Involvement in Production Network (number of respondents)



In terms of workforce size, despite the majority still employing less than 50 workers, SMEs in production networks seem to have more variation in size, relative to out-of-productionnetwork SMEs. Quite a few SMEs in the production network group employ more than 100 workers, which puts them in the category of medium scale enterprise. Table 9 below presents the distribution of SME participation in production networks by employment size.

Table 9. Sample Profile based on Company Size and Involvement in Production Network (number of respondents)

Company Size	Production Network	
	Out	In
1-5 worker	29	0
6-49 worker	56	1
50-99 worker	3	2
100-199 worker	4	1
>200 worker	1	8
Total	93	12

Source: Author's calculation

For respondents from both the production network group and the out-of-productionnetwork group, cost of materials is still counted as the largest part of cost structure at, on average, more than 50% per firm, followed by labor costs (around 20%) and utilities costs (approximately 10%). Comparison of the groups reveals than firms in production networks spend,on average, a greater percentage on labor and material costs than those out of production networks.

Table 10. Sample's Cost Structure based on Involvement in Production Network (percentage of total cost)

Cost Structure (AVG)	Out		In	
	2007	2008	2007	2008
Labor Cost	22.1	21.9	24.9	25.8
Material Cost	56.3	56.2	59	58
Utilities Cost	11	11.4	9.8	9.8
Interest Payment	4	4	2.7	2.8
Other Cost	6.6	6.4	3.7	3.7

Source: Author's calculation

A quite similar pattern to the one mentioned above also appears with respect to average size of workforce per firm among the groups. SMEs that participate in production networks tend to employ a higher average number of workers, a higher percentage of female workers, and also a greater percentage of highly educated employees. Perhaps this might be one reason why SMEs in productioon networks have

a higher average percentage of labor costs , as previously described. These results also imply that the participation of SMEs in production networks is relatively good for gender equality, since SMEs participating in production networks employ far higher proportions of female workers at all educational levels.

Table 11. Sample Profile based on Employment and Involvement in Production Network (number of workers and percentage)

Average Employement 2008	Out	In	Total
Number	23.7	316.8	57.2
% female	18	37	20.2
% Tertiary	1.9	12.7	3.1
% female	4	23.4	6.2
% Vocational	1.6	7.5	2.3
% female	4.9	24.1	7.1
%High School/less	96.7	79.8	94.8
% female	17.7	40.6	20.3

Source: Author's calculation

Overall, SMEs that participate in production networks perform better in terms of average sales value than those that do not, although the discrepancy between the groups declined from 2007 to 2008. The relatively slow growth in average sales among SMEs in the production network group may reflect the impact of the global crisis in 2008 on overseas principal companies. A sharp decline in sales of principal companies abroad will in turn affect the demand for parts and components from off-shore networks. Table 12 below summarizes this situation.

Table 12. Annual Sales Profile based on Industries and Involvement in Production Network

Prod. Network	Average Sales 2007 (mill. Rp)				Average Sales 2008 (mill. Rp)			
	Industry			Group Average	Industry			Group Average
	CG	PCA	PCEM		CG	PCA	PCEM	
Out	1031	5443	2651	2745	40413	238606	106617	385635
In	1563	255333	87700	100896	6695	788000	488631	1283326
Industry Average	1084	33209	13841	13962	47108	1026606	595247	1668961

Source: Author's calculation

Table 13. Margin of Profit Profile based on Industries and Involvement in Production Network

Prod. Network	Average Profit 2007 (%)				Average Profit 2008 (%)			
	Industry			Group Average	Industry			Group Average
	CG	PCA	PCEM		CG	PCA	PCEM	
Out	15	14	17	14	19	18	17	16
In	11	19	28	32	16	17	18	22
Industry Average	15	15	18	16	18	18	17	16

Source: Author's calculation
Note * : Percentage profit of total sales

Despite an increase in average sales value and sales growth, the average profit margin for firms within production networks declined sharply from 2007 to 2008. Once again, this emphasizes the sheer impact of the global crisis in 2008. Furthermore, declining proft marginsare also casued by the increasesin firms' average percentage of expenditure on labour costs, interest payments and other costs incurred by this group in the same period. Unlike those in production networks, out-of-productionnetwork SMEs perform better, in terms of their average profit margins. A brief description of the average profit situation can be seen in Table 13 above.

As can be seen in Table 14 below, both groups of respondents predominantly use their retained earnings as the primary source of finance for their working capital and capital expenditure. It can be seen from the table that retained earnings have the highest average percentage per firm in both groups. Surprisingly, the average percentage of working capital and capital expenditure sourced from retained earnings is higher in SMEs which are part of production networks, compared to the out-of-productionnetwork SMEs. On the other hand, the average percentage of finaces sourced from banks and other financial institutions is much more prevalent in the SMEs which are part of production networks, implying that they have more variety of financing sources.

