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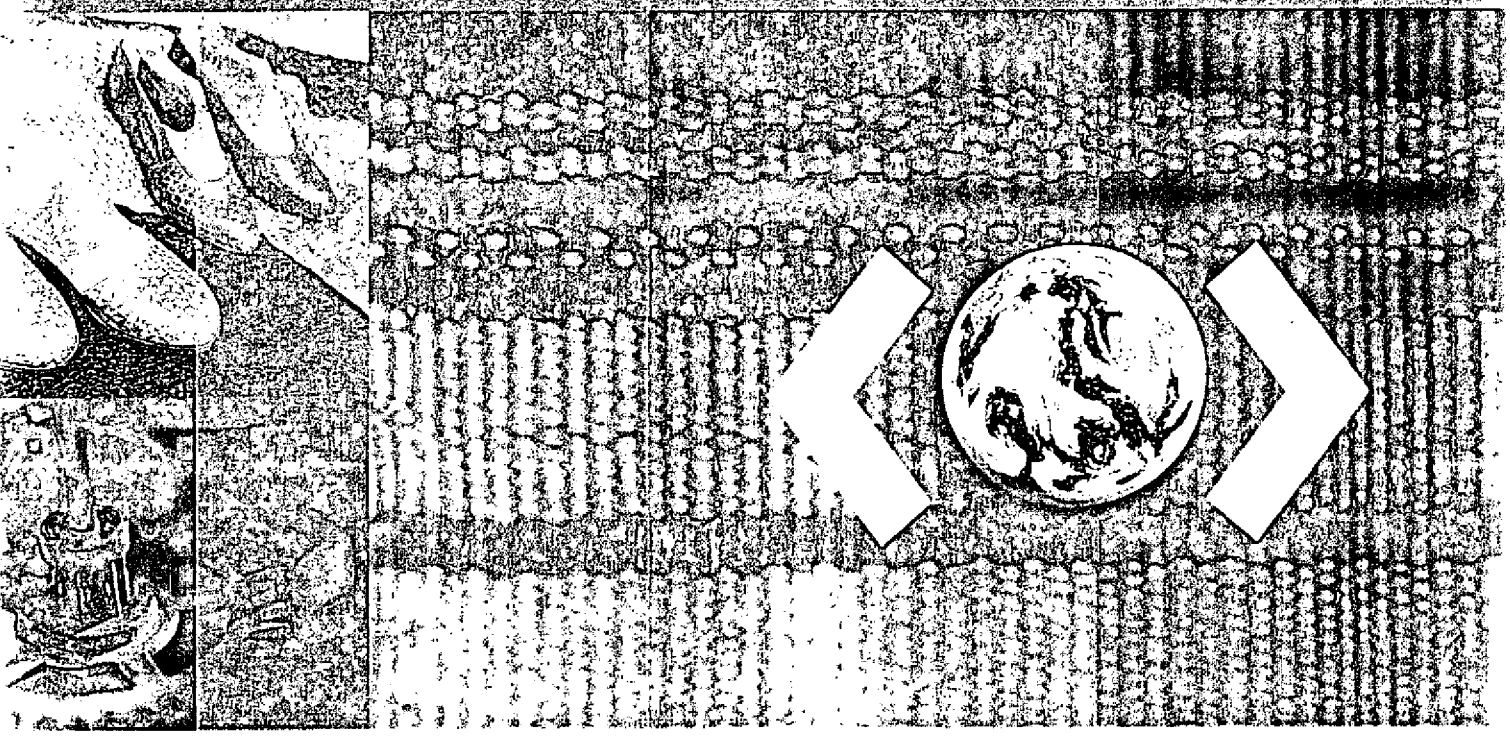

Productivity enhancement and equitable development: challenges for SME development

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COMBATING MARGINALIZATION AND POVERTY
THROUGH INDUSTRIAL DEVELOPMENT

Productivity enhancement and equitable development: challenges for SME development

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Explanatory notes

References to dollars ($) are to United States dollars, unless otherwise stated.

Countries are referred to by the names that were in official use at the time the relevant data were collected.

The following abbreviations and acronyms appear in this report.

GDP	gross domestic product
ILO	International Labour Organization
IMF	International Monetary Fund
LDC	least developed country
OECD	Organisation for Economic Cooperation and Development
SMEs	*small and medium enterprises*
UNIDO	United Nations Industrial Development Organization
UNDP	United Nations Development Programme

OVERVIEW

Over the past decade, mounting though scattered evidence has been gathered on the role of small and medium enterprises (SMEs) in the development process. On the one hand, recent studies from a range of developed countries single out a leading role for small enterprises in highly dynamic and research-oriented industrial sectors, thus challenging the widely held perception that SMEs are confined to low-technology and low-productivity activities. At the same time, the SME sector is being identified as the greatest seedbed of entrepreneurship, which is widely viewed as the most crucial resource to trigger dynamic growth in an economy. On the other hand, the contribution of SMEs in creating employment opportunities in both developed and developing countries is widely recognized. The resilience of the SME sector to business cycle fluctuations is also well acknowledged.

There is nevertheless an urgent need to consolidate such scattered evidence, with a strong focus on developing countries, in order to provide an enhanced analytical basis for advocacy and technical cooperation services of the United Nations Industrial Development Organization (UNIDO) with respect to SME development. The present report on *Productivity enhancement and equitable development: the challenges for SME development* is part of a broader UNIDO research programme Combating Marginalization and Poverty through Industrial Development (COMPID). The central aim of the report is to analyse the role of SMEs in the process of increasing productivity—which is a precondition for competitiveness, economic growth, sustainable employment creation and higher wages—and the possible trade-offs with equitable development. Based on this analysis, the report endeavours to translate the findings into practical conclusions for SME policy with special emphasis on recommendations for UNIDO's service portfolio.

The report comprises four chapters. Chapter I provides a brief overview of the key relationships between SMEs, productivity enhancement and equitable development in both developed and developing countries, and draws some general conclusions for the design of SME policies in the latter. Chapters II and III review and summarize the existing literature on the contribution of SMEs to productivity growth and equitable development, respectively. Based on the findings of those two chapters, Chapter IV then analyses selected policy instruments and outlines a growth and development-oriented strategy for the development of SMEs in low-income countries.

I. How can SMEs contribute to productivity enhancement and equitable development? Key relationships and challenges for policy makers

Countries with high productivity can achieve high standards of living without necessarily losing price competitiveness, since goods and services produced with more productive workers can be sold at lower prices, without sacrificing high wages. There is clear empirical evidence that higher productivity is accompanied by higher labour compensation (ILO [72]). If goods and services are offered at a competitive cost, demand (and market shares) tends to increase. At the same time, high wages motivate a bigger and a broader range of workers—women in particular—to participate in the labour market (IADB [69]), further increasing the income of their households. High-productivity countries thus tend to be wealthier and real wages are usually higher. Productivity growth is, therefore, an important means to reduce poverty.

All over the world, SMEs are being supported on the grounds that they make substantial contributions to productivity and, consequently, competitiveness and aggregate economic growth. In addition, SMEs are believed to be especially effective job creators and have a reputation for providing income and training opportunities as well as important basic services for disadvantaged people. SME promotion is, hence, considered an important trigger for poverty reduction, both directly, through their immediate contribution to employment and income generation, training and the decentralized provision of goods and services, and indirectly, by adding to productivity and overall economic growth. The report scrutinizes some of these assumptions. Do SMEs really make substantial contributions to productivity growth, or specifically, are SME-based economies more productive than those characterized by large companies? Do countries with a high share of SMEs grow faster? What is the role of SMEs in the production system, for example, in the interfirm division of labour with large firms? Is growth of gross domestic product (GDP) more equitable and does it reduce poverty faster, if the economic structure is characterized by small firms? To what extent do SMEs make other contributions to equitable development?

The report looks at experiences of both developed and developing countries. This differentiation is helpful to draw attention to typical deficiencies of the productive structure of low-income countries. It also provides important general insights into the dynamics of private sector development. It must be kept in mind, however, that this distinction is not particularly clear-cut, as an increasing number of countries falls in between these dichotomized categories. The ultimate aim of this comparison is to draw policy conclusions for developing countries and for

UNIDO's service portfolio in particular. There is clear empirical evidence that a business environment enhancing competition and providing a reliable framework for commercial transactions is key for productivity and economic growth (Klein, Hadjimichael [87]). With regard to the benefits of SMEs in particular, evidence is less compelling. Some sources claim that SMEs serve as vehicles for innovation and change, which are essential for generating economic growth. Furthermore, a recent cross-country regression revealed a strong correlation between a large SME sector and per capita growth of GDP. However, the same study failed to support the hypothesis that SMEs exert a causal impact on growth (Klein, Hadjimichael [87]). Regarding job creation, findings are similar. On the one hand, especially in the poorest developing countries and in rural areas, micro and small firms employ a huge proportion of the workforce; on the other hand, much of the microeconomic research undertaken raises doubts on the assumption that SMEs are particularly effective job creators, especially if net effects (job creation minus destruction) are considered (Davis, Haltiwanger, Schuh [37]).

Hence, countries may have industrial structures with a very different mix of small and large firms, but still be equally competitive, have a similar potential for driving up productivity and generating economic growth and create a comparable number of jobs. Empirically, this is evident if the size distribution of firms in developed countries is compared. In Italy, for instance, large enterprises employ only 17.8 per cent of the manufacturing workforce and contribute 27.4 per cent to value added, compared with 39 per cent of employment in Germany (54.5 per cent value added) and 44.9 per cent of employment (40.8 per cent value added) in the United Kingdom of Great Britain and Northern Ireland (Schmiemann [140]). Developing country data are less reliable, but available evidence equally casts doubt on the assumption that there is a significant positive correlation between the size of the SME sector and economic performance. In some of Asia's newly industrializing countries, for example, the SME share of manufactured exports amounts to 40–60 per cent (China, including Taiwan Province of China, and Republic of Korea), while in others it is as low as 10–16 per cent (Singapore, Malaysia and Thailand), although all those countries are among the best performers worldwide with regard to the growth of GDP.

Given this heterogeneity of empirical observations, the report takes a closer look at the contribution of SMEs to productivity enhancement and equitable development. It is argued that the explanatory power of quantitative cross-country analysis is limited because aggregate data fail to capture the diversity of manifestations of SMEs that have very different origins, fulfil dissimilar tasks in their respective economic environment and make highly varied contributions to productivity growth and employment. It is, therefore, necessary to differentiate between the various types of SMEs, for example, whether they are formal or informal, innovative or restricted to routine activities in traditional markets, whether they have been created to exploit a promising business idea or to provide a minimal additional income in a situation of distress, whether they compete with scale-intensive mass production or specialize in niche markets, etc.

Regarding the contribution to productivity enhancement, one finds that SMEs—at least certain types—play an important role. SMEs are able to fulfil two very important functions in enhancing the competitiveness of the industrial structure:

- Some SMEs contribute to productivity and the growth of GDP through their role of restructuring existing markets and by creating new markets. They act as agents of change, by helping to create and diffuse innovations and develop additional markets. Changing market conditions requires continuous adaptation of industrial structures. New companies introduce new products and processes, while some established companies may be unable to compete and thus disappear from the market, making it possible for better adapted firms to occupy their positions. Some small companies grow into large ones, while some of the large ones may either fail or decide to shed activities and spawn smaller new companies. This process of entry and exit, and growth and decline creates a healthy turbulence and implies a constant search for a more productive use of resources;
- Some SMEs complement large firms, introducing the advantages of flexibility, lower transaction costs due to close contact with customers and quicker decision-making, etc., while large enterprises exploit the advantages of scale. Competitiveness is thus a question of having the right mix of small and large firms and an adequate division of labour that combines economies of scale with flexibility and the advantages of specialization.

However, not all SMEs adopt these functions and contribute to productivity enhancement. While certain types of SMEs and certain patterns of specialization are highly conducive to productivity growth, others are not innovative at all, and mainly copy customary activities in stagnant markets. This is especially true for low-income countries, where the overwhelming part of SMEs concentrates on a few activities characterized by low barriers to entry and therefore excessive competition, oversupply and low returns. These are often standardized mass products or services, which are largely inappropriate for small-scale production. Such SMEs neither generate innovation, create new markets nor spur structural change; nor do they develop specialized competencies, which complement large-scale production and create synergies. Their contribution to productivity and the growth of GDP is negligible.

In short, much depends on the characteristics of SMEs. This is why cross-country regressions show that a large SME sector by itself is neither a source of competitiveness, nor does it contribute to increasing productivity and economic growth. Although such regressions show that a well developed, dynamic and differentiated SME sector is typical of high-income countries, the reverse causality does not hold. Beck and others conclude that "although a prosperous SME sector is a characteristic of flourishing economies, this paper's cross-country regressions do not support the contention that SMEs foster economic success." (Beck, Demirgüc-Kunt, Levine [18]).

Throughout the following analysis, one caveat must be considered. The real world obviously is not composed of two clearly distinguished subgroups of firms—small versus large, or informal versus formal enterprises. The size structure of a firm in any given country represents a continuum, with very small and very large firms at its ends. Moreover, such structures, and the position of individual companies within that structure, change over time. Some small firms upgrade and grow into larger size categories, while some large firms shed employment due to crisis or deliberate downsizing. In analysing the structure of enterprises, it is necessary to consistently adopt an evolutionary perspective and keep in mind the heterogeneity of SMEs.

Just as the universe of SMEs is not uniform, large companies also pursue very different strategies and display dissimilar attitudes towards SMEs. Some large enterprises constantly innovate and generate more new markets and business ideas than they are able to pursue on their own, especially if they prefer to stick to their core competencies. Such enterprises spur SME development by constantly spawning new business opportunities, while some of the newly created SMEs remain somehow associated with the large enterprise as a manufacturer of parts or a service provider. Other large enterprises are vertically integrated, producing most of the required products and services on their own. Those firms may have a negative impact, crowding small *firms out rather than supporting them.*

Regarding the contribution of SMEs to equitable development, the report again confirms the important role of the former. However, as in the previous discussion on productivity growth, the relationship between the size of the SME sector and the inclusiveness of development processes is rather complex and varies according to the characteristics of the SME sector. Econometric cross-country regressions by Beck and others do not reveal evidence that the structure of enterprises with a high share of SMEs perform particularly well in reducing poverty (Beck, Demirgüc-Kunt, Levine [18]). Moreover, most studies conclude that jobs provided by small firms tend to offer poor remuneration, are relatively insecure and working conditions are worse than in large firms. Those findings also challenge the pro-SME perspective of many governments and donor agencies.

There is abundant microeconomic evidence which reveals that SMEs are very important providers of employment and income for disadvantaged members of the workforce. Especially informal small enterprises employ persons who are unable to find employment in regular, modern and registered activities, including unskilled, elderly and handicapped persons, women with household obligations, dwellers of depressed rural areas, and persons who are laid off during recessions by the formal labour market. Even if job quality is inferior and employment in small enterprises is a second-best alternative, SMEs are very important for sustaining large parts of the population in developing countries and for absorbing economic shocks. Moreover, SMEs provide in-firm training to poor people who lack access to formal education. They offer goods and services to marginalized population groups and are becoming increasingly important for generating fiscal revenues. Finally, poverty is viewed as not having only an economic dimension. SMEs may have a certain role in mitigating sociocultural exclusion, in providing a social safety net and in improving the social image of people employed in the sector.

Sometimes it is argued that there are trade-offs between the SMEs contributions to productivity and to equity. The argument presented here is that there are no trade-offs in the long run. On the contrary, if economic growth is the most important single factor for boosting employment and income opportunities for the poor and for ensuring the provision of basic services and social protection, and if productivity growth is a precondition for sustainable competitiveness and economic growth, then productivity growth is necessary to achieve equitable development.

In the short run, however, increasing productivity and achieving a more equitable income distribution may well lead to conflicting goals. This is due to the fact that higher productivity

may reduce the demand for labour, if the particular company (or sector, region or country) does not manage to capitalize on its productivity gains and increase its sales. Furthermore, rationalization is often effected at the expense of unskilled workers. In competitive environments, labour markets tend to demand relatively more highly skilled workers. As a result, the rate of unemployment may increase and wages may decrease, especially in the poorest segment of the workforce.

What are the main conclusions for SME policy in developing countries? Empirical evidence shows that a business-friendly environment emphasizing the rule of law, fair competition, as well as low levels of red tape and corruption is key. Or, as Biggs (no date) claims: "A good SME development strategy, first and foremost, is in reality a good private sector development strategy." One of the most important challenges for public policy is to overcome policy distortions that hinder firms from entering the market and constrain their growth. Policy distortions usually fall relatively heavily on small firms (de Soto [38] and [37]).

Private sector development may follow very different trajectories, and its outcome, in terms of equitable development and social inclusiveness, may be very dissimilar. A focus on promoting SMEs rather than large firms may contribute to rendering the industrial structure more balanced and reduces income inequality. To limit the negative effects of rationalization and integrate as many small enterprises and as many poor people as possible into the inevitable process of modernization, education is a critical factor. In most developing countries there is a strong mismatch between the need to improve the performance of SMEs and the human capital available. Supporting formal, non-formal and informal education and training is, therefore, a crucial factor for pursuing a strategy that is both aimed at market creation and social inclusiveness.

It must also be underlined that SME policy is no substitute for social sector programmes. Harvie [64] very clearly formulated the relationship between SME policy, in this case, focusing on microenterprises and poverty alleviation:

> "Despite the potential benefits for poverty alleviation arising from micro-enterprise development projects, it should be recognised that there are limitations in the usage of such projects as instruments of poverty reduction. First, available evidence suggests that micro-finance projects often do not reach the poorest of the poor, particularly the old, sick and disabled. Outright transfers for the destitute under social security programmes may be more cost effective than attempting to reach everyone through microenterprises. Apart from the destitute, there are usually just not enough micro-enterprise opportunities available to cover all the poor, given demand constraints and the lack of skills to produce products for which there is a demand. Secondly, from a longer-term perspective micro-enterprise promotion can never be a substitute for a variety of social sector programmes such as primary health care, environmental sanitation, education, nutrition, and family planning and child-care or structural changes, such as land reform. The many causes of poverty constitute a vast and complex subject and cannot be dealt with by micro-enterprise programmes alone."

Economic development inevitably goes hand in hand with structural change, which entails that some jobs are lost in declining industries, while new jobs are created in expanding sectors

of the economy. Although SME policy could contribute to keeping the social costs of such economic transition as low as possible, its principal role is not to try to insulate SME sectors from "creative destruction" but to enable firms to adapt to the necessary restructuring, for example, by helping entrepreneurs and workers to acquire new skills and make the necessary investments (ILO [72]). This enhances productivity growth, thereby increasing competitiveness and widening the scope for well-paid employment.

Any measure taken to support SMEs should depart from an analysis of the direction of structural change. Especially in developing countries, policy makers first of all need to recognize that the typical pattern of specialization of SMEs is not conducive to productivity growth, and many traditional activities are unlikely to be sustainable in a competitive world. Policy should, hence, pursue a two-pronged strategy: help to build competitive advantages in dynamic industries and, at the same time, provide entrepreneurs and workers in traditional sectors of the economy, where the majority of labour is often concentrated, with the necessary tools to move from low-productivity to market creation, specialized and complementary high-productivity activities (ILO [72]). Policies in developed countries have recently put much emphasis on supporting innovation and integrating SMEs into National Innovation Systems. However, in many developing countries, the importance of stimulating market creation, through SMEs, has not yet been recognized sufficiently. This could reflect the fact that many SMEs in developing countries are microenterprises producing at very low productivity levels.

Traditional markets with low access barriers for SMEs are usually saturated and, in the case of tradables, jeopardized by cheap imports. Their potential for growth is very limited and price competition is fierce, leading to decreasing profits and wage levels. Ignoring technological developments and trying to stabilize uncompetitive traditional activities in order to maintain labour-intensive modes of production will, in most cases, weaken competitive positions, lead to job losses and declining wages and aggravate poverty in the long run. To create sustainable and potentially rising incomes, focusing on innovative, market-creating activities and structural change has no alternative. Economic development is a process of recombining ways of doing business in innovative ways and increasing the degree of specialization. This also holds for very poor countries and remote rural areas, even if the focus there is more on adaptation and bringing local practices closer to international best practices. Innovation is a gradual and cumulative process of doing things differently. Even adaptation to changes that have been implemented elsewhere over an extended period of time is referred to as innovation in the local context. This is just as important in poor developing countries as it is in the leading developed countries.

