Small and Medium-Sized Enterprises and Governmental Public Policy in the Economic Development Process*

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The historical development data show that countries all over the world have experienced different economic growth rates. In the history of economic development, there have been specific periods in which some countries in Asia, such as Japan, experienced a high economic growth rate while other countries in Europe and in America grew with a much lower rate.[1] So far, many researches have referred to the Small and Medium-sized Enterprises (SMEs) as an important source for economic development in Japan and in the Newly Industrializing Economies (NIEs).

Currently, governments of the developing countries are pursuing economic development strategies by, among other things, promoting the development of the SMEs. Some implemented public policies provide a high level of protection for the SMEs', especially for those in the newly established manufacturing industries. One may question on the efficiency and effectiveness of these policies or the role of the SMEs in helping the governments to achieve their development targets ; or is it now feasible for the current developing countries to adopt the same strategies that the developed country like Japan had applied when it was a developing country ?

The main purpose of this paper is to highlight the interrelationship between the Government and the SMEs in the economic development process. More precisely, this paper surveys the theories that have erected one of the foundations for the governmental intervention through public policies toward economic development and clarifying the role of the SMEs during that process.

Guided by this purpose, this paper is organized into four sections. The first section reviews the SMEs concept and their difficulties. The second section examines the historical role of the governments, their intervention measures and the rationale for these actions. Section three presents the "Marshallian Externalities"—a foundation justifying the governmental intervention. Economists have proved that when Marshallian Externalities ex-

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1) Perkins, et al. [2001], p. 38.

ists, economic welfare under the condition of governmental intervention could be achieved at a much higher level than it would be under the control of market mechanism. The last section discusses the roles of the SMEs during the economic development process.

I. The Small and Medium-sized Enterprises

Economic theories have no clear-cut classification criterion to distinguish between the large and the small firms.[2] Often we will relate the market where small firms play a dominant role with the competitive market and the monopoly or the oligopoly market dominated by a few large enterprises. Given the fact that the real economy encompasses hundreds of firms varying in size, governments and other institutions classify them into two broad groups namely the Large-sized Enterprises and the Small and Medium-sized Enterprises (SMEs). The governments are relatively unified in selecting some of the concrete, measurable standard criteria such as the number of permanent employees, the amount of invested capital, the annual sale revenue and/or the total assets to classify the firms. That selection enables the governments to encircle the SMEs for their specific policies. Nevertheless, SMEs still account for 98% of firms in many countries.[3] Such a large share makes SMEs the important source of job creation, the driving source for economic growth and welfare improvement.

1. The emergence of SMEs

Nowadays, economists and policy makers believe that the emergence and the sustainable development of the SMEs are making the economy more efficient. The markets where SMEs play a dominant role are often considered as similar to the competitive markets. Thus, understanding the motivations that lead the entrepreneurs to establish SMEs is crucial for both the policy makers and the economists because of the efficient and effective issues.

The motivations that lead the entrepreneur to establish his/her own firm are varying. Many of these entrepreneurs are either engineers or scientists, who are spun-off from their previous companies or research institutions ; decide to commercialize their research or to utilize their own expertise, skill and knowledge.[4] Other entrepreneurs, as discuss in Lucas (1978), are either those who found their previous job as dim or who were unemployed.

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2) In this paper, terminologies "firm" and "enterprise" are used interchangeable. A firm may have more than one establishment.

3) APEC (2002), p. 32.

4) Teraoka (2004), pp. 60-61.

2. Characteristic and development issues of SMEs

To this day, based on the production technology utilized, there are three known popular types of the SMEs to exist, namely : the "Labor intensive SMEs" (LSMEs), the "Subcontracting SMEs" (SSMEs) and the "New Technology Based SMEs" (NTBSMEs). Overall, they are having some common characteristics. The first common characteristic is that even though SMEs are small in size, they account for a large number of employments. In many countries of the APEC block, SMEs contribute 60% to private sector jobs.[5] The second characteristic is that SMEs are often organized in the simplest form ; many of them do not possess a hierarchy structure and, in that case, the founder, the owner and the manager are identical. According to Papandreou (1952), profit maximization is the survival condition in the perfect competition and its force is much weaker in the other market types. Thus ; it could be inferred as the third characteristic that profit maximization is the ultimate objective of the SMEs.

Although, each of these groups has its own characteristics. The distribution of the labor and the capital factors among the three groups of SMEs is quite different. With respect to labor distribution, the number of employees in an LSME is lying somewhere near the upper threshold of the governmental definition, whereas the number of employees in an NTBSME seems to be the minimum ; and the distribution of capital happens in an inverse way. With respect to the SSMEs, their employees and capital could be distributed somewhere in between the two extremes. With regard to the market relationship, the NTBSMEs concentrate on niche markets where, with their high competence, they can avoid the price cutting competition. The SSMEs concentrate on the relationship with other industries ; some of them are characterized by oligopoly market. The LSMEs are depending heavily on the large trading companies. These differentiated characteristics will account for different roles of the SMEs in the economic development process as presented in section four.

The "Profile of SMEs and SME Issues in APEC 1990-2000" also provides us a list of difficulties deterring the development of the SMEs in the APEC economies. The list includes the access to finance, the serious shortage of capital, the limited Research and Development (R&D) investment and the lack of management and technical skills. The list also includes lack of advanced technology, machinery and equipment, information and marketing capacity, etc. In addition to that, the increasing in raw material and especially the fuel prices currently also accounts for the development constraints of the SMEs. These difficulties could be classified into two groups : difficulties caused by internal factors (capit-

5) APEC [2002], p. 28.

al and labor) ; and, difficulties caused by external factors (market environment). This kind of classification will help the policy makers in considering or evaluating the efficiency of the public policies with respect to the firms in need solely or with respect to the society as a whole.

