

RETHINKING SMALL AND MEDIUM ENTERPRISE AS A GROWTH ENGINE IN DEVELOPING ECONOMIES

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From a worldwide perspective, it has been recognized that small and medium enterprises (SMEs) play a vital role in economic development, as they have been the primary source of job/employment creation and output growth, not only in developing but also developed countries. In Piper's (1997) dissertation, for instance, it states that 12 million or about 63.2% of total labor force in the United States (US) work in 350,000 firms employing less than 500 employees, which considered as SMEs. These enterprises make up more than 99% of all business entities and employ more than 80% of total workforce in the US. These enterprises, often called the foundation enterprises, are the core of the US industrial base. SMEs are also important in many European countries. In the Netherlands, for instance, they account for 95% or more of total business establishments (Bijmolt and Zwart, 1994). As in the US, also in other industrialized/OECD countries such as Japan, Australia, Germany, French and Canada, SMEs are an important engine of economic growth and technological progress (Thornburg, 1993).

In developing countries, SMEs have also a crucial role to play because of their potential contributions to improvement of income distribution, employment creation, poverty reduction, industrial development, rural development, and export growth. For this reason, the governments in these countries have been supporting their SMEs extensively through many programs, with subsidized credit schemes as the most important component. International institutes such as the World Bank and the United Nation Industry and Development Organisation (UNIDO) and many donor countries through bilateral co-operations have also done a lot, financially as well as technically, in empowering SMEs in developing countries. .

It is widely suggested in the literature that the importance of SMEs in developing countries is because of their characteristics, which include the following ones¹

- 1) Their number is large, and especially small enterprises (SEs) are scattered widely throughout the rural area and therefore they may have a special "local" significance for the rural economy.
- 2) As being populated largely by firms that have considerable employment growth potential, their development or growth can be included as an important element of policy to create employment and to generate income. This awareness may also explain the growing emphasis on the role of these enterprises in rural areas in developing countries. The agricultural sector has shown not to be able to absorb the increasing population in the rural areas. As a result, rural migration increased dramatically, causing high unemployment rates and its related socio-economic problems in the urban areas. Therefore, non-farm activities in rural areas, especially rural industries being a potentially quite dynamic part of the rural economy have often been looked at their potential to create rural employment, and in this respect, SMEs can play an important role.
- 1) Not only that the majority of SMEs in developing countries are located in rural areas, they are also mainly agriculturally based activities. Therefore, government efforts to support SMEs are also efforts, indirectly, to support their agricultural sector..

¹ For more discussions on this, see for example, Tambunan (1994), Liedholm and Mead (1999), and Berry *et al.* (2001)

- 2) SMEs use technologies that are in a general sense more "appropriate" (as compared to modern technologies used by large enterprises; LEs) to factor proportions and local conditions in developing countries, i.e. quite a few raw materials being locally available and scarcity of capital, including human capital.
- 3) Many SMEs may expand significantly, while the great majority of micro enterprises² tend to grow little and hence do not graduate from that size category. Therefore, they are regarded enterprises having the "seedbed LEs" function.
- 4) Although in general people in rural areas are poor, evidence shows the ability of poor villagers to save a small amount of capital and invest it; they are willing to take risks by doing so. In this respect, SMEs provide thus a good starting point for the mobilization of both the villagers' talents as entrepreneurs and their capital; while, at the same time, rural SMEs can function as an important sector providing an avenue for the testing and development of entrepreneurial ability.
- 5) SEs and especially micro enterprises finance their operations overwhelmingly by personal savings of the owners, supplemented by gifts or loans from relatives or from local informal moneylenders, traders, input suppliers, and payments in advance from consumers. These enterprises can therefore play another important role, namely as a means to allocate rural savings that otherwise would be used for unproductive purposes. In other words, if productive activities are not available locally (in the rural areas), rural or farm households having money surplus might keep or save their money without any interest revenue inside their home because in most rural areas there is a lack of banking system. Or, they use their wealth to buy lands, cars, motorcycles or houses and other unnecessary luxury consumption goods which is often considered by the villagers as a matter of prestige.
- 6) Although many goods produced by SMEs are also for the middle and high-income groups of population, it is generally evident that the primary market for SMEs' products is overwhelmingly simple consumer goods, such as clothing, furniture and other articles from wood, footwear, household items made from bamboo and rattan, and metal products. These goods cater to the needs of local low income consumers. SMEs are also important for securing the basic needs goods for this group of the population. However, there are also many SMEs engaged in the production of simple tools, equipments, and machines for the demands of small farmers and small producers in the industrial, trade, construction, and transport sectors.
- 7) As part of their dynamism, SMEs often achieve rising productivity over time through both investment and technological change; although different countries within the group of developing countries may have different experiences with this, depending on various factors. The factors may include the level of economic development in general and that of related sectors in particular; accessibility to main important determinant factors of productivity in particular capital, technology and skilled manpower; and

² Micro enterprises are the smallest size categories of firms, mainly self-employment units, and they are most traditional within the group of SMEs. That is why in the literature and official reports micro enterprises are discussed/presented separately, not included in defining SMEs.

government policies that support development of production linkages between SMEs and LEs as well as with foreign direct investment (FDI).³

- 8) As often stated in the literature, one advantage of SMEs is their flexibility, relative to their larger competitors. In Berry *et al.* (2001), these enterprises are construed as being especially important in industries or economies that face rapidly changing market conditions, such as the sharp macroeconomic downturns that have bedeviled many countries in Southeast Asia, including Indonesia, over the past few years.⁴

Now the question is whether SMEs, especially in developing economies can play (or have been playing) as a growth engine. This study addresses this simple but well important policy question. Because in the long-run, the classical role of SMEs, that is as the main source of employment creation in many countries will depend on their business performance, and this will be reflected by their share in the formation or growth of GDP. In other words, the better their performance, shown by their higher GDP share, the more important they are as a growth engine.

TWO BLOCKS OF THEORIES

The development of SMEs and changes over time in their for example, employment and output shares, output composition, market orientation and location are usually thought to be related to many factors, including the level of economic development, changes in real income per capita, population growth, and progress in technology. Given this thought, the most important question now is whether there is a general or a systematic pattern of transformation of SMEs over time in the course of economic development. More specifically, whether SMEs will die out or grow along with the increase in real income per capita? With respect to this question, and for better understanding the current development of SMEs in some selected countries (including Indonesia) that will be presented and discussed in the empirical part of this book, this chapter aims to discuss the pattern of development of SMEs from a broader theoretical perspective.

In discussing industrial systems and the role of SMEs within the systems and their pattern of overall development in developing countries, attention is usually focused on seminal articles by Hoselitz (1959), Staley and Morse (1965), and Anderson (1982), among some others. Their works are generally classified as the "classical" theories on SMEs' development, which emphasize the relation between level of income or economic development and the presence or development and growth of SMEs. The "modern" theories, on the other hand,

³ In developing countries, LEs achieve productivity increases to a great part by borrowing from the shelf of technologies available in the world. Processes such as FDI, technology licensing, joint ventures, and access to engineering and other advances provide productivity increases for LEs. This is not evident for the majority of SMEs (Berry, *et al.*, 2001).

⁴ . It appeared that when the economic crisis hit the country in 1997, SMEs have been weathering the crisis better than LEs, because their greater flexibility allows them to adjust production process during the crisis; although many of them have been hit hard too. Many argue that being less reliant on formal markets and formal credit, SME are able to respond more quickly and flexibly than LEs to sudden shocks (Berry, *et al.*, 2001).

explicitly place emphasis on the importance of subcontracting networks and the economic benefits of agglomeration and clustering for the development of SMEs. They include the works of Berry and Mazumdar (1991) and Levy (1991) in the newly industrializing countries in East Asia like Taiwan and South Korea, and the flexible specialization literature with many experiences from SMEs in European countries.

A. Classical Theories

The literature on SMEs in developing countries mainly focuses on manufacturing industry, and it started with the 1965's article of Staley and Morse. In their substantial study, based on the experience of industrialized and developing countries, they identified three categories of conditions for the predominance of SMEs: location, manufacturing process, and market or type of product. Factories processing a dispersed raw material (mainly rural industries) and products for local markets and with relatively high transport costs are two main important local conditions. Separable manufacturing operations, craft or precision handwork, and simple assembly, mixing, or finishing operations are main important conditions for the predominance of SMEs with respect to manufacturing processes. The market conditions are in the forms of differentiated products with low scale economies and industries serving small markets. The significance of these influences may be different for SMEs in different sub-sectors. For instance, the industries serving small markets condition is considered a particularly important determinant for the dominance of SMEs in the wood and furniture industries because total demand for such products is usually limited as compared to other consumer goods. The condition of factories processing a dispersed raw material is considered as a significant explanation for the dominance of small-and medium-scale food industries in rural areas.

Amongst these conditions, Staley and Morse (1965) argue that particularly separable or specific manufacturing operations (for example, SMEs produce certain components for LEs) and differentiated products having low scale economies are the most important explanatory factors for the presence of SMEs in developing countries.⁵

Although the relationship between the size of business establishments and the process of economic development has been explored by some authors through the analysis of historical stages of development, the theoretical literature on the issue of how SMEs would be influenced by increases in per capita real income (as a proxy of economic development) is still rather limited. The attention on this particular issue was given first by Hoselitz in his study (1959) on industrialization in Germany. His study indicates that in the "early" stage of development the manufacturing sector in the country was predominated by artisans or craftsmen and as the process proceeded many of them grew later on into large sized establishments of industry.

⁵ A number of authors used these categories of conditions in analyzing SMEs, such as Tambunan (1994) and van Dierman (1995).

However, Hoselitz (1959) did not study explicitly the nature of the relationship between the increase of the level of industrialization and the structural change within the manufacturing sector. He emphasized more on the characteristic of low costs of production, which he concluded as the key to the success of SMEs. The low cost of production attributes mainly to the use of unpaid family workers.

Following Hoselitz's work, Parker (1979) and Anderson (1982) have developed general growth phase typologies based on the experience of the industrialized countries to explain changes in the size structure of industry by region and over time in developing countries. According to this approach, in the course of economic development, the composition of manufacturing activities, if classified according to scale, appears to pass through three phases. In phase one, at the "early" stage of industrial development which may be characteristic of predominantly agrarian economies, cottage and household industries (CHIs), namely non-factory or craft-based enterprises (this can be marked as the most traditional type of enterprises in manufacturing industry), are predominant in terms of their total number of production units and share in total manufacturing employment. This is a stage of industrialization in which a large number of CHIs (mainly in rural areas), coexist with a quite limited number of larger-scale (mainly foreign or state-owned firms located in urban areas or large cities). In this stage, CHIs are predominant in activities such as garment-making, smithy, footwear, handicrafts, masons, industries making simple building materials and various crop-processing industries. They closely related to agricultural production, as providers of rudimentary inputs to and of processing services for output from agriculture, and of the non-food needs of the rural population. In developing countries, these sub-sectors are characterized by substantial ease of entry. Particularly for clothing, food and handicraft industries, initial capital requirements are very low and for the producers involved no need for high skills and special separated workshops to carry out those activities. Perhaps for this reason, such activities are undertaken largely by female and children, as a part-time job or secondary source of family income, and most enterprises in these activities are self employment or one person units in which the owner undertakes all activity.⁶

In phase two, in more developed regions with higher incomes per capita than in regions in phase one, small-scale industries (SSIs) and medium-scale industries (MSIs) have been found to emerge and increase at a comparatively rapid rate, and act to displace CHIs in several sub-sectors of manufacturing. There are some factors which might explain the expansion of these industries in this particular stage of development. Steel (1979), for instance, emphasizes the importance of a growing cash market for the expansion of SSIs and MSIs: *Increased urbanization and expanding cash markets give rise to a shift from traditional household activities to*

⁶ See further, among others, Anderson and Leiserson (1980), Hansohm (1992), Liedholm and Chuta (1976), Page and Steel (1984), Rietveld (1989), and Wickramanayake (1988).