II. THE ROLE OF SMEs IN GENERATING PRODUCTIVITY GROWTH: EVIDENCE FROM DEVELOPED AND DEVELOPING COUNTRIES

As mentioned in chapter I, countries with high productivity levels can achieve high standards of living without sacrificing price competitiveness. Productivity growth is, therefore, an important factor for creating public welfare and reducing poverty. In this chapter, a closer look is taken at the contribution of SMEs to productivity enhancement.

For this purpose, the three steps are as follows: *(a)* the basic relationships between productivity growth, innovation and development are discussed, emphasizing the need for constantly improving the allocative efficiency of production factors. A rather broad concept of innovation is advocated, stressing that the concept embraces any new way of producing or distributing goods and services that goes beyond the locally, regionally or nationally established trajectories; *(b)* an analysis is undertaken to determine the extent to which SMEs contribute to the productivity and competitiveness of their respective national production system. Evidence is provided here to show that a large number of SMEs contribute to productivity enhancement and economic growth. However, this contrasts with the finding that small firms are less productive than large firms. This apparent contradiction may be explained by the fact that SMEs create positive externalities for their environment, complementing scale-intensive large firms and thereby generate economies of specialization for the whole system. Moreover, they contribute to productivity enhancement by experimenting with new products or new ways of doing business, thereby challenging existing business models. A high turnover of firms accelerates the adaptation of production systems to new technologies and market conditions; *(c)* a comparison is made of some of the basic characteristics of SMEs in developed versus developing countries. Fundamental differences are presented concerning, for instance, the dynamics of enterprise formation, the technological capabilities, the degree of specialization and the patterns of interactions with large firms. In sum, SMEs in developing countries seem to contribute less to productivity enhancement and national competitiveness than those in developed countries.

A. PRODUCTIVITY GROWTH, INNOVATION AND DEVELOPMENT

Productivity growth always requires a different, more efficient use of factors. It presupposes that factors are reallocated in the production process, depending on the level of analysis within a firm, within a market or, from the macroeconomic perspective, within the economy. The mechanisms behind the process of reallocation of factors are technological and procedural

changes. To be able to introduce technological or procedural changes, firms must be able to learn from experiences, search for new solutions, perhaps even through formal research and development. In short, productivity growth implies innovation. In principle, innovation enables firms to achieve higher profits ("innovation rents"), because it allows them to escape from price-based competition. Innovation temporarily creates barriers to entry, thus limiting competitive pressure. The greater the barriers to entry, the higher the level of profitability (Kaplinsky, Morris [79]). Therefore, innovative firms must be better able to invest and grow.

Innovation, in the Schumpeterian sense, emphasizes the role of entrepreneurial profit-seeking by searching for opportunities for novel value-generating activities. This is the basis of productivity growth: market restructuring through the constant process of selection and learning. Innovation, in this sense, is any novelty that gives the entrepreneur the opportunity to make above-average profits. Consequently, innovation is not a relevant concept in absolute terms, but is always related to a given context. Especially in the context of poor developing countries, the following must be noted:

- Innovations not only include technological changes, such as the introduction of new product and process technology, but also organizational improvements and the development of new markets or the implementation of new marketing strategies. In developing countries, one of the major challenges is to shift SMEs from traditional standard operations that are often characterized by excess supply to new, formerly unattended markets, thereby enhancing specialization and increasing productivity;
- The role of innovation goes far beyond the invention of fundamentally new technologies on the basis of scientific research. In particular for developing countries, that are—with only very few exceptions—technology-followers, tapping into the world's pool of existing technologies and managing the process of technology appropriation is much more important (*UNIDO [169]*);
- The role of innovation goes far beyond the invention of fundamentally new technologies on the basis of scientific research. In particular for developing countries, that are—with only very few exceptions—technology-followers, tapping into the world's pool of existing technologies and managing the process of technology appropriation is much more important (*UNIDO [169]*);
- Innovations are not extraordinary occurrences which cut through and abruptly transform otherwise "innovation-free" daily business routines. Rather, innovation is a continuous, gradual process, one that takes place constantly and everywhere—although by no means with the same dynamism. Incremental innovation consists of a "myriad of innovations (...) to adapt best technological and managerial practices to local conditions" (*UNIDO [169]*);
- The boundaries between technology invention and diffusion are blurred. The adoption of technologies that have been tested and proven successful elsewhere can be an important innovation in the local context, and is the main mechanism of productivity growth in developing countries. Technology diffusion comprises a broad range of activities on technological learning that are required to master existing technologies;
- Imitation is one of the most important channels of technology diffusion: "In so far, then, as every innovation is based on a lot of existing knowledge mixed in with a little new thinking, the distinction between innovation and imitation in economic terms breaks down. All innovation is in this sense imitation. There are, of course, differences in the degree of novelty involved and

the extent to which innovations can be appropriated. The terminology of 'innovation' contra 'imitation' with its connotation of 'superior' contra 'inferior' serves the interests of those who do research to create new knowledge by enabling them to claim high status. But, in terms of economics and development, its connotations are inaccurate and counter-productive. Imitation is perhaps the central fact about innovation and economic development under capitalism" (DANIDA [35]);

- Innovation is not an exclusive phenomenon of high-potential enterprises or certain sectors. Rather, innovation and market creation, and hence, productivity growth, are possible even at very modest levels of technological development, for example, in basic manufacturing, agrarian production or services in rural areas or the urban informal sector. Even in developed countries, the introduction of new successful ways of doing business and subsequent market expansion are not necessarily related to the so-called hi-tech industries, such as biotechnology and information technology. A look at the 500 fastest growing firms in Europe that created over 225,000 new jobs over the past five years reveals that these firms are operating in many sectors, ranging from agriculture, manufacturing and transport in the old economy to trade, services and Internet in the new economy: "Europe's 500 shows, year after year, that growth is not industry specific but rather that it is entrepreneur-driven."[1] Trying to identify and exploit innovative entrepreneurial opportunities should be the guiding principle at all levels of the "entrepreneurial ladder" and in all sectors of the economy, although the degree of novelties depends on the innovative capabilities and therefore differs among firms.

Although an unambiguous correlation between the innovative behaviour of a firm and its performance can be expected, empirical evidence is less clear.[2] Some studies support the practical relevance of innovation rents. For the United States of America, it has been illustrated that from all those firms that entered the market between 1977 and 1978, the innovative firms had a larger proportion of high growth firms (OECD [119]). Similarly, in the case of Canada, it was found that the more successful SMEs were, the more likely they were to have a research and development unit with more spent on research and development (OECD [119]). For Taiwan Province of China, it has been shown that firms with higher initial levels of productivity were more likely to survive and grow in size (Aw [14]). Other studies raise doubts about such a simple, linear correlation between innovation and company growth. According to Lerner [94] there is no evidence that high investments in research and development lead to high sales. Nowakovic and Sturm [117] demonstrate that academic spin-offs from universities in Europe remain in the market longer than average, yet are small and grow slowly. In the same vein, a detailed study on entrepreneurship in Austria demonstrates that firms with above-average success acted in a less technologically innovative manner than firms with average success (Sheikh [145]). In addition, successful firms mainly aimed to increase sales in existing markets, while the proportion of firms with new products was higher in the second group with only average success.

Those experiences illustrate that a high level of investment in research and development and innovative behaviour—although clearly beneficial in macroeconomic terms—does not always

[1] See http://www.europes500.com/pages/growthplus.htm. Europe's 500 is an annual listing that recognizes fast-growing European companies and awards their employment creation. An indicator to rank and quantify companies' performance, Europe's 500 uses the David Birch Employee Growth Index, which combines relative and absolute job creation.

[2] Empirical evidence is almost exclusively available for industrialized countries. There is a lack of information about the contribution of SMEs in developing countries to innovation as well as the impact of innovation on firms.

pay off for the individual firm. Hence, market failure is obvious and calls for public policies to support innovation at the firm level. However, it must be noted that fostering innovation is not synonymous with the promotion of SMEs. Innovation is the outcome of complex systemic interactions involving small and large firms as well as universities, research centres, government agencies and other social actors. In the following section, the discussion focuses on the contribution of SMEs to the process of generating and diffusing innovations, which enhance productivity and increase the competitiveness of the national production system.

B. THE CONTRIBUTION OF SMEs TO THE PRODUCTIVITY AND COMPETITIVENESS OF THE NATIONAL PRODUCTION SYSTEM

1. How important are SMEs for productivity enhancement?

SMEs, or more specifically, certain types of SMEs, contribute significantly to the productivity and competitiveness of National Production Systems, and consequently increase the growth of GDP. Empirical evidence from developed countries confirms, to a large extent, a positive effect of an increase in the economy-wide share of small firms on the growth of GDP (Thurik [158]). Schmitz [142] developed an endogenous growth model, which relates entrepreneurial activity to economic growth; he shows that an increase in entrepreneurs in the workforce leads to an increase in long-run economic growth. Beck and others [18] analysed a sample of firms in both developed and developing countries and found a strong association between the importance of SMEs and the per capita growth of GDP, even though the data failed to explain whether there is a causal relationship between both factors. This evidence contrasts with the general observation that both in developed and developing countries, productivity in small firms is lower than in large firms. In developing countries, the productivity gap seems to be much larger. Peres and Stumpo [125] compared the productivity of large industrial enterprises versus manufacturing SMEs in ten countries in Latin America and found that:

> "...with the exception of Brazil (where medium-sized enterprises are quite large for the regional averages) and Costa Rica (where the information does not include small enterprises), the gap is never less than 40 per cent and in some cases exceeds 75 per cent. This is especially serious since the information does not include microenterprises, which probably present an even larger gap."

A study by Weller [177], also focusing on Latin America, includes microenterprises, and indeed reveals the expected larger productivity gap, with labour productivity not exceeding one sixth that of large firms in 1996. According to Weller, this gap had widened significantly during the previous 26 years. Average labour productivity in medium and large manufacturing companies almost doubled between 1970 and 1996, remaining virtually unchanged in small and micro-firms. Whereas microenterprises are thus falling further behind, there is no clear trend with regard to small enterprises. In the study by Peres and Stumpo [125], the gap separating small and large firms narrowed in half of the tested countries, while it increased in the others.

The following data for Mauritius (Wignaraja [180]) exemplify the gap between large firms and SMEs, in terms of labour productivity and other performance criteria for an African country:

- The manufacturing sector comprises 411 large firms and 5,320 SMEs;
- SMEs account for 21.7 per cent of manufacturing employment, and large firms for the rest;
- SMEs account for manufactured exports of a value of only $23.5 million, and large firms for $1.1 billion (2.2 per cent and 97.8 per cent of total manufactured exports, respectively);
- SMEs supply only 1.1 per cent of textile and garment exports, that is, the dominant industry, while large firms cover 99.9 per cent;
- In terms of labour productivity, SMEs fall below the large firms in most industries.

How can one explain the apparent contradiction that large firms perform much better than SMEs, but the latter nevertheless seem to be important for overall growth and competitiveness? This raises the question, through which mechanisms can SMEs influence productivity, growth and competitiveness? Two main arguments are presented as follows:

- Increasing complementary specialization and generating externalities. SMEs have certain competitive advantages over large firms that are related to their flexibility, the velocity of the decision-making process, their proximity to customers etc. In exploiting these advantages, SMEs make input factors available at higher quality or lower prices, or create innovations on which consumers or other producers downstream in the value chain they build. In other words, SMEs provide positive externalities to their surrounding, for example, local or national economy, complementing scale-intensive large firms, and although the labour productivity of SMEs is usually lower, their specific activities cannot be easily replaced by large firms.
- Enhancing turbulence and restructuring the production system. The formation of new enterprises enhances competition, introduces new business models that challenge established ways of operation, thereby continuously displacing obsolete firms. High entry and exit rates of firms create a healthy turbulence that accelerates the structural adjustment of the supply side to changing demand conditions.

2. The role of complementary specialization among small and large firms and the generation of positive externalities

Small and large firms have specific competitive advantages in production or service delivery. For many years, economies of scale were considered to be the main determinant of productivity growth at the firm level, taking into account that growing markets require scale-intensive production. Development theorists believed, therefore, that there was a clear correlation between the development level of a country, as expressed by its per capita income, and the distribution of firms of various sizes. It was assumed that the lower the per capita GDP, the higher would be the share of micro and small firms in employment, and the higher the per capita GDP, the higher the share of large firms (Snodgrass, Biggs [147]). In fact, this assumption was supported by empirical trends in the post-war period.

During the past two decades, the picture varied far more. Even in highly developed countries, changing demand conditions have given rise to new forms of industrial organization favouring flexible small-scale production. In many industries, economies of scale lost their importance vis-à-vis economies of scope, that is, the flexible delivery of a broad range of customized products. Moreover, the restructuring of large enterprises and outsourcing of many of their business activities have created new market opportunities for small firms.

Theoretically, this may be explained by the fact that the costs of industrial organization, for example, organizing communication flows and exercising control, tend to increase with firm size, consequently favouring small-scale production and going against the economies of scale. "Thus, it can be deduced that the optimal size of a firm is the result of a trade-off between the advantages of coordination and the cost of communication" (Di Tommaso, Dubbini [41]). In markets with ample demand for standardized products, large firms have a definite cost advantage over small ones. On the other hand, small firms are advantageous in the production of small batches and customized goods or services. They may also enjoy advantages in dynamic markets that frequently require changes. Box 1 presents the relative advantages of large- and small-scale production in detail.

If the advantages of coordination and the cost of communication were the only determinants of firm size, one can in fact expect an "optimal firm size" to emerge in any technologically homogeneous branch. It is empirically evident, however, that that is not the case. Very different firm sizes are found within one country, even if technological parameters are very homogeneous, as well as a highly diverse size pattern across countries. This can be explained because of the basic factors mentioned above. Scale and organizational costs are magnified by a large number of individual and location-specific factors, for example:

- Size of the relevant market, which depends on the country size, the size and purchasing power of the envisaged target groups etc.;
- Market structure, which includes the degree of competition or oligopolistic concentration, the existence of administrative barriers to entry for new firms, the tariff structure etc.;
- Demand conditions, for example, whether highly standardized mass production or segregated customized demand prevails;
- Transaction costs, which again depend on political framework conditions, for example, the enforceability of contracts, as well as sociocultural factors, for example, the given level of social capital and trust;
- Life cycle of the relevant industry, that is, whether products are in a phase of recent introduction into the market, expansion, saturation or decline.

This variety of location-specific factors explains why very different firm size patterns emerged even in countries with relatively similar market sizes and income levels. Consequently, in general, no valid rules exist with regard to the competitiveness of certain firm sizes, the relationship between size and productivity, or the appropriate mix of small and large firms.

Box 1. Factors in favour of large- and small-scale production

Factors in favour of large-scale production

1. The effect of scale describes the fall of average costs with increasing volume of output. This means that below the operating optimum, the efficient volume of production is not reached and, therefore, the price of the product will be higher than in a large-scale production. However, this depends on the character of the product and the demand, and is certainly true for mass products.
2. The effect of scope means a fall in average costs of a product if the number of different products increases. This effect results from better use of indivisible resources (fixed costs, such as area), from complementarities and interaction.
3. The effect of experience means a decline in average costs with increasing production volume accumulated over time, because production processes will be optimized and streamlined over time.
4. The above three effects can be harnessed by small firms through networks and cooperation. However, there is the disadvantage of transaction costs, which are higher for specialized small firms that use external production for their input.

Factors in favour of small-scale production

1. The transportation effect relates to lower costs because of proximity to the customer. This is especially important in the service sector, where customer contact is closest.
2. The effect of adjustment holds that even if large firms can produce at lower unit cost in general, they have more problems adjusting output to market responses. Small firms can usually adjust their output at lower costs than large firms. So in dynamic markets this adjustment effect favours small firms.
3. The effect of close contacts with customers means that small firms can adapt their product to cater to individual wishes and needs of their customers. This means that small firms are more effective in meeting the demand for customized products.
4. The effect of control has to do with ownership and control of firms through one person or a small group of persons. Control leads to lower costs because owners are able to convince themselves and their workers to work for lower wages than would be paid by large firms; the wage differential is explained by control, commitment, motivation and perseverance.

Source: Carree, Thurik [29], p. 5.

In addition, it must be noted that over the past 15 to 20 years, large firms have managed to capture many of the advantages of smallness by introducing more flexible forms of organization, for example, decentralization of decision-making and "intrapreneurship". This enables modern large firms to combine economies of scale and scope and outperform many SMEs even in the production of small batches. The predominant trend in large firms, however, is to concentrate on core competencies, which are often related to economies of scale, and to outsource specific small-scale activities to specialized suppliers and service providers. Many of these firms are SMEs, which are often closely tied to one or a few large corporations through contracts or other forms of long-term cooperation. The boundaries between production within large firms (which are often decentralized in profit centres that act as largely independent small units) and small, quasi-integrated enterprises are, therefore, increasingly blurred.

Although there has been much research on the question of whether small or large firms contribute more to innovation, the results remain largely inconclusive, partly because it is not easy to find the right measure for innovative inputs and output and innovation procedures. However, all available evidence supports the view that small and large firms play complementary roles in innovation (Pleschak, Stummer [127]), and cooperation, therefore, between both groups of firms is especially important in creating innovations. Innovation is an interactive process that is largely based on interactions between increasingly specialized firms. Myers and Marquis [111] were among the first to highlight the systemic characteristics of innovation: "Innovation is not a single action but a total process of interrelated subprocesses. It is not just the conception of a new idea, nor the invention of a new device, nor the development of a new market. The process is all these things appear in an integrated fashion." (Rodriguez [134]). Later, work by Freeman [55], Lundvall [101] and others deepened the understanding of this interactive and cumulative nature of innovation, showing the importance of information flows along the whole value-added process.

Recent research on value chains emphasized the role of (usually large) lead firms as integrators or "governors" of value chains, defining and enforcing standards along the chain, for example, with regard to product quality, homogenization of processes, logistics coordination, environmental and labour standards. Thereby technological barriers to entry increase, pressing other firms in the supply chain to upgrade, partly with the assistance of large companies (Humphrey, Schmitz [68]; Schmitz, Knorringa [141]; and Altenburg [6]). Large firms are, therefore, important sources of technological know-how and provide access to new markets. As large firms explore new markets and technological frontiers, they create new product development opportunities for SMEs in the "interstices" (Best [21]). This interlocking of specialized small and large firms allows the whole system to reap the benefits of specialization and increased productivity. As Dunning [45] states: "the findings of a large number of studies over the past 30 years are virtually unanimous that the presence of foreign-owned firms has helped raise the standards and productivity of many domestic suppliers and that this has often had beneficial spill over effects on the rest of their operations."

A vast amount of research and development is usually conducted by large firms (Audretsch [11]). On the other hand, there is evidence that small firms are more productive in conducting and using research. Acs and Audretsch [2] find that small firms produce innovations with twice the productivity of larger firms. Another study (Acs, Audretsch [1]), shows that innovation in small firms is dependent on sector-specific conditions. SMEs contributed most to innovation in immature industries that were relatively unconcentrated. This suggests that small firms play an important role in observing where new technologies could be applied to meet the needs of customers and to introduce new products (Lerner [94]).

Lerner [94] illustrates the different roles in innovation with the developments in the biotechnology and Internet sectors in the 1990s:

> "Neither established drug firms nor mainframe computer manufacturers were pioneers in developing these technologies. By and large, small firms did not invent the key genetic engineering techniques or Internet protocols. Rather, most of the enabling technologies

were developed with federal funds at academic institutions and research laboratories. It was the small entrants, however, who were the first to seize on the commercial opportunities."

In developed countries, these new technologies have also reduced the effect of scale economies favouring large production (Carree, Thurik [31]).