Table 14. Sample Profile based on Financial Sources and Involvement in Production Network (percentage)

Source of Finance	Out	In	Total
WC: Retained Earning	68.2	92.2	70.8
WC: Bank	27.8	55	30.4
WC: Other Fin. Institution	18.8	50	22.2
WC: Others	57	22.5	55.7
CE: Retained Earning	60	75	63
CE: Bank	38.6	62.5	43.9
CE: Other Fin. Institution	5	50	27.5
CE: Others	71.7	37.5	65.5

Source: Author's calculation

Direct comparison of SMEs that participate in production networks and those that are out of production networks highlightss significant variation in terms of input structure. While those with no participation in networks heavily rely on local SMEs and other domestic suppliers, those in the networks depend on large local firms and import. This might also explain why SMEs in production networks have a higher average percentage of expenditure on materials than out-of-productionnetwork SMEs.

Table 15. Sample Profile based on Source of Materials and Involvement in Production Network (percentage)

Source of Input	Out	In	Total
Local SME	36.1	17.6	34
Local Large Firm	27.5	39.5	28.9
Other Dom. Supplier	34.1	9.3	31.2
Imports	2.3	33.7	5.9
Total	100	100	100

Source: Author's calculation

Figures for average distance from a main port provide unexpeected findings (see table 16 below). Contrary to expectation, SMEs that are partof production networks have, on average, further away from main ports than those out of production networks. Logically, this distance from the port may result in higher cost of transportation to the port. However, it seems that distance to the main port has an insignificant impact on firms in production networks. Moreover, the discrepancy in average distance between those who are in and out of production networks is not too substantial, only slightly above 5 km.

Table 16. Sample Profile based on Distance from Main Ports and Involvement in Production Network (km)

Prod. Network	Industry			Total
	CG	PCA	PCEM	
Out	43.6	23.5	33.9	34.9
In	41.8	48.3	34	40.2
Industry Average	43.4	26.2	33.9	35.5

Source: Author's calculation

Information on distance from Export Processing Zones (EPZ) or Industrial Parks in Table 17 below highlights another interesting finding. First, the majority of SMEs are located outside the EPZs/Industrial Parks. The table shows that respondents with production networks aresituated inside and outside the EPZs/industrial parks in equal

numbers. However, a close examination of the raw data for those located outside the EPZs suggests that the distance to EPZs is not too great, generally less than 10 km.

Table 17. Sample Profile based on Location and Involvement in Production Network (number of respondents)

Prod. Network	Industrial Park	
	Outside	Inside
Out	53	40
In	6	6
TOTAL	59	46

Source: Author's calculation

5.2. Perception of Barriers to SME Development

5.2.1. Perceptions of All Respondents

Table 18 below ranks the types of barriers perceived by respondent when running their businesses.[5] Overall, internal barriers (barriers associated with organization/resources/capabilities and approach to business development) are still regarded as the most significant barriers for SMEs to further develop their business. It can be clearly seen in the table that the top three barriers (those with the lowest average rank) are product and price barriers (2.8), functional barriers (2.9) and informational barriers (3.4), respectively.

Of the external barriers (barriers stemming from the home and foreign/target/host environment, within which the firm operates), the business environment barriers are the most significant (average rank of 4.1). The rest are regarded as having a less significant influence.

[5] On a scale of 1 to 8, the lower the rank, the more significant the barriers to their business.

Table 18. Average Rank of General Barriers

Types of Barriers	Average Rank
Product and price barriers	2.8
Functional barriers	2.9
Informational barriers	3.4
Business environment barriers	4.1
Procedural barriers	4.4
Distribution, logistics and promotional barriers	4.5
Tax, tariff and non-tariff barriers	6.1
Other barriers (e.g. perceived risk, benefit, willingness to adopt new idea)	7.7

Source: Author's calculation

A detailed portrait of these barriers is presented in tables 19 and 20. Table 19 presents the average rank of the top five strongest specific barriers to further developing the SMEs, while table 20 presents the five specific barriers perceived by respondents to be of least hinderence.