*complete specialization of the entrepreneur in small scale production and increased use of apprentice and hired labor (p.9).*⁷

In phase three, at the "later" stage of development, large-scale industries (LSIs) become predominant, displacing the remaining CHIs and also SSIs in some activities.⁸ According to Anderson (1982) this phase is partly a product of phase two, since the recorded growth of output and employment in LSIs can be divided into: *a) the growth of once small firms through the size structure, and b) the expansion of already large domestic and foreign concerns (p.914)*. However, the expansion of LSIs in this stage may also be caused, to a certain extent, by new large-scale entrants, which is not explicitly taken into account by Anderson.

In this final phase factors such as greater use of economies of scale with respect to plant, management, marketing and distribution (depending on types of products and flexibility in production), superior technical and management efficiency, better productive coordination and access to supporting infrastructure services and external finance, and concessionary finance along with investment incentives, tariff structures, and government subsidies are powerful causes and incentives for firms to grow larger. In practice it is often found that these factors are more favourable for large or modern industries than for small and traditional ones and so they may explain the eventual better performance of larger enterprises and small ones in advanced stages of industrialization.⁹

The empirical evidence on systematic pattern of structural change in industrial establishments, though still limited, is richer than the corresponding theoretical literature. Most of existing studies focus mainly on development of SSIs on one hand versus that of MSIs and LSIs separately or put them together as medium-and large-scale industries (MLSIs) on the other hand. Studies from Snodgrass and Biggs (1996) and Tambunan (1994) may provide a general picture about the relative importance of SSIs in different countries with different levels of development (income).¹⁰

The output composition of SMEs in manufacturing industry also appears to shift with development. As income per capita increases, the activities of SMEs shift from "light" manufacturing with simple processing to intermediate and then to capital goods with more complicated processing ("heavy" manufacturing). In other words, the higher the income per capita, the lower the share of SMEs in light manufacturing and the higher their share in heavy

⁷ Anderson and Khambata (1981) also point out the importance of growing cash markets generated by the growth of agriculture or rural incomes for the high rates of growth of SSIs and larger sized establishments of industry.

⁸ Similar hypothesis as in the theory of Anderson has also been forwarded or adhered to by others such as Davila and Satterthwaite (1987), Little (1987), and Nanjundan (1989), stating that increasing levels of economic development inevitably will bring about a replacement of SSIs, especially the traditional ones, namely CHIs, by larger factories (LSIs).

⁹ Schmitz (1982) states that for SSIs only those who can take advantage of some or all of these factors can grow or, at least, survive against heavy competition from larger industries.

¹⁰ Though there are always some problems in making a comparison between countries due to differences in for example, data collection procedure, classification of industrial establishment and period of coverage, official exchange rates, national accounting and demographic reporting system (with respect to gross national product/GNP or gross domestic product/GDP per capita) (Tambunan, 1994).

manufacturing, especially in machine and transport equipment industries,¹¹ as a percentage of total employment in SMEs (Biggs and Oppenheim, 1986).¹² Not only between manufacturing subsectors but also within a subsector, shifts of SMEs with the process of development from units producing more "traditional" goods (types of activities done mainly by women and family members) to units making similar but more sophisticated or "modern" type of goods can be observed. In other words, in the course of development process, the share of SMEs producing "traditional" goods as a percentage of total employment and units of SMEs in that particular industry declines (Liedholm and Parker, 1989).

In addition, in Biggs and Oppenheim (1986), there is evidence which indicates that the sectoral shift or the shift from making traditional towards modern goods within an industry is also accompanied by changes in size of industrial establishments: i.e. from CHIs to SSIs and from SSIs to larger scale industries.¹³

In earlier studies of SSIs in developing countries, these industries, in particular CHIs, were commonly treated and in a way dismissed as tradition bound, low income and economically backward activities, offering few and probably decreasing opportunities for raising incomes.¹⁴ But, as found in many African countries, CHIs were actively engaged in a much wider range of activities, including various resource based and agro-processing activities, than only in traditional activities producing "inferior" goods, as often thought. This evidence may suggest that with economic development not all CHIs will disappear. Indeed, in many developing countries a sizeable number of these industries is still surviving these days. Some of them remain small and traditional while some others did develop into larger factories.¹⁵ An important factor that might explain why in many "more developed" developing countries many CHIs did survive and even grew larger despite heavy competition from larger industries and policies biased against them is a specific skill or specialization owned traditionally by the producers.¹⁶

The pattern of transformation of SMEs in a country has been discussed above. Within a country, differences in the pattern of transition from SEs to MEs and then to LEs can also be apparent between urban and rural areas. The main causes of the differences can be related to differences in the level of development between rural and urban economies and in characteristics between rural and urban SMEs. As regards the differences in characteristics, a lot of studies shows that more "traditional" crafts (for instance, CHIs) such as black-smithy, weaving, and mat and pottery making are relatively more important in rural areas and they are characterized by

¹¹ Light manufacturing includes: food processing, beverages, wood, furniture, paper, printing and publishing, non-metallic mineral products, textiles, clothing, footwear, construction, metal fabricated, and leather. Heavy manufacturing includes: rubber, chemical industries, petroleum, basic metal, machines and transport equipment.

¹² See also Chenery (1986), Chenery et al (1986), and Syrquin (1989) for studies and evidence of this "structural transformation" of production within the manufacturing sector in many countries.

¹³ However, it is not clearly indicated in their study whether these sectoral shifts are causally related to rather than only accompanied by the shift in firm size.

¹⁴ See for example Hymer and Resnick (1969) and Staley and Morse (1965).

¹⁵ See for example Beesley and Hamilton (1984), Calloway (1973), and Page (1979).

¹⁶ This is also indicated by Hoselitz's study (1959) on early industrialists in Germany who started out as artisans or craftsmen and grew later on into large sized establishments of industry.

a higher proportion of self-employment units, while SMEs, especially MEs, tend to predominate in urban areas. Apprentice and wage labor are relatively more important components of total employment in urban SMEs, while CHIs in rural areas rely more heavily on family labor. Furthermore, in rural areas, the larger share of manufacturing employment, particularly in CHIs, as compared to urban based SMEs, is highly seasonable: part-time non-farm activities that peak in the slack season in the farming activities.¹⁷

Moreover, intermediate demand from LEs is mainly concentrated in urban areas. This may thus give more opportunities for urban SMEs servicing this market segment (for example, through subcontracting) to grow. In rural areas or isolated regions, on the other hand, local enterprises are engaged in the production of more traditional and low or negative income elasticity goods, for a small local market, in particular for rural low-income segments (Mazumdar, 1976). Byerlee (1973) gives his own reason to believe that such different patterns of change and development are really occurring. He states that the supply and demand pattern of rural enterprises is different from that of urban enterprises from the same size group. Both the demand for output and the supply side of the former industries are closely related to agricultural incomes and production, which are varying seasonally.¹⁸

Given the differences in characteristics and environments, as discussed above, urban SMEs may face problems and opportunities to grow which are different than those faced by their rural counterparts, and, thus, it can be expected that economic development in terms of income increases and market demand changes affect rural and urban SMEs differently.

Both Hoselitz (1959) and Anderson (1982) predict that advantages of SMEs will diminish over time and that LEs will eventually predominate. However, experiences from many European countries showing the re-emergence of SMEs, the increasing importance of SMEs in Japan and newly industrializing countries in East Asia that are closely integrated with large scale industries through subcontracting networks, and the growing body of literature on post-Fordist modes of production and flexible specialization, may suggest that the above theory does not valid.¹⁹

To sum up, the “classical” theories on SMEs believe that in the course of economic development (reflected in the increase of per capita real income/gross domestic product (GDP)), the “economic” shares of SMEs (their shares in GDP, employment, sectoral output, and total enterprises), would decline steadily. Those of large and modern enterprises, on the other hand, would take off rapidly and finally they dominate the economy (Figure1). The theoretical implication of this is that poverty and the importance of SMEs are positively correlated: the economic shares of SMEs increase as the poverty rate (i.e. percentage of population living under the poverty line)

¹⁷ See for example Anderson (1982), Chuta and Liedholm (1985), and Steel (1977).

¹⁸ See for example, Islam (1983, 1987), Saith (1991), and White (1976).

¹⁹ See e.g. Acs and Audretsch (1990a, b), Goodman (1989), Goodman and Bamford (1989), Pyke, *et al.* (1990), and Sengenberger *et al* (1990).

increases (Figure 2); or put it in a different way: in poor countries the number of SMEs is higher than in non-poor countries.

Figure 1

“Classical” Hypothesis on the Relation between the Importance of SMEs and Economic Development²⁰

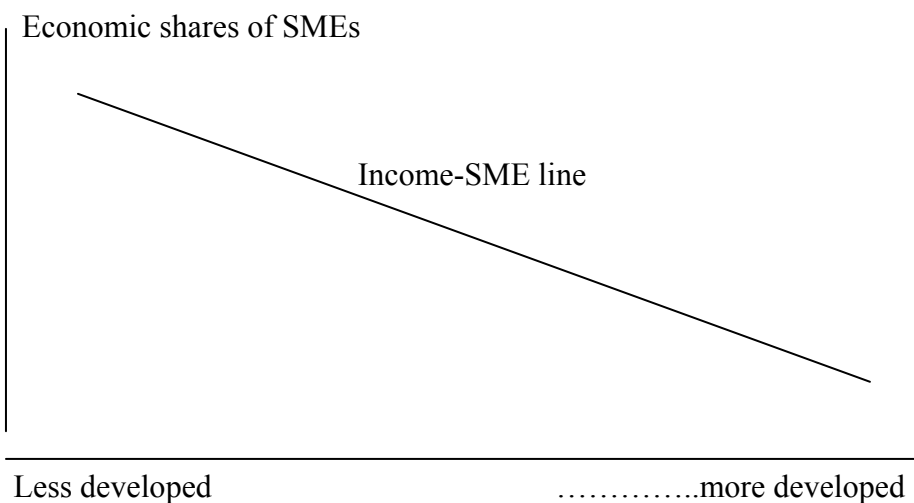
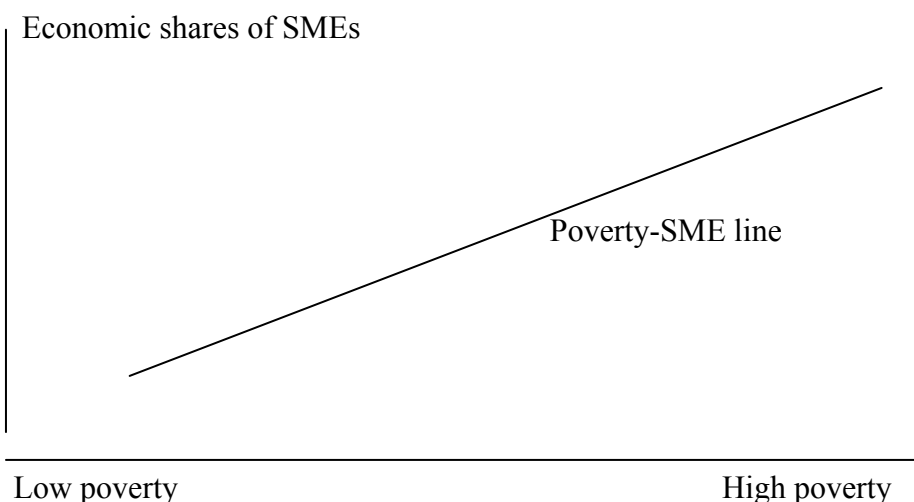


Figure IV.2

“Classical” Hypothesis on the Relation between the Importance of SMEs and Poverty²¹



B. “Modern” Theories

In the 1980s, a new issue of so-called "flexible specialisation" has emerged and since then many research or seminar papers and books on this issue have been published. This new issue came into being as a result of a long debate over how to interpret the new global pattern of production caused by globalisation forces and industrial restructuring. These have changed the way in which production and labour are organised. Some authors have

²⁰ The line is of course not necessary linear.