Although the firms, especially the SMEs play an important role in economic growth, there still exists the question on their role in economic development. Is it possible for a country to achieve the economic development based solely on the participation of private firms under the market mechanism, or does it need the participation of the government also ?

II. Government's Role Reconsideration and Industrial Policy

Market mechanism has often been considered as the most efficient method to allocate scarce resources. However, it does not always work well. In other words, the firm in general or the SMEs in particular may maximize their profits but their outcomes do not maximize the social welfare as a whole. And although the market mechanism itself occasionally corrects its own defects ; in many cases market mechanism fails to do so because it is costly for individuals to bargain over the allocation of resources. Under that circumstance, economists justify the intervention of the government. So it is necessary to review the government's role in economic development in relation to the market failures.

1. The historical role of the government

(1) The "invisible hand" and the neglect of the government's role

According to the economists' viewpoint, "the normal economic system can work itself"[6] based on its powerful tool which is the market price. When the market price flexibly and timely adjusts the supply to meet the demand, the resources of production will be efficiently allocated. Market mechanism, which is frequently more flexible than the governments, is able to adapt better to the changing conditions. The governmental interventions, on the other hand, often lag behind the changing in demand so that resources are inefficiently allocated. These are the reasons why economists believe that the market mechanism can manage the economy better than the government does. As a result, governments should strictly confine their role to providing essential public goods and security.

Nevertheless, markets have also revealed their defects, particularly after The Great Depression of the 1930s. These failures imply that market mechanism does not always

6) Coase, [1937], p. 387.

work well and it needs the government's help to recover its expected optimum equilibrium.

(2) Market failures and the passive role of the government—the functional intervention

In introductory economics course, four kinds of market failures are introduced namely the externalities, the natural monopoly, the public goods and the asymmetry of information. The markets where externalities exist are inefficient in the sense that the benefits of the society as a whole have not been maximized. Because the economic subjects themselves can not solve the externalities ; and, because the economic welfare will be lessened with the existence of the externalities, people often prefer to call for governmental intervention to solve the problem.

In the same manner, it is required to have the governmental intervention in order to remedy the failures caused by the natural monopoly ; the public goods and the asymmetry of information. Nevertheless, there still have cases in which the governmental interventions are unable to remedy the market deficiencies. It is also worth to note that the social welfare has not always been improved by providing perfect information or by lowering the costs of obtaining information.

Under this circumstance, the government's role is "market friendly"—as the World Bank once named it—to correct the market deficiencies and to bring back the expected optimum equilibrium for the concerned industry.

(3) Economic development and the active role of the government—the selective intervention

Pursuing the economic development target, governments often make their public utterance about their development plans related to some strategic industries. How this phenomenon can be explained by the economic theory. The international trade theory, based on the assumptions of free trade, the static comparative advantage and no effects from the industrial pattern, asserts that specializing in the production by each of the countries is desirable on the ground of efficiency. Under these assumptions, resources are allocated efficiently within a country and the international resources allocation is Pareto efficient. This also implies that governments should not intervene in the process of selecting the set of industries to be specialized by each of the economies.

Nevertheless, some industries are characterized by the dynamic comparative advantage due to the activation of the learning effect. In that context, an industry that appeared to be comparative disadvantage at first may become a comparative advantage industry in the future.

Economists have pointed out that firms which are characterized by constant return to scale could enjoy a cost reduction with the activation of the learning effects. According to the "infant industry" argument, rational firms will not participate in the newly established

industries, the ones characterized by the dynamic comparative advantage, unless with the support from the government. Given the fact that these industries once matured, could alter the industrial pattern and the trade pattern of the concerned country in a way that they improve the national welfare, the government should consider the actions.

The role of the government discussed in this subsection differs from its conventional role which was discussed earlier. Here, the government, on the basis of "infant industry", actively regulates the economic activities of some selected industries, with the aim to enhance the national economic welfare as a whole.

2. Industrial policy—the governmental intervention measure

(1) Definition

The history of industrial policy revealed the fact that there has not been even a single accepted and unified interpretation of the industrial policy concept.[7] Industrial policy referred in this survey is defined as a set of governmental policies protecting and promoting the development of selective high growth industries, toward the economic development of the concerning country due to the existence of externalities.

(2) Policy Goals

From this narrow definition, the ultimate objectives of the industrial policy could be termed as increasing the economic welfare of a country, complement to the market mechanism to attain the most desirable resources allocation and the income distribution. This ultimate objective could be evaluated by the annual growth rate and the proportion changes in GDP and GDP per capita which, among others, was contributed by the industrial sector.

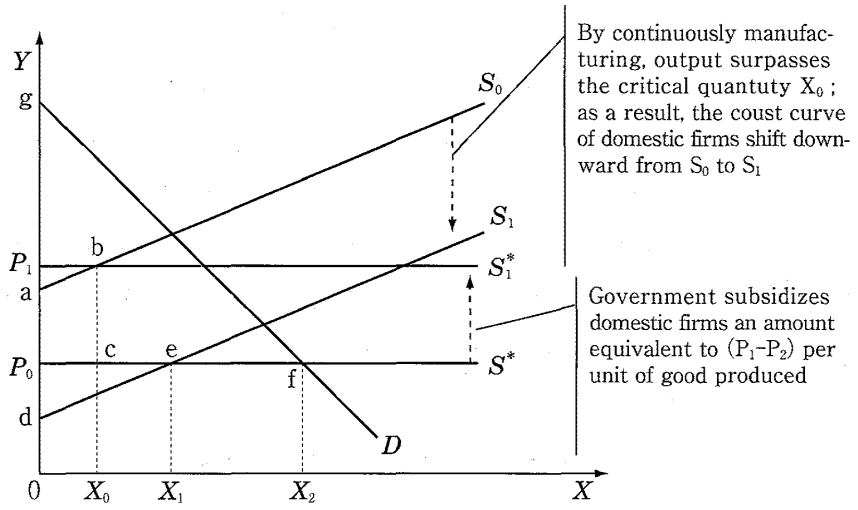
In order to achieve the ultimate objective, other contemporary objectives should be set forth. Clearly, the contemporary objectives here are the development of some selected industries. To evaluate the development of these selected industries, we could utilize some indices such as the ratio of output produced by the domestic firms over the domestic demand, the growth in labor productivity and the total factor productivity. . .