Table 19. Five Strongest Specific Barriers

Code of Barrier	Barrier	Perception of Effectiveness (AVG)
B28a	Poor/deteriorating economic condition in home market	2.43
B7	Shortage of working capital to finance new business plan	2.76
B2	Unreliable market data	2.78
B15	Difficulty in matching competitors' prices	2.85
B14	Offering competitive prices to customers	2.88

Source: Author's calculation

Table 20. Five Least Hindering Specific Barriers

Code of Barrier	Barrier	Perception of Effectiveness (AVG)
B29b	Inadequacy of basic and IT infrastructure in foreign market	4.43
B31b	High tax and tariff barriers in foreign market	4.56
B32b	Inadequate property protection in foreign market	4.58
B34b	High cost of custom administration in foreign market'	4.59
B33b	Restrictive health and safety standards in foreign market	4.65

Source: Author's calculation

In general, the majority of the most significant barriers faced by the sample are internal, i.e. parts of functional barriers, informational barriers and product and price barriers. On the other hand, all five of the least significant barriers are external, and are particularly related to foreign markets. This, in turn, strongly reflects the domestic-oriented characteristics of SMEs in Indonesia in general.

Of the seven forms of assistance that have been received, all of them are perceived to be effective or adequate. This is shown by their low average value of perception, which is around 2.[6] Among these forms assistance, counseling and advice is positioned on top, both in terms of frequency of being received (23) and in terms of the average value of its effectiveness (2.09). Interestingly, average values for training and financial assistance, even though both are the joint-second most frequently received (each get 22), are ranked number four (2.23) and six (2.5) respectively, in terms of their effectiveness. In contrast, business linkage & network and technology development, which have a relatively low rank in terms of frequency of provision (18 and 11 respectively), have higher average values for effectiveness (2.17 and 2.18 respectively)

[6] On a scale of 1 to 5, the lower the value, the more effective the assistance

than training and financing. Table 21 below displays the rankings for perceived effectiveness of assistance.

Table 21. Summary of Assistance

Types of Assistance	Frequency	Aver. Value of Perception of Effectiveness
Counseling and advice	23	2.09
Business linkage and network	18	2.17
Technology development	11	2.18
Training	22	2.23
Market information	16	2.25
Financing	22	2.5
Improvement in investment climate	16	2.5

Source: Author's calculation

It can be briefly inferred that training and financing assistance that has been received by SMEs is the least effective. Apart from counseling and advice, what they need most is assistance with business linkages and technology development.

5.2.2. Perception by Status in Production Networks

The overall perception of out-of-production network SMEs of general barriers has a lot in common with the overall sample's perception. Accordingly, this group tends to perceive more internal barriers, with informational barriers, functional barriers, and product and price barriers as its top three most significant barriers, while external barriers are perceived to offer the least hindrance. In contrast, the top three most important obstacles perceived by SMEs in production networks are both external (i.e. business environment barriers) and internal barriers (functional barriers, and product and price barriers). Details of these findings are presented in table 22 below.

Table 22. Average Rank of General Barriers by Participation in Production Network

General Barriers	Out	In	Total
Informational Barriers	3.3	4.2	3.4
Functional Barriers	2.8	3.9	3
Product and Price Barriers	2.6	4.1	2.8
Distribution, Logistics & Promotion Barriers	4.5	4.1	4.5
Procedural Barriers	4.4	4.5	4.4
Business Environment Barriers	4.2	3.3	4.1
Tax, Tariff and non-Tariff Barriers	6.4	4.7	6.2
Other Barriers	7.7	7.3	7.7

Source: Author's calculation

While the out-of-production network SMEs face circumstances which are not dissimilar to the overall sample, the production network SMEs' circumstances differ greatly. This is because the out-of-productionnetwork group characterizes Indonesian SMEs in general, along with their domestic orientation and relatively small size.

Table 23. Five Strongest Specific Barriers by Participation in Production Network

No.	Out		In	
1	Poor economic condition (home market)	2.4	Poor economic condition (foreign market)	2.3
2	Shortage of working capital to finance new business plan	2.6	Poor economic condition (home market)	2.9
3	Unreliable market data	2.7	Political instability (home market)	3.3
4	Difficulty in getting credit from suppliers and fin. Institutions	2.7	High costs of customs administration, in exporting or importing (home market)	3.3
5	Difficulty in matching competitor's prices	2.8	Inadequate property rights protection (foreign market)	3.4

Source: Author's calculation

All five of the production network group's most significant barriers are external. This situation may imply that respondents which are able to become integrated into production networks are larger in size and higher-quality businesses. This enables them to grow, as they are not restricted by their internal capacity and capability.

The most hindering constraint, according to the production network group, is the poor or deteriorating economic condition of foreign markets. This constraint is followed by the home market's poor or deteriorating economic condition as the second most significant. This could be a signal that respondents in the production network group are no longer domestic-oriented. Even if they are still domestic-oriented, their international trade activities have become an essential part of their business. This feature is also reflected by their perception that high costs of customs administration is one of the biggest obstacles. This emphasizes the fact that this group is largely engaged in international trade, and has moved away from a domestic orientation.