²¹ The line is not necessary linear and also it originates not necessarily from zero.

argued that global production is undergoing a transformation from Fordist (or mass production) to non-fordist production.²² Flexible specialisation is seen as one of its most distinctive features (Piore and Sabel, 1984).

The concept of flexible specialization has been closely associated with Piore and Sabel's (1984) seminal work on the "second industrial divide" in which they discussed the re-emergence of craft based regions in some countries in Europe, namely Italy, Austria and Germany.²³ In examining the development of craft based regions in these countries, Piore and Sabel (1984) argue that SMEs located in these regions have become the new dominant form of industrial organisation. These industries are characterized by high and multi-skilled workers, "flexible" machinery which embodies the latest technology and small batch production of a range of specialised products manufactured for the global market. There are four common organisational forms of flexible specialisation identified in Piore and Sabel's (1984) study:

- 1) flexible and specialisation: firms in the community can rapidly adapt their production techniques but remain specialised in the production of one type of good, for instance, garments;
- 2) limited entry: firms in the community form part of a bounded community from which outsiders are largely excluded;
- 3) high level of competitive innovation: there is continuous pressure on firms in the community to promote innovation in order to keep an edge on their competitor;
- 4) high level of co-operation: there exists limited competition among firms in the community over wages and working conditions, encouraging greater co-operation between them.

Since the publication of Piore and Sabel's (1984) book, not only these new characteristics and modes of industrial organisation have been widely discussed, but several authors have attempted to assess the relevance of the flexible specialisation paradigm in industrial districts dominated by SMEs in developed countries, and many others have also attempted to assess the implications for industry, in particular SMEs, in developing countries.²⁴

The main argument of the flexible specialisation thesis is that SMEs can grow fast or even faster than LEs with the process of development. In these West European countries, but also in other developed economies like Japan, Sweden and United States, SMEs in some subsectors such as electronics and automotive have been found to be very significant as sources of invention, innovation and efficiency. They have been found to be capable to stand the competition with LEs, and even to improve their current relative position in several instances.

²² See for instance, Piore and Sabel (1983, 1984) and Scott (1988).

²³ In their interpretation, the first industrial divide occurred during the nineteenth century with the emergence of mass production, and the second industrial divide has occurred in the late twentieth century with the re-emergence of craft industries (Piore and Sabel, 1994).

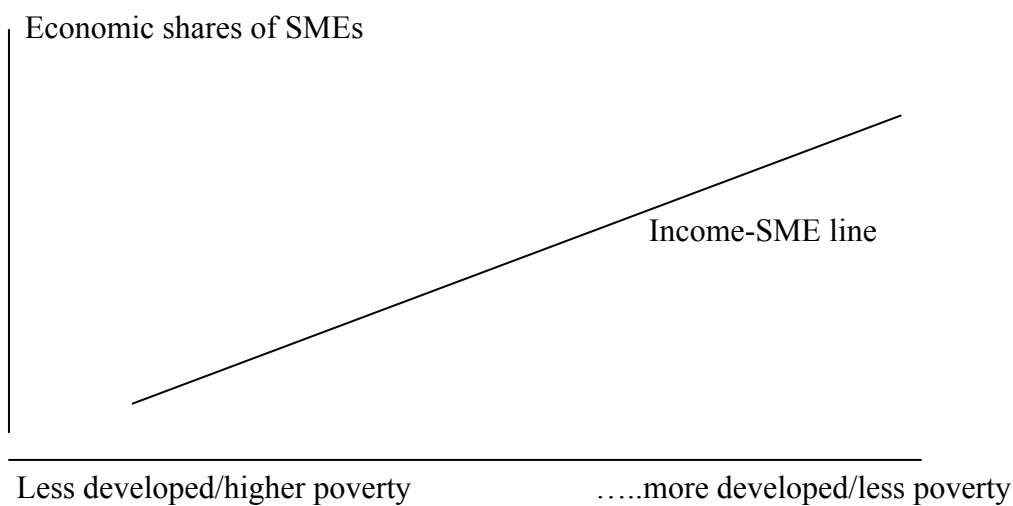
²⁴ See discussions on and the empirical assessments of this concept in among others: Acs and Audretsch (1990 a,b), Nadvi and Schmitz (1994), Kaplinsky (1994), van Dijk (1992, 1993), Sengenberger *et al* (1990), Storper (1990), Rasmussen, *et al.* (1992), and Suarez-Villa (1989).

In the flexible specialisation literature, it is cited explicitly that new technologies (the numerically controlled tools and the computer) promote the relative viability of SMEs and reduce scale economies and lead to smaller efficient plants and firms. Also the need to increase the ability of industry to meet rapid changes in demand (especially in the world market) promptly, cheaply and efficiently has created a new role of SMEs in developed economies.

This "new role" of SMEs in the economy emphasized by the flexible specialization literature can be used as an argument against the proposition of Anderson, among others, in the "classical" theories stating that in the long-run the economy will be dominated by LEs (in terms of employment and output). This flexible specialization literature, which can be called the "modern" theories on SMEs, suggests that in the course of economic development, the "economic" shares of SMEs would increase together with those of LEs (Figure 3); although the suggested positive correlation will vary among countries due to differences in many internal factors including level and pattern of economic development and basic economic conditions.

Figure 3

"Modern" Hypothesis on the Relation between the Importance of SMEs and Economic Development ²⁵



SME AND ECONOMIC GROWTH

A. SMEs as an Engine for Economic Growth: "pro" and "contra" arguments

The "classical" theories on development of SMEs discussed above seem to get decreasing supports as many international aid agencies, including the World Bank since the 1980s have been providing direct and indirect supports to SMEs to accelerate economic growth and to reduce poverty in developing economies. For example, over the last five years, the World Bank Group approved more than \$10 billion in SME support programs,

²⁵ The line is not necessary linear and also it originates not necessarily from zero.

including \$1.5 billion in 2002 (World Bank, 2002, 2004).²⁶ Also many non-government organizations (NGOs) from donor countries that have regional offices in many developing countries (including Indonesia), such as the Swisscontact and the Asia Foundation (TAF) have been actively involved in assisting SMEs in these countries.

The World Bank gives three core arguments in supporting, which in fact in line with the arguments of the “modern” theories or “flexible specialization” thesis discussed in the previous section (World Bank, 2002, 2004). First, SME enhance competition and entrepreneurship and hence have external benefits on economy-wide efficiency, innovation, and aggregate productivity growth. Second, SMEs are generally more productive than LEs but financial market and other institutional failures, and not-conducive macroeconomic environment impede SME development. Third, SME expansion boosts employment more than LEs growth because SMEs are more labor intensive. So, the World Bank believes that direct government support of SMEs in developing economies help these countries exploit the social benefits from their greater competition and entrepreneurship, and also their SMEs can boost economic growth and development.

The above arguments do not mean, however, that LEs are not important, or the role of these enterprises can be fully substituted by SMEs. Even, there are skeptical views from many authors about this World Bank’s pro-SME policy. Some authors stress the advantages of LEs and challenge the assumptions underlying this pro-SME policy. Specifically, LEs may exploit economies of scale and more easily undertake the fixed costs associated with research and development (R&D) with positive productivity effects. A growing body of studies suggests that SMEs do not boost employment. Those are LEs which provide more stable and therefore higher quality jobs with positive ramifications for poverty alleviation. For instance, Davis *et al.* (1993) find that while gross rates of job creation and destruction are higher in SMEs, there is no systematic relationship between net job creation and firm size. Research findings from Biggs and Shah (1998) on SMEs in Sub-Saharan Africa show that LEs were the dominant source of employment creation in the manufacturing sector. Little *et al.* (1987) and Snodgrass and Biggs (1996) find that SMEs are neither more labor intensive, nor better at job creation than LEs. Obviously, evidence from these studies rejects the view that SMEs are the engine of job formation.²⁷

Arguments against the pro-SME policy also come from emerging empirical evidence which supports the view that firm size responds to national institutional conditions. Beck *et al.* (2002), for instance, find that countries with good banking systems or well-developed financial institutions tend to have more LEs than SMEs, because successful firms face no financial constraints and so they can grow to their efficient sizes.

²⁶ In terms of World Bank activities, 80% of World Bank programs involve direct financial assistance to SMEs, while 20% of World Bank programs involve indirect support such as technical assistance for SMEs and for institutions that support SME development in many developing countries.

²⁷ See also many other works by for instance, Biggs (2002); Pagano and Schivardi (2001); and Brown, *et al.* (1990).

Similarly, evidence from Kumar, *et al.*'s (2001) research indicates that countries with better legal institutions, as measured by judicial system efficiency, tend to have more LEs than SMEs. From their study in Côte d'Ivoire, Sleuwaegen and Goedhuys (2002) find that restrained access to inputs, especially credit, results in a bi-modal firm size distribution in (the “missing middle”) with SEs on one tail of the size distribution growing less and LEs on the other tail growing faster than in developed economies. Thus, all this evidence suggests that institutional development is associated with countries having more LEs than SMEs.

Another important argument is on the validity of considering firm size as an exogenous determinant of economic growth. Kumar *et al.* (2001) posit that natural resource endowments, technology, policies, and institutions help determine a nation's industrial composition and optimal firm size. You (1995) states that whether a good can be produced most economically in SEs, or in MEs, or in LEs, it would depend on three things: type of goods produced, kinds of raw materials and other endowments used, and methods of production adopted. From a country perspective, it means that different countries with different endowments have different comparative advantages in the production of goods: in some countries they can be produced efficiently in LEs while in other countries they are most economically to be produced in smaller scale. Similarly, as argued by Caves *et al.* (1980), the volume of external trade of a country also determines the optimal firm size in the country: countries that are open to international trade may have a larger optimal firm size than those that are less integrated internationally.

B. SME Growth-Economic Growth: An Analytical Framework

From the “modern’ theories perspective, SMEs have an important roles to play, namely to accelerate economic growth through the growth of their output contributions to GDP. In addition to this direct effect, theoretically, SME have also an indirect effect on economic growth through their “growth-linkage” effects with LEs and other sectors in the economy. The increase of output in SME leads output and employment to increase in the rest of the economy through three main linkages: production (forward and backward), investment, and consumption.