Acknowledging the benefits from interdependencies with innovative SMEs, several large firms deliberately promote start-up companies in their environment. In the United States and Germany, large firms often host business plan competition events. Large, established firms use their environment as incubators to promote technological developments in adjacent business fields and to safeguard their access to market utilization. Globally, Siemens AG invested €60 million in incubator events to promote software development for the mobile telephone standards, such as Universal Mobile Telecommunications System at various industrial locations in Europe, Asia and the United States (ADT Press Release [3]).[3]

To sum up, the question of how important SMEs are compared with large corporations is not the most relevant one. In competitive and innovative industrialized locations, both small and large firms have important complementary roles and are strongly interlocked. Although large firms also crowd out small enterprises, their beneficial effects, in terms of technology transfer, demand for local supplies and access to international markets are probably much larger. Large firms, for example, their attraction through investment promotion policies, should be seen, therefore, as part of a comprehensive private sector strategy rather than a threat to SME development (although the right type of transnational corporations need to be targeted through the investment promotion strategy). In order to increase the productivity of sectors and locations in developing countries, it is crucial to overcome the dualistic structures where SMEs do not complement large-scale production, but remain restricted to the production of standardized goods and services with low barriers to entry but strong disadvantages of scale. This shift towards more productive patterns of specialization requires technological learning, capital and intensified linkages.

3. Competition, turbulence and adjustment of the production system

Some SMEs contribute to productivity and the growth of GDP through their role of testing new business ideas, thereby challenging established ways of doing business and, in case of success, adjusting the production system to changing demand conditions (Carree, Thurik [29]; Liedholm [96]; Aw [14]; Nugent, Yhee [118]). By introducing new products and processes, new firms intensify competition and provide opportunities for comparing the performance of firms. Normally, some established companies will be unable to compete and disappear from the market, allowing better-adapted firms to occupy their positions. Greater experimentation may allow new ideas to emerge more rapidly, thus stimulating technological change and productivity growth. "In competitive markets, there is a high degree of churning among smaller

[3]See ADT Press Release, 27 February 2001.

enterprises. Some 5–20 per cent of companies enter and exit the market each year. Often half of these firms do not last for more than 5 years." (Klein, Hadjimichael [37]).[4] Some small companies grow large or are acquired by larger ones, while some of the large ones may either fail or decide to shed activities and spawn new small companies. This process of entry and exit, growth and decline, selection and learning creates a healthy turbulence (or "creative destruction", a term coined by Schumpeter [144],[5] implying a constant search for a more productive employment of resources and for accelerating technological change. implying a constant search for a more productive employment of resources and for accelerating technological change. .

Studies by the Global Entrepreneurship Monitor, an international network of scientists and practitioners that benchmarks entrepreneurial activities and public support programmes,[6] supports these findings. The analysis conducted by the Global Entrepreneurship Monitor "does not suggest that entrepreneurial activity by itself is a source of economic growth. It does indicate that changes in the economic structure and market processes within a country that lead to economic growth may occur more quickly when an active entrepreneurial sector is available to implement such changes" (Reynolds and others [133]).

Empirical studies confirm the contribution of turbulence and competition to productivity growth. A recent study by the Organisation of Economic Co-operation and Development (OECD) provides evidence that "there is a positive correlation between the entry rate in a given industry and average labour productivity levels; that is to say, highly productive industries are associated with relatively high entry rates" (OECD [124]). Baldwin and others [15] shows that between 20 and 25 per cent of productivity growth in manufacturing industries in the United States could be related to entry and exit.[7] Nickell shows that for firms in the United Kingdom, a higher number of competitors is associated with higher rates of productivity growth (cited in Caree, Thurik [29]). Studies that focus on high volatility in markets over short-term horizons tend to find a lesser contribution of net entry (the sum between entry and exit) to aggregate productivity growth, and studies that include a larger horizon find a large role of net entry (Haltiwanger [62]). This emphasizes the long-term importance of structural change.

Summing up, both the theoretical arguments and available evidence are relatively consistent, to the extent that both show that SMEs can contribute to productivity growth through their contributions to the continuous renewal and adaptation of the industrial structure, as well as by the generation of externalities based on the advantages of small scale. Furthermore, it is shown that productivity growth is important for sustained long-term growth. Consequently, a high share of SMEs in the industrial structure and turnover of firms seems to be an important driver of macroeconomic growth. However, the process of "creative destruction", whereby incumbents displace obsolete firms, will only take place if new entrants experiment with new business concepts. If firms only copy the prevalent way local people do business, then

[4]See also OECD ([124], p. 78), which shows turnover rates in OECD countries to be around 20 per cent, "that is, a fifth of firms are either recent entrants, or will close down within a year".

[5]For an application of the Schumpeterian concept to developing countries, see also van Dijk [176], Reinert [130] and Bass [16].

[6]The Global Entrepreneurship Monitor project comprises research institutes in 37 countries. Participants analyse entrepreneurial activities in their respective country using the same framework and survey methods.

[7]See also *The Dynamics of Industrial Competition*, Cambridge, cited in Stevenson, Lundström [153], p. 7.

high turnover could be coupled with stagnant productivity. The following comparison of developed and developing countries reveals substantial differences, demonstrating that many SMEs fail to provide relevant externalities, and production systems adjust slowly, despite high turbulence.

C. Comparing developed and developing countries: why do SMEs in developing countries contribute less to productivity growth and national competitiveness?

In developing countries, SMEs play a different role in the industrial division of labour. As shown in this section, entry and exit rates are high without adjusting the industrial structure in a way that would significantly improve its competitiveness. Most firms are micro- and small-scale, and very few manage the transition to a medium size that would enable them to move into more scale-intensive production; the productivity gap in comparison with large firms is large and often even increasing. It also shows that the technological capabilities are low on average, with very few enterprises carrying out research or advanced engineering services, that export competitiveness in most cases is low, and that many small firms try to compete with large-scale operations, which leads to decreasing returns rather than generating positive externalities for the national economy.

1. Entrepreneurs and start-ups, mainly driven by necessity rather than promising business ideas

As argued earlier, turbulence fosters productivity growth by accelerating the process of innovation, competitive selection and adaptation to changing markets. For countries in Western Europe, the Global Entrepreneurship Monitor indeed shows a clearly positive relationship between their entrepreneurial activity and macroeconomic growth (Reynolds and others [132]).[8] Entrepreneurship is measured by an index for "total entrepreneurial activity" which includes start-ups and firms up to 42 months old (Reynolds and others [133]). However, it cannot be necessarily deduced that start-ups foster growth, because the causal relationship may be the other way round, namely, growing markets induce more persons to start a business.

In developing countries, a very different relationship is detected between entrepreneurship and growth. Here, the degree of entrepreneurship usually increases with decreasing income per capita, and economic recession often leads to an increase in the number of start-ups. For Zimbabwe, for example, a study conducted between 1988 and 1997 showed that small firm entrepreneurship declined as macroeconomic growth rates increased and vice versa (Reinecke [129]). Mezzera [108] arrives at the same conclusion for countries in Latin America. In sum, turbulence may be high without spurring substantial innovations and macroeconomic growth.

[8] A correlation of company start-ups and growth is observed for all nations participating in Global Entrepreneurship Monitor. However, causality in detail is not available; it is possible that growth leads to an increasing number of company start-ups—not the other way around (p. 23).

New comparative analyses shed more light on the relation between the number of entrepreneurs and the level of development, contributing to a better understanding of the apparent differences across countries (Carree and others [130]; Stevenson, Lundström [153]; Audretsch, Thurik [13]). According to these investigations, the relationship between entrepreneurship and growth follows a U-shaped curve: The lower the per capita GDP of a country, the higher the share of entrepreneurship. However, at a certain point, per capita income and the rate of entrepreneurship will merge and after that the relation reverses to growing per capita levels of GDP corresponding with growing entrepreneurship levels. In the empirical study (Carree and others [30]) a minimum of the curve at $19,000 (per capita GDP) was reached at an 8.8 per cent share of entrepreneurship. According to their conclusions, there is an optimal number of newly-created firms for each level of per capita income.[9] Audretsch and Thurik [13] also describe an "optimal industrial structure" which sets an optimal degree of entrepreneurship for each country and accounts for differences in growth for digressions from optimal rates. The optimal rate can vary from country to country, influenced by different cultures, history, institutions and policies.

According to these findings, any country, depending on its optimal rate, can have either too many or too few newly created small enterprises. For a country with a high rate of micro- and small-firm creation in relation to income per capita (or a country located on the declining side of the U-curve), any increase in the number of start-ups would be a further departure of the enterprise structure from the optimal level of a competitive economy. In contrast, if the level of enterprise formation is too low, that is, if the country is located on the rising side of the curve, promotion of entrepreneurship would contribute to growth. Questions regarding the exact characteristics of this "optimal level", and whether and how they are influenced will require further research.

Mead [105] has provided a plausible explanation for the finding that poor countries have so many start-ups without generating substantial innovations, competitiveness and growth. He distinguishes between "supply-push" and "demand-pull" entrepreneurship. The most important push factor is unemployment, that is, an oversupply of labour. When the economy (and thereby formal sector employment) contracts, poor, unemployed people create new micro-enterprises or become self-employed in order to compensate for the declining family income, even if they see market opportunities for their activities getting worse. When the economic conditions show signs of improvement and opportunities for dependent employment appear to increase, many of these entrepreneurs revert to becoming employees. "Supply-push" enterprise formation is especially symptomatic for poor developing countries lacking social safety systems. This explains the high levels of self-employment and microenterprises, as well as the persistence of highly polarized enterprise structures in developing countries (Dunn, Ghose, Kneesch [43]).

Companies created for "supply-push" reasons are typically confined to activities with low entry barriers, which translate into oversupply, fierce price competition and very low profits. Therefore, most supply-push firms are concentrated in simple traditional activities, for example, petty trade, garment, footwear and food production. Liedholm and Mead show that in

[9]Calculations based on US dollars as purchasing power parity in 1990 prices, p. 26.

most of the countries they analysed in Africa, about two thirds of the enterprises are engaged in trade, and only one third in manufacturing (see table 1).

TABLE 1.
CHARACTERISTICS OF MICROENTERPRISES: SECTORAL BREAKDOWN OF ENTERPRISES (URBAN AREAS) (PERCENTAGE)

Sector	*Botswana*	*Kenya*	*Lesotho*	*Malawi*	*Swaziland*	*Zimbabwe*	*South Africa*	*Dominican Republic*
Manufacturing	15	18	35	29	33	64	17	21
Commerce	71	74	41	62	56	30	70	63

Source: Liedholm, Mead [97], p. 3.

Within the manufacturing (or handicraft) activities, the level of specialization is low. For example, in various industries in Morocco, two thirds of the firms produce only one single product (Haddad, de Melo, Horton [58]). In these conditions, volatility is high, but micro-enterprises going out of business are mostly being replaced by very similar start-ups, created out of the same distress, whose founders lack better business ideas or higher qualifications.

"Demand-pull" enterprise creation is based on the identification of a promising business idea rather than on the immediate pressure to start any economic activity to immediately obtain a basic income in a situation of severe distress. Pull factors are self-fulfilment, search for independence and "taking advantage of business opportunities" (Sheikh [145]). The research network of the Global Entrepreneurship Monitor uses a similar distinction, terming the first type as "necessity" and the second as "opportunity" entrepreneurship.

There is clear evidence that the motivation of entrepreneurs to start their business has an effect on the success of the firm and is an important contribution of the firm to employment creation, exports and innovation. Pull entrepreneurs are more successful than push entrepreneurs (Sheikh [145]). The most important determinant of a firm's success—measured in employment growth—as revealed in the investigation conducted by Sternberg and Tamásy [152] on the success factors for young, innovative firms—was the motivation of harnessing the opportunities of an untapped market, which is a clear pull factor. Analysing the business expectations of opportunity and necessity-based entrepreneurs, the report on the *Global Entrepreneurship Monitor 2002* confirms these findings (table 2). Opportunity-driven entrepreneurs are expected to create significantly more jobs within five years, to export more and exploit more new market niches. Those entrepreneurs who start their own venture after having identified a promising business idea, thus, accelerate the market-driven process of selecting better solutions and contribute to economic growth.

The analysis conducted by the Global Entrepreneurship Monitor also reveals that there is no major difference in the sectoral allocation of opportunity and necessity entrepreneurship (table 3). This means that market creation is possible in all sectors, and policies to enhance innovation through business creation accordingly do not have to focus on specific sectors (such as high-tech).

TABLE 2.

BUSINESS EXPECTATIONS OF OPPORTUNITY AND NECESSITY MOTIVATED ENTREPRENEURS IN 37 COUNTRIES INCLUDED IN THE GLOBAL ENTREPRENEURSHIP MONITOR* (PERCENTAGE)

	Opportunity	*Necessity*	*Average*
Expected job creation			
No jobs in 5 years	14.6	29.1	20.0
1-5 jobs in 5 years	38.3	41.7	39.0
6-19 jobs in 5 years	15.4	6.9	12.0
20+ jobs in 5 years	31.7	22.3	28.0
	100.0	100.0	100.0
Expected exports			
No export sales	73.6	86.4	78.0
1-25 per cent export sales	18.6	11.0	16.0
26-50 per cent exports	2.3	1.4	2.0
51-100 per cent exports	5.5	1.2	4.0
	100.0	100.0	100.0
Expected market niche creation			
No market niche creation	71.3	76.2	73.0
Little market niche creation	20.5	19.2	20.0
Some market niche creation	6.9	4.2	6.0
Maximum market niche creation	1.3	0.4	1.0
	100.0	100.0	100.0

*All start-ups from business registration up to 45 months old. Developing countries and countries with economies in transition included in the GEM studies 2002 and 2003 are Argentina, Brazil, Chile, China, Croatia, Hungary, India, Mexico, Slovenia, South Africa, Uganda, Thailand and Venezuela.

Source: Calculations by T. Altenburg based on Reynolds and others [133], p. 18.

TABLE 3.

SECTORAL DISTRIBUTION OF OPPORTUNITY AND NECESSITY ENTREPRENEURSHIP

	All	*Opportunity*	*Necessity*	*Other*
Number of cases	9,129	5,541	3,356	232
Percentage		61	36	3
Sectoral breakdown (percentage)				
Agriculture, forestry and fishing	4	4	6	2
Mining, construction	3	4	2	2
Manufacturing	11	11	10	28
Transportation, communication and utilities	4	4	3	2
Wholesale, sales and service of motor vehicles	10	12	8	6
Retail, hotels and restaurants	50	45	58	41
Financial, insurance and real estate	2	3	1	1
Business services	8	9	4	7
Health, education and social services	4	4	4	5
Consumer services	4	4	4	6
	100	100	100	100

Source: Reynolds and others [133], p. 18.

2. Firm growth and upgrading: the "missing middle"

For aggregate growth of an economy, the number of company start-ups seems to be less decisive than the number of fast-growing firms (Storey [155]). Developing countries are typically characterized by the large numbers of self-employed and micro- and small enterprises operating in the informal sector. For several countries in Africa, Liedholm and Mead [197] show that only 1-3 per cent of firms have more than 10 employees. They estimate that the share of micro and small firms in the organizational structure is much bigger than indicated by official statistics, because the latter include only those firms that are registered or otherwise recognized by the authorities.

Empirical evidence from different developing regions shows that only a very small portion of the micro and small firms manages to master the transformation from family-based to more systematically organized structures that enable them to handle production beyond the threshold of around 20 employees (Kabecha, Thomas [76]; Kilby [83]; Liedholm [95]; Mead [105]). According to a recent study on firm size and productivity in Africa:

> "firms employing 100 or more workers are shown to be more productive and more likely to survive (...). However, large firms also grow more rapidly and improve productivity faster, conditional on other covariates or on previous performance. Moreover, transitions between size classes or movements in the productivity distribution are very slow (...). Large firms remain large, and more productive firms remain at the top of the distribution. Smaller and less productive firms have a very hard time advancing in the size or productivity distribution." (van Biesebroeck [174]).

As a result, the layer of medium-sized firms is typically lacking. This is confirmed in a study correlating per capita GDP with the distribution of firms of different sizes in countries in the European Union and several non-European Union countries (Reinecke [129]). The lower the per capita GDP, the higher the share of small (1-9 employees) and large (more than 50 employees) firms, and the lower the share of firms with 10-49 employees. The lack of medium-sized firms in many developing countries is often referred to as the "missing middle". That can be assumed to be an important disadvantage of their industrial structure because medium-sized firms may combine the advantages of flexibility, quick decision-making, commitment, close contacts with customers etc. with certain scales of production. They, therefore, fulfil an important complementary function in many production systems. Medium-sized firms, as well as some highly professional small enterprises, often occupy specific niche markets—often in the "interstices" left over by larger firms. By doing so, they expand the specialization spectrum of a given locality. Such firms are, therefore, crucial for articulating small and large firms and for bridging the technological gap between both poles of the enterprise structure. As the gap is so deep in developing countries (chapter II, section C2) it is closely correlated with the "missing middle" phenomenon.

As firms grow, the role, abilities and behaviour of the entrepreneur have to change in order to maintain competitive advantages (Herting [67]; Renz [131]). Company cultures change over the course of development of the firm. All growing small firms have a threshold where the original form of organization, at the time of foundation, is no longer compatible with the

current size of the firm. Ganz and Tombeil [56] show that for Germany, introducing specialization at the management level beyond a size of around 20 employees becomes an issue. In the same vein, Trulsson [161] stresses that with regard to Uganda, the United Republic of Tanzania and Zimbabwe, changes in firm size must be followed by changes in management style. When enterprises grow, usually the division of tasks becomes more accentuated and more managers are needed. The family-style model has to be replaced by more complex and formalized structures. Deepening specialization within the firm requires transparent and efficient processes of delegation, and firms need to establish codified organizational procedures in terms of logistics, human resource development etc. "Doers" who are performance oriented, self-starting and not averse to risk must become competent managers as well. Managerial abilities determine differences in productivity growth among firms (Haltiwanger [62]).

This transformation is difficult for entrepreneurs, especially in developing countries, where small entrepreneurs normally have low levels of formal education, and management consultancy services of good quality are often neither available nor affordable. Even for developed countries, research has shown that only a few SME managers eschew fast growth. For the United Kingdom, Hakim [60], for example, found that 55 per cent of 747,970 firms had no plans for growth, and only 15 per cent were "actively looking for expansion". The Cambridge Small Firm Research Centre [28] found that just 22.5 per cent of firms in their survey wished to grow substantially. Helping firms to cope with the managerial requirements of the growth process is, therefore, increasingly being recognized as an issue for public policy (Mole [109], Storey [154]) makes several specific suggestions for focusing SME programmes on growing firms: these should address firms in all sectors that are between three and five years old and have at least 20 employees. Given the "missing middle" in many developing countries, it may be reasonable to adopt a similar approach focusing SME support on this important group of firms.[10]

3. Technological capabilities: a lack of research performers and engineering enterprises

Both in developed and developing countries, technological capabilities are spread unevenly among firms. Some firms have very limited skills and exclusively perform routine operations, while others employ a highly specialized workforce and systematically search for innovations. With regard to SMEs, the following four levels of technological and innovative capabilities are distinguished:

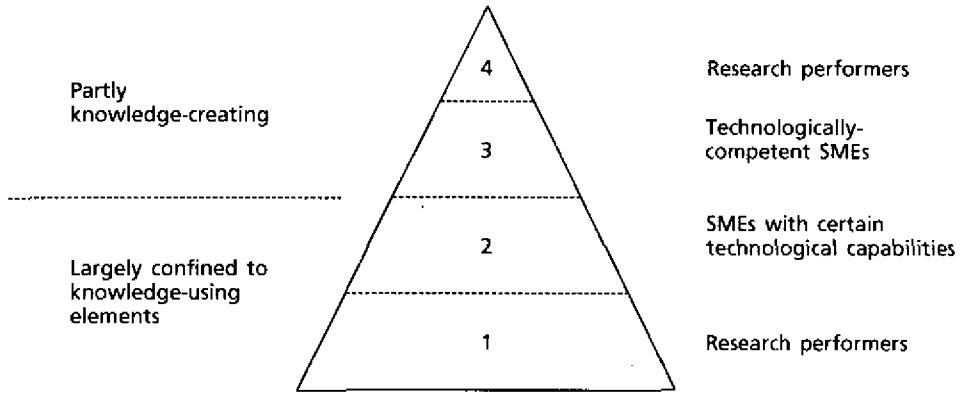
- Low-technology SMEs that focus on routine operations, with limited technical capabilities, mainly copying from locally-established ways of doing business and using mature technologies as blueprints; entrepreneurs often do not perceive the need for innovation;
- SMEs with certain technological capabilities, reasonably capable of mastering existing technologies, employing some experienced technicians or engineers; firms are able to adopt technical package solutions, but rarely create new knowledge;
- Technologically-competent SMEs with certain abilities to create technology, usually employing several engineers; firms are able to participate in a sophisticated division of labour (for example, international value chains), but do not systematically seek innovations;

[10]For the same reasons, the ILO adopted a specific Expand Your Business programme.