The production network group also sees that political instability can be a great constraint to their growth. Since the respondents of this group are relatively larger in size when compared to the overall sample, and thus employ greater numbers of workers, they face higher financial risk if there is labor turmoil or if the investment climate worsens due to political instability in Indonesia.

It is also very important to note that this group finds that they are impeded by inadequate property rights protection in foreign markets. This can imply that they are not yet fully protected from the threats of plagiarism and/or piracy. Though they are already aware of this, they may find it is too costly for them to take the necessary measures needed to secure their property rights.

Besides this, the production network group seems to be equipped with adequately educated human resources, to such an extent that the respondents from this group perceive constraints related to difficulty with paperwork, contract enforcement and dispute settlement to be unlikely to hinder their operations. Moreover, respondents from this group seem to also be more dynamic with various customer requirements, meaning that they find giving after-sales service and complying with certain product standards is not a burden.

Table 24. Five Least Hindering Specific Barriers by Participation in Production Network

No.	Out		In	
1	Restrictive health, safety and technical standard (foreign market)	4.8	Offering technical/after-sales service	4.6
2	Inadequate property rights protection (foreign market)	4.7	Difficulties in enforcing contracts and resolving disputes	4.6
3	High costs of customs administration, in exporting or importing (foreign market)	4.7	Unfamiliarity with complexity of procedures/paperwork	4.6
4	High tax and tariff barriers (foreign market)	4.6	Meeting packaging/labeling requirements	4.5
5	Inadequacy of basic and IT infrastructure (foreign market)	4.5	Anti-competitive or informal practice	4.5

Source: Author's calculation

Furthermore, the out-of-productionnetwork respondents find that Financing as type of assistance which can help them to overcome their problems. This is consistent with their perception on general barriers and specific barriers as stated in Table 22 and 23 above. On the other hand, the production network respondents find that Market Information as type of assistance which can help them to overcome problems they face. This also coherent with the general barriers (business environment barriers) and specific barriers that they perceive to be most hindering.

Table 25. Summary of Assistance by Participation in Production Network

Types of Assistance	Out	In	Total
Training	3.9	4	3.9
Counseling and Advice	5.1	3.6	4.9
Tech. Dev. And Transfer	4.5	4.3	4.4
Market Information	3	2.8	3
Business Link. And Networking	4.3	4.1	4.3
Financing	2.7	5.3	3
Overall Improv. in Investment Climate	4.7	3.9	4.6

Source: Author's calculation

6. Conclusion and Policy Implications

The survey reveals that there are significant differences between the characteristics and perceptions of the production network group and those of the out-of-productionnetwork group. These variations in perceptions result from differences in group characteristics and the circumstances these two groups face. Therefore, different policy approaches are recommended.

6.1. The Out-of-Production Network Group

An overall feature of this group is that they are, on average, domestic-oriented. This orientation may prevail due to two reasons. First, some SMEs may already have sufficient information or potential to participate in a regional production network. However, they may be incapable of participating because of insufficient capital to grow their business or inadequate human resources to fulfill demand for higher quality and quantity. Second, some SMEs may not have enough access to information about potential business in regional production networks. This kind of SME may have few or no staff or management with high-level education, people who would have better access to this kind of information, and would have better ability to understand and identify the potential gains from information about regional production networks.

The two reasons elaborated above are also in accordance with the group's perception that the most significant barriers are internal barriers. Therefore, policy for the promotion of this group should concentrate on overcoming internal weaknesses. Another objective should also be to increase SMEs' access to information about potential business in regional production networks.

Training. Assistance in the form of training for the out-of-productionnetwork group should include training in simple modern management methodology. Many SMEs in this group do not conduct formal accounting and utilise modern management methodology in running their business. This situation has prevented them from getting opportunities to expand their business, such as receiving bank loans. Moreover, low quality of management seems to prevent them from implementing capital expansion,

which is a key element in company growth. It is argued that it is common to find SMEs which do not calculate depreciation costs. Therefore, there is skepticism that their reported profit margins do not represent net profit because depreciation costs are not incorporated into their calculations.

Training in the utilization of simple information systems will also beneficial for SMEs in this group. This kind of training can help them to source and understand more complete market information, as well as increase their exposure to potential suppliers and customers. Such training can be as simple as training in how to utilize email and the Internet, how to make blogs or websites to sell products, how to find relevant information in the Internet, and how to join Internet-based business portals.

However, knowing that the central government's ability to reach out to SMEs which are dispersed throughout the archipelago is limited, it is proposed that such training should be actively implemented by local governments. Surely, central governments should provide assistance in order to give local governments greater capacity to implement the programs.