So, hypothetically, there is a positive correlation between output growth in SMEs and economic growth, which can be less or more than proportional rate (Figure 4). This relation can be reflected in a simple equation as the following:

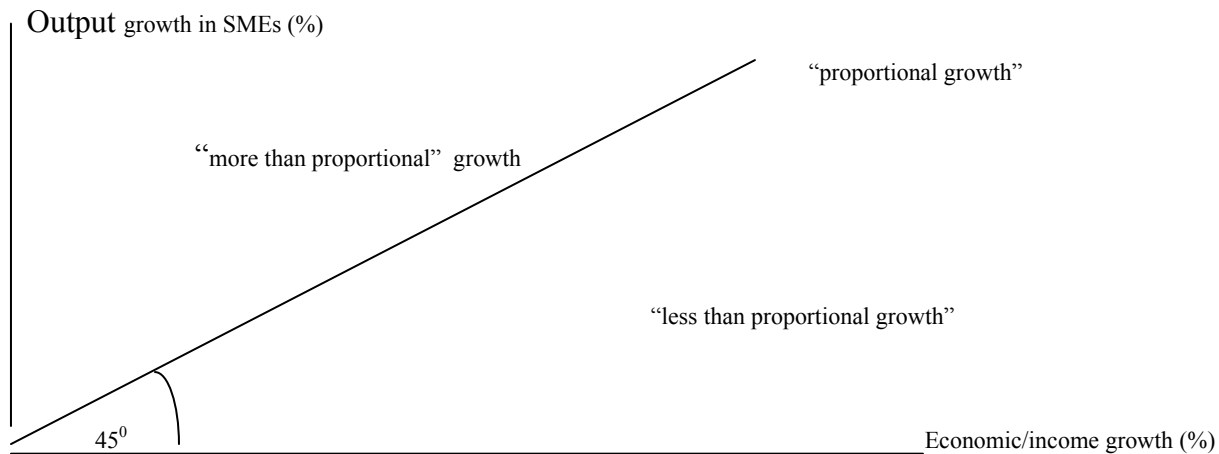
$$dY_N = a_0 + a_1dY_{SME} + a_2dY_{LE} + a_i X_i + e \quad (1)$$

where dY_N = the annual growth rate (%) in national income or real GDP per capita (can be in log form.), dY_{SME} and dY_{LE} = the annual growth rate (%) in output in respectively SME and LE, X_i represents a set of controls postulated as

economic growth determinants, and a_i ($i = 3, 4, \dots, n$) is a vector of coefficients on the variables in X , and e = a random variable that has mean 0 at fixed values of the predictor variables, commonly referred to as the regression residual or the error component in the equation that captures the effects of time invariant and time-varying unobserved variables.

Figure 4

Hypothesis on a correlation between Output Growth in SME and Economic/Income growth: an illustration



Output growth in SME can be originated from four sources: growth in number of establishments (with constant employment and output per unit of establishment), growth in number of workers (with constant number of establishment and labor productivity), growth in output or productivity (with constant number of establishment and total workers per firm), or a combination of the first three sources.

C. Some Findings

Beck *et al.* (2003), provide the first cross-country empirical study on the links between SMEs and economic growth using database on the share of manufacturing employment accounted for by SMEs from various countries. This chapter presents and discusses their findings briefly. For the analysis, they construct two measures of SME size. The first measure (SME250) is the share of the SME in the total official labor force in manufacturing with a level of 250 employees is taken as the cutoff for the definition of an SME. This variable provides them with a consistent measure of firm size distribution across countries. The second measure (SMEOFF) is the share of the SME in total official labor force in manufacturing when the official country definition of SME is used, with the official country definition varying between 100 and 500 employees. This variable takes into account that economic and institutional country characteristics might determine characterization of a firm as SE, ME or LE. They use only SME employment in manufacturing because no cross-country data are available for the share of SMEs in other sectors, such as agriculture and services. They

also restrict their definition of SMEs to formal enterprises and exclude informal enterprises, which may represent an important component of output in some countries (like Indonesia and India). However, in their study they incorporate estimates of the size of the informal sector relative to the formal sector in each country in their sample.

Table 1 lists GDP per capita and the two measures of the importance of SMEs. As can be seen, there is a large variation in economic development and the relative importance of SMEs. GDP per capita ranges from very low in Burundi (US\$171) to very high in Luxembourg (US\$ 45,185). The importance of SMEs varies between Belarus with less than 5% of total formal employment in SMEs to Thailand with 87%, as indicated by SME250.

To assessing the relationship between SMEs and economic growth, they control for an array of country-specific factors, and they adopt two different analytical approaches. The first approach is a simple ordinary least squares (OLS) framework with the following growth regression:

$$Y_{i,2000}-Y_{i,1990} = \alpha Y_{i,1990} + \beta \text{SME}_i + \gamma X_i + \varepsilon_i \quad (2)$$

where Y is the log real GDP per capita; $Y_{i,2000}-Y_{i,1990}$ = the average annual growth rate in real GDP per capita averaged over the period 1990-2000; $Y_{i,1990}$ = initial income; SME = one of the two indicators of the size of the SME; X = a set of conditioning information, i = the country index; and ε = the white-noise error term. In the analysis, they include initial income to control for convergence effects and secondary school enrolment to capture human capital accumulation. They also include several policy variables, such as government

As the analysis with the OLS approach is prone to simultaneity problems, to assess the robustness of the results, they use IV regressions (two stage instrumental variable regressions/2SLS) as the second approach to extract the exogenous component of SME development. In selecting instrumental variables for the SME size, they focus on exogenous national characteristics that theory and past empirical findings suggest influence the performance of SMEs. They use legal origin since cross-country analyses differences in legal systems influence the contracting environment with implications on corporate finance and hence SME and LE formation and growth. In particular, countries with a recent socialist legal heritage had legal institutions that were not encouraging of entrepreneurship and new firm formation. They also include information on natural resource endowments since many studies show that endowments influence government policies and institutions that shape the competitiveness environment.²⁸ Further, they include in their analysis data on religious composition and ethnic diversity since some authors argue that Catholic and Muslim countries tend to foster vertical bonds of authority that hurt corporate finance, while other studies show that ethnic diversity tends to reduce the

²⁸ See further their paper (Beck *et al.*,2003) for the list of these studies.

provision of public goods, including the institutions that support business transactions and the contracting environment. Finally, they include continent dummies for countries in Sub-Saharan Africa and Latin America to control for geographic and cultural characteristics that are not captured by any of the other variables.²⁹

Table 1
Level Economic Development and the Importance of SMEs in Selected Countries

Country	GDP per capita	SME250	SMEOFF
Albania	744		9.49
Argentina	7,484	70.18	70.18
Australia	20,930		50.6
Austria	29,619	66.1	66.1
Azerbaijan	558	5.34	5.34
Belarus	2,523	4.585	4.585
Belgium	27,572	69.25	69.25
Brazil	4,327	59.8	59.8
Brunei	17,984		69.4
Bulgaria	1,487	50.01	50.01
Burundi	171		20.51
Cameroon	653	20.27	20.27
Canada	19,947		58.58
Chile	4,476	86	86.5
Colombia	2,290	67.2	67.2
Costa Rica	3,405		54.3
Cote d'Ivoire	746	18.7	18.7
Croatia	4,454	62	62
Czech Republic	5,015	64.25	64.25
Denmark	34,576	68.7	78.4
Ecuador	1,521	55	55
El Salvador	1,609		52
Estonia	3,752	65.33	65.33
Finland	26,814	59.15	59.15
France	27,236	67.3	62.67
Georgia	737	7.32	7.32
Germany	30,240	59.5	70.36
Ghana	377	51.61	51.61
Greece	11,594	86.5	74
Guatemala	1,460	32.3	32.3
Honduras	706		27.6
Hong Kong, China	21,842		61.5
Hungary	4,608	45.9	45.9
Iceland	27,497		49.6
Indonesia	963		79.2
Ireland	19,528	67.2	72.1
Italy	19,218	79.7	73
Japan	42,520	71.7	74.13
Kazakhstan	1,496		12.9228
Kenya	341	33.31	33.31
Korea, Rep.	10,508	76.25	78.88
Kyrgyz Republic	972	63.22	63.22
Latvia	2,419		20.63
Luxembourg	45,185	70.9	70.9
Mexico	3,390	48.48	48.48

²⁹ See further Beck *et al.* (2003) for their discussion on these studies.

Netherlands	27,395	61.22	58.5
New Zealand	16,084		59.28
Nicaragua	432		33.9
Nigeria	257	16.72	16.72
Norway	33,657		61.5
Panama	2,999	72	72
Peru	2,162	67.9	67.9
Philippines	1,099	66	66
Poland	3,391	63	61.81
Portugal	11,121	79.9	81.55
Romania	1,501	37.17	37.17
Russian Federation	2,614	13.03	13.03
Singapore	22,874		44
Slovak Republic	3,651	56.88	32.07
Slovenia	9,758		20.26
South Africa	3,923		81.53
Spain	15,362	80	74.95
Sweden	27,736	61.3	56.5
Switzerland	44,717		75.25
Taiwan, China	12,474	68.6	68.6
Tajikistan	566		35.91
Tanzania	183	32.1	32.1
Thailand	2,590	86.7	86.7
Turkey	2,865	61.05	61.05
Ukraine	1,190	5.38	5.38
United Kingdom	19,361	56.42	56.42
United States	28,232		52.54
Vietnam	278	74.2	74.2
Yugoslavia, Fed. Rep.	1,271	44.4	44.4
Zambia	419	36.63	36.63
Zimbabwe	643	15.2	15.2

Source: Table 1 in Beck *et al.* (2003).

They also use an array of different instrumental variable sets to assess the robustness of the results, as there is no obvious, ideal instrumental variable set. In selecting the appropriate set of instruments for drawing inferences about the impact of SMEs on economic growth, they provide test statistics.³⁰

The OLS results are shown in Table 2 based on equation (2). Specifically, the regression equation estimated is: the real growth rate of GDP per capita over the period 1990-2000 = $\alpha + \beta_1$ initial income (i.e. the real GDP per capita in 1990) + β_2 SME (measured by their share of manufacturing employment) + β_3 education (indicated by gross secondary school enrollment in percentages) + β_4 government consumption (measured by the share of general government final expenditure in GDP) + β_5 inflation (= the log difference of the consumption price index/CPI) + β_6 black market premium (= the overvaluation of the official relative to the black market exchange rate in percentages) + β_7 trade (measured by total exports and imports as a percentage of GDP) + β_8 private credit (= claims of banks and other financial institutions on the private sector, as a share of GDP) + β_9 informal (= the unofficial economy as a percentage of GDP). Log values of all right hand side variables were used.

Table 2 presents four specifications of equation (2). Specifications (1) and (3) use SME250 and specifications (2) and (4) use SMEOFF as the indicator of SME. Only specifications (3) and (4) include a

³⁰ See further Beck *et al.* (2003).

measure of the size of the informal sector, besides other exogenous variables mentioned above. They use measures of informal activity rather than informal labor force because very few countries have data on the size of the labor force employed by the informal sector.

As can be seen, the share of SME employment in total employment in manufacturing is associated with higher rates of GDP growth. SME250 and SMEOFF enter significantly and positively at the one-percent significance level. These results are robust to controlling for a large number of other potential determinants of economic growth. Their robustness checks show that that both SME indicators continue to enter significantly in the growth regressions even when controlling for the business environment and institutional development and also for the importance of informal economy (while the measure of the informal economy does not enter significantly). The analysis also shows that the relation between SMEs and economic growth is robust to leaving out transition economies and countries in Sub-Saharan Africa. The coefficient size suggests not only a statistically significant but also economically meaningful relationship between the importance of SMEs in an economy and its GDP per capita.

Table 2
SME Employment and Growth with a Simple OLS method

	(1)	(2)	(3)	(4)
	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth
SME250	2.211*** (0.467)		2.017*** (0.534)	
SMEOFF		2.126*** (0.472)		2.389*** (0.489)
INFORMAL			0.254 (0.795)	0.404 (0.621)
Observations	47	64	39	49
Adj R-squared	0.652	0.611	0.633	0.671

Notes: *** indicates significance levels of 1 percent.

Robust standard errors are given in parentheses.

Source: Beck *et al.* (2003).

The results presented in Table 2 indicate a very robust relationship between the SME and the rate of economic growth, suggesting that countries with higher share of SMEs in their economy (in this case measured by their employment share in manufacturing) tend to have higher rates of economic growth than countries with lower share of SMEs. The results with a simple OLS framework, however, are subject to concerns that a large economic share of SME is a characteristic of successful economies, but not a causal force, or the results do not

support the view that SMEs exert a causal impact on long-run economic growth. In other words, the SME-economic growth relationship is not robust to controlling for simultaneity bias.