(3) Policy's measure—the strong and weak points

Achieving these objectives, historically the governments have been utilizing some measures like subsidy and tariff barriers. Each measure has its own strong and weak points. As shown in Figure 1, the subsidization, through activating the learning effects, lower the cost of production at critical point X_0 compared with the free market price P_0; enabling domestic firms themselves to compete against foreign firms. The cost of subsidization (or

7) See Itoh, et al., [1991], p. 8; Matsuoka, [1998], p. 187; Ishihara, [2002], p. 2.

Figure 1 : An example of subsidy policy



(Source : *Itoh et al. (1991), p. 42,* Fig. 4-1)

the cost shared by the society) is presented by the trapezium area "abcP_0" and the producer surplus gain after the subsidization is presented by the triangle area "P_0ed" given the critical quantity X_0. As long as the triangle outweighs the trapezium, the governmental intervention is efficient. Nevertheless, as far as X_0 moves away from the origin, the trapezium area "abcP_0" will outweigh the triangle area "P_0ed", leading to a loss of the social welfare. This policy does affect the consumers through taxation for government to fund the subsidization. The costs of protection will be increased due to the increase in the costs of tax collection and disbursement of subsidies to the government ; subsidies must be appropriated yearly ; and, efforts to raise the additional funds for subsidy would have imposed a substantial social cost.

An alternative way of doing the same thing is putting a temporary trade restriction which imposes part of the setup costs upon the consumers of that industry directly. It is a feasible measure only when the domestic demand is sufficiently high ; otherwise, since the average costs cannot be brought down to the level lower than the market price, domestic firms will withdraw once the temporary import control is lifted or else the government will have to protect that industry forever.

(4) Policy's evaluation

Theoretically, any implemented industrial policy must be feasible and efficient. The feasibility and efficiency are evaluated based on four criteria namely the Mill criterion, the Bastable criterion, the Kemp criterion and the Negishi criterion[8]. These criteria implies that firms in the protected industries, once matured, must be able to make profit and that such profit must outweigh the social cost of protection. Nevertheless, these criteria are

8) Itoh et al., [1991], pp. 42-49.

hardly to evaluate in reality.

This section attempts to provide an overview about the role of the governments indicated in the economic development process. It is clear that during that process, governments often promote the selected industries which are capable of producing high value added commodities. Such interventions rely on the "infant industry" argument which claims to the existence of the market failure namely Marshallian externalities. It is important to reexamine the Marshallian Externalities for a better understanding of the foundation that they relied on to intervene in economic activities.

III. Marshallian Externalities

The studies of externalities have become extensive in recent years—not because of concerns about the link between the economy and the environment only. In these studies, the economists have devoted their effort in understanding the Marshallian Externalities. What are Marshallian Externalities, through what mechanism Marshallian Externalities are generated and what do they imply for public policies ? This section will address these questions through presenting the analysis of Itoh et al, (1991) and others. Marshallian Externalities are defined as follow :

> "Marshallian external economies (diseconomies) refer to the phenomenon whereby cost curves of individual firms in a competitive industry shift downward (upward), due to the emergence of externalities as output of the industry expands, leading to a fall (rise) in prices. As a result, the long-run market supply curve (AC curve) with external economies (diseconomies) becomes downward (upward) sloping, giving the rise to industrial set-up costs."[9)]

We may infer two things from this definition. First, Marshallian Externalities are related to the variation in aggregate output of an industry. Second, the existence of Marshallian Externalities require society to share the expenses with the firms that building up the new industry. The first subsection summarizes the models using the production possibility frontier and the game theory to expose the existence of Marshallian Externalities.

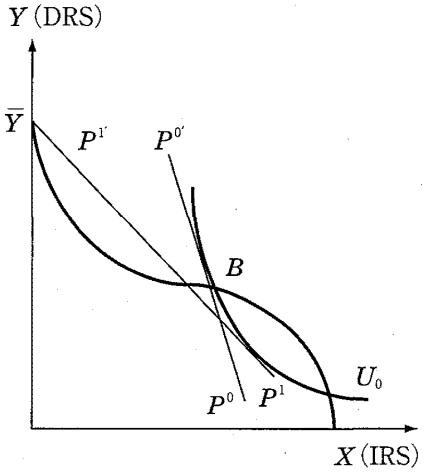
1. The traditional "infant industry" model

(1) The Production Possibility Frontier (PPF)

In the introductory microeconomics, we have been introduced to production possibility frontier that smoothly concave to the origin. This shape is determined by the two impor-

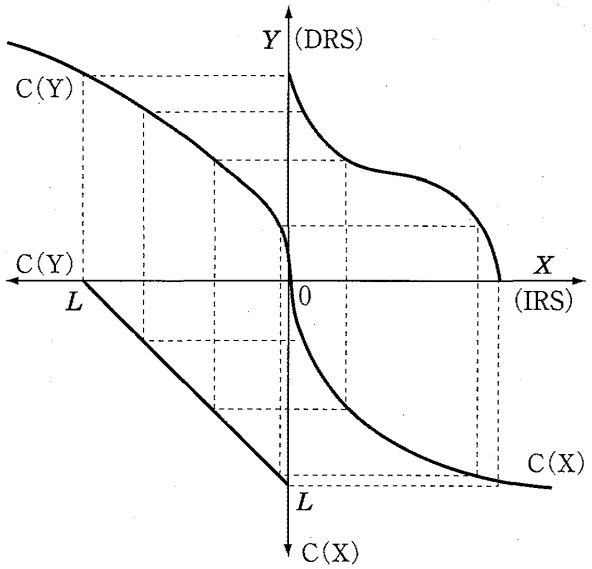
9) Itoh et al., [1991], p. 53.