- Research performers with strong capabilities for generating innovations, usually running their own research departments or equivalents; firms are able to screen market opportunities and make some long-term forecasts of market developments.

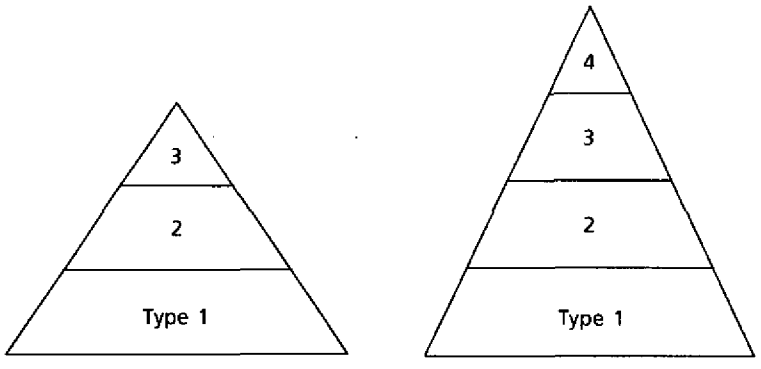
In all countries, the number of firms tends to decrease from level 1 to level 4, the result being a pyramid, as shown in figure I.

FIGURE I.
SMEs BY LEVEL OF TECHNOLOGICAL AND INNOVATIVE CAPABILITIES



Source: Own draft, based on OECD [119].

FIGURE II.
SMEs BY LEVEL OF TECHNOLOGICAL AND INNOVATIVE CAPABILITIES IN DEVELOPING AND DEVELOPED COUNTRIES



Usually, companies in levels 3 and 4 are not small but at least medium-size enterprises. The proportions of these types of companies in the entrepreneurial community differ between developing and developed countries, as shown in figure II. SMEs in developing countries are, on average, less capable of creating knowledge, and firms systematically performing research and development are almost non-existent, especially in low-income countries. The vast majority of SMEs belongs to type 1. This is obvious for the large number of micro- and small enterprises

which have been created due to "supply-push" dynamics and lack resources in terms of finance, human capital, technological and market information. But even medium-sized companies rarely perform research and development. This may be attributed to the fact that most medium-sized companies in developing countries are oriented towards less demanding domestic markets.

4. Export competitiveness: usually only a few SMEs export regularly

In most developing countries, the production of exported goods is predominantly borne by larger firms. This is especially true for countries in Africa and Latin America, while some of the export-oriented countries in Asia constitute remarkable exceptions. Table 4 illustrates the weak role of SMEs as exporters in selected countries in Africa. In addition, Lall and Pietrobelli [92] indicate that exports manufactured in Africa are mainly resource-based and confined to low technological levels; medium-technology products are rare and high-technology export products are not produced at all in sub-Saharan Africa (excluding South Africa).

With regard to the more advanced countries, it is interesting to note that the export share of SMEs is very heterogeneous. While in China, including Taiwan Province of China, and the Republic of Korea, SMEs export more than 40 per cent of total manufactured goods, their share in Indonesia, Malaysia, Singapore and Thailand is low, between 10 and 16 per cent.

TABLE 4.
SME SHARES OF MANUFACTURED EXPORTS IN DEVELOPING AND SOME NEW OECD MEMBER COUNTRIES

Country or region	*Year*	*Definition of an SME*[a]	*SMEs share of manufactured exports (per cent)*
Taiwan Province of China	Early 1990s	<100 employees	56
China	Early 1990s	<100 employees	40-60
Republic of Korea	1995	<300 employees	42
Viet Nam	Early 1990s	<200 employees	20
India	1991-1992	<Rs 30 million investment in plant and machinery	32
Singapore	Early 1990s	<100 employees	16
Malaysia	Early 1990s	<75 employees	15
Indonesia	Early 1990s	<100 employees	11
Thailand	Early 1990s	<100 employees	10
Mauritius	1997	<50 employees	2
United Republic of Tanzania	2002	<50 employees	<1.0
Malawi	2003	<50 employees	<1.0

[a]The definition of SME adopted by each study, which may be different from the official national definition.

Source: Wignaraja [180].

This indicates that the SME share is not clearly correlated with the level of industrial development in a country. Rather, there seem to be different development patterns, depending on technological trajectories, policies toward foreign direct investment and other socioeconomic

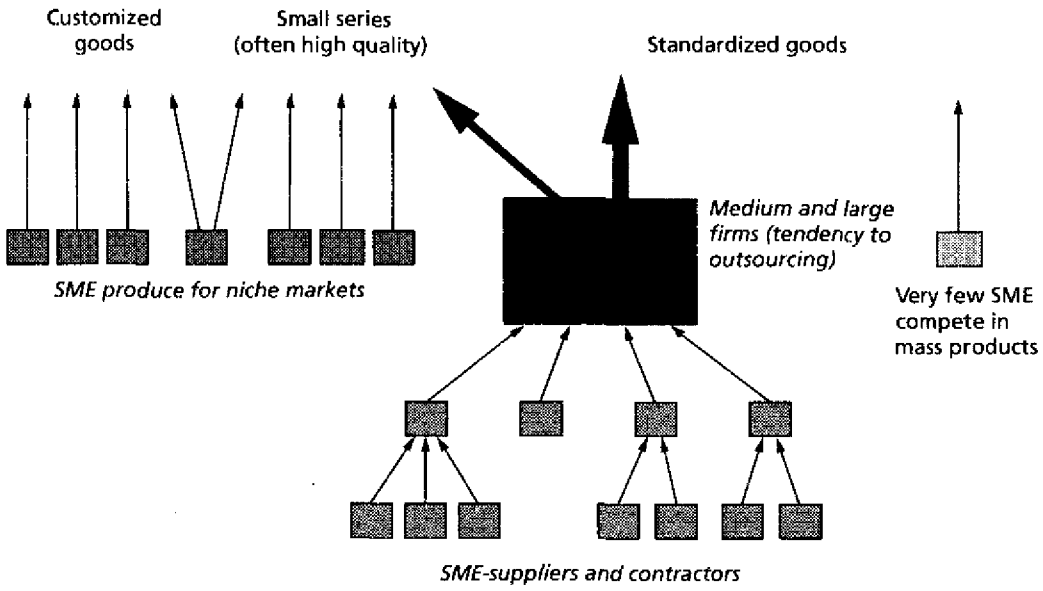
or cultural conditions. Taiwan Province of China is the most striking example of a successful export economy that built its competitiveness on a balanced industrial structure with a high share of SMEs. Taiwan Province of China shows how flexibility in horizontal interfirm networks enables small firms to compensate for lacking economies of scale. Horizontal cooperation works especially well in Taiwan Province of China, where entrepreneurs have "strong, guilt-type ties (called 'bang'). If someone violates a spoken promise, he/she will be ostracized by society. These transaction costs in Chinese business traditions are negligible..." (Kagami [77]). At the same time, the Government helped SMEs to identify, acquire and adapt new foreign technologies and supported the formation of research and development consortia. According to Lall [91], "Taiwan has probably the developing world's most advanced system in technology support for SMEs." Export competitiveness in the Republic of Korea (Kim, Nugent [84]) and Singapore (Wong [181]) was initially driven by large firms—national conglomerates in the former and foreign direct investment in the latter case—but SMEs gained importance in a subsequent stage of industrial development as large firms started to demand a significant amount of local inputs and supporting services. In both cases, active linkage policies accelerated the emergence of these complementary SME suppliers.

With the exception of these atypical export economies in Asia, SMEs focus their activities mostly on strategies for solving problems in the local markets, and use export markets as additional, secondary markets, often to balance cycles of economic slowdown in their home markets, rather than systematically trying to expand internationally: "Qualitative survey evidence suggests that SMEs have a shorter-term exporting 'culture', preferring to return to their home market when demand conditions improve" (World Bank [183]).[11] Moreover, a large portion of exports usually goes to neighbouring countries and regional markets, while manufactures are rarely exported to OECD countries. The main exceptions are the labour-intensive "maquiladora-type", for example, from Central America, Philippines, Mauritius or Mexico, and resource-based products.

The overall disappointing export performance of SMEs in developing countries is a reflection of the productivity gap between small and large firms. Case studies indicate, however, that the decision to compete on international markets often induces measures to enhance productivity. Studies on industrial clusters in developing countries, for example, show how linking up with international sources of knowledge has been crucial for technological learning (Nadvi [112]; Visser [176]; Sandee [138]). Many studies confirm that firms that export have significantly higher productivity levels than non-exporters. For Mexico, for example, it has been shown that exporting firms had productivity levels that were, on an average, 8 per cent higher than those of similar non-exporters (World Bank [183]). As Westphal [178] states, however, "the mere association of higher productivity with exporting does not necessarily mean that export activity is the cause of higher productivity. It may rather be the case that higher productivity is the cause of exporting." Carefully conducted econometric studies are rare. One such comparative study, comparing exporters and non-exporters in the same industries in Cameroon, Ghana, Kenya and Zimbabwe, confirmed that exporting firms indeed achieved higher productivity growth (Bigsten and others [24]).

[11] The study provides an analysis for Mexico; see also Altenburg [4], pp. 66 ff., for Honduras and Costa Rica.

FIGURE III.
TYPICAL INDUSTRIAL ORGANIZATION IN DEVELOPED COUNTRIES



Source: Altenburg [5].

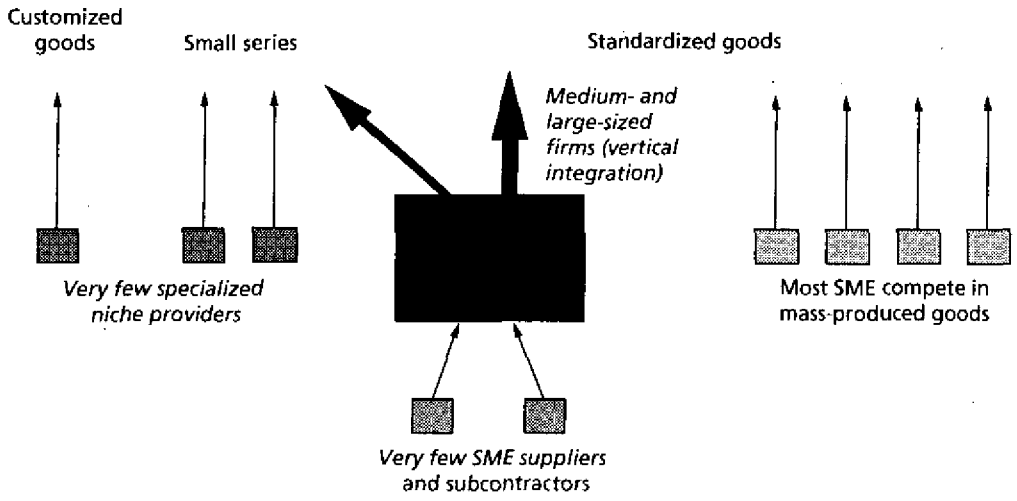
5. Large firm–small firm interactions: lack of complementary specialization and interactive learning

As seen in chapter II, section B2, small and large firms have specific competitive advantages in production or service delivery. Production systems that manage to combine the factors in favour of large-scale production with the advantages of flexible small firms are able to allocate resources more efficiently. Many developing countries, however, largely fail to exploit the advantages of large firm–small firm integration. Figures III and IV illustrate the different roles of SMEs in production systems, contrasting a stylized model of a developed and a developing country.

In mature industrial systems, SMEs and large firms specialize in a complementary way (figure III). Here, small firms act primarily as suppliers, franchisees or service providers for large and medium firms, or they specialize in niche markets to offer small series or customized goods. Only few SMEs compete in the production of mass goods, which is not efficient because they lack economies of scale. SMEs are, thus, important parts of the national industrial structure, complementing large-scale production. By nature of their specialization, they fit into competitive value chains and contribute to the efficiency and competitiveness of the whole system.

The situation in developing countries (figure IV), in general, is different. Here SMEs are (besides petty trade, vehicle repair and similar services) mainly dedicated to traditional crafts and in the respective markets, they compete with mass-produced products and services and face serious competitive problems due to insufficient economies of scale and high production costs.

FIGURE IV.
TYPICAL INDUSTRIAL ORGANIZATION IN DEVELOPING COUNTRIES



Source: Altenburg (1999).

SMEs are thus exposed to strong displacement competition, both by large local firms and large-scale imports. Only a small proportion of SMEs belongs to the group of complementary SMEs that includes providers of niche products, as well as specialized suppliers and service providers for large industry. Supply chains are usually short and involve few SMEs, reflecting the shortcomings of these firms with regard to price, quality, volume and reliability (Dussel Peters, Piore, Ruiz Durán [44]). Trade liberalization, in some cases, led large buyers to shift from local sourcing to imports, thus penalizing domestic SMEs. Likewise, other forms of large firm–small firm cooperation, for example, franchising, joint ventures and technology licensing, do not seem to be as widely used as they are in developed countries, again reflecting the performance gap between both groups of companies. In short, small and large firms in developing countries do not use their comparative advantages efficiently and often fail to exploit potential synergies of cooperation in basic manufacturing activities, for example, garment and footwear production, furniture making, basic food processing, production of ceramic tiles, metalworking and bamboo weaving.[12]

The industrial organization of the second type, representing developing countries, also fails to allocate resources efficiently. As it limits the scope for interactions between large and small firms, it interrupts important channels for technological learning. As mentioned in previous chapters, large internationally-engaged corporations are important sources of knowledge: on the one hand, they put pressure on their SME partners to cut cost, improve quality, use up-to-date technologies and comply with sophisticated standards; on the other hand, they provide access to some of the relevant knowledge. Several studies highlight the importance of user-producer relations, that is, involving different stages of the value chain, and of exposure to international competition for knowledge creation (Porter [128]). Local industrial agglomerations in

[12]For example, numerous studies contained in the *World Development Special Issue* on "Industrial Clusters in Developing Countries", No. 9, 1999.

developing countries that lack close connections with large internationally-engaged companies may be restricted to the use of existing stocks of knowledge rather than knowledge creation:

> "For instance, one firm's search for and adoption of new technology copied entirely from within the cluster, while indicating some innovativeness on the part of the individual firm, may add little or nothing to the knowledge stock of the cluster as a whole. A great deal of knowledge exchange, use and replication can occur within a rather inward-looking cluster system—creating the impression of dynamism at the individual firm level—but nevertheless leaving the cluster as a whole technologically static." (Bell, Albu [19]).

Figure V shows how different learning routines coexist in developing countries. Some SMEs are integrated in a division of labour with larger firms, where certain lead firms link groups of local firms with demanding markets, enforce the implementation of standards and modern concepts on logistics and persistently search for innovations. Others are caught in local consumer-producer relations, where both the preferences of a customer and the knowledge of a producer on industrial organization have local origins, where learning-by-doing and copying prevails, where firms are mainly inward-looking and where development trajectories are path-dependent and may produce lock-in.

FIGURE V.

LEARNING ROUTINES IN SPECIALIZED VALUE-CHAIN RELATIONS VERSUS INWARD-LOOKING CLUSTERS

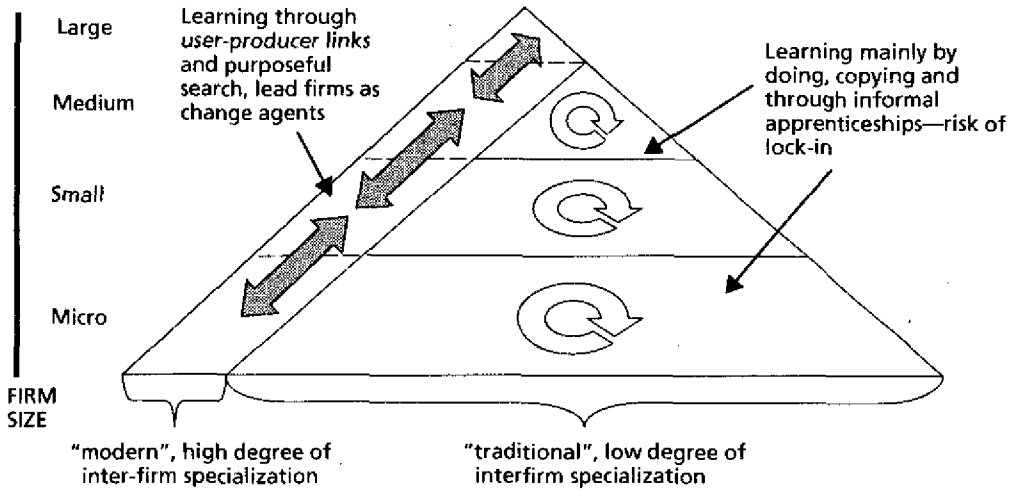
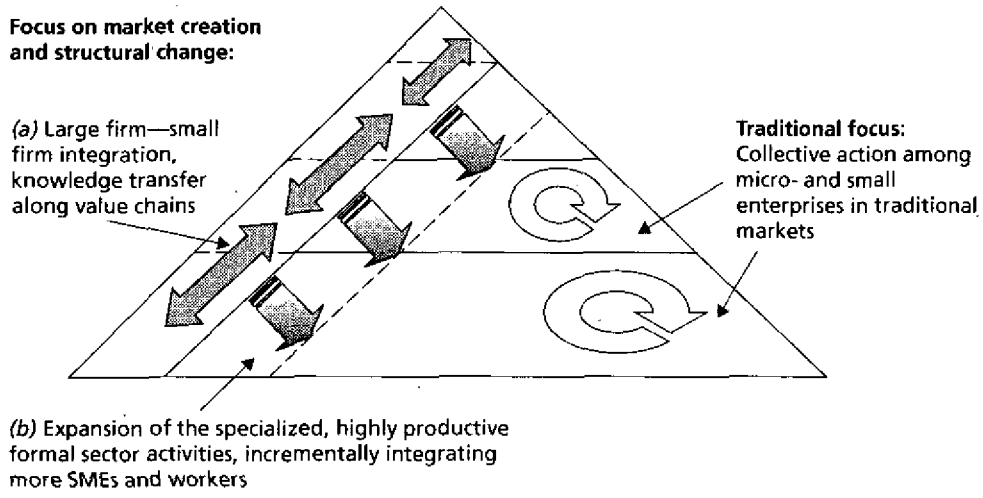


Figure VI compares two (stylized) approaches to SME promotion in developing countries. Traditional SME programmes are often not sufficiently focused on innovation, productivity growth and structural change. A large proportion of support programmes is allocated to long-established SME activities for final consumer markets, for example, handicrafts, garment and leather products, furniture making, food processing, stimulating horizontal cooperation between firms producing similar goods, helping to market these products and providing finance. Such programmes often neglect the effects of structural change, for example, trade liberalization, the introduction of very demanding public and private standards, or concentration processes in retailing, all of which tend to render this kind of production unviable.

FIGURE VI.
SME PROMOTION: TWO STYLIZED APPROACHES



It would often be better to focus explicitly on market creation and structural change, and encourage the necessary shift towards more appropriate and sustainable patterns of interfirm specialization by supporting large firm–small firm integration, linking inward-looking clusters up with external sources of knowledge, promoting new supplier relations, joint ventures or franchises, enabling small firms to cope with the requirements of international markets and modern procurement systems, etc. In addition to improving knowledge flows within the segment of firms already integrated in modern value-chain relations, it is important to increase the number of firms taking part in this "modern" part of the economy. This requires a focus on technology diffusion, providing entrepreneurs and workers in traditional industries with tools to move from low- to high-productivity activities. It is often promising to work with dynamic SMEs that have the potential to hook up with new forms of interfirm division of labour and niche market production, and provide them with incentives to share their experiences and know-how with those local firms that are less efficient and less integrated in modern production patterns.