As already explained, to assess whether simultaneity biases drive the strong association between the importance of SME in the economy and economic growth, they used IV regressions with five different sets of instrumental variables for both SME250 and SMEOFF and statistics to assess the validity of each set of instruments. Table 3 shows the result. In this model, they extract the exogenous component of SME by using five different sets of instrumental variables. They carry out two stage instrumental variable regressions (2SLS). In the first stage regression equation, SME250 (or SMEOFF) is formulated as a function of legal origin, namely British legal origin, French legal origin, and Germany legal origin (dummies with value one for countries with the respective legal origin and zero otherwise), and other exogenous national characteristics including transition (dummy variable that takes on value one for transition economies and zero otherwise), latitude (is the capital's latitude in absolute terms), and religious. The second stage regression equation is the same as the one used in Table 2.³¹

Table 3
SME Employment and Growth with 2SLS method

	1	2	3	4	5	6	7	8	9	10
	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth	GDP per capita growth
Institutional Development	5.168 (4.951)	2.501 (1.961)	3.601 (3.005)	-1.524 (1.822)	5.938 (3.926)					
Business Environment						3.427* (1.984)	1.418** (0.632)	1.841** (0.882)	1.004 (0.864)	3.003** (1.287)
F-Test	0	0	0	0	0	0	0	0	0	0
F-Test (extra)		0.0006	0	0.0009	0		0	0	0.0035	0
C-statistic		0.5645	0.5296	0.3542	0.9764		0.1456	0.176	0.0144	0.9393
Overid	0.2376	0.5028	0.3251	0.2367	0.7011	0.4335	0.1342	0.1511	0.0174	0.7925
Observations	59	59	59	59	59	50	50	50	50	50
Adj R-squared (First Stage)	0.7867	0.7861	0.8069	0.7925	0.7856	0.6636	0.7678	0.7111	0.6596	0.6598

Note: *,** and *** indicate significance levels of 10,5 and 1 percent respectively
Source: Beck *et al.* (2003).

In sum, the results presented in Table 3 show that the instrumental variable fails to reject the view that SMEs do not exert a causal impact on economic growth. This study with two different analytical approaches yields thus twin findings. The first approach with OLS regressions shows that SMEs are associated with economic growth, but the second one with 2SLS regressions that control for simultaneity bias shows that SMEs are not

³¹ For more detail explanations about the results including statistic tests used, see further Beck *et al.* (2003).

robustly linked with growth are consistent with the view that a large economic share of SME is a characteristic of fast growing economies, but not a determinant of this rapid growth.

Alternatively, the following simple way in assessing the relation between economic growth and SME growth may also give some clue about the pattern of growth of SMEs in the course of income increases. Table 4 shows overall growth rates of SME in total establishment (A) and total workers employed in them (B), and annualized simple (non compound) growth rate in GDP (based on World Bank figures) in selected countries in the Asia-Pacific region where data for A and B are available for the period 1990-1999/2000. At a glance, the figures do not show a clear pattern of the relationship between SME growth and annual growth of GDP. The sampled countries can be categorized in two groups, namely low- and high-growing economies. As can be seen, the growth rates of SME in establishment as well as employment vary among countries not only between the two but also within the groups of countries.

Scatter diagrams illustrated in Figures 5 and 6 may help to give a more comprehensive picture about the relationship. The first scatter diagram indicates an upward regression line, suggesting that the growth of SME establishment is positively correlated with the GDP growth, although the regression line seems not to be so strong (not 100% linear). However, this scatter diagram is much better than that with respect to SME employment. As can be seen in Figure 4, the regression line seems to have a negative slope. To test the relationship statistically, the following simple regression equation is used:

$$dY_{1990-1999/2000} = a_1 + a_2SME_i + \xi \quad (3)$$

where, $dY_{1990-1999/2000}$ = the annual growth rate of GDP averaged over the period 1990-1999/2000; SME = one of the two measures (A and B in Table 4); and ξ = the white-noise error term.

Table 4
Growth rates of SME establishment (A), SME employment (B) and GDP in selected Asian-Pacific Countries (%)

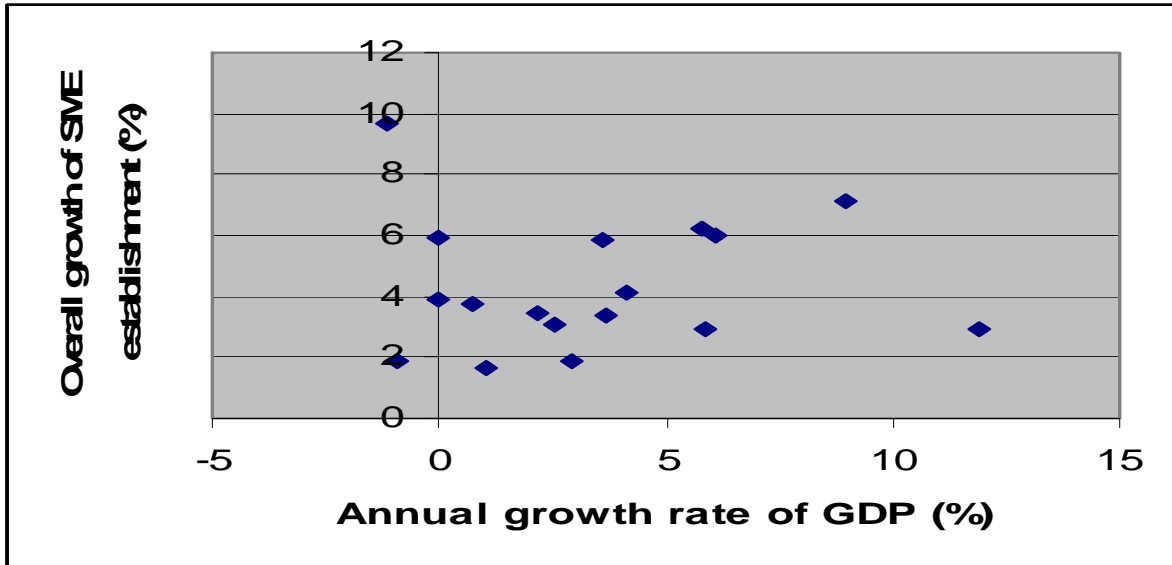
Country/Economy ³⁾	1990-1999 or 2000		
	SME		GDP
	A	B	
Australia	5.86	4.13	2.92
Brunei Darussalam	3.71	0.00	3.39
Canada	1.01	1.72	1.62
Chile	6.07	0.00	5.98
China	-1.18	1.04	9.69
Hong Kong, China	0.73	-0.91	3.72
Indonesia	4.10	0.00	4.15
Japan	-0.89	-0.06	1.84
South Korea	5.78	-0.07	6.21
Malaysia	0.00	0.00	5.96
Mexico	11.91	11.18	2.91
New Zealand	2.90	5.60	1.90
PNG	0.00	0.00	3.88
Peru	2.17	2.52	3.44
Singapore	8.95	10.58	7.16

Chinese Taipei (Taiwan)	3.63	2.30	5.85
USA	2.52	0.88	3.06

Sources: APEC (2003) and World Bank *database* for annual growth of GDP

Figure 5

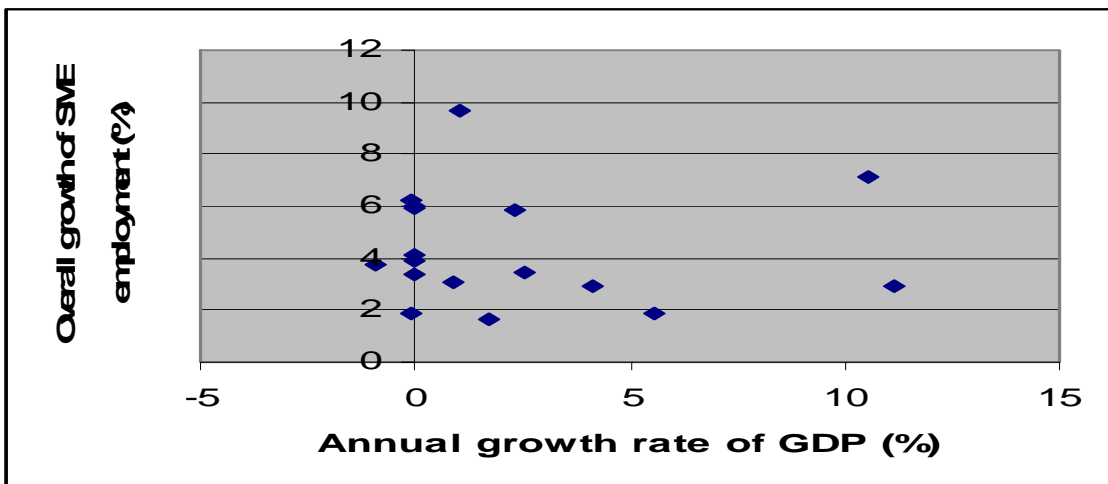
Scatter Diagram: Overall Growth of SME Establishment and Annual Growth of GDP, 1990-99/00



Sources: see Table 4

Figure 6

Scatter Diagram: Overall Growth of SME Employment and Annual Growth of GDP, 1990-99/00



Sources: see Table 4

The results of the test are presented in Table 5. Based on t-statistic, the regression coefficients of the overall growth rates of SME in total establishment and total workers employed in them are statistically not significant. However, the SME establishment-GDP relationship is positive, as generally suggested in the “modern”

literature (see the previous section). The SME employment-GDP relationship, on the other hand, is negative. Similarly to the research's findings of Beck *et al.* (2003) shown before, this analysis yields also twin findings, not from utilizing two different analytical approaches, but from using two different measures of SME growth. Since the data used in this analysis are cross-section, not time series, the negative correlation may suggest that in low-growing economies the employment share of SME is higher than that in high-growing economies; or from the "classical" literature: in poor countries SMEs as a source of employment are more important than that in rich countries.

Table 5
The relationship between SME growth and GDP growth: Some Statistical Indicators

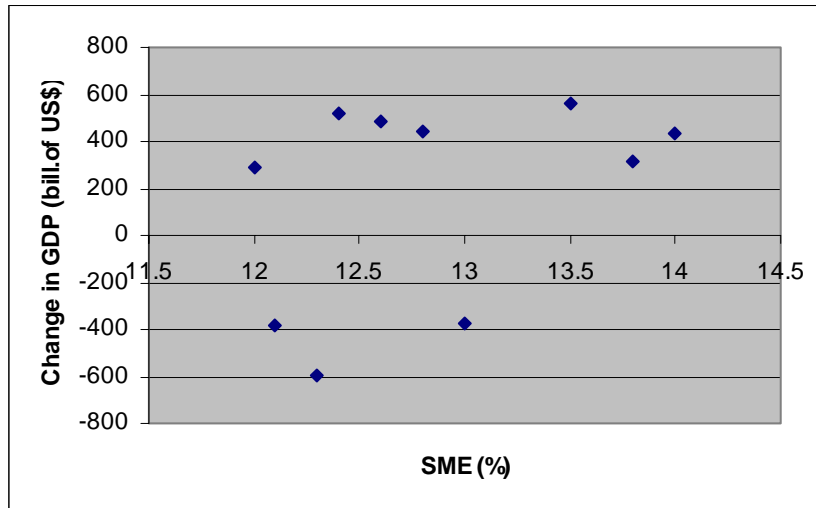
Statistic Indicators	SME Establishment-GDP (% growth)	SME Employment-GDP (% growth)
SME coefficient	0.013074	-0.018279
Std. Error	0.158181	0.153250
t-Statistic	0.082650	-0.119276
Probability	0.9352	0.9066
R ²	0.000455	0.000948
S.E. of regression	2.240198	2.239647
S.D. dependent variable	4.334118	2.169557
Durbin-Watson statistic	1.772963	1.789229
F-statistic	0.00681	0.014227

The above analyses, including from Beck *et al.*, however, have some limitations because of data used, namely cross-country on one particular time, not time series data on a long distance of subsequent periods. In fact, based on cross-country data, the resulted regression coefficients do not show how the economy (or GDP) responses to SME. The results only give some idea about the correlation between the two variables. The impact of "something" on "something else" cannot be observed in one period, as the impact itself is a dynamic process in nature, crossing a range of periods. Moreover, the nature as well as the size of the impact of SME on income may vary among countries due to differences in many domestic factors, including economic structure, policy environment, and characteristics of and problems facing SME.