Figure 2 : A Production Possibility Frontier



(Source : *Panagariya (1981), p. 222,* Figure 1)

Figure 3 : A Production Possibility Frontier



(Source : *Itoh et al., (1991), p. 54,* Fig 5-2)

tant implicit assumptions. First, the production costs of the two industries are characterized by increasing return to scale (IRS). Second, resources of production are freely mobilized and fully utilized between the two industries. Herberg and Kemp (1969) have pointed out that the production possibility frontier of an economy, when loosening the assumptions mentioned above, may characterized by a shape that strictly concave over some continuums and strictly convex over others continuums.

Panagariya (1981) and Itoh et al, (1991) later have extended the work of Herberg and Kemp (1969) in an effort to analyze the effects of this kind of production frontier on trading pattern and welfare enhancement of the concerned economy. The production possibility frontier established in the analysis of both Panagariya (1981) and Itoh et al, (1991) are based on the following assumptions : A simple economy that consists of two industries, one is characterized by increasing return to scale (IRS), the others is characterized by decreasing return to scale (DRS) and that the economies and diseconomies are output generated. To analyze the effects of external economies and external diseconomies, these authors assumed that the production functions of individual firms in both industries are characterized by constant return to scale. From the two assumptions above, the economies and diseconomies are external to the firms but internal to the industries. They also assumed that labor is the only input for both industries and that the economy is in a full employment status.

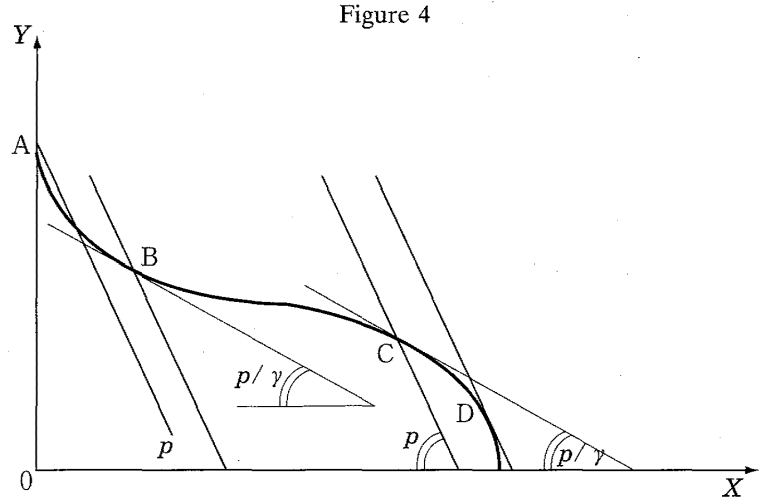
From these assumptions, they have achieved the same production possibility frontier (as depicted in Figure 2 and Figure 3) that is concave to the origin near the industry which is characterized by increasing return to scale (IRS) and convex to the origin near the indus-

try which is characterized by decreasing return to scale (DRS).

(2) The implications from this particular production possibility frontier

Adding the relative price and the indifferent curve to the model, they have examined the equilibrium of the economy characterized by this production possibility frontier, the mechanism that generates the Marshallian Externalities and the implications for public policy. According to their models, the economy characterized by this production possibility frontier encompasses three long-run equilibriums as shown in Figure 4 by point A, B, C. Among them the long-run equilibriums at point A and point C are the stable equilibriums while the long-run equilibrium at point B is the unstable one.

Figure 4



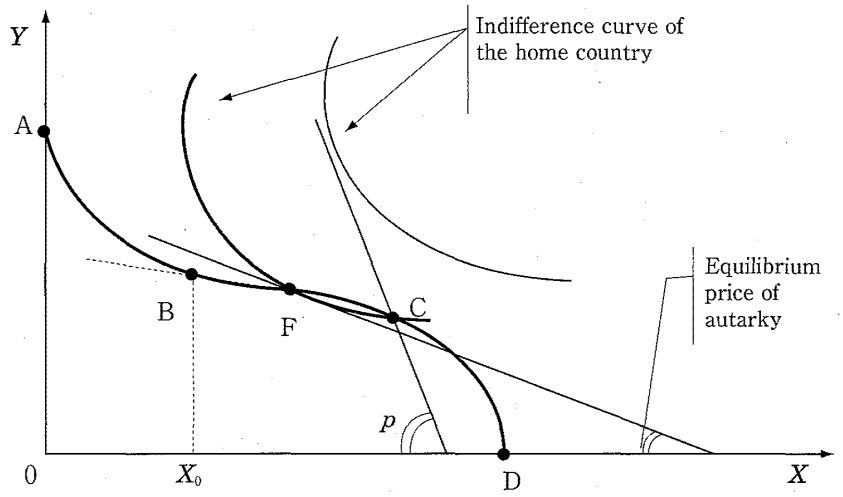
(Source : *Itoh et al., (1991), p. 56,* Fig 5-3)

In Figure 4, over the arc BA and DC, with a small reduction in the quantity of product X, the country can achieve a large increase in the quantity of product Y. The only difference between the two arcs is that over the concave arc DC, the quantity of product Y increases with a decreasing rate while over the convex arc BA, it increases with an increasing rate. As a result, when the economy equilibrium posits on the arc BA, the production of commodity X will soon be vanished. This is the reason why this economy may be completely specialized in producing commodity Y—the industry that characterized by decreasing return to scale.