III. The role of SMEs in generating equitable development: evidence from developed and developing countries

In this chapter, an analysis is conducted on the potential contributions of SMEs to equitable development. While growth is a major goal of economic policy, other goals, such as equity, are equally important. In 2000, the United Nations General Assembly adopted a road map towards the implementation of the United Nations Millennium Declaration that defines concrete targets—the millennium development goals—aimed at providing equal opportunities to all individuals and sparing them from the most extreme forms of deprivation. These include reducing the proportion of people whose income is less than one dollar a day and the proportion of people who suffer from hunger; increasing primary school enrolment; and eliminating gender disparity in education and other equity-related aspects. Equity is not only a goal in its own right, but is also important in pursuit of long-term prosperity. This chapter especially highlights the contribution of SMEs to poverty alleviation.

It is now widely accepted that sustainable poverty reduction has little chance of being achieved without macroeconomic growth. However, the experience of the developing countries over the past 50 years has also shown that growth alone does not solve the problems of inequality and poverty. To achieve a fairer distribution of opportunities and wealth, complementary measures have to be taken. SMEs are supposed to make both direct and indirect contributions to equitable development and poverty alleviation. First, as already discussed in the previous chapter, certain types of SMEs contribute to making the national economy more specialized, more productive and competitive and, therefore, add to the growth of GDP. Secondly, SMEs are considered to be efficient job creators, providers of training and other services and goods for the poor and, although to a lesser extent, is a source of public income. As SMEs represent a large part of the economy, any measure to increase employment opportunities, raise productivity and income and improve the working conditions for employees and (self-)employers in this sector can potentially provide highly substantial social benefits.

However, evidence is by no means clear that SMEs boost the quantity or quality of employment in developing countries (Bell, Albu [19]). While many authors emphasize the pro-poor aspects of SMEs, especially their contribution to employment and income for poor groups of society, other studies do not reveal a significant relationship between the size of the SME sector and poverty alleviation (Beck, Demirgüc-Kunt, Levine [18]), or underline the low wages, bad working conditions and instability of SME employment (Reinecke [129]). It is argued that SME policy is one, but not necessarily the most important, tool to make economic development

more socially inclusive. It should not be regarded as a surrogate of other private sector strategies, for example, promotion of foreign direct investment, nor should it be considered a substitute for social sector programmes in fields, such as education, health or targeted social welfare.

In this chapter, the relationship between growth, equity and poverty is developed initially. Subsequently, reference is made to the new multidimensional understanding of poverty, and the multiple poverty-alleviating contributions of SMEs in that context is discussed. The four primary mechanisms through which SMEs can contribute to equitable development and poverty alleviation in developing countries is analysed as follows:

- As a source of employment—and, consequently, of income and social security—for a large part of the population;
- As providers of in-firm training, contributing to human capital formation;
- As suppliers of goods and services for poor people, especially in marginalized regions;
- As generators of public revenues needed to finance government programmes related to poverty.

A. THE RELATION BETWEEN GROWTH, EQUITY AND POVERTY

Poverty and inequality are very closely interlinked. Given a certain mean income, the more unequally this income is distributed, the greater the number of people that will live in income poverty. There is a great deal of consensus in economic theory and development policy on the fact that growth is necessary to reduce poverty (Dollar, Kraay [42]); World Bank [184]). Unless aggregate income increases, the income levels of the poor cannot be expected to rise significantly. To make development equitable, the poor must have at least a proportional share in income growth (this would leave equity levels unchanged), or their share must be raised, thus leading to a more equal income distribution.

The extent to which the poor benefit from economic growth basically depends on the initial level of inequality. The growth elasticity of poverty alleviation—the percentage to which the poverty rate alters, given a 1 per cent change in average income—is higher if inequality was initially lower and inequality is reduced further (Sautter [139]). This has been empirically validated mainly for inequality in assets, but also—to a lesser extent—for inequality in monetary incomes.[13] The political message is, in any case, evident: growth is a necessary economic condition for development, but equitable development needs to be enhanced through measures that strengthen the chances of participation of the poor in economic development.

Furthermore, unequal chances of economic participation impede an efficient allocation of resources.

> "Put simply: poor people may not have the same chances in life as richer people, and may thus never quite realise their full productive potential. This may be because they do not get as good an education as those afforded by richer families, or because they can't get loans to start up a business as easily, or because they can't afford the insurance they

[13] See http://www.worldbank.org/poverty/inequal/econ/growth.htm.

would require to undertake some risky—but productive—venture. In this case, a distribution with lots of poor people, or unequally distributed opportunities, would underutilize its aggregate productive potential to a greater degree than a distribution with relatively fewer poor people, or one where opportunities were more equitably distributed. In static terms, this would be less efficient and involve a smaller production possibility set. In a dynamic setting, it would be likely to grow more slowly."[14]

To this end, contributing to equitable development by strengthening the chances of the disadvantaged groups also means contributing to aggregate growth. Opportunities are distributed unequally among groups of society and across regions. Hence, policies are needed to mobilize the productive potential of different disadvantaged groups, including marginalized ethnic groups, women, youth and rural dwellers.

However, empirical analysis does not support a clear causal relationship between growth, equitable enterprise structures with a high SME share and poverty reduction. Although it is frequently claimed that SMEs make the most significant contribution to job creation and, in times of crisis, informal microenterprises make up a buffer to provide poor people with a basic income, econometric cross-country studies by Beck and others [18] show that there is neither clear evidence of a high share of SMEs contributing to economic growth, nor is there evidence that SMEs reduce poverty. To make things even more complicated, what must be taken into account is that poverty not only reflects the lack of sufficient pecuniary income, it also has other dimensions, including social exclusion, vulnerability and the deprivation of political rights. Thus, a more qualitative and detailed approach must be adopted in line with the development of multidimensional poverty concepts over the past 10-15 years.

B. THE NEW MULTIDIMENSIONAL UNDERSTANDING OF POVERTY AND THE ROLE OF SMEs

Recently, the notion of poverty has gradually shifted from a simple focus on low levels of income towards a multidimensional concept as follows:

- In 1990, the United Nations Development Programme (UNDP) published its first *Human Development Report*. That report introduced a new concept of human development, which was initially based on three indicators: longevity, knowledge and "command over resources needed for a decent living" (UNDP [164]). The first indicator was measured on the basis of life expectancy, the second on literacy rates. The third was a complex indicator that required data on access to land and credit, income and other resources; it was made part of the Human Development Index in the form of the purchasing power needed to buy commodities to satisfy basic needs. The Human Development Index was designed to show the development of a society as a whole; it was supplemented in 1997 by the Human Poverty Index, which specifically indicated that specific portion of the population that did not participate in the development process;

[14] See http://www.worldbank.org/poverty/inequal/econ/capmkt.htm.

- The World Bank also started to broaden its concept of poverty in the 1990s. The results were presented in the *World Development Report 2000/2001: Attacking Poverty*. As part of the preparation process, the World Bank elaborated the Voices of the Poor[15] studies, which were based on participatory appraisals that gave—for the first time in a satisfactory manner—a voice to the poor, allowing them to describe their own situation in poverty. The *World Development Report 2000/2001* translated the findings into social indicators for education, health, access to services and infrastructure. It also incorporated indicators to describe additional dimensions, for example, risk, vulnerability, social exclusion and access to social capital, shifting in this way towards a multidimensional concept of poverty;
- In the same vein, the multidimensional perspective is reflected in the concept of poverty of the OECD Development Assistance Committee [121]. According to the Development Assistance Committee, there are five dimensions to poverty and well-being that should be part of a holistic view. Besides economic capabilities, which refer to the ability to earn an income, to consume and own assets, the concept emphasizes human capabilities which depend on the provision of health and education, nutrition and clean water, political capabilities, including human rights, influence on public policies and political priorities, socio-cultural capabilities, relating to the ability to participate as a respected member of a community and protective capabilities that enable people to withstand economic and external shocks.

According to this broader perspective of poverty, SMEs can contribute to poverty alleviation in a number of ways. A vibrant SME sector can enhance the ability of people to earn an income, and to consume and own assets (economic capabilities); some SMEs provide basic goods and services, for example, health, water and electricity, for indigenous people, thus improving the human capabilities of the poor. Stable employment in an SME increases the ability of people to withstand economic and external shocks and to finance contributions to social protection systems. Informal sector enterprises are, in particular, an important buffer, providing basic income in times of economic recession (protective capabilities).[16]

The four areas where SMEs make major contributions and are especially important are as follows:

- The most important contribution of SMEs certainly derives from the fact that they are a source of employment, and thus income, for a large segment of the population. Living conditions of persons employed by the SME sector are determined not only by the level of remuneration but also by the quality of jobs, for example, job stability and the predictability of income generation, risks to health and safety and the number and flexibility of working hours. Thus, working conditions are closely connected not only to economic capabilities, but also to human, protective and sociocultural capabilities;

[15]Voices of the Poor comprises three books which bring together the experience of over 60,000 poor women and men. The first book (Narayan and others [113]), *Can Anyone Hear Us?*, gathers the voices of over 40,000 poor women and men in 50 countries from the World Bank's participatory poverty assessments; the second book (Narayan and others [114]), *Crying Out for Change*, draws material from a new 23-country comparative study. The final book (Narayan/Petesch [115]), *From Many Lands*, contains regional patterns and country-related case studies.

[16]SMEs may also enhance sociocultural (for example, providing opportunities to engage in an economic activity as a self-employed artisan may elevate a person's social status and dignity) and political capabilities (for example, persons with a higher social status may have more political voice). However, these dimensions of poverty alleviation are difficult to capture analytically and are, therefore, not treated in the report.

- SMEs also play an important role in providing in-firm training. They contribute to the formation of human capital, one of the major factors involved in generating long-term growth. In-firm training is especially important in developing countries, where large sections of the population have no access to vocational education institutions;
- SMEs play a major role in the provision of goods and services for marginalized regions. Due to low levels of demand and high transaction costs, many such regions are not fully integrated in the distribution networks of large firms. SMEs fill this gap by providing goods and services on a small scale for dispersed local markets, reaching some of the poorest consumers and contributing to boosting their economic, human and protective capabilities;
- As taxpayers, SMEs generate public revenues. Poverty alleviation requires considerable public spending, for example, investment in education and health. With the private sector in developing and in developed countries mainly consisting of SMEs, a growing SME sector is, at least potentially, a major source of funding for such programmes.

In the following four sections, these main SME contributions to equitable development are outlined.

C. SMEs AS A SOURCE OF EMPLOYMENT AND INCOME

In most developed and developing countries, SMEs are regarded as a major source of employment. They account for the largest share of jobs in the private sector and are sometimes considered to be the most efficient generators of new jobs. Numerous studies on labour markets in Latin America and Africa show that especially informal microenterprises are gaining importance. For example, in Latin America, the percentage of those self-employed or working in small enterprises with less than ten employees increased dramatically during the 1990s (Lora, Márquez [99]). According to Biggs (no date), "perhaps the most frequently stated claim is that SMEs create a preponderant share of newly-generated jobs and therefore hold the key to employment and poverty reduction."

However, empirical evidence is not straightforward. Biggs' own empirical analyses suggest that:

> "lastly, there is no systematic relationship found between rates of net job creation and firm size. Therefore, there is no reason to believe that net job creation would be changed if the structure of manufacturing were populated by many SMEs or by a few very large firms with thousands of employees."

Cross-country regressions by Beck and others [18] equally show that SMEs are "not particularly effective job creators." For job creation, the net balance of jobs created and jobs eliminated is the essential factor. As mentioned in chapter II, the SME sector, in general, and the informal sector in poor countries, in particular, is characterized by a high degree of turbulence, that is, a high number of firms enter and leave the market. In many OECD countries, new enterprises have had the greatest net employment effect (OECD [127]). Data from Taiwan Province of China and the Russian Federation also indicate positive net employment contributions for SMEs. On the other hand, some country case studies present evidence to the contrary. Davis, Haltiwanger and Shah [37] found a negative net employment contribution

for small manufacturing firms in the United States between 1973 and 1988. Reinecke [129] established similar results for Chile between 1979 and 1986. Biggs and Shah [23] describe for Africa that large firms which employed more than 100 employees in the early 1990s emerged as the dominant source of net job creation in manufacturing in all countries where there had been aggregate net job additions. Large firms in the sample contributed 56 per cent of net job creation in Ghana, 74 per cent in Kenya, 76 per cent in Zimbabwe and 66 per cent in the United Republic of Tanzania. Only in Zambia, which witnessed an overall net job loss for the period, did the small-firm cohort outperform its larger counterpart in net job creation.

It is assumed that such different assessments can, to a large extent, be ascribed to methodological problems. First, if small firms grow beyond a certain number of employees, this employment growth appears, in statistics, as an increase in large firm employment and a decrease in SME employment. Disproportionate employment growth in the category of large firms may thus reflect small firm dynamism. If comparative analysis does not account for that, they may underestimate the importance of SMEs. A second problem relates to the discriminative handling of self-employment and informal microenterprises in national statistics and cross-country analyses. SME statistics often fail to capture the totality of informal economic activities, consequently underestimating the size of the sector.

Especially in developing countries, the number of jobs created in self-employment and small-scale activities is considerable. Much of this employment represents survival activities that sustain people temporarily rather than reflects economic dynamism. What is more, the quality and stability of such employment is usually low. Therefore, besides the quantitative aspects of employment growth, a scrutiny of the qualitative aspects of employment creation is required.

In this section, available evidence of the share of SMEs in employment is viewed to distinguish between informal and formal enterprises, emphasising the fundamental differences between small firms that are established by unemployed persons in financial distress, and others that are created with the objective of exploiting a promising business opportunity. Next, the role of micro and small firms is assessed in generating non-farm employment for inhabitants of rural areas, and subsequently in providing jobs for disadvantaged population groups. Finally, the relationship between remuneration, working conditions and productivity is elaborated on.

1. The share of SMEs in employment in the formal and informal economy

In most developing countries, SMEs employ the largest portion of the workforce. At least, this is the picture if microenterprises are included. In five countries in Africa, Liedholm and Mead [77] observed that micro and small firms employ twice as many people as large registered firms. They also found SME employment to be important, especially in rural areas where micro-firms employ around 60 per cent of the labour force. In Bangladesh, firms with fewer than 100 employees account for 99 per cent of all firms and 58 per cent of jobs (Hallberg [61]).

One of the main characteristics of the micro and small enterprises in developing countries is informality. Many analyses of SMEs in developing countries differentiate between formal

and informal rather than small and large enterprises. According to the International Labour Organization (ILO [71]), informal enterprises are characterized under the following four elements:

- They are owned by individuals or households that are not constituted as separate legal entities independently from their owners, and for which no complete accounts are available that would permit a financial separation of the production activities of the enterprise from the other activities of its owner(s);
- At least some of the goods or services produced are designed for sale or barter;
- Size, in terms of employment, is below a certain country-specific threshold, and workers are not registered;
- They are engaged in non-agricultural activities, including secondary non-agricultural activities of enterprises in the agricultural sector.

Hence, informality is not exactly congruent with small scale, for example, formally registered and highly productive professional service agencies may also be small in size. The informal sector is, nevertheless, a good proxy for the size of the micro- and small-scale segment. In many countries, the number of self-employed and microenterprises is being determined on the basis of household surveys, while industry (and SME) statistics that rely on other sources systematically underestimate those small-scale activities. Conclusions regarding SME employment thus depend on the information sources and types of activity taken into account.

While the informal sector exists even in OECD countries, its importance increases dramatically in low-income countries (table 5).

TABLE 5.
AVERAGE SIZE OF THE INFORMAL SECTOR* FOR DEVELOPING COUNTRIES, OECD COUNTRIES AND COUNTRIES WITH ECONOMIES IN TRANSITION

Country grouping	*Average size of the shadow economy 1989-1993 (percentage of GDP)*
Developing countries	
Africa	43.9
Central and South America	38.9
Asia	35.0
Countries with economies in transition	
Former USSR	25.7
Eastern Europe	20.7
OECD countries	15.4

Source: Schneider, Enste [143], p. 41.

*The authors use the term "shadow economy". The concepts "shadow economy" and "informal sector" are not identical, but they are sufficiently akin to let them be used synonymously for this rather general analysis.

Even among developing countries, the importance of the informal sector for employment varies widely (table 6). Recent data from the ILO show that between 10 per cent to 90 per cent of total employment is allocated to the informal sector. In Mali, for example, 94.1 per cent

TABLE 6.
PERSONS EMPLOYED IN THE INFORMAL SECTOR AS PERCENTAGE OF TOTAL EMPLOYMENT—SELECTED COUNTRIES (PERCENTAGE)

Country	*Year*	*Total employment*
Africa		
Botswana	1996	19.3
Ethiopia	1999	74.2
Ghana	1997	89.0
Mali	1996	94.1
South Africa	2001	31.0
United Republic of Tanzania	1991	22.0
Zimbabwe	1987	8.8
Latin America		
Brazil	1997	34.6
Mexico	1999	31.9
Asia		
India	2000	55.7
Nepal	1999	73.3
Pakistan	1997	64.6
Countries with economies in transition		
Georgia	1999	6.9
Kazakhstan	1995	11.7
Kyrgyzstan	1999	24.9
Turkmenistan	1999	6.8
Russian Federation	2001	12.6

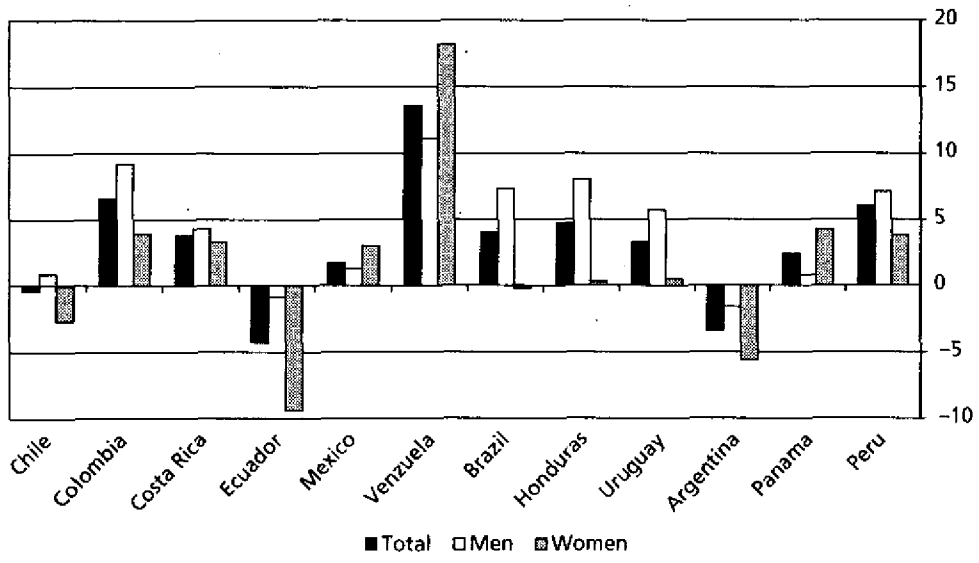
Source: Selected data from ILO [71], Table 1a.

employed in the informal sector (1996), whereas in Zimbabwe, only 8.8 per cent (1987). In countries with economies in transition, differences are very high as well. Kyrgyzstan, for example, has 24.9 per cent employed by the informal sector, while in Turkmenistan this figure stands at only 6.8 per cent. In general, countries in West and East Africa, in South and South-Asia and in Latin America tend to have the highest percentages. However, much of these variations certainly result from different national definitions.

The informal sector, which used to be seen as a transitional occurrence has, in the meantime, been accepted as a structural and probably long-term phenomenon (Blunch, Canagarajah, Raju [25]). Employment in the informal sector does not have the tendency to shrink. On the contrary, it generates most of the new jobs, while employment in medium and large firms and in the public sector is declining. Data of the International Labour Organization (ILO) show that in 9 out of 12 countries in Latin America, the number of persons employed by small or microenterprises increased between 1990-1991 and 2000 (figure VII). According to Lora [99], in 10 out of 14 countries in the same region, the share of the informal sector in urban employment clearly exceeded 50 per cent (Lora [99]). The informal sector did not contract following economic reforms as expected earlier. On the contrary, evidence suggests that—at least in Africa and Latin America—the informal sector actually shows expansionary tendencies following the implementation of adjustment and reform policies (Lora [99]; Altenburg, Qualmann, Weller [8]).