Unfortunately, time series data on SME from individual countries are hard to find. Only some, mainly developed countries have that kind of data, but only since 1980s or 1990s. For instance, Japan, MITI provide annual data from 1989/90 on manufacturing sector by size of enterprises with respect to total units, employment and value added contribution. With respect to share of SMEs in manufacturing value added, the regression analysis with a simple OLS approach finds that the impact of SME (units with 4-19 workers) on GDP growth (in billions of US dollar) is positive but, statistically, insignificant. The GDP growth is measured at current price, both in absolute value (dY) and relative value (dY%), as shown in Figures 7 and 8 respectively. From the perspective of total number of units and total workers employed in them, SMEs correlate positively with GDP

growth in value as well as percentage, as can be seen in Figures 9 to 12, but, again, the coefficients are not significant, statistically.

Figure 7
Scatter Diagram: Share of SME in Manufacturing Value Added and Change of GDP in Value, Japan, 1991-2000



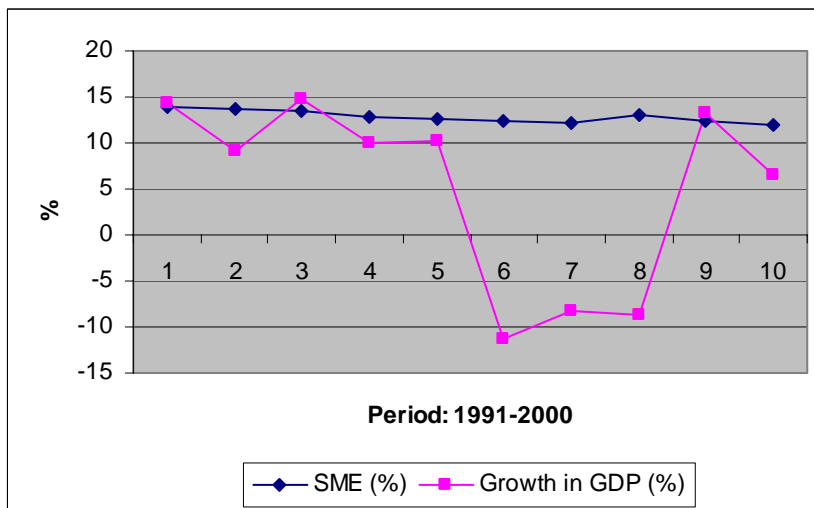
$$dY = -2947.501 + 0.391 \text{ SME}$$

(2601.2)	(202.2)*
(-1.13)	(1.20)**

Note: * = std. error; ** = t-statistics

Source: for SME: MITI (2002); for GDP (OECD database)

Figure 8
Scatter Diagram: Share of SME in Manufacturing Value Added and Change of GDP in %, Japan, 1991-2000



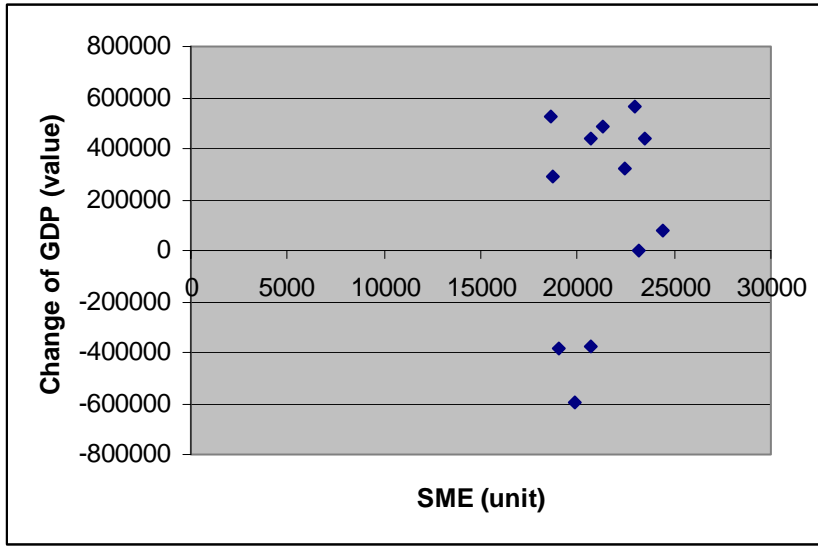
$$dY\% = -83.54 + 0.48 \text{ SME}$$

(57.96)	(4.51)*
(-1.44)	(1.53)**

Note and Source: see Figure 7

Figure 9

Scatter Diagram: Total Units of SME in Manufacturing and Change of GDP in Value, Japan, 1989-2000



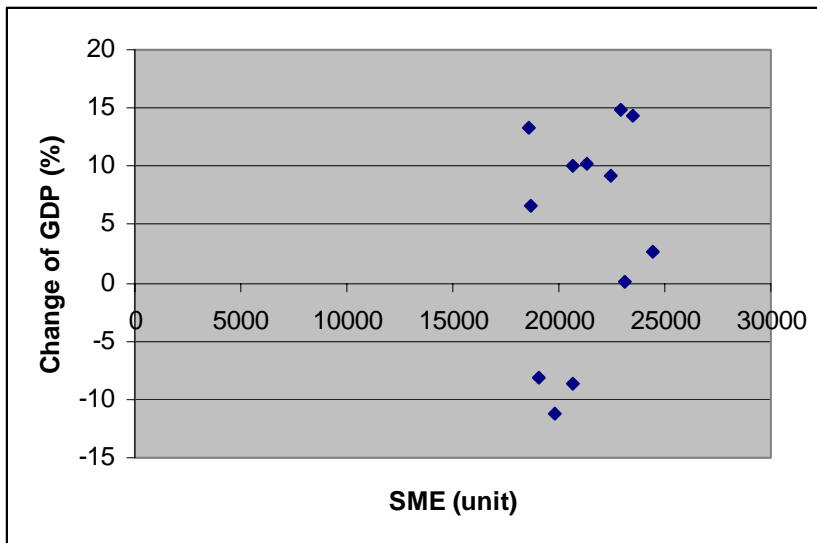
$$dY = -842.95 + 0.23 \text{ SME}$$

(1324.4) (0.06)*
(-0.64) (0.75)**

Note and Source: see Figure 7

Figure 10

Scatter Diagram: Total Units of SME in Manufacturing and Change of GDP in %, Japan, 1989-2000



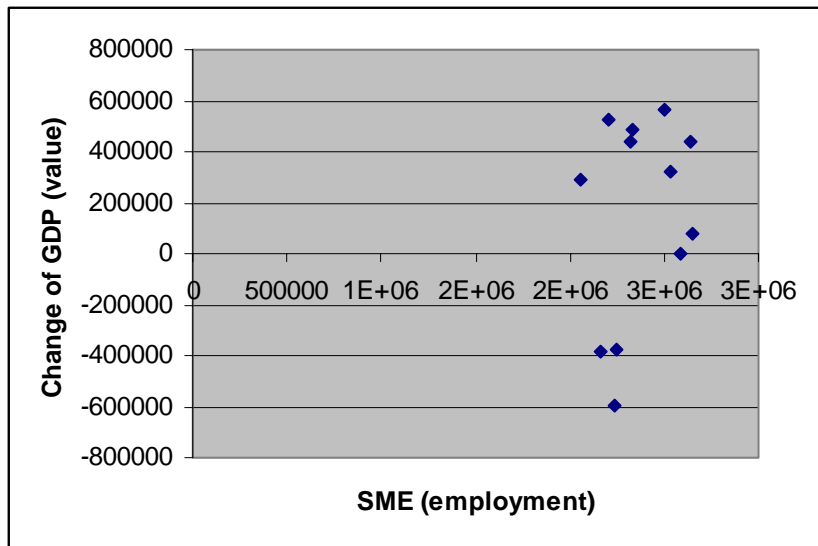
$$dY\% = -23.1 + 0.27 \text{ SME}$$

(30.68) (0.001)*
(-0.75) (0.9)**

Note and Source: see Figure 7

Figure 11

Scatter Diagram: Total SME Employment in Manufacturing and Change of GDP in Value Japan, 1989-2000



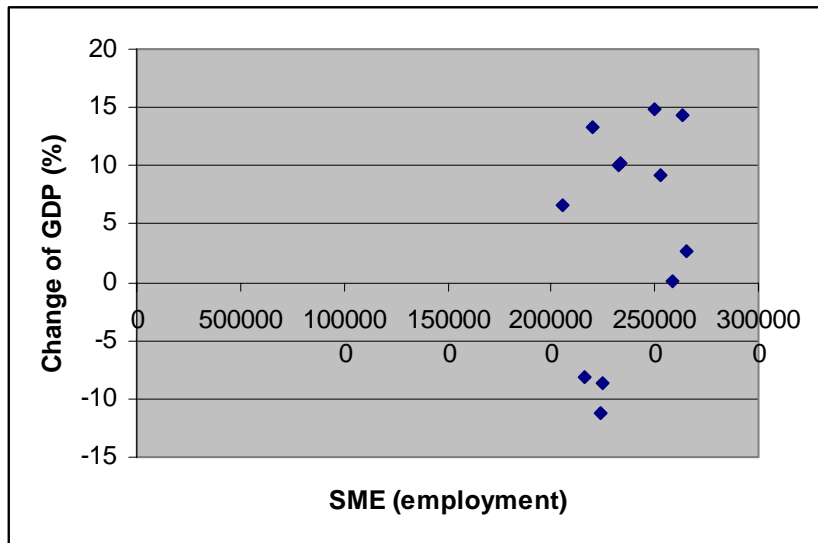
$$dY = -1151.3 + 0.27 \text{ SME}$$

(1148.99) (0.001)*
(-0.795) (0.9)**

Note and Source: see Figure 7

Figure 12

Scatter Diagram: Total SME Employment in Manufacturing and Change of GDP in % Japan, 1989-2000



$$dY\% = -32.61 + 0.33 \text{ SME}$$

(33.3) (0.000)*
(-0.98) (1.12)**

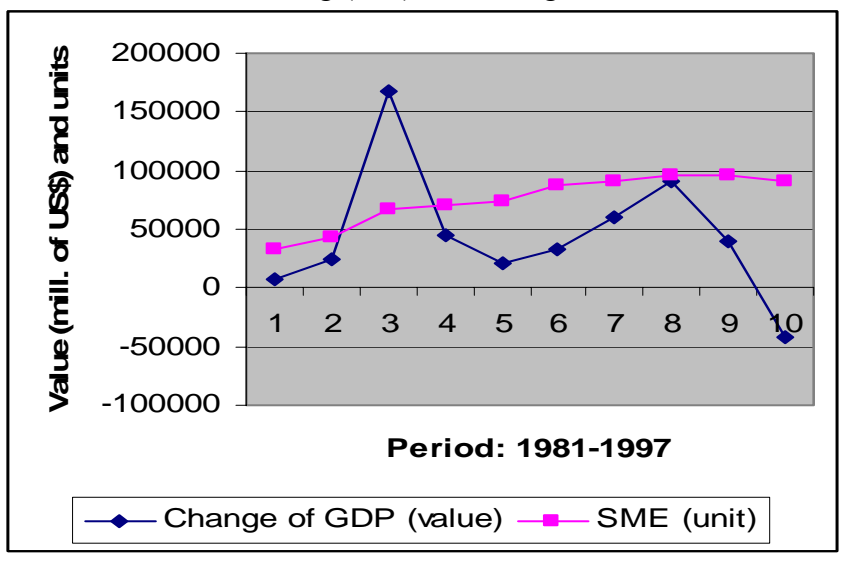
Note and Source: see Figure 7

Next, evidence from South Korea is more interesting, in the sense that not only the resulted regression coefficients are insignificant from the statistical perspective as in the case of Japan before, but some coefficients are negative. It is positive with respect to the relationship between total unit of SME and GDP growth in value

(Figure 13), but it is negative in terms of percentage growth (Figure 14). In the case of employment, both coefficients are positive (Figures 15 and 16), but in the case of value added, both coefficients are negative (Figures 17 and 18).