Under the assumption of a small country specialized in commodity Y, these authors examined whether the national economic welfare could be enhanced with the production of two commodities Y (decreasing return to scale's industry) and X (increasing return to scale's industry). They also questioned the possibility to develop industry X (the infant industry) given the private incentive alone.

The analysis of Itoh et al. (1991) have shown that moving from the equilibrium A to the equilibrium C as depicted in Figure 5 is desirable for the country because the budget

Figure 5



(Source : *Itoh et al., (1991), p. 57,* Fig 5-4)

line crossing the new equilibrium depicts that the consumption of that country become larger than it was before. This traditional "infant industry" model reveals the existence of Marshallian Externalities during that process. Although, at the aggregate level, the country only has to give up a small amount of commodity Y to produce a larger amount of commodity X, rational firms will not participate in producing commodity X due to the fact that at the initial stage, given the same input, they have to give up large amount of commodity Y to produce less amount of commodity X. This model also suggests that the government should support the private firms to produce commodity X until their aggregate output surpasses the level X_0, the critical level where the actual equilibrium of the economy overcomes the critical point B (the unstable equilibrium) on the production frontier as depicted on Figure 5.

2. Industrial linkage and the existence of the Marshallian Externalities

The industrial development presented in the traditional "infant industry" model is not the only mechanism capable of generating Marshallian Externalities. Itoh et al. (1991) also utilized the game theory to examine the existence of externalities in the industrial transactions. This model is named as the "industrial linkage" model.

In the "industrial linkage" model, the upstream industry Y is characterized by oligopoly market and the downstream industry X is characterized by competitive market ; and, firms in the upstream industry engaged in Cournot—type competition given the assumption that the only factor that affects the demand of the upstream industry is the number of the firms in the downstream industry. The model is demonstrated by the supply function of the downstream industry X and the derive demand function of the upstream industry Y as

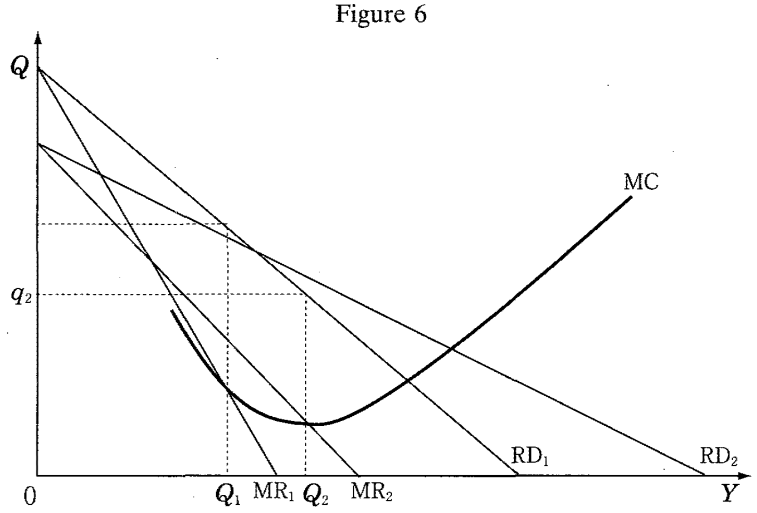
following :

$$X_s(p\,;\ q,\ m)=X(p\,;\ Q(m),\ m)=m\times x(p,\ Q(m)) \qquad (1)$$

$$Y_x(q\,;\ p,\ m)=Y_x(Q(m)\,;\ p,\ m)=m\times Y(Q(m),\ p) \qquad (2)$$

From the model, an increase in the number of firms in the downstream industry leading to an increase in residual market demand facing individual firms in the upstream industry. As a result, market price in the upstream industry decreases (as depicted in Figure 6, the market price decreases from q_1 to q_2). This stems from the fact that with larger residual demand, larger outputs are produced and the operation of the economies of scale lower the costs of production. Consequently, the decreases in the inputs' price lower the cost of production facing individual downstream firm. With a decrease in input costs, competitive firms in the downstream industry raise their output ; and new firms enter the market. This cycle could be continued until the economy of scale in the Y industry is exhausted.

Figure 6



(Source : *Itoh et al., (1991), p. 69,* Fig 6-2)

Market failure then happens when the upstream industry's firms are unable to grasp the number of the downstream industry's firms. It means that they can not identify any change in their residual demand curve. As a result, their outputs fall into low levels that do not allow them to exploit the economies of scale. This, in turn, lowers the demand of upstream industry's output by the downstream industry. That decrease in the demand for the intermediate goods again shrinks the number of the firms in the downstream industry. The externalities are responsible for the development of the downstream industry. Government may implement the public policy which provides more information for the incumbent firms in the upstream industry and promotes the development of the downstream industry at the same time to solve the externalities.

3. Economies of scale and Learning effect—the determinant factors of the firms' size

According to the two discussed models, scale economies and learning effect play an important role in shaping the firms' behaviors. While the upstream oligopoly firms in the "industrial linkage" model experience a cost reduction through the activation of increasing return to scale, the small firms in the first model and in the downstream of the second one can experience a cost reduction through the activation of the Learning effects. As the production cost reduces, the incumbent small firms will increase their quantity until their new marginal cost equals to the new market price. New firms also enter the market to exploit profits. As a result, the aggregate outputs are increased and the market price is driven down. Thus, the promotion of the development of SMEs in the newly established industries is desirable from the view point of the social welfare.

Obviously, the trading pattern of a country has a significant impact on its gain from trade. With the aim of enhancing national welfare, the concerning country should adjust its trading pattern to encompasses the industries having the growth potential. Establishing new industries involves a kind of externality namely the Marshallian Externalities. These industries, with the existence of Marshallian Externalities, could not be developed by the private incentive alone, at least during the initial stage. This is one of the foundations for the governmental intervention.