Assistance in the form of training should be customized so that it is easily understood and applied. Entrepreneurs of SMEs usually learn business skill through their own experiences and from their families. As is also revealed by the survey, most SMEs are managed or owned by people with a relatively low level of education. They also employ more unskilled labor, which makes their production process rather simple or need special skills which not necessarily are obtained in schools. Hence, training should not necessarily use highly scientific terminologies, and should embrace and not underestimate the participants' self-acquired business knowledge and production skills. Criticism of previous training assistances provided by the government , especially the Ministry of Industry and state owned enterprises are mentioned by Turner (2003). According to her, this training has been problematic and ineffective because it is not easily understood and implemented, and tends to discourage SMEs due to prejudice from their traditional mindset.

Especially for training in exporting and importing practice, the Ministry of Trade has been operating the Indonesia Export Training Center (IETC) or Balai Besar Pendidikan dan Pelatihan Ekspor Indonesia (PPEI) since 1990 under the supervision of Balai Pengembangan Ekspor Nasional/BPEN (National Agency for Export

Development/NAFED). This institution provides various kinds of training ranging from Exporting Procedural Class to very specific classes such as Garment Merchandising. They do apply some fees to each class but those fees are relatively affordable. Urata (2000) also mentioned that many entrepreneurs are willing to pay the fees, because they find that the benefit they receive is worth the fees. NAFED also has built several other training centers known as Regional Export Training and Promotion Centers (RETPC) in major cities on Indonesia's four biggest islands. Those cities are Medan in Sumatra, Surabaya in East Java, Banjarmasin in Kalimantan and Makassar in Sulawesi. These training and promotion centers provide training in export procedure as well as training in local specific needs such as entrepreneurship and product innovation. Some centers provide training for free, while some charge fees which are relatively cheap due to subsidies provided by the Ministry of Trade. These centers also provide consultation facilities for their alumni, especially consultation on promotion and marketing. They also arrange trade fairs and promotion events for SMEs in their regions. The training center in Surabaya even organizes buyer meetings for its participants, while the training center in Medan cooperates with Universitas Sumatera Utara in offering classes on entrepreneurship for its students. However, since these centers are relatively new compared to the IETC, they cannot hold training very frequently. Some training is only available twice a year. Furthermore, unlike the IETC, these centers do not provide simulation (e.g. role play, visits to port and custom agency) in their training materials.

Counseling and Advice. It is recommended that training in simple management systems and accounting systems for SMEs, especially small scale businesses, should be followed by counseling and advice programs. By integrating counseling and advice into training assistance, policy makers can ensure that the participating SMEs are able to correctly implement the skills and knowledge they receive from the training. This kind of follow-up program of counseling and advice should be sufficient if performed on a temporary basis, for a period of, for example, three months after the training.

The IETC provides counseling and advice assistance for its alumni. This consultation assistance aims to boost IETC's alumni to be able to export faster, or to strengthen their current export activities. The IETC cooperates with Pusat-Pusat Pengembangan Pasar Wilayah (Centers of Regional Market Development) which are

also subunits of NAFED, and other relevant agencies. Consultation assistance range from assistance with export marketing, production, and finance to human resources. Similarly, RETPCs also provide consultation facilities for their alumni. However, they mostly provide consultation on promotion, marketing and export procedure.

Given that such assistance is already provided by the government, it still seems that there are many SMEs that are not exposed to such information or facilities yet. Most institutions mentioned previously already have websites with relatively sufficient information that can be easily accessed through the Internet. Therefore, one of the keys to improving SMEs' access to information, as well as capacity building, is to make it commonplace for them to use the Internet in conducting their business. Moreover, local government agencies that are responsible for SME promotion should be able to spread the information to SMEs in their regions.

Financial support. There are several conditions which relate to the SMEs' financial problems. First, some SMEs do not have assets that can be given to creditors as collateral. Some of these SMEs even decide to take commercial loans with high interest rates to finance their business. Second, there are also SMEs that are willing to take loans, but do not meet commercial bank standards. Third, the survey also finds that retained earnings and personal savings are the two main financial sources for SMEs in general, and SMEs out of production networks. This finding implies that some SMEs may not be well exposed to various financial sources. In addition, they tend to be risk-averse in making decisions to expand their businesses using third party funding.