FIGURE VII.

CHANGE IN THE SHARE OF MICROENTERPRISES IN TOTAL EMPLOYMENT BETWEEN THE BEGINNING AND THE END OF THE 1990S



Source: Own calculations based on ILO [71], Table 5b.

Note: The data series compare the years 1990-1991 with the years 1999 or 2000, depending on data available per country. Inluded here are firms with up to six persons working in all economic sectors, including agriculture.

To explain the persistence, or even increase, in informal sector employment, it is necessary to take a closer look at the dynamics of job creation by formal and informal enterprises. Numerous studies show that SMEs are playing a leading role in creating new jobs in developed and developing countries alike (Thurik [159]; Carree and others [30]; Audretsch [12]). In Germany, for example, two thirds of the existing 300,000 innovative firm-related service enterprises have been set up since the early 1990s (Deutscher Bundestag [40]), a fact that underlines the dynamism of this sector. Also in developing countries, SMEs contribute significantly to job creation and that is why they are considered important for poverty reduction. In southern Africa, for instance, new firms account for between 75 and 80 per cent of the newly created jobs (Reinecke [129]).

However, the underlying rationale of employment creation may vary greatly across countries. As mentioned in chapter I in developed countries, the increasing importance of SMEs is, to a large extent, the result of the exploitation of new, and often knowledge-intensive, business opportunities, mainly in specialized services: the demand pull dynamics of enterprise formation. In firms of this kind, productivity and the potential for growth are relatively high. In contrast, small firms in poor countries are typically part of the "survival economy". High rates of self-employment and microenterprise creation in these countries reflect a lack of employment opportunities in the formal sector, as well as the weakness of social transfer systems. In such an environment, self-employment and the number of microenterprises in activities with low barriers to entry tend to increase, regardless of the size and dynamism of the respective markets (supply push dynamics). Typically, such markets are relatively saturated and increased supply squeezes the profit margins. Firms thus often remain trapped in a vicious circle of low

productivity and low income and display a very limited potential for growth. In southern Africa, for example, only 1 per cent of new firms ever grow to a size of more than 10 employees (Reinecke [129]).

2. The role of rural non-farm employment

SMEs are important providers of employment opportunities in rural areas, other than the farming sector. The availability of such opportunities is important for a number of reasons, some of which are as follows:[17]

- It allows families of poor farmers to supplement the meagre income derived from their plots with alternative sources of income, consequently contributing directly to eliminating poverty, which in many countries is especially widespread in rural areas;
- It supports structural reforms in the farming sector itself by providing the goods and services necessary for modernizing the agricultural sector;
- It offers opportunities to process agricultural products close to the farm to reduce post-harvest losses;
- The availability of alternative sources of employment permits the shift of workforce from agricultural to non-agricultural activities, implying productivity increases in the farming sector and smoothen the process of structural reforms;
- It reduces migration from rural areas to urban agglomerations, implying a reduction of urban poverty and other problems related to the rapid increase of population in cities (squatter phenomenon, insufficient infrastructure, high level of crime by youth etc.);
- In a more general sense, rural non-farm employment can be seen as one element of equitable development. In many countries, the provision of "equal living conditions" in all geographical areas is foreseen in the constitution or the respective laws. Even if this is difficult to achieve in reality, for most developing countries, basic rural industrialization and related educational, social and cultural services increase the opportunities of choice for the population living outside urban agglomeration and contributes to social cohesion.

Recent studies have shown a much greater importance of rural non-farm income than had previously been assumed. Overall, estimates conclude that non-farm income currently contributes 42 per cent, 40 per cent and 32 per cent of rural household income in Africa, Latin America and Asia, respectively (Davis and others [36]). Escobal [52] even estimates that in rural areas of Peru, about 51 per cent of overall rural household income is generated by off-farm activities. Estimates for the 1980s were much lower. Berdegué and others [20] calculate that rural non-farm income at that time "must have accounted for something like 25 per cent to 30 per cent of the total rural income in Latin America", indicating a considerable increase during the past two decades.

[17] For a discussion of rural non-farm employment, see ECLAC [49], Berdegué and others [20], several country studies in the special issue of World Development ([184], vol. 29, No. 3), and more recently, Kundu, Sarangi, Dash [90]).

The character of non-farm activities in rural areas varies largely by education level and social strata, gender and other factors. Econometric studies by Lanjouw [93] indicate that the rural poor in El Salvador are usually engaged in marginal non-farm activities characterized by low productivity, while the non-poor are engaged in productive activities making upward social mobility possible. In many cases, women generate rural non-farm income. Work in farms is more often realized by men.

The characteristics of income generation off the farms with regard to sector composition, labour conditions and levels of income vary widely, depending on the development trajectory and rural development policy of each country. In many countries, employment creation in rural areas was the outcome of deliberate governmental action. In Honduras and Sri Lanka, for instance, a large number of workplaces has been created in export-oriented industries, by establishing dedicated production zones and/or providing special advantages to export companies located outside existing agglomerations. In other cases, growth poles in rural areas arise from large-scale investment in tourism or mining. Rural areas close to large cities may show a very distinct pattern of non-farm activities, for example, driven by leisure activities of the well-off urban population (Berdegué and others [20]).

Where non-farm activities arise out of the rural areas themselves, the following three different dynamics can be distinguished:

- Non-farm activities arise from the consumption needs of the local population. In poor areas, these cover mostly basic services, such as, petty trade, outhouse food and drink, haircutting salons etc. With increases in household income, this kind of locally-induced trade and services becomes more diverse, and regional division of labour tends to increase;

- Non-farm activities may be closely related to the needs of agricultural production on the input side. The potential of such backward linkages of farms is low, where agriculture remains close to subsistence and where most inputs are produced on farms, for example, where seed is recycled from season to season. Higher productivity agriculture, however, requires the provision of inputs imported from other regions, thus giving rise to employment in the transport and sales sectors. Employment is also created by public or private extension, as well as maintenance and repair services for agricultural implements and machinery;

- Non-farm business in rural areas can be closely related to the output produced on the farms. In many cases, agricultural produce has to be classified, cleaned, packaged or processed before it can be sold to urban markets or exported. The processing of agricultural produce close to the source has a series of advantages; post-harvest losses can significantly be lowered, quality enhanced and transport costs diminished.

With the exception of export-oriented light industries and some agri-businesses, most non-farm activities in rural areas are provided by SMEs, permitting a rather decentralized pattern of industrialization. For an adequate promotion of non-farm SMEs in rural areas, it is essential to analyse and understand the basic patterns and drivers of rural development, that can either be endogenous or exogenous, as has been outlined above.

3. The role of micro and small firms in providing jobs for disadvantaged population groups

Micro and small firms are important employers for population groups that have difficulties in finding employment in the formal labour market. These include, among others, persons with low educational and skill levels, women who take care of their families, children, the elderly and handicapped. With regard to educational levels, for example, Fluitmann and Momo [53] show that for Cameroon, on average more than 50 per cent of entrepreneurs in the informal sector have completed only primary school education, and almost 20 per cent have had no formal schooling at all.

Concerning female participation in microenterprises and the informal sector, data from the ILO reveal that in half of the countries for which sex-related information is available, women hold higher shares than men (Fluitmann and Momo [53]). In Latin America, only 2 out of 12 countries show a higher share of women employed in small and microenterprises (ILO [71]). Interestingly, this situation was the same 10 years earlier. The general downsizing of employment does not appear to have altered significantly the shares of women and men in such jobs.

Some authors argue that the importance of the informal sector for female employment may, in fact, be greater than official statistics suggest, claiming that data on employment in the informal sector are biased towards the "upper" part of this employment, since a certain kind of formal registration of the enterprise is required to be included in official statistics. Women may be overrepresented in the "lower", less visible segment of the informal sector: they are often engaged in very small-scale and irregular informal activities (ILO [71]), part-time employment, which is often home-based to look after their families and sometimes because of traditions of female seclusion (Altenburg, Qualmann, Weller [8]). Similar conditions apply to other vulnerable groups: poor, young and elderly people, handicapped etc. Those members of society often work in the informal sector as they lack both education and resources and, conclusively, therefore concentrate on activities with the lowest entry barriers. As argued earlier, the lower the barriers to entry, the more overcrowded are the respective activities, leading to continuous oversupply and low returns. Moreover, such jobs are often highly volatile in nature (Harvie [64]).

Where remuneration is very low, people have to engage in multiple jobs in order to earn a decent living. Data on secondary job activities are only available for a few countries with economies in transition, namely, Georgia, Kyrgyzstan, Lithuania, the Russian Federation and Barbados (ILO [71]). In those countries, up to 23 per cent of employees have second jobs in the informal sector. Men tend to do so slightly more than women, and the phenomenon is more widespread in rural than in urban areas. However, these data may not be representative of other developing countries.

4. Remuneration, working conditions and productivity

All available evidence suggests that "on average, jobs in small enterprises are less productive, less remunerated, less secure and less unionized than jobs in larger enterprises" (Reinecke [129]).

This applies to informal sector and formal SMEs alike, and is also applicable to both developed and developing countries (ILO [70]). Remuneration and productivity are closely related; small enterprises have much lower productivity levels than larger firms. This is reflected in the lower wages and non-wage benefits paid by SMEs compared with large firms (Halberg [61]). On the other hand, highly productive small firms also pay high wages.

Even though remuneration in microenterprises is generally low compared with large firms and especially low in the informal sector, it is incorrect to equate the informal sector with the lowest income group. Within the informal sectors, there is considerable income differentiation. Owners of microenterprises and the self-employed, in general, receive the highest remuneration, followed by regular wage earners, casual wage earners and, lastly, apprentices (Blunch, Canagarajah, Raju [25]). The gap between owners of microenterprises and the self-employed versus wage earners appears to be significant: owners of microenterprises in Colombia, Costa Rica and Peru earn around 2.5 to 3 times more than their employees, and the self-employed around 50 per cent more than wage earners (Blunch, Canagarajah, Raju [25]; Tokman [160]).

Some microentrepreneurs and workers earn more in the informal sector than they would in the formal sector. In particular, unskilled workers and microentrepreneurs may find themselves better off in the informal sector. Surveys on the Pacific Island countries show that informally self-employed persons perform as well as those working in the formal sector or even better (Liimatainen [98]).

The quality of employment in micro and small enterprises in developing countries is often low. Most of those employed by such enterprises, as well as their employers, work under precarious conditions; in unsafe and unhealthy working environments. While many see their productive lives shortened due to work-related accidents and disease, most of them are not in a position to air their opinion and lack the means to take any action to improve the quality of their jobs.[18]

It is becoming more and more evident that small enterprises are more likely to be associated with low wages and precarious working conditions. However, this relation is not inevitable. Incomes and working conditions are closely related to the competitiveness of the firm and its position in the market, and vice versa.

> "Enterprises seeking to compete by meeting new demands for high levels of quality, productivity, reliability, innovation, flexibility and a capacity to adapt to changing needs, have advantages in this regard when various qualitative aspects of employment are present. This includes, for example, superior labour relations and opportunities for worker participation, good working and community conditions (including adequate health and safety environments), progressively improving skills and equipment and adopting adequate social protection mechanisms. In fact, good conditions and a capability to meet current competitive needs may be mutually supportive" (ILO [70]).

[18] http://www.ilo.org/dyn/empent/empent.Portal?p_prog=S&p_subprog=JQ.

This again confirms that productivity development and wage and non-wage working conditions in SMEs are closely interlinked. This relation is evident in a variety of studies: in the case of Malaysia, the World Bank showed an association between higher incomes, company growth and superior efficiency. It was also found that a few small enterprises could be just as, or even more, efficient as large enterprises (World Bank [182]). Efficient enterprises in Malaysia competed extensively on the grounds of quality. They were strongly committed to acquiring technology and know-how through licensing, joint ventures and exports. They also organized training and implemented human resource development policies that fostered job stability and the acquisition of further skills.

As firms in developing countries become increasingly exposed to international competition, they are forced to raise their standard of productivity, thus increasing the demand for skilled relative to unskilled labour. Where educational and training efforts do not keep pace with the new requirements, income differentials are likely to increase. As demand for unskilled labour decreases, a larger part of the workforce will be forced to divert to informal sector activities, thus accelerating the vicious circle of oversupply and downgrading of wages and working conditions. To avoid this scenario and achieve better working conditions for large parts of the workforce, investment in education and skills is essential. In the following section the discussion focuses on the contribution of SMEs to human capital formation.

D. The role of SMEs in human capital formation

Human capital is defined by the OECD as the knowledge, skills, competencies and other attributes embodied in individuals that are relevant to economic activity. Education is an investment resulting in returns in the form of wages or other means of compensation. Education pays off not only for individuals but also for society as a whole. "Without any doubt, human capital is the key to long-term economic growth and improving human capital endowment of the poor is both growth-stimulating and poverty-reducing" (Sautter [139]).

A number of studies has found evidence of a direct connection between the portion of the population with a given standard of educational attainment and long-term economic growth. An OECD analysis estimated that secondary education had contributed an annual 0.6 per cent to productivity growth in OECD countries between 1960 and 1985 (Englander, Guerney [50]; Healy [66]). Isaakson [74] notes that the factor of human capital provides an explanation for the weakness in the link between trade and growth in many countries. To take advantage of the knowledge transfer inherent in trade, a country must have an adequate level of human capital. If a country is poorly endowed with human capital, much knowledge bypasses the country, and trade does not generate optimum growth. Also, a high level of human capital is paramount to attracting foreign direct investment and helps generate positive spillovers in foreign direct investment.

Education in professional life can have three forms:

- Formal education usually comprises the main elements of an educational system, including primary and secondary schools as well as universities and similar institutions that provide long-term courses for professional training;

- Non-formal education is professional education based on training courses;
- Informal education mainly refers to on-the-job training received from colleagues and superiors, or provided by the family.

The role of SMEs in building human capital is twofold. First, SMEs employ educated professionals, provide them with the opportunity to use their skills and earn incomes commensurate with their level of education. This creates a stimulus for investment in human capital, regardless of whether it is effected through formal, non-formal or informal education. Secondly, SMEs provide professional training to many people by way of informal education.

Several studies have demonstrated the benefits of education for both workers and firms, showing that:

- Education raises productivity. Tan and Batra [156], in their analysis on enterprise training by firms in the formal sector with a minimum of 15 employees in five developing countries, show that the mean educational level of the workforce correlates positively with firm-level productivity.
- Education raises and stabilizes incomes. A well-trained workforce contributes to raising productivity which, in turn, widens the scope for increasing returns on labour and capital. New skills and knowledge can open doors to more economically—and socially—rewarding jobs. In Pakistan, a study established that the rewards of investment in human capital, in the informal sector, are higher earnings (Liimatainen [98]). Although better education is no guarantee for higher wages, it does correlate with increasing incomes. King and Aboudha [86] show for small enterprises in various sectors in Kenya that, on average, the relation between training and income is positive, but not in all sectors. One especially interesting aspect is a finding indicating dissimilar yields from different kinds of training. According to this study, there is little difference between informal and formal on-the-job-training, and a combination of informal and formal training appears to bring about the highest income gains. This finding strongly supports the concept of dual vocational training.

Small firms invest less in training than large firms. According to Tan and Batra [156], the incidence of training systematically increases as a function of firm size (table 7). Large firms offer more formal training courses, both internally and externally. Informal training is the most common form of training for most countries and firm sizes surveyed, especially in Colombia and Malaysia. Yet the figures also reveal that a significant number of firms do not even provide informal training. Around 50 per cent of the micro and small enterprises lack a structured system of employee training.

Poor people have only limited access to formal and non-formal training, and many vocational training programmes do not include the poor and vulnerable. Such programmes often target microbusiness owners and start-ups. It has already been shown that the income levels of this target group are usually considerably higher than those of their employees. Many poor people do not meet the minimum requirements, for example, completion of primary education, for admission to training courses; moreover, they do not receive any compensation for wage losses incurred while attending training courses.

The participation of poor women in programmes of vocational education and training is lower than that of men because such programmes are usually associated with formally-waged jobs, and the requirements are too high to permit the admission of poor women, who are often illiterate. In addition, many of these jobs are available at times not suitable for women with family responsibilities. Young people are also excluded from most programmes in Latin America because they generally target employed adults, and they, therefore, remain inactive or unemployed (King Dejardin [85]).[19]

TABLE 7.
INCIDENCE OF TRAINING BY SOURCE OF TRAINING AND FIRM SIZE (PERCENTAGE)

	Colombia				*Indonesia*[a]			*Malaysia*				*Mexico*			
	Mc	*S*	*Md*	*L*	*S*	*Md*	*L*	*Mc*	*S*	*Md*	*L*	*Mc*	*S*	*Md*	*L*
Type of firms	46	143	139	62	62	58	185	153	638	932	453	661	1060	1546	1789
Firms with informal training	67.6	77.8	88.6	87.2	15.7	32.6	16.1	56.5	80.5	88.8	92.4	7.4	36.1	44.7	30.4
Firms with formal training	32.9	52.1	79.3	81.3	16.6	19.9	30.9	9.4	19.3	43.7	69.5	5.5	41.8	59.0	49.0
Firms with internal, formal training	3.1	2.4	9.6	12.8	11.3	2.2	9.8	5.9	14.2	31.2	52.1	2.5	22.5	39.4	39.9
Firms with external training	32.9	50.9	76.8	81.3	10.9	17.7	28.8	5.0	8.1	25.6	50.8	3.9	30.6	45.7	40.2

Source: Tan, Batra [156], p. 8.

Notes: Mc: microfirms employ 15 workers or less; S: small firms employ 16-100 workers; Md: medium firms employ 101-250 workers; L: large firms employ more than 250 workers.

[a]There are no microenterprises in the sample of Indonesia.

Informal training (namely, on-the-job training and informal apprenticeships) is, therefore, particularly important for the poor. Not only do small enterprises take on a significant number of informal apprentices, they also absorb a high proportion of family members and assistants with a similar status. The acquisition of informal training is often a precondition for securing a job in the more lucrative areas of a given sector, such as repairs etc., and this, combined with further on-the-job experience, constitutes a good basis for self-employment. Entrepreneurs in Africa, surveyed by Salomé and others [136], consider apprenticeships to be, by far, the most important learning experience, more important than schooling or other forms of education. This fits in well with the fact that they also regard training capabilities of enterprises as one of their most important characteristics.

The importance of the informal sector for training differs widely from region to region. Informal training plays a significant role especially in West Africa. In Nigeria, more than 90 per cent of the owners of very small enterprises indicated in a study that they had been trained in the informal sector (Boehm [27]). Summing up the figures for various countries and regions, Liimatainen [98] concludes that approximately 70 per cent of all workers in Africa in the urban informal sector have completed traditional apprenticeships. In India, Peru, the Philippines and Rwanda, about one third of the employees that were interviewed were apprentices in the informal sector (Boehm [27]).

[19]See also the country-specific findings in Karim [80], pp. 19ff., and Marcucci [103], p. 78.

Informal training activities also vary between economic sectors. In Africa, according to Salomé and others [136], training of apprentices is most common in professions such as weavers, building crafts, metalworkers, joiners, tailors, and automotive and television/radio repairers. Here, between 75 and 95 per cent of the smallest enterprises have employed or still employ apprentices. In contrast, only 10–30 per cent of the surveyed enterprises engaged in simple activities requiring lower skills, for example, soap production or meat and fish processing, have had or still have apprentices.

In short, it can be stated that SMEs are important providers of training, especially for the poor, and that such training is essential for raising productivity and income levels and for improving working conditions. In the case of micro and small firms, however, the limitations need to be considered. As mentioned earlier, such firms are largely confined to low-demand activities with low barriers to entry, and most entrepreneurs have not received a comprehensive vocational education. Under those circumstances, apprenticeships will usually lead to copying traditional low-skill activities rather than creating the knowledge base for innovative and growth-enhancing activities. In chapter II, it was argued that the stagnation and technological lock-in of many SME clusters in poor environments are due to their limited ability to tap external sources of knowledge and master procedures for systematic improvement. That calls for an improved supply of formal training.