The two models presented above allow us to infer that the development of SMEs involves in establishing the new industries. The last section discusses the role of SMEs in promoting the industries having the high growth potential and in the economic development.

IV. Economic Development through the development of Small and Medium-sized Enterprises

The two models examined in section three have shown that the development of the infant industries are desirable in the sense that these newly established industries will alter the trading pattern of the home country with other countries toward a higher level of economic welfare for the concerned country. It also reasons why government should intervene to the industrial development accompanied by changing industrial structure process.

This section continues to utilize these models to see the role of the SMEs during that industrial development process in particular and in the economic development process in general. It is worth to note that the SMEs have been considered as the sources for: 1—strengthening the link between industries; 2—innovation through R&D and leaning

activities ; 3—job creation and welfare improvement ; and 4—strengthening the competitiveness of the market and enriching the consumer's choices.

Before discussing the role of the SMEs in the industrial development process and the economic development process, let's review the situation of the automobile industry in Vietnam to see whether the Marshallian Externalities do exist in reality or not.

1. The Automobile Industry in Vietnam and the Marshallian Externalities.

According to the survey from Japan External Trade Organization (JETRO), by the end of the 2003, the price of 1500 cc sedan in Vietnam is 1.41 times higher than in Indonesia, 1.62 times higher than in China, 1.79 times higher than in Taiwan, 1.90 times higher than in Malaysia, 1.96 times higher than in Philippines, 2.09 times higher than in Thailand and 2.56 times higher than in Korea.[10] Lying behind the higher price is the higher cost of production.

There are two main reasons accounted for the higher cost of producing automobile in Vietnam.[11] Firstly, the domestic market demand for automobile in Vietnam is very small (estimated around 0.043 million in 2003), as a result, the automobile industry itself could not activate the economies of scale. Secondly, the supporting industries in Vietnam are still in the very early stage of development and many of the Vietnamese government officials are unfamiliar with the concept of supporting industries.[12] Even though the government has already implemented the "Development Strategy of the Industry Sector" since 2002, the supporting industry has not been developed yet. For example, among 60 domestic firms Daihatsu has contacted, it could not find any suppliers who could meet its technical standard requirements. Although domestic firms have already recognized these issues, they themselves are unable to solve these problems. According to a manager of a domestic supplier, the serious problems they are facing include the shortage of investment capital, the lack of technical skills, and the lack of advanced technology, advance machinery and equipment.[13]

These observations have shown that the problem faced in the automobile industry and

10) Ohno and Cuong [2005], pp. 212-217.

11) Ohno and Cuong [2005] estimate that the automobile's production cost in Vietnam is 48% higher than that of Thailand (p. 214)

12) Phong, V. [2005], "Công nghiệp phụ trợ' chu'a rõ hình hài (Unidentified Supporting Industries)", VN Express 2005/11/30, (URL : http:// vnexpress. net/ Vietnam/ Kinh-doanh/ 2005/ 11/ 3B9E4971/) on 2005/12/01.

13) Vy, H. [2005], "Công nghiệp phụ trợ' VN đang hụt ho'i (Deficient Supporting Industries of Vietnam)", VN Express 2005/08/31, (URL : http://vnexpress.net/Vietnam/Kinh-doanh/2005/08/3B9E19E5/) on 2005/09/15.

the supporting industry in Vietnam is the typical example of the "industrial linkage" model presented by Itoh et al. (1991). Apparently, domestic enterprises want to participate in the supporting industry but unstable demand from the assemblers, the lack of advance technology and machinery and others factors do prevent them to enter that industry. As a result, the automobile's price in Vietnam is staying at a high level.

The only difference is that in the case of Vietnamese automobile industry, SMEs are participating in the upstream industries and assemblers like Daihatsu are participating in the downstream industry. In order to strengthen the competitiveness of the Vietnamese automobile industry, the government should promote the demand for the automobile industry concomitance with the promotion for the development of the supporting industries where most of them are SMEs.

2. Industrial development process and the role of the SMEs

On the one hand, the traditional "infant industry" model and the "industrial linkage" model examined above have shown that Marshallian Externalities deter the development of the newly established industries in two different aspects. According to the analysis of Itoh et al. (1991), the two industries in the "traditional infant industry" model are characterized by competitive market because the private firms in these industries are price takers, making their production decision by matching their private marginal cost with given market price. In addition, the competitive market is often operated by many SMEs. Therefore, it could be inferred that SMEs are the players in both industries of the "traditional infant industry" model and in the downstream industry of the "industrial linkage" model. Because competitive market is expected from the social viewpoint, the developments of these industries and that of the SMEs are necessary. As a result, the industrial policy to promote infant industry and the public policy to promote the development of SMEs in some particular industries are identical[14].

On the other hand, innovation is an important factor strengthening the competitiveness of the firm, especially that of the SMEs. Through innovation, new goods and services are supplied to the market. Innovation has not only been done through the formal R&D but also through the less formal on the job training and/or learning-by-doing. This is an important factor attributed to the reduction in the production costs of the firm in general and of the SMEs in particular. Although innovation depends on the characteristics of the industries, Acs and Audretsch (1988) had shown that SMEs participated more actively in this activity in many industries. Their paper also found an inverse relationship between the

14) Matsuoka [1998], p. 187.

innovation activities and the market concentration. As discussed in the first section, broadly SMEs consists of three groups namely the New Technology Based SMEs (NTBSMEs), the Sub-contractor SMEs (SSMEs) and the Labor intensive SMEs (LSMEs). By utilizing advance technologies, the NTBSMEs are capable in producing high value-added products ; while the SSMEs are capable in lowering their production cost and consequently strengthening the competitiveness of their industry and the related industries. Therefore, NTBSMEs are the players in the IRS industry of the "traditional infant industry" model and the SSMEs are the players in the downstream industry of the "industrial linkage" model. As the "industrial linkage" model has shown, the development of SMEs could activate the increasing return to scale of the other industries, leading to a decrease in input costs of the SMEs themselves. Consequently, the society will be supplied with greater outputs and lower price.