The national government of Indonesia has provided some assistance to overcome financial problems among SMEs. In 2007, the government launched the Kredit Usaha Rakyat/KUR (People's Business Credit) which is provided for small businesses that are bankable but own insufficient collateral. In the program, the government and some cooperating state banks provide the guarantee fees for the credit, whereas the interest rate is determined by the Minister of Finance. Until now, the maximum interest rate is set at16%. Before KUR, there were various kinds of subsidized credit programs provided by previous governments. Besides lack of coordination problem within government institutions, those programs are evaluated to be ineffective and inefficient

due to the moral hazards they caused, and the inadequate capability of commercial banks to channel credit for SMEs.

The KUR gave credit to more than 2 million debtors up to October 2009 (Ministry of Cooperatives and SME, 2009). However, this amount is relatively small compared to the number of SMEs which need such credit. The program also needs more extensive usage and acceptance in order to have a significant impact on the promotion of SMEs. Better promotion of the program will also provide those SMEs that have limited information about and access to financial markets with more affordable and feasible sources of funding.

Apart from KUR, in the year 2006 the government also established Lembaga Pengelola Dana Bergulir/LPDB (Revolving Fund Institution) which aims to develop and provide credit access to SMEs that do not meet commercial banks' standards, as well as strengthen micro-finance institutions that provide loans to SMEs. The institution was formed to manage previous revolving funds that have been channeled to cooperatives and SMEs by the Ministry of Cooperatives and SMEs since 2001. However, it seems that many SMEs are not yet fully aware of the existence of this institution. The institution itself promotes its loan programs through micro-finance institutions such as cooperatives.

Both the KUR and LPDB do not provide further managerial assistance to their debtors. In fact, SMEs out of production networks, as well as those in the overall sample, have weaknesses in their managerial capacity and capability. It is proposed that financial support program should be provided, accompanied by capacity building programs such as business assistance in the form of counseling and advice, business coaching, and training. However, it is also acknowledged that loan providers such as cooperating state banks and the LPDB may not have sufficient resources to provide this kind of assistance. Although the LPDB does support venture capital companies which provide financial sources along with business assistance, many SMEs do not have prerequisites, such as modern accounting report systems, for receiving credit from venture capital companies. Therefore, these two programs are suitable for overcoming the financial problems of SMEs which either have insufficient collateral or are unable to meet commercial banks' standards.

Other policy should take the form of giving SMEs access of information about leasing opportunities. SMEs can benefit from leasing activities in financing their long-term investment e.g. purchasing machinery and in medium term investment such as purchasing personal computers. This kind of assistance will support other assistance such as training in modern management systems or training in simple information and communication technology which will recommend that SMEs own a computer in order to be effective. When assisted with the procurement of personal computers, SMEs will benefit by having access to wider and more thorough market information.

Thus, more integrated policies are needed in order to solve financial problems faced by SMEs which are either not well-exposed to financial markets or reluctant to borrow from third parties. This problem will not be solved solely by providing financial support. The reason for this is that the problem lies with the capability and culture of the owners or managers of SMEs. Put simply, policies aiming to improve the education level and skills of SME owners and managers could be the best solution. Such policies can take the form of business coaching, which gives training and supervision for SMEs in using modern accounting reporting systems for their businesses. It can also take the form of financial management workshops and assistance which can educate SMEs in managing funds effectively and efficiently. Given the limitations of the central government to reach out to SMEs with such programs, more active participation of regional governments is necessary. In this matter, such policies should be implemented directly by regional governments for SMEs in their regions.

Market Information. Market information assistance can take form of trade fairs and exhibitions. Recently, there have been relatively numerous trade fairs and exhibitions held in Indonesia, especially in Jakarta. Those are, for example, INACRAFT and Trade Expo Indonesia. Those events are very effective tools in widening SMEs' market potential, as well as enriching SMEs with better market information. However, those events are particularly effective for SMEs which produce end-user products. For manufacturing SMEs which produce intermediary products, and whose target customers are final assemblers and or other manufacturers, other kinds of trade fairs are necessary. These kinds of trade fairs, sometimes referred as Reverse Trade Fairs, can introduce SMEs to large enterprises or final assemblers looking for vendors.

Improvement in Investment Climate. The survey reveals that many SMEs who are not in the -production network group are subsistence producers. Many of them do not invest their capital, and experience revenue fluctuations. Consequently, these SMEs tend to grow slowly and are vulnerable to external shocks, especially from the domestic market, due to their domestic orientation. The financial problems revealed by the survey also show that these SMEs find it costly to get formal business permissions.

Thus, any decision to boost economic growth so as to improve the investment climate will surely benefit SMEs that are out of production networks. First, higher per-capita income will positively stimulate domestic consumption and, as a result, demand for SMEs' products will grow. Second, higher economic growth will also encourage large enterprises to make more investments, as well as create more business potential for SMEs as their suppliers. Lastly, helping SMEs to move away from their subsistence level will allow them to make longer-term investments and therefore experience sustainable growth.