Figure 13

Scatter Diagram: SME in Manufacturing (unit) and Change of GDP in Value, South Korea, 1989-2000



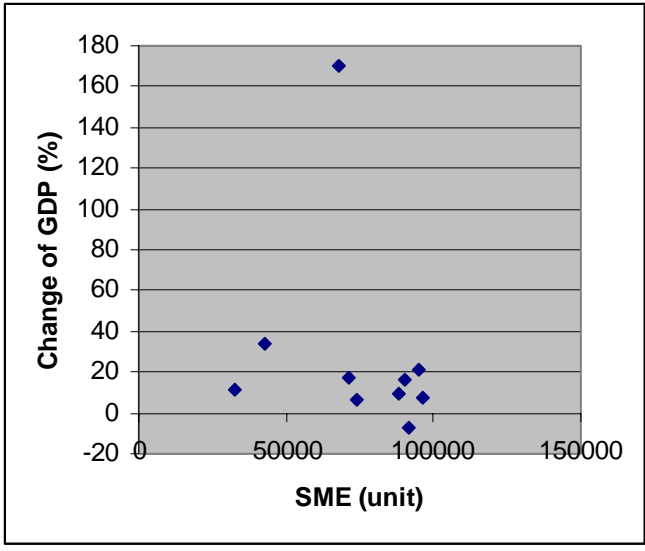
$$dY = 30476.34 + 0.078 \text{ SME}$$

(68300.4) (0.88)*
(0.45) (0.22)**

Note and Source: see Figure 7

Figure 14

Scatter Diagram: SME in Manufacturing (unit) and Change of GDP in %, South Korea, 1989-2000



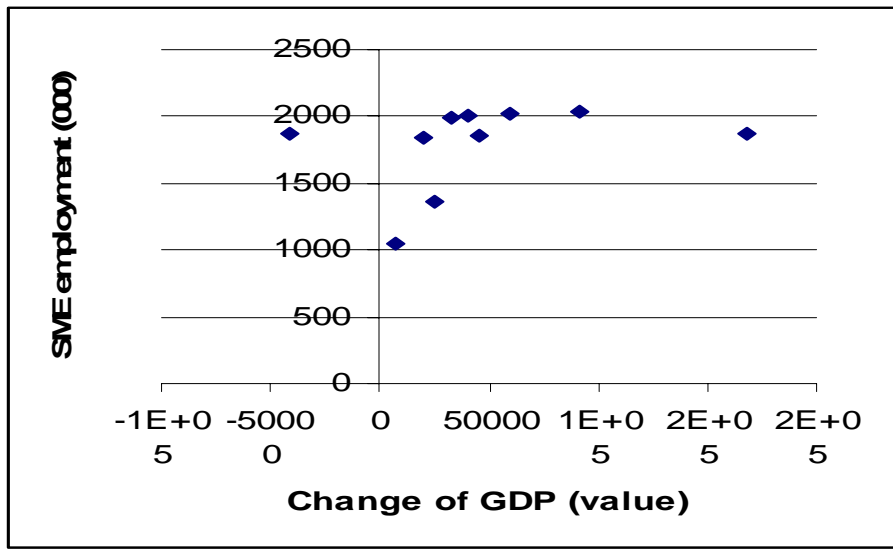
$$dY\% = 63.06 - 0.2 \text{ SME}$$

(61.7) (0.001)*
(1.02) (-0.6)**

Note and Source: see Figure 7

Figure 15

Scatter Diagram: SME Employment in Manufacturing and Change of GDP in value, South Korea, 1989-2000



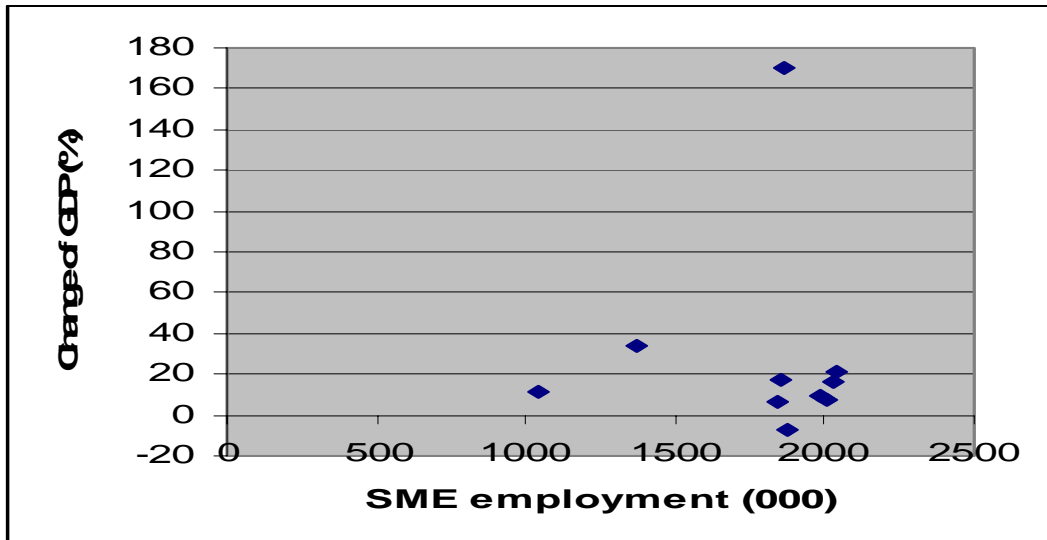
$$dY = -46046 + 0.299 \text{ SME}$$

(104267.7) (57.41)*
 (-0.44) (0.89)**

Note and Source: see Figure 7

Figure 16

Scatter Diagram: SME Employment in Manufacturing and Change of GDP in %, South Korea, 1989-2000

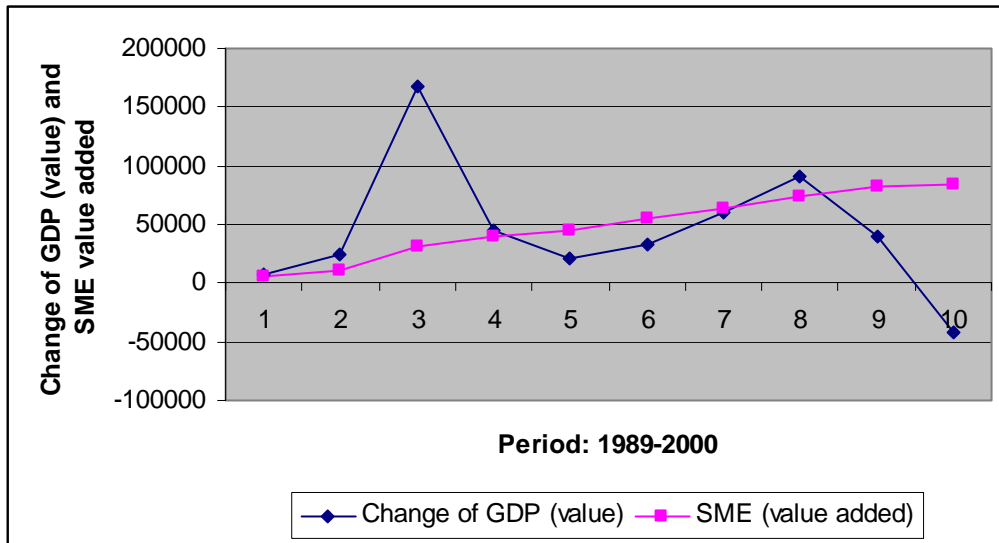


$$dY\% = 23.3 + 0.02 \text{ SME}$$

(100.4) (0.06)*
 (0.232) (0.06)**

Note and Source: see Figure 7

Figure 17
 Scatter Diagram: SME Value Added (bill. Won) in Manufacturing and Change of GDP in Value, South Korea, 1989-2000



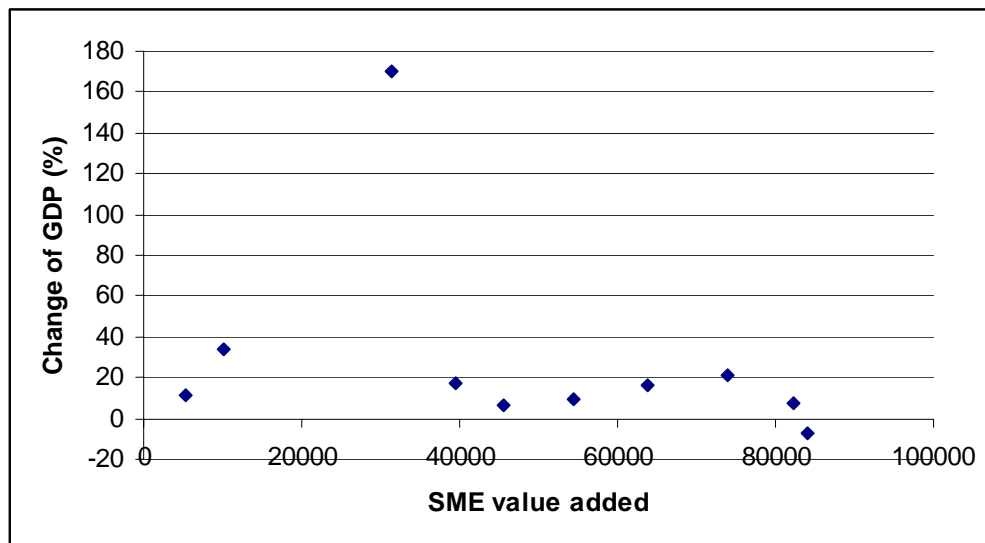
$$dY = 55949.1 - 0.112 \text{ SME}$$

$$(38797.9) \quad (0.696)^*$$

$$(1.44) \quad (-0.32)^{**}$$

Note and Source: see Figure 7

Figure 18
 Scatter Diagram: SME Value Added (bill. Won) in Manufacturing and Change of GDP in %, South Korea, 1989-2000



$$dY\% = 58.2 - 0.33 \text{ SME}$$

$$(33.9) \quad (0.001)^*$$

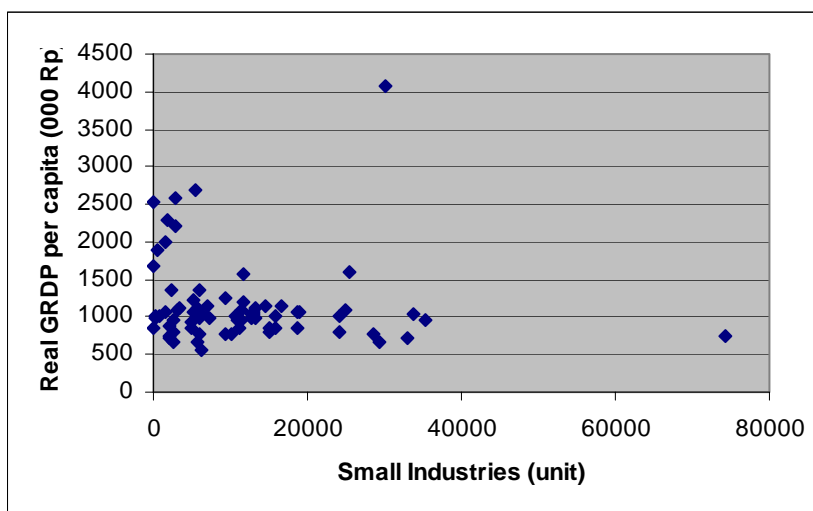
$$(1.72) \quad (-0.97)^{**}$$

Note and Source: see Figure 7

Now, for Indonesia, this Chapter presents two cases. The first case uses regional data from 2002 on total number of establishments of small-scale industry (SSI) and real per capita Gross Regional Domestic Product (GRDP) in 71 *Kabupaten/Kota* in Java, South Sumatera and South Sulawesi. Data on SSIs are from Potensi Desa (PODES) 2003 from BPS and data on GRDP are from *Indonesia Human Development Report 2004* published by BPS, BAPPENAS and UNDP. By using a simple regression equation with GRDP as the dependent variable and total number of SSI as the only explanatory variable, it is found (not shown here) that regression coefficient between the two variables is negative and not significant, statistically. The scatter diagrams from two different angles may explain the reason. As can be seen in Figure 19, in terms of real per capita GRDP, most of the sampled SSIs are found in the lower left corner of the figure, namely in regions with GRDP ranging from 500 to about 1500 thousands rupiah. There are only two out-layers: one low-income region, which has the highest number of SSI in the group (almost 80.000 units), and the other one, a high-income region with more than 30.000 units. In terms of income index, Figure 20 also shows obviously that these cross-section data do not yield a trend line.