This section has shown that both of the NTBSMEs and the SSMEs play an important role in the industrialization process of a developing country. Through promoting the development of these groups of SMEs, a developing country could establish a desirable industrial structure that ultimately improves its national welfare. According to Storey (1996), these newly established industries will become the source of job creation once reaching the mature stage.

The sustainable development of SMEs in general not only improves the national welfare through the establishment of new industries but also helps the society to remedy the by-product generated during the industrial development accompanied by changing industrial structure process.

3. The by-product of the industrial development accompanied by changing industrial structure process and the role of the SMEs

Industrial development process also generates the by-products i.e. the unemployment. Some of these residual labors start their own business, while the others who are unable to run their own business will become temporary unemployed until the time when they could find job in another industry. As a result, the industrial development accompanied by changing industrial structure process temporarily lowers the welfare of the labors in the declining industry. Moreover, the social welfare is temporarily reduced because the equilibrium of the concerned country is located below the production frontier for one of the production resources is not fully utilized. The problems of industrial development accompanied by changing industrial structure not only arise in the home country but also affect the trading partners of the home country which has been termed as trade friction. As the

home country transforms itself from an importing country to a self-producing country, the export country now has to reduce the outputs and to lay off some employees in the same industry. Therefore the export country now faces a decrease in national welfare.

As discussed above the issues of industrial development accompanied by changing industrial structure revolves around the unemployment and the economic welfare. How could the governments rely on SMEs to remedy these issues ? It is first appeared that the role of LSMEs is to lessen the negative effects of the industrial development accompanied by changing industrial structure. Economists assert that the expansion of the SMEs sector boosts employment more than the Large-sized Enterprises sector because usually SMEs are more labor intensive. In relation to unemployment issue, the works of Brown et al. (1990), Westhead (1995), Storey (1996), Reynolds (1997) have also shown that in the short-term or the initial period of the industrial development accompanied by changing industrial structure process, government can relies on LSMEs to solve the unemployment issue but in the long-term, it is the role of NTBSMEs and SSMEs in the newly established industries to solve this problems.

This section examines the importance of the SMEs in the economic development. While the NTBSMEs and the SSMEs could help the government in enforcing the industrialization process toward an advanced industrial structure, the LSMEs could help the government in stabilizing macroeconomic condition through solving the unemployment issue, which is the by-product of the industrialization process. Thus, the SMEs become indispensable participants in developing infant industry and in achieving the economic development target.

CONCLUSION

For economic growth and development, the developing countries could rely on the SMEs sector as the main source of contribution. However, during the industrial development process, the sustainable development of the SMEs may be threatened by the existence of Marshallian Externalities and that is why governmental interventions through public policies are required.

Firstly, the industrial structure has great impacts on the national economic welfare. From the analysis of Itoh et al. (1991), it is realized that the establishment of the industrial structure toward the development of high growth industries is desirable for all countries. The success in establishing those industries will enhance the economic welfare of that country in trading with the others. Nevertheless, the manufacturing process often takes place in

many countries, under the globalization condition, before a final product could be supplied to the customers. Under the new condition, governments of the developing countries like Vietnam should develop their industrial structure toward some processes required advance technologies and creativity because these processes often account for a larger proportion of value-added in a product.

Secondly, as presented in section three, Marshallian Externalities deter the development of the SMEs ; drive them out of the early established industries under the control of the market mechanism. Consequently, the public policies to promote the newly established industries or infant industries are the necessity from the view point of the social welfare.

Finally, to achieve the objective of the industrial development accompanied by changing industrial structure, governments should promote and ensure the sustainable development of the SMEs. The industrial policy which aims at promoting the infant industry and the SMEs' support policy in this case are identical. The development of the SMEs sector not only helps the government in establishing the infant industries but also in solving the by-product of the industrial development accompanied by changing industrial structure process.

There still remain some problems to be discussed further. Recently, the researches of Bond et al. (2005), Ishihara (2002) etc, continue to analyze the effects of Marshallian Externality to the industrial development and economic development theoretically. Nevertheless, a model that explains the existence of the Marshallian Externalities in the case SMEs act as suppliers in the upstream industry and Large-sized firms act as assemblers in the downstream industry has not been found. Therefore, in my opinion it is needed to have more empirical analysis works to verify the "infant industry" theory and to evaluate the effects of public policies.

REFERENCES

Acs, Zoltan J. and Audretsch, David B. (1988) "Innovation in Large and Small Firms : An Empirical Analysis," *The American Economic Review,* 78, (4), pp. 678-690.

Acs, Zoltan J. and Audretsch, David B. (1989) "Small-Firm Entry in US Manufacturing," *Economica,* 52, (222), pp. 255-265.

APEC, (2002) "Profile of SMEs and SME Issues in APEC 1990-2000", APEC Web page (URL : http : //www. apec. org/content/apec/publications/all _publications/small ___medium _enterprises. html) on 2003/04/01

Autio, Erkko and Garnsey, Elizabeth (1997) "Early Growth and External Relations in New Technology-Based Firms", United States Association for Small Business and Entrepreneurship, Pro-

ceedings paper.

Besanko, D., Dranove, D., Shanley, M. and Schaefer, S. (2003) *Economics of Strategy,* John Wiley& Sons Inc.

Bolton, P. and Dewatripont, M. (1994) "The Firms as a Communication Network," *The Quarterly Journal of Economics,* 109, (4), pp. 809-939.