Policies that aim to cut bureaucracy and complexity in obtaining business licenses will also encourage SMEs that have been refusing to do it, and have remained in the "informal" sector. Thus, these policies can help such SMEs to be bankable, and allow them to get access to formal financial sources.

6.2. The Production Network Group

This group has some significant differences compared to out-of –productionnetwork Group. First, respondents in this group are, relatively larger in size, and thus employ more workers. Most of them are already no longer classified as small-scale businesses, but as medium scale businesses. This may imply that this group has more capacity to grow, when compared to the other group. It means also that they have the ability to utilize the benefits of economies of scale. Furthermore, they position international trade as an essential part of their business activities, although some of them are domestic-oriented since most of their products are sold domestically. Moreover, they use a wider variety of sources of funding, which include bank loans and credit from other financial institutions. It means that, in contrast with the out-of-productionnetwork group, respondents in production network group are more exposed to sources of funding offered by the financial markets. It also implies that members of the production

network group are less risk-averse in making the decision to expand their businesses, and become committed to third party lenders. In addition, respondents in the production network group have a higher percentage of workers who have high level of education. This indicates that SMEs in the production network group have better ability not only to get information about potential business in regional production networks but also to capitalize on this potential and integrate it into their business.

For SMEs operating within production networks, external barriers are perceived to be the most significant, whereas internal barriers are the least. It goes hand in hand with their relatively larger size and higher quality of human resources, which that they are no longer deprived and constrained by their internal weaknesses.

Market Information. The survey reveals that there are no specific obstacles directly related to market information that are perceived as the most significant by this group. However, we argue that some assistance with the provision of market information can help them to be less vulnerable when handling external shocks from the foreign and home markets. This assistance should be able to help them to expand their business by giving them the opportunity to provide products to a wider and more captive market.

Recommended market information assistance includes, for example, improvements in IT infrastructure. Although access to information systems such as the Internet is relatively affordable for respondents in the production network group, there is no integrated infrastructure that works to connect Indonesian SMEs with potential buyers and suppliers. The government has started to build the UKM Innovation Center, which will provide such services. For example, in 2008 and 2009 the government focused their attention on the creation of the 'SMEs' Gateway Portal' at the UKM Innovation Center. However, the realization of this project seems to fail to be fully implemented. On the other hand, the Ministry of Cooperatives and SME has several websites that give the information that SMEs need in order to promote themselves in the Internet. One of them, www.indonesian-products.biz, provides links to, and company profiles of, several SMEs. The profiles are presented in English and are attached with pictures of SMEs' products. It is a good step but absolutely insufficient.

On the other hand, NAFED's website provides relatively comprehensive information on Indonesian products, and on business entities which participate in

international trade. It also functions as a business portal because it provides a trade database showing Indonesian export and import companies, with user-friendlyclassification. Moreover, it offers some publications in its market intelligence section which can provide website visitors with information about potential markets for Indonesian products. Moreover, the website also displays profiles of the best Indonesian products and potential products. Simultaneously, IETC's website also provides extensive links to other parties, ranging from other government agencies such as NAFED, Indonesian Trade Promotion Centers (ITPC) and the Customs Agency to international institutions such as Japan International Cooperation Agency (JICA), Centre for the Promotion of Imports from Developing Countries (CBI) of the Netherlands Department of Foreign Affairs, and the Canadian Trade Facilitation Office (TFO). Moreover, the website also provides detailed links to various agencies in around 140 other countries.

Business Linkages and Networking. Many of respondents classified as the production network group are integrated into value chain networks through outsourcing. This practice is especially common in the manufacturing industry. In order to be able to participate, a company has to follow certain standards and requirements (e.g. quality, cost, delivery and innovation) set by overseas principal companies. For those already participating in the networks, widening cooperation will surely help them to grow. Having such linkages and networks will also give them stronger and better security of revenues for longer periods of time. This will lead to greater assertiveness of SMEs in making longer-term investments, which greatly determine their growth sustainability. Assistance with such linkages and networking can be promoted by related government agencies such as the Ministry of Industry, the Ministry of Trade and the Ministry of Cooperatives and SME.

To this end, the Ministry of Trade cooperates with the Ministry of Foreign Affairs in providing assistance in the form of building linkages and networking between Indonesian business and potential international partners, by building the Indonesian Trade Promotion Center (ITPC). So far, there are six ITPCs worldwide. They are located in Los Angeles, Sao Paulo, Budapest, Dubai, Johannesburg and Osaka. These ITPCs provide assistance in the form of provision of market information and

regulations, assistance and arrangement in making and developing business contacts, provision of market access and market penetration, and assistance with trade missions and exhibitions.