Figure 19

Scatter Diagram: Real p.c. GRDP and Total Number of SSI in 71 *Kabupaten/Kota* in Java, Sumatera and South Sulawesi, 2002



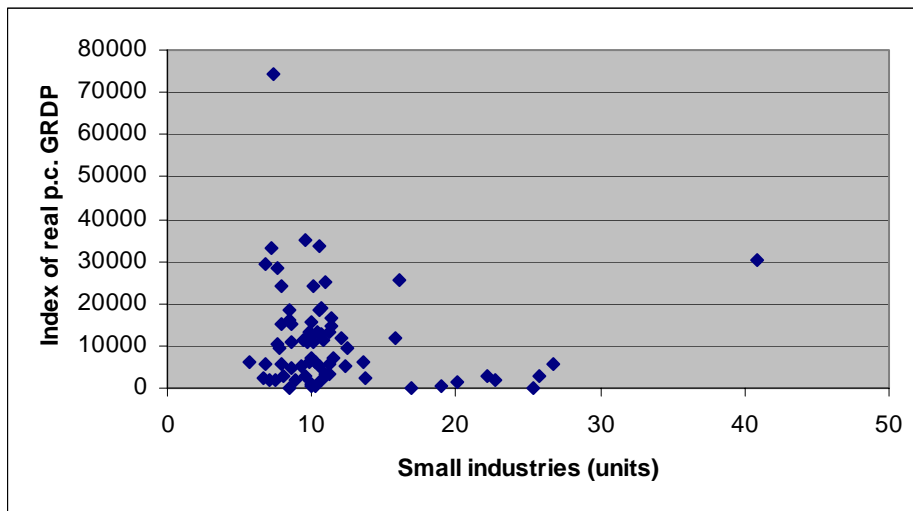
Source: BPS and UNDP

The second case is based on annual data from BPS in its publication *Statistical Year Book of Indonesia* on SSIs with respect to total number of units, total worker employed in them, and total value added. Unfortunately, these data do not make separately between SEs and MEs; MEs and LEs are bundled in one group as MLEs. As can be seen in Table 6, the long-term trend for the period 1975-2003 shows increases of all these three measures of SSIs; although in some years there were some declines. In 1975, total number of this size group of enterprises was slightly more than 48,000 and it increased to more than 200,000 units by the end of the period.

Their workers also went up from more than 300,000 people in the beginning of the period to almost 2 million men by the end of the period. In 1975, the production of SSIs was very small, as their registered value added was only around 53 billion rupiah, but in 2003, it reached more than 15 trillion rupiah.

Figure 20

Scatter Diagram: Index of Real p.c. GRDP and Total Number of SSI in 71 *Kabupaten/Kota* in Java, Sumatera and South Sulawesi, 2002



Source: BPS and UNDP

Table 6.

Small-Scale Industries (SSIs): Number of Units, Workers Employed, and Value Added, 1975-2003

Year	Units	Workers	Value added (mill. rupiah)
1975	48186	343240	53027
1979	113024	827035	187323
1986	94534	770144	775304
1993	124990	952038	1508544
1994	168154	1406987	3220910
1995	190767	1597799	3888457
1996	228978	1915378	4612438
1997	241169	2077298	4802224
1998	194564	1505604	6923421
1999	225603	1779237	8184064
2000	240088	1799290	7847511
2001	230721	1761510	12011801
2002	238582	1767996	13862151
2003	255114	1846149	15180331

Source: BPS..

Also with a simple OLS method, the regression' results do not come, however, with strong evidence that supports the "modern" thesis on the positive and significant correlation between the income growth and the growth of SMEs. If the time series include 1998 when the country's GDP dropped by 13% and 1999 when the country's economy started to recover but with a very small positive growth rate, all regression coefficients are negative and not significant, statistically. These results can be explained by the following three figures.

Apparently, scatter points in these figures cannot yield growth trends with a definitive direction. The results are, however, not different if the crisis period is not included in the analysis, as all correlation coefficients are also negative and not significant. One possible explanation for these findings is that the negative effect of income growth on SSIs, as hypothesized in the “classical” thesis, is stronger than the other way around.

Figure 21
Scatter Diagram: GDP growth rates and total number of SSIs, 1975-2003

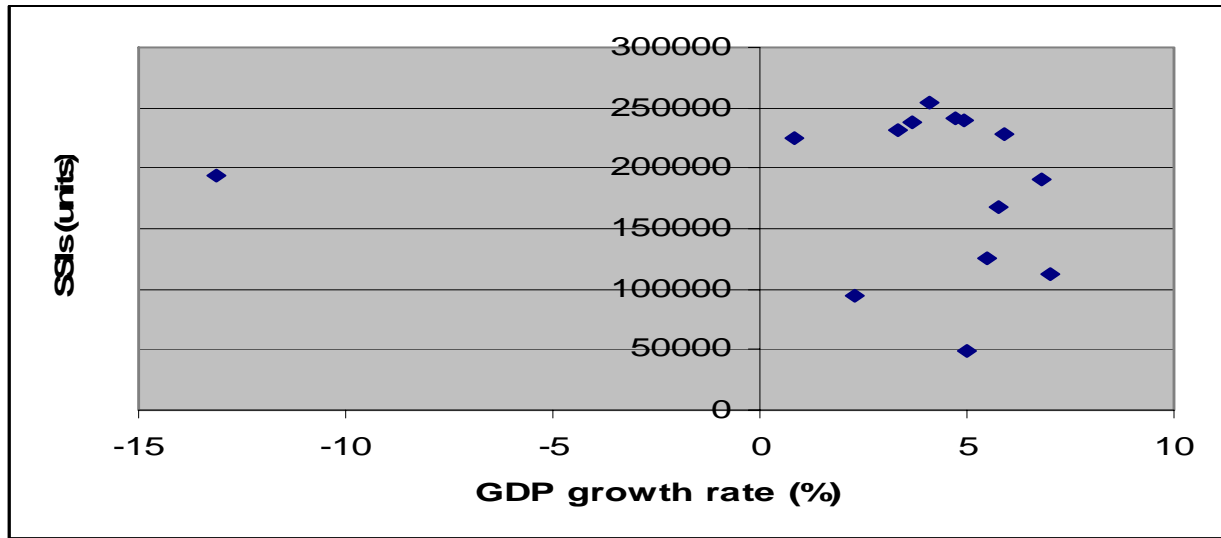


Figure 22
Scatter Diagram: GDP growth rates and total workers in SSIs, 1975-2003

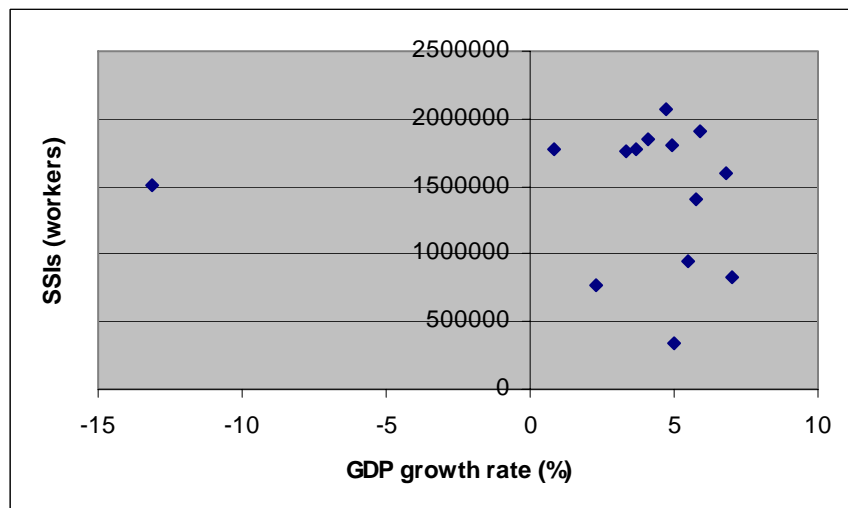
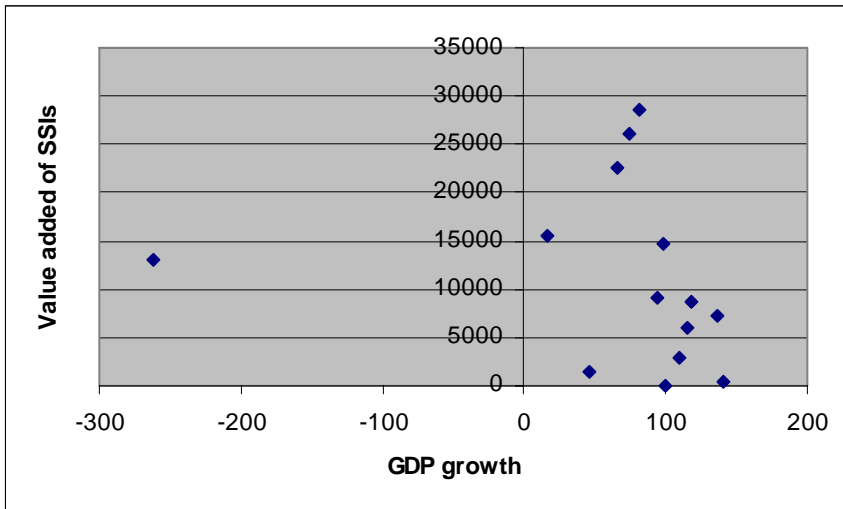


Figure 23

Scatter Diagram: Index of GDP growth rates and Index of SSIs' Value Added (1975=100),1975-2003



SUMMARY

In sum, the evidence presented here so far does not lead to a definitive conclusion on whether to reject or to accept the ‘classical’ or the ‘modern’ hypothesis regarding the role of SMEs in the course of economic development. Besides data problem, different natures of patterns of relationship between the level of economic development and the growth of SMEs by country or region may also explain these ambiguous findings. In other words, the ‘classical’ thesis may valid only for certain countries or regions with certain characteristics (e.g. economy, social, geography, community behavior, traditional habits); while in other countries or regions, the ‘modern’ thesis gets more supports.

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