Bond, E., Jones, R. and Wang, P., (2005) "Economic Take-offs in a Dynamic Process of Globalization," *Review of International Economics,* 13, (1), pp. 1-19.

Boulding, K. E. (1958) *Principles of Economic Policy,* Prentice-Hall, Inc.

Brown, C., Hamilton, J. and Medoff, J. (1990) *Employees Large and Small,* Harvard University Press Cambridge, Mass.

Carlton, D. and Perloff, (1994) *Modern Industrial* Organization, Harper Collin College Publishers.

Coase, Ronald H. (1937) "The Nature of the Firm," *Economica,* 4, (16), pp. 386-405.

Dasgupta, P. and Stiglitz, J. (1988) "Learning-by-doing, Market Structure and Industrial and Trade policy," *Oxford Economic Papers,* 40, (2), pp. 246-268.

Foss, Nicolai J. (2001) *The Theory of the Firm : Critical Perspectives on Business and Management,* Routledge.

Grossman, Gene M. and Horn, Henrik (1988) "Infant-industry Protection Reconsidered : The Case of Informational Barrier to Entry," *The Quarterly Journal of Economics,* 103, (4), pp. 767-787.

Hart, Oliver and Moore, John (1990) "Property Rights and the Nature of the Firm," *The Journal of Political Economy,* 98, (6), pp. 1119-1158.

Herberg, Horst and Kemp, Murray C. (1969) "Some Implications of Variable Returns to Scale," *The Canadian Journal of Economics,* 2, (3), pp. 403-415.

Holmstrom, Bengt and Milgrom, Paul (1994) "The Firm as an Incentive System,2 *The American Economic Review,* 84, (4), pp. 972-991.

Ishihara, Takako. (2002) *"Industrial Policy and Competition Policy,"* Lecture-text at JFTC/JICA Training Course in Osaka and Tokyo, Japan.

Itoh, M. Kiyono, K. Okuno-Fujiwara, M. and Suzumura, K. (1991) *Economic Analysis of Industrial Policy* Academic Press, Inc.

Jensen, Michael C. and Meckling, William H. (1976) "Theory of the Firm : Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics,* 3, (4), pp. 305-360.

Klein, B., Crawford, Robert G. and Alchian, Armen A. (1978) "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process, " Journal of Law and Economic, 21, pp. 297-326.

Lucas, R. (1978) "On the Size Distribution of Business Firms," *The Bell Journal of Economics,* 9, (2), pp. 508-523.

Mankiw, G. M. (1998) *Principles of Economics.* The Dryden Press.

Marshall, Alfred (1907) *Principles of Economics,* London, Macmillan.

Matsuoka, Kenji (1998) "Industrial Policy and Small and Medium Enterprises in Japan : A Case Study on Die and Mold Industry", *Journal of Economic Research,* 3, pp. 185-202.

Ohno, K., Cuong. M. Th. (2005) "Automobile Industry in Vietnam—Remaining Issues in Implementing Master Plan" in Ohno, K. Thuong, Ng. V., *Improving Industrial Policy Formulation.* The Publishing House of Political Theory, 2005, pp. 195-218.

Panagariya, Arvind (1981) "Variable Returns to Scale in Production and Patterns of Specialization,"

The American Economic Review, 71, (1), pp. 221-230.

Papandreou, Andreas G. (1952) "Some Basic Problems in the Theory of the Firm," in B. F. Haley, (ed.), *a Survey of Contemporary Economics,* Homewood : Richard D. Irwin, Ch. 5, pp. 183-222.

Penrose, Edith T. (1955) "Limits to the Growth and Size of Firms," *The American Economic Review,* 45, (2), pp. 531-543.

Perkins, Dwight, H. Radelet, S. Snodgrass, Donald, R. Gillis, M. and Roemer, M. (2001) *Economics of Development.* W. W. Norton & Company.

Wang, Ping and Xie, Danyang (2003) "Activation of a Modern Industry, " Working Paper No. 01-W35, Department of Economics Vanderbilt University.

Reynolds, P. (1987) "New Firms : Societal contribution versus survival potential", *Journal of Business Venturing,* 7, (5), pp. 405-417.

Richardson, G. B. (1972) "The Organization of Industry," *The Economic Journal,* 82, (327), pp. 883-896.

Robert, E. B. (1991) "Technological Entrepreneurship : Birth, Growth, and Success", *Entrepreneurs in High Technology,* Oxford University Press, pp. 339-358.

Simon, Herbert A. (1951) "A Formal Theory of the Employment Relationship," *Econometrica,* 19, (3), pp. 293-305.

Simon, Herbert A. (1962) "New Development in the Theory of the Firm," *The American Economic Review,* 52, (2), pp. 1-15.

Stefano, Breschi and Francesco, Lissoni (2000) "Knowledge Spillovers and Local Innovation Systems : A Critical Survey," *40th European Regional Science Association Conference.*

Storey David J., (1996) *Understanding the Small Business Sector,* London Routledge.

Teraoka, H. (2004) *Small and Medium-sized Enterprise Policy in Japan : Vision and Strategy for the Development of SMEs,* Osaka International Centre.

Williamson, Oliver E. (1971) "The Vertical Integration of Production : Market Failure Considerations," *The American Economic Review,* 61, (2), pp. 112-123.

Williamson, Oliver E. (1975) *Markets and Hierarchies : Analysis and Antitrust Implications,* New York, Free Press.

Westhead, P. (1995) "Survival and Employment Growth Contrast Between Types of Owner-Managed High Technology Firms" *Entrepreneurship Theory and Practice,* 20, (1), pp. 5-27.

You, Jong I. (1995) "Critical survey : Small Firms in Economic Theory," *Cambridge Journal of Economics,* 19, pp. 441-462.

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