The Ministry of Cooperatives and SME should invariably cooperate with related government agencies such as the Ministry of Trade, the Ministry of Industry, the National Statistic Bureau, the Ministry of Foreign Affairs and local governments to implement SME promotion policies as comprehensively as possible. Although there is some positive and real support provided for the promotion of SMEs by local governments, it is very limited. One example is the revolving fund known as Program Pemberdayaan Masyarakat Kelurahan/ PPMK (Community Empowerment Program), which is provided by the provincial government of Jakarta. Hence, the Coordinating Minister of Economy should be committed to this effort and put greater emphasis not only on processes but also on results.

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APPENDIX 1. List of Industries (ISIC 2 and ISIC 5)

Industry	ISIC 2	ISIC 5	Description
A	17 (Textiles)	17124	Batik
		17302	Knit wear
		17303	Knited sock
		17304	Other knited materials
	18 (Wearing Apparel)	18101	Wearing Apparel made of textile (garments)
		18102	Other wearing apparel made of textile
		18104	Other wearing apparel made of leather
		18202	Furs
B	34 (Motor Vehicles, trailers and semi-trailers)	34100	Motor vehicles
		34200	Motor vehicles bodies
		34300	Motor vehicles component and apparatus
	35 (Other Transport Equipment)	35111	Ships/Boats
		35112	Ship parts and Equipments
		35201	Railroad Equipments
		35301	Aircraft and components
		35911	Motor cycles
		35912	Motorcycle component and apparatus
		35921	Bicycle and tricycles
		35922	Bicycle and tricycles components
C	29 (Machinery and Equipment n.e.c)	29111	Steam engine, turbine and windmill
		29112	Internal combustion engine
		29113	Components and parts of prime movers
		29114	Alteration and repair prime mover
		29120	Pump and compressor
		29130	Mechanical power transmision equipment
		29141	Non electrical stove and heater for comercial purpose
		29142	Stove, oven and heater
		29150	Lifting and moving machineries
		29191	Packing, botting, and canning machine
		29292	Weighing machine
		29193	Refrigenerating machine for comercial purposes
		29199	Other general purpose machine
		29211	Agricultured and forestry machine
		29212	Supporting services for agriculture and forestry machineries industry
		29221	Machine tools for metal working
		29222	Machine tools for wood working
		29223	Machine tools for other than metal and wood working
		29224	Wlwctric welding machine tools
		29230	Machinery for metalurgy
		29240	Machine for minning, quorrying, and construction

Continued

C	29 (Machinery and Equipment n.e.c)	29111	Steam engine, turbine and windmill
		29112	Internal combustion engine
		29113	Components and parts of prime movers
		29114	Alteration and repair prime mover
		29120	Pump and compressor
		29130	Mechanical power transmision equipment
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		29221	Machine tools for metal working
		29222	Machine tools for wood working
		29223	Machine tools for other than metal and wood working
		29224	Wlwctric welding machine tools
		29230	Machinery for metalurgy
		29240	Machine for minning, quorrying, and construction
		29250	Machinery for food, beverages, and tobacco processing
		29261	Sewing cabinet
		29262	Sewing, washing and drying mechine
		29263	Textile machineries
		29264	Sewing machine needles
		29270	Guns and ammunitions
		29291	Printing machineries
		29292	Machine for pulp and paper industry
		29299	Other special purpose machinery
		29301	Non electric stove cooking range and space heater
		29302	Household with electronical appliances
		29309	Other household electonical appliances
	30 (Office, Accounting, and Computing Machinery)	30001	Manual office, computing and accounting machineries
		30003	Electrical office, computing and accounting machineries
		30004	Foto copy machineries
		30101	Electric motors
	31 (Electrical Machinery and Aparatus n.e.c)	31101	Electric motors
		31102	Electric generators
		31103	Transformer, rectifier and voltage stabilizers
		31201	Electric panel and swich gear
		31202	Electric control apparatus
		31300	Electric and telephone cables
		31401	Dry cell batteries
		31402	Alectrical accumulator
		31501	Bulb, spot light and ultra violet lamps
		31502	Tube gas lamp
		31509	Electric lamp components
		31900	Other electrical apparatus and components
		31501	Bulb, spot light and ultra violet lamps
		31502	Tube gas lamp
		31509	Electric lamp components
		31900	Other electrical apparatus and components
	32 (Radio, Television, and Communication Equipment and Apparatus)	32100	Electronic valve and tube and other electronic component
		32200	Communication equipments
		32300	Radio and TV reciver, sound and video recording and accosiates goods