E. The role of SMEs in the provision of basic goods and services

It is also argued, notably by the World Bank [185], that SMEs play an important role in providing basic goods and services to the poor. Access to basic services, such as water and sewage, electricity and other infrastructure, as well as the opportunity to procure basic products, are important elements of a healthy and decent life. The lack of basic services is so extreme in many countries that even very ambitious long-term programmes will not suffice to meet all needs. For example, Hankins [63] calculates that connecting rural population of Kenya to the grid would require 400 years, even if the actual rate of connection doubles. As argued in the Report of the United Nations Commission on the Private Sector and Development [163], the private sector, and especially small-scale entrepreneurs located in marginal rural areas and in deprived urban quarters, have a crucial role to play in reaching the "bottom of the pyramid" consumers, or the over four billion people with an annual income of less than $1,500.

In many developing countries, only a small segment of the population has access to large-scale public utilities, and most often the poorest do not benefit from public services at all. Taking those shortcomings into consideration, development policy is currently focusing increasingly on small-scale provision of basic services, such as water, sewage and electricity. Although such services have often been regarded as natural monopolies, there is increasing empirical evidence that small-scale provision is a feasible—and not at all the worst—solution in many cases. In technical terms, small-scale solutions have always been possible at a low level, for example, supply of candles and kerosene in local markets, small urban transport services, water supply from local vendors, or electricity supply using diesel generators. Additional technical solutions have evolved during the past 15 years, especially in the electricity sector, which make it also possible to provide higher-quality services.

Acceptable price-quality relations in the supply of small-scale basic services call for open markets. In most cities in developing countries, more than half the population is supplied with basic water services from sources other than official utilities (Solo Tova [148]). In rural areas, very few people are connected to the electricity grid. Evidently, there are other means of providing such services. In some cases, small-scale supply is banned or restricted, but alternative services operate outside the law, for instance, in black markets, sometimes even dominated by "mafia-style monopolisation" (World Bank [185]). This often results in high prices for low-quality products for consumers. The more competition becomes possible and the more small-scale suppliers enter the market, the better and cheaper the services that develop. There are some positive examples in the water and electricity sectors that show that SMEs can contribute to improving the provision of basic services, even at prices and in areas beneficial to the poor. In any case, SME providers offer additional options for those that lack access to conventional utilities. Solo Tova [148] points out that small-scale operators tend to be customer-driven and are willing to use innovative technologies and marketing methods on a wider scale than large-scale providers, because the risk involved in their initial investment is lower. Competition among firms—when existent—may lead to prices that are lower compared with public utilities or "mafia-style monopolies".

Besides basic services, SMEs are sometimes important providers of basic goods. According to Hemmer and Mannel [65], about 25 per cent of informal SMEs in developing countries are engaged in manufacturing, mostly producing low-end basic consumer products, such as food products, garments and furniture, for low-end markets. Especially in remote areas, such producers may be important suppliers of appropriately simple products for the poor.

F. The role played by SMEs in generating public revenues

Equitable development needs public revenues. In particular, poverty alleviation in developing countries requires substantial public investment in health, education and infrastructure. This investment has to be financed, and public revenues are one major source. "Developing countries must be able to raise the revenues required to finance the services demanded by their citizens and the infrastructure (physical and social) that will enable them to escape poverty. Taxation will play the key role in this revenue mobilisation." (IMF, OECD, World Bank [73]). Even though this is not always the case, in many heavily indebted poor countries, public investment is, for the most part, financed externally. At least in the longer-term perspective, public revenues are needed for social investments even in least developed countries.

The relationship between the contribution of SMEs to public revenues and poverty reduction is indirect. This, in essence, depends on the objectives of the policy of a country and its ability to achieve these objectives. SMEs are, at least potentially, important taxpayers. In developed countries, SMEs are very often a major—if not the major—source of tax revenues. In many developing countries, only a small percentage of the population pays taxes. For example, in Brazil and Angola, only 3.3 per cent and 4.4 per cent of taxpayers account for 92 per cent and 80 per cent of tax revenues, respectively (Silvani, Baer [146]). SMEs are certainly not the major taxpayers in these cases. Still, it must be borne in mind that SMEs in

most developing countries make up a large part of the private sector. They have a strong potential for meeting urgent fiscal needs and are, therefore, important. Even microenterprises and enterprises that are not registered formally contribute to public revenues of many countries, as shown in table 8.

TABLE 8.
PERCENTAGE OF MICROENTERPRISES (2-5 EMPLOYEES) THAT PAY FEES OR TAXES

	Algeria	*Ecuador*	*Jamaica*	*Niger*	*Swaziland*	*Thailand*	*Tunisia*
Registered	100	70	26	70	12	26	2
Pay fees and taxes:							
Registration fees/trading licence	-	70	-	69	-	26	85
Income or profit tax	86	60	-	8	22	72	-
Value-added tax	82	35	-	12	48	-	-

Source: Mead, Morrisson (1996), p. 1614.

In the past, in many developing countries, a large share of public revenues was derived from export duties. This share has dropped significantly during the past 15 years, partly because of the intervention of the International Monetary Fund. It will decline further because of the progressive integration of developing countries in the global economy or in regional trade agreements (BMZ [26]). This development is instrumental in causing significant fiscal imbalances.

Many developing countries introduced a value-added tax in the 1990s, and this tax has often become their major source of revenue. In Africa, for example, the number of countries that introduced value-added tax rose, in the 1990s, from 2 to 30 (Ebrill and others [46]). As a result of the introduction of value-added tax in the United Republic of Tanzania, an increase from 2.7 per cent of GDP (from the former sales tax) to 4.5 per cent of GDP was registered (Tanzanian Revenue Authority [157]). Currently, in many countries the introduction of value-added tax and other taxes has yet to compensate for the loss of duty-related revenues. Taking into account that SMEs tend to export less than large firms, this development shifts an increasing share of the tax burden from large to small firms. Furthermore, since many SMEs in the informal sector do not pay value-added tax, this means that many countries have an ample untapped tax base. Even if all the problems concerning potential inequalities in the tax system are taken into account, this broadening of the tax base may, in many countries, be the only solution to reaching sustainable tax revenues. Encouraging microenterprises in the informal sector to professionalize and formalize, therefore, constitutes an important contribution to public revenues which, in turn, are necessary for investment in social sectors, such as health and education.

SMEs are especially important for the revenues of decentralized authorities. At the central government level, SMEs may, so far, not have played an important role for public revenues, but they are often already a very important source of revenues for decentralized public entities: even when they do not pay value-added tax, they usually have to pay fees or some kind of

trade tax to the community for setting up market stalls and kiosks in public places, street vending etc. (Nickson [116]). In addition, owners of shops and production sites are often required to pay a property tax. User fees and trade and property taxes are the main sources of independent revenues at the community level in most countries of the world. In Colombia, for instance, in 1995, the property and trade tax covered nearly 75 per cent of the tax revenues of all local authorities. Tax revenues play an important role wherever they can effectively be raised. In 1995, the biggest cities in Colombia derived more than 60 per cent of their total revenues from taxes, the group of all bigger towns still obtains 45 per cent of their revenues from taxes and even the least and poorest communities raised 7 per cent of their revenues from taxes (Eckardt [47]). If decentralization is important for equitable development, SMEs contribute to equitable development by financing decentralized authorities. Hence, stabilizing SMEs often means creating or enhancing the revenue base of communal authorities.

IV. From analysis to practice: towards an SME strategy for low-income countries

The challenge of this chapter is to translate the findings of previous chapters into practical SME policy and to draw conclusions for the service portfolio of UNIDO. Which policy mix is most adequate to increase productivity and competitiveness while at the same time make the growth process more equitable? How should the respective services be delivered? What conclusions can be drawn from the conceptual considerations and what lessons can be learned from international policy experiences? How can UNIDO's service modules for SME development be fine-tuned in order to achieve more fully the objectives of productivity enhancement and equitable development? This is discussed with special reference to the conditions of low-income countries.

In the first subsection, an analytical framework that integrates three aspects is developed. First, it summarizes the most important policy conclusions from the previous analysis, highlighting the importance of technological learning, market creation and structural change. Secondly, it briefly describes the relevance of a conducive overall investment climate. This is necessary because SME dynamics are considered to be highly dependent on the overall business climate, that is, it would be futile to design a sophisticated system for SME promotion if it is not embedded in a broader perspective of private sector development and the environment is not conducive to doing business. Thirdly, some principles of good practice in service delivery for SME development are presented. These principles are important as traditional modes of service delivery for small enterprises have been strongly criticized for lack of efficacy, and significant lessons have been learned on how to implement SME programmes in order to improve performance in terms of product quality, cost, outreach and sustainability. The principles outlined here are applicable to all the specific instruments for SME promotion discussed later.

The second subsection reviews selected instruments for SME promotion. First, a brief overview of UNIDO's portfolio of SME development services is presented, showing that the range of service products offered covers the most important needs for SME development. Subsequently, some of the most relevant service modules are analysed in detail. For each service module, reasons are provided for its relevance and highlights their most important aspects in light of the findings of previous chapters. This is followed by a brief description of UNIDO's activities, with regard to the respective service modules, together with comments on their adequacy and possibilities for improvement.

A. PRODUCTIVITY ENHANCEMENT AND SOCIAL ADVANCE: ELEMENTS OF AN SME STRATEGY

1. Main policy conclusions focusing on innovation, market creation and structural change

The preceding analysis on the role of SMEs in enhancing productivity growth and making development more equitable has considerable implications for practical policy. It helps to better define priorities and to identify aspects that do not receive due attention in SME programmes and, in some cases, it challenges traditional practices of SME promotion. The following conclusions have especially important policy implications.

Economic growth is the main driver of poverty reduction. It is impossible to achieve sustainable growth without unleashing entrepreneurship and building competitive advantages based on increasing productivity. SMEs are important pillars of any industrial sector, providing specialized complementary services or material inputs and creating positive externalities for the whole production system. Moreover, the successive entry of new firms enhances competition and provides a permanent source of new business ideas that challenge existing actors and practices, consequently driving innovation and change. From this perspective, SME policy needs to be assessed as an integral part of the broader economic policy framework and must be closely coordinated with other sector policies, for example, investment promotion, private sector development in general, technology policy etc.

SMEs that play a complementary and innovative role in the overall production structure of their respective countries make important contributions to poverty alleviation, both directly, by creating new jobs and income opportunities that are sustainable in an increasingly liberalized global economy, and indirectly, through their overall impact on competitiveness and growth of the national economy. However, not all SMEs fulfil this Schumpeterian role of exploring new opportunities, challenging established ways of doing business and enhancing productivity. Especially in developing countries, micro and small enterprises are often sought as a last resort by the poor, as they fail to overcome entry barriers for formal sector employment. Most owners of firms lack some of the necessary assets for creating and advancing a modern business: capital, technical skills, know-how about business administration, entrepreneurial spirit, knowledge about markets etc. The largest part of such enterprises concentrates in traditional activities with low barriers to entry, which are characterized by oversupply of goods and services and, in the case of tradables, often increasing substitution by cheaper imports. In such conditions, price competition is usually fierce, leading to decreasing profits and wage levels. Within the respective segment of micro and small enterprises, usually very few firms seem to have a noteworthy potential for growth. Moreover, this segment barely interacts with the more competitive and productive segment of companies.

Given this heterogeneity, SME policy needs to balance two aspects, namely, extend support to promising activities and clusters of enterprises, in order to build competitive advantages in dynamic industries, and help entrepreneurs and workers in traditional sectors of the economy to cope with the inevitable consequences of structural change, that is, equip them with the necessary skills for moving into commercially more viable activities. In some instances, it may

be pertinent to assist poor families through programmes aimed at creating or preserving employment in traditional micro and small enterprises even if the respective activities are not sustainable in the medium term. It should be clear, however, that such attempts to stabilize activities with limited competitive potential are costly and can retard necessary labour movements and other adaptations of society and its institutions. Hence, SME policy is not a good substitute for social policies. To temporarily sustain the livelihoods of the poor or reduce their vulnerability, other policy measures may be more effective and can be targeted directly to indigent people. The primary concern of SME policy should be to support a socially inclusive pattern of economic development that lays the foundations for sustainable growth.

SME programmes should, therefore, focus on the promotion of activities that explore new business ideas ("opportunity entrepreneurship"), that increase profitability by reaching unexplored markets, and that deepen the interfirm specialization of labour, in order to generate positive externalities and raise productivity levels. The focus should also be on integrating SMEs with the rest of the economy, for example, by promoting interactions between large and small enterprises.

Moreover, the analysis highlights the need to focus on systems of knowledge generation and diffusion rather than quantitative expansion of industrial infrastructure or the size of the industrial workforce. In a Schumpeterian view:

> "...what matters is not just how much investment takes place, but what drives it, what effects it has, in particular its dynamic effects on productivity and further opportunities, and what happens to the other factors of production and their productivity" (Stern [151]).

To create sustainable and, potentially, raised incomes, decision-making by all relevant actors, for example, policy makers, large and small entrepreneurs, managers, should be based on anticipating and adapting to the general patterns of structural change. This requires information on markets in the dimension of time (past, presence and future) and area (local, regional, national, international). Although there is no doubt that identifying concrete business opportunities should be left to private investors, policy plays an important role in accelerating private sector responses to certain obvious "megatrends". Among such "megatrends" are the transitions from agriculture to manufacturing and related services, from handicraft to high-volume production, from labour and natural resource-intensive to knowledge-intensive activities and from activities with low entry barriers to more sophisticated industries. In addition, in most countries, liberalization of trade and investment will progress and change the rules of the game for many SMEs. This implies, inter alia, the reallocation of resources between tradable and non-tradable products and the deregulation of sectors with high SME incidence. To quote one striking example, the recent wave of deregulation in retailing leads to a rapid rise of large supermarket chains, crowding out family-based retail shops, drastically increasing economies of scale in purchasing markets and introducing new business models, such as captive supply chains and franchising. The public sector may raise awareness of such "megatrends" and assist SMEs to adapt their businesses accordingly.

To avoid a possible misperception, highlighting the needs to increase diversification of products, processes and markets, to deepen the division of labour and to focus on innovation,

technological learning and upgrading does not necessarily imply a bias towards modern, high-tech, urban or other activities typically performed by the non-poor. Rather, it should be the overall perspective in all sectors and at every level of development. The following sections exemplify feasible approaches in typical poor country settings.

2. A conducive investment climate for SMEs: the basics for productivity growth

With increasing trade integration, international capital mobility and growing opportunities for technology diffusion, the persistence of productivity variation among countries can, to a great extent, be explained by differences in the investment climate. The investment climate comprises "the policy, institutional, and behavioural environment, both present and expected, that affects the returns and risks associated with investment (...) and the willingness to make productive investments for the longer term" (Stern [151]). It is not a matter of merely raising funds, but entails constructing the conditions under which firms and institutions innovate and the manner in which innovations diffuse within society.

It is obvious that the investment climate, defined in such a broad way, encompasses very diverse aspects of good governance, macroeconomic and sector-specific policy and even elements of culture, such as the "attitudes to enterprises and markets, expectations on the role of the State, (or) the value of hard work and individualism" (White [179]). There is no absolute agreement on the elements of a good investment climate. From a liberal point of view, markets function reasonably well to achieve paretooptimal resource allocation. An investment climate is thus conducive to growth and public welfare when regulations are kept to a minimum. Structuralists, for their part, call for a much broader role of public institutions in shaping the business environment. However, there is growing consensus (Stern [151]) that three broad groups of factors are critical for productive investments, which are as follows:[20]

- Macroeconomic stability and trade openness. These refer to the standard prescriptions of structural adjustment programmes (although important aspects of implementation remain unsettled, for example, with regard to the pace of liberalization and the proper design of exchange rate policies);
- Good governance and strong institutions. These include the rule of law, control of corruption and crime, limitations on bureaucratic harassment, the effective provision of regulatory structures that promote a competitive private sector and the provision of public services or the framework for such services. Again, there is an open debate on the details of implementation, for example, the degree of State involvement and the right policies to balance market failures;
- The provision of adequate infrastructure. The policy debate is on how best to organize infrastructure service delivery.

[20] UNIDO's corporate strategy highlights the same aspects of the overall investment climate, but stresses that more proactive measures to foster economic agents, especially SMEs, are equally important.

It is important to acknowledge the importance of these factors for private sector development, in general, and for the dynamics of SMEs, in particular. As can be seen later, some bad policies affect small enterprises even more than proportionally, for example, high inflation rates or cumbersome licensing requirements for new companies.

In the previous sections, the importance of promoting activities that are innovative in the specific local context, and of helping SMEs to cope with the challenges of structural change was highlighted. Besides investment in human capital, competition and simple regulatory procedures are especially powerful drivers of innovation and change:

- A recent empirical study shows that for five countries with economies in transition, competitive pressure "is the most critical factor in the investment climate, accounting for more variation in firm-level productivity than infrastructure provision or issues related to government rent seeking and bureaucratic burden" (Bastos, Nasir [17]). A firm-level survey, covering 27 countries in Eastern Europe and Central Asia, shows that the probability to introduce new products, upgrade products and introduce new technologies increases with competitive pressure (World Bank [188]). Where competition is fierce, inefficient firms are driven out of business, and the remaining companies are forced to continuously improve their performance;
- Simplification of regulations on entrepreneurial activity, as well as low costs of adjusting the workforce, positively affect the entry of new firms, and consequently increase the level of competition, accelerating the process of experimentation, "creative destruction" and productivity growth. Empirical evidence from OECD countries [124] indicates that "strict regulations seem to have a particularly detrimental effect on productivity the further the country is from the technological frontier, possibly because they reduce the scope for knowledge spillovers." Although there is consensus that certain regulations are necessary, as a rule, policy makers should reduce barriers to entry and be careful with market reservations of any kind. As stated by OECD [123], "economic agents should be free to conduct their business unless compelling arguments can be made for the need to protect sections of the public."

Poor developing countries tend to regulate more than developed countries, even though their institutions are, on average, less efficient in enforcing such regulations. This leads to arbitrary policy interventions, which create considerable costs and risks for private investors. Especially in sub-Saharan Africa, bad governance, corruption, overregulation and lack of property rights enforcement are pervasive. Many entrepreneurs do not trust the judicial system to protect their property rights, although the respective procedures are highly bureaucratic (World Bank [187]). These factors are serious obstacles preventing the poor from creating formal sector enterprises.

As a consequence, SME development programmes increasingly go beyond micro and meso-level interventions, trying to improve the general business environment. It is beyond the scope of this report to discuss all the parameters that influence the investment climate. However, one specific aspect of the investment climate that is very closely related to SME development, namely, the simplification of regulatory procedures, is treated in more detail (see chapter IV, section B3).

3. Principles of good practice in service delivery for SMEs[21]

Many programmes for SME promotion—whether initiated by governments or donors—are largely supply driven, that is, largely determined by bureaucratic decisions, a fact which results from weak private sector involvement in programme planning, as well as from incentive structures within implementing agencies, which serve neither to create a service mentality nor to enhance networking with industry. This supply orientation of programmes, in part combined with a lack of human and financial resources, results in the involvement of only a small number of corporate customers, and thus has a low programme outreach and impact. This has also been pointed out in an evaluation of UNIDO's integrated programme in Mozambique (UNIDO [166] p. 10). Moreover, programmes and implementing agencies are rarely financially sustainable. This means that programmes could suddenly be terminated, if agencies run out of funds. This is partly due to the "public goods" character of certain services, that is, firms are unwilling to pay for services if they cannot fully appropriate the benefits and recover their investment, for example, in research and development, training or environmental protection. It is also due to the fact that public agencies are often not obliged to recover a significant part of their operating costs. For example, several evaluation reports challenge the sustainability of some of the services provided within UNIDO's integrated programmes and recommend the introduction of service charges, for instance, for Cleaner Production Centres, one-stop shops and Business Information Services (UNIDO [166], [168], [172]). This practice undermines the willingness of customers to pay for services and may crowd out those service providers who seek to deliver their services on a cost-covering basis.

International discussion on business development services suggests that programmes implemented by public agencies should:

- Always check whether there are any private providers serving the respective market. Public service provision should very cautiously avoid crowding out private competitors;
- Check carefully whether government or donor intervention is really justified. The assumption of market failure should be very well-founded;
- Make co-financing by the user compulsory, otherwise the beneficiary may not value the service. In the case of poor target groups, subsidies may be necessary, but a sensible service fee should always be considered. Willingness to pay service fees is a good proxy for the necessity and the quality of services;
- Ensure independent monitoring and evaluation of performance;
- Establish separate accountability for each service in order to monitor cost-efficiency and demand etc.;
- Ensure separate funding from the delivery of services;

[21] This part largely draws on the discussions of the Donor Committee on Small Enterprise Development (of which UNIDO's SME branch is an active member), for example, Committee of Donor Agencies for Small Enterprise Development Secretariat [34]. See Altenburg, Stamm [9] for a critical discussion of the paradigm on business development service.

- Promote competition among providers, in order to create pressure to improve performance;
- Continue to monitor the respective service market to find out whether government intervention is still necessary.

B. Conclusions for UNIDO's service portfolio: review of selected instruments for SME promotion

1. UNIDO's portfolio of SME promotion policies: contributions to innovation, market creation and structural change

On the whole, UNIDO's policy documents and service modules for SME promotion coincide with the main policy conclusions of the report. UNIDO shares the current development paradigm with regard to the need for macroeconomic stability, market-oriented policies and the primacy of the private sector in economic activities and, therefore, places special emphasis on industrialization, technological learning and capacity-building of domestic enterprises as a precondition for productivity enhancement, long-term competitiveness and sustainable economic growth. In UNIDO's view, public institutions have a proactive role in promoting entrepreneurship and technological progress, and UNIDO pays special attention to strengthening SMEs. Very much in line with the report, "Operationalizing UNIDO's corporate strategy: services and priorities for the medium term 2004-2007" (UNIDO [169]), highlights the fact that:

> "...the small and medium enterprise sector in developing countries is often seen as a means of generating low-skilled jobs and fighting poverty. This implies a neglect of the SME sector's important contribution to fostering growth, specialization, technological innovation and exports."

In accordance with those goals, UNIDO's technical assistance services have been grouped into eight service modules. These modules comprise, among other things, advice on industrial development policies and strategies, promoting investment and technology flows into the productive sectors, entrepreneurship development, with emphasis on rural and women entrepreneurship, networking and clustering among SMEs, strengthening of agro-based and agro-related industries and developing renewable sources of energy for productive use. The technical cooperation programmes offered by UNIDO thus span the full spectrum of support services at the policy, institutional and enterprise levels required by developing countries, from least developed countries to relatively advanced middle-income countries (UNIDO [170]).

Given this wide range of services on offer in UNIDO's portfolio, it is not necessary to introduce any entirely new supporting measures. Against the background of the previous analysis, however, certain refinements can further increase the efficiency of its policy tools. As it is

beyond the scope of the present report to assess the complete service portfolio, the following analysis concentrates on those policy areas where the main arguments put forward call for a certain shift in focus.

2. Policy formulation

Both public and private effort requires direction. It is important to have a vision on important global trends, in terms of technologies, markets and governance structures, about present and likely future patterns and trajectories of national specialization, and on the role of different societal actors (the main concern here is with SMEs) in these patterns and in the change process that is likely to occur. Strategic planning, based on well-designed surveys, benchmarking studies and a continuous dialogue among stakeholders, makes it possible to identify such general trends, to uncover strengths, weaknesses, opportunities and threats in a dynamic perspective and to design adequate proactive policies.

UNIDO, as a multilateral organization, has comparative advantages in supporting governments at the sector policy level. UNIDO assists developing countries in designing and implementing industrial development strategies, SME development policies and similar policy-related endeavours. It also:

> "helps in building capacities for compiling and analysing industrial statistics, in the preparation of national and regional industrial diagnoses, developing national capacity-building for the formulation and implementation of industrial policies and strategies and for the development of the private sector."

In doing so, UNIDO can help countries to design policies and programmes that are geared towards innovation, increased interfirm division of labour and long-term competitiveness, and simultaneously contribute to more equitable development. This comparative advantage was confirmed through an evaluation of UNIDO's integrated programme in Uganda (UNIDO [172]).

In addition, UNIDO helps governments to conduct technology foresight exercises, especially in strategic technology areas. UNIDO is probably the main institution concerned with diffusing foresight tools in developing countries and makes important contributions to awareness-raising and capacity-building for proactive policy-making. Box 2 gives an up-to-date overview of tools for technology foresight. Most foresight activities are aimed at detecting new technology-based competitive advantages, defining related needs of research and development, and designing incentives and assistance to enterprises in the domain of technology management and technology transfer.

UNIDO focuses on emerging technologies, such as biotechnology, hydrogen energy technology and information and communication technologies (UNIDO [169]). However, foresight may also be useful—and trends are probably much easier to predict—to identify the afore-mentioned "megatrends", which have important repercussions for traditional "low-tech"

Box 2. Foresight tools

"Foresight is the process involved in systematically attempting to look into the longer-term future of science, technology, the economy, the environment and society with the aim of identifying the emerging generic technologies and the underpinning areas of strategic research likely to yield the greatest economic and social benefits."* It seeks to identify long-term trends and thus to guide decision-making. Some foresight exercises focus on trends in consumer needs, others attempt to predict what the key technologies of the future will be. The following tools for example, can be used:

In **Delphi Surveys**, groups of experts are consulted on a range of possible future developments in their respective fields. Three main characteristics can be identified: anonymity (no physical contact between participants), iteration (several rounds of consultation), controlled feedback in the form of statistical presentation of the group responses;

Scenario analysis presents alternative views of the future bearing on highly interactive, intense and imaginative processes. This is a tool for structuring perceptions on unpredictable future environments;

Environmental scanning searches the world systematically, highlights the new and unexpected, and helps to establish priorities. It can reduce the randomness of information and provide early warnings for managers on changing external conditions;

Normative foresight tools which are related to, are based on, or prescribe, norms. One common tool is, for example, relevance trees, which systematically identify requirements for reaching specific goals;

Systematic benchmarking is another important instrument for formulating a national vision, as it offers the chance to compare the relative efficiency of a whole economy or of certain parts of an economy, for example, a company, a sector, a policy, or a National Innovation System. This can, furthermore, help to relate differences in performance to observable characteristics. To utilize the benchmarking instrument, it would be important to set up several dimensions of comparison (institutional arrangements, natures and relative importance of the channels of interaction, incentive structures), as well as quantitative indicators for performance measurement and comparison.

Source: Based on Johnston [75].

*Martin (2001), p. 5.

industries and poor countries. Specifically, partner countries could be assisted in developing monitoring systems for and scenarios on processes with strong impacts on SME development, for example, the emergence of new quality, environmental or logistics standards, the possible substitution of traditional local industries by imports or new large-scale producers, the ongoing expansion of supermarkets as a principal marketing channel for SME products and changing localization strategies of transnational corporations. Such foresight exercises can be used as a basis for determining who stands to win or lose from structural change. Relevant groups of poor stakeholders can be assisted in coping with the respective structural changes and constituencies for pro-poor change can be organized. Participatory methods, such as Participatory Appraisal of Competitive Advantages (box 3), have proven to be effective low-cost tools for identifying competitive advantages and disadvantages of localities or sectors and for stimulating joint action.

Box 3. Participatory appraisal of competitive advantage

The Participatory Appraisal of Competitive Advantage is a methodology that can be used for:

- Assessing the economic potential of a local area and identifying sectors that are deemed most promising in terms of growth;
- Providing strategies on how to mobilize and unlock this potential and demonstrate ways on how to overcome obstacles;
- Getting local stakeholders, such as the local government and administration, the business community, local representatives of trade unions, non-governmental organizations and similar bodies, to work together and create a true community spirit.

The Participatory Appraisal of Competitive Advantage starts with a kick-off workshop involving local stakeholders, followed by a series of interviews with local players (firms, business associations, supporting institutions, local government, and others), and mini-workshops with groups of local actors. Depending on the size and diversity of the locality, this could take between one and two weeks. The diagnostic and the proposals are elaborated and presented immediately thereafter. The presentation includes a moderated discussion with local stakeholders. After the initial diagnostic, external consultants are ready to conduct a planning workshop with local actors. Local actors assume responsibility for the implementation of agreed activities. External consultants are in a position to offer, on a limited scale, subsequent support.

Source: http://www.wiram.de/toolkit/hexagon/hexa_mue_paca_particip.htm

3. Simplification of regulatory procedures

In many areas, such as health, safety, environmental protection, social cohesion, competition and taxation, governments set requirements whereby businesses and citizens have to comply with certain economically and socially desirable standards. This involves some administrative formalities through which governments collect information, monitor compliance and intervene *in individual economic decisions.*

Regulations influence the costs and risks of doing business. The lack of regulation and excessive regulation could translate into additional costs and risks. Some regulations are necessary to ensure a smooth functioning of the market economy. These include rules that guarantee property rights and help to enforce them, competition laws, safety regulations etc. Such regulations reduce transaction costs, minimize risks and contribute to increasing productivity. Other regulations are dispensable or, at least, not cost-efficient, and thus unnecessarily increase the costs of doing business, obliging firms to spend time and money on superfluous paperwork and formalities, slowing down the whole decision-making process. In addition, indirect costs arise when policy uncertainty and arbitrary government decisions prevent economic actors from making investments, or when cumbersome procedures obstruct the innovativeness of firms (OECD [129]). The World Bank report *Doing Business in 2004* provides empirical cross-country evidence that cumbersome regulation is associated with lower labour productivity (World Bank [123]). The challenge for public policy is to adopt regulations for promoting economic efficiency and social well-being without generating unnecessary regulatory burdens.

In many countries, the amount of regulations and paperwork has reached unreasonable levels. Unnecessary "red tape" is widespread in OECD as well as in developing countries. However, World Bank studies [186] show that poor countries regulate business the most. For example, starting a business in sub-Saharan Africa in 2004 took 63 days on average, cost 225 per cent and required a minimum capital equivalent to 254 per cent of annual per capita income. By comparison, the average of OECD countries was 25 days, 8 per cent and 44 per cent, respectively (World Bank [187]). The poor countries with the heaviest regulation often "have the least enforcement capacity and the lowest number of checks and balances in government to ensure that regulatory discretion is not used to abuse businesses and extract bribes" (World Bank [186]).

Some of these regulations may have been necessary in the past, but were not eliminated when they became obsolete. Others may have been introduced (or their abolition prevented) because they favour certain interest groups. For example, de Soto [38] argues that large companies sometimes deliberately impose obstacles to the registration of informal enterprises in order to protect their oligopolistic market power. The World Bank's "Doing Business in 2004" report quotes an example where the private notaries' profession has for years undermined the governments efforts to simplify business entry procedures and collateral enforcement (World Bank [187]). Simplifying administrative procedures is, therefore, a highly political issue and is likely to meet with resistance from bureaucrats, as well as business people who are unwilling to ease market entry for new competitors. Any effort to change regulatory regimes needs "a strong constituency interested in change, so that inertia and the lobbying of entrenched political or business groups can be overcome" (World Bank [186]).

The cost and risks of excessive or arbitrary regulation affect small, informal businesses as much as (or even more than) large enterprises, because the former used to have less political voice, fewer possibilities to institute legal proceedings and the least internal resources to handle regulatory compliance burdens. This was evidenced in an empirical study in 11 OECD countries which found that administrative compliance costs per employee were more than five times as high for the smallest SMEs than for the largest (OECD [122]). According to de Soto [37], developing countries sacrifice considerable potential for economic growth because they fail to guarantee property rights to poor people, with the consequence that their properties are "dead capital" that cannot be used as collateral to obtain loans.

As argued earlier, the quick turnover of firms and intense competition are crucial for productivity growth and competitiveness. Simplifying regulations may stimulate firm entry and exit, and can reduce artificial barriers to firm growth. Owners of small informal enterprises often deliberately keep their business small, partly to evade taxes, but also to escape bribery and arbitrary treatment by public servants. Deregulation, together with increased accountability of public institutions in order to guarantee transparent and even-handed implementation of regulations can, therefore, be expected to lead to higher productivity. At the same time, its outcome may often be pro-poor, as it encourages microentrepreneurs to take up new and formalize existing income-generating activities. Administrative simplification could be one of the cheapest policy instruments.

Although UNIDO does not have a comprehensive service module for administrative simplification, some of its programmes aim at reducing the administrative burden for SMEs. For example, the Rural and Women Entrepreneurship Unit offers technical cooperation for improving the business and regulatory environment for women and rural entrepreneurs, while the Business Partnership and Information Services Unit promotes a methodology to integrate industrial information networks into one-stop shops. Here again, an evaluation of UNIDO's integrated programme in Mozambique states that the programme

> "contributed to speeding up the process of licensing and enterprise creation in selected provinces through the development of the concept and the setting-up of one-stop-shops (and) contributed to the 'red tape' study on reduction of administrative barriers...." (UNIDO [166]).

Given the relevance of this topic for both productivity enhancement and equitable development, however, it is recommended that UNIDO strategically expand its activities to include assistance to countries with regard to administrative simplification. The following policies can be regarded as state-of-the-art:

- The first step is to set up a government unit for administrative simplification, preferably with the necessary competencies to effectively influence the administrative routines across different Ministries. The mandate of this unit could be quite extensive, targeting broader regulatory reform issues, or more specifically focused on licensing procedures for firms;
- The unit should then collect data on existing administrative procedures related to SME development, for example, time and fees necessary to register and license a new business. This can be done either in a top-down manner, charging the unit with screening the relevant procedures, or through participatory approaches with business networks, or both. Making the problem of "red tape" visible has proved to be an important means for gaining political support for simplifying administrative policies;
- The next step is to identify which procedures constitute unnecessary burdens and to set quantitative targets in the number of licences, the processing time, etc. For example, agencies in some countries have been mandated to reduce the regulatory burden on small businesses by half, with annual reviews of progress achieved (World Bank [187]). Other governments have set time limits for administrative decision-making in order to reduce costs and uncertainty (OECD [123]);
- Benchmarking national regulation has proved helpful against the best international performers. The World Bank's "Doing Business" project has developed a substantial database, which includes most developing countries that could help to define benchmarks;
- One-stop shops are offices which provide clients with information and other services, such as a summary of relevant government licences required for particular activities, contact details of agencies that administer each licence, licence application forms, details of licence fees, etc. As far as possible, the offices should provide the necessary services themselves. In addition to licensing, other SME-related services could be supplied at the same location. In addition to, or as substitute for, physical offices with face-to-face customer services, electronic one-stop shops (web portals and other information technology tools) are widely used to facilitate and simplify transactions within public administration and between governments and the private sector (OECD [123]).

Closely related to the issue of administrative simplification is the challenge of legalizing and bestowing property titles to informal enterprises. Property documents are vital for mobilizing credit to stimulate all kinds of interfirm transactions which, in turn, stimulates additional investments and increases productivity growth. Securing property rights for informal tenants is, in part, a technical problem of recording businesses and building up uniform land register and information systems. The main challenge, however, is to build political alliances willing to empower informal population groups and enforce their rights. Although supporting such processes may be beyond UNIDO's mandate, UNIDO could align its activities to facilitate business licensing with broader reform agendas.

4. Entrepreneurship development[22]

As argued earlier, most developing countries do not lack self-employed persons. On the contrary, their economies have the highest share of entrepreneurs in the workforce. However, a good part of this self-employment results from the necessity to generate a modest income in the short term (substituting for unavailable dependent employment) rather than from promising business ideas and deliberate strategies to create expanding businesses. Such "necessity entrepreneurship" increases the number of persons and small firms engaged in traditional, typically saturated markets, and could aggravate problems of overproduction, if it fails to identify and cater for additional demand. Supporting start-ups could, under these conditions, help the beneficiaries, but could reduce the mean income within the respective activity and drive similar established firms out of business.

A high rate of entrepreneurship is, hence, not always positive. What matters is the contribution of new enterprises to sustainable and productive additional employment. Policy makers should, therefore, try to stimulate "opportunity entrepreneurship", that is, innovative, growth-oriented start-ups that develop new markets and generate productivity-enhancing externalities. In the case of Viet Nam, an evaluation of UNIDO's integrated programme recommended that enterprises with a high potential for growth be targeted, especially those capable of exporting or entering into supply chain linkages (UNIDO [173], p. 40). Growth orientation implies that firms do not merely start as one-person activities, and that they make substantial investments and employ outside capital (if available), reflecting that the entrepreneur is convinced of the viability of his/her business idea. It must be borne in mind that this is not tantamount to a high-tech bias. Any newly created business that serves a new niche market, even at the local level, or applies a process technique that is more efficient than that of local competitors, can be considered an "opportunity start-up" and is likely to create sustainable and more productive jobs.

Based on the previous analysis and a review of the literature on entrepreneurship development, the following conclusions for practical policy can be drawn:

- Entrepreneurship development programmes should select promising business ideas rather than persons with certain personality traits. Business plan competitions are an appropriate tool for supporting innovative start-ups;

[22] See Eckardt [48] for a comprehensive overview of the respective policies.

- The most successful entrepreneurship development programmes are implemented in close cooperation with networks of business people and institutions, which provide the selected start-up projects with comprehensive support from sector specialists, financial advisors, training institutes and chambers of commerce. In developed countries, many business plan competitions are organized by private sponsors. There are ample opportunities to create similar support networks for innovative start-ups in developing countries. Besides the usual supporting institutions (banks, SME agencies, business associations), potential partners are large international and domestic companies, newspapers, television stations etc. There is much empirical evidence that such enterprises are willing to support entrepreneurship development as part of their activities on corporate social responsibility;

- The innovative content of business ideas is usually closely correlated with the educational level of the (will-be) entrepreneur. The informal sector, being the seedbed of most new firms in developing countries, mainly hosts poor persons that lack technological expertise and exposure to new market segments, given that such markets are often extra-regional and high-end. In addition to programmes that directly target the poor, it may be appropriate, therefore, to offer services for strategic entrepreneurship development, that is, an approach that enables countries to adapt better to the changing international division of labour and create the basis for sustainable competitive advantages. Such an approach should target specific groups of high potential entrepreneurial candidates, such as students, scientists and repatriates with international technological or business experiences. Entrepreneurship development programmes could raise awareness on innovation among entrepreneurs, firm owners and managing staff and create incentives to increase career prospects in the private sector rather than in public service or donor agencies. Business incubators are an appropriate tool for promoting spin-off enterprise creation from universities and similar institutions;

- As already shown, only a very small number of the micro and small firms in developing countries masters the transformation from family-based to more systematically organized structures that enable them to handle production beyond a certain threshold, for example, in terms of complexity of production and marketing or number of employees. Policies to address the needs associated with firm growth and internationalization could be important, therefore, to complement start-up promotion. These policies comprise similar tools—finance, advisory, training—but with specific contents for handling the particular challenges of growth with regard, for example, to strategic and marketing management and human resource management;

- Singular targeted measures for start-up promotion can hardly compensate for weaknesses in the overall business environment. Entrepreneurship development should be part, therefore, of a broader policy approach, including a conducive investment climate and an educational system that enhances achievement orientation, strives for independence, creativity and problem-solving capabilities.

UNIDO has gained considerable experience in promoting rural and women entrepreneurship, having implemented more than 70 projects over the past 10 years (UNIDO [169]). The Rural and Women Entrepreneurship programme aims at creating a business environment that encourages the initiatives of rural and women entrepreneurs, and enhances the human and institutional capacities required to foster entrepreneurial dynamism and enhance productivity

(UNIDO [167]). The focus on women shows UNIDO's recognition for "gender inequities (that are) holding back the potential of women entrepreneurs for professional development" (Ulusay de Groot [162]). The programme mainly targets "LDCs, sub-Saharan Africa and countries with special needs, such as post-crisis zones or countries with pockets of extreme poverty" (UNIDO [169]), although candidates for the programme should have a potential for enterprise growth. The programme has created a considerable number of new jobs in small enterprises, and hence makes an important contribution to poverty alleviation. For example, 320 jobs were created within three years in the United Republic of Tanzania (Ulusay de Groot [162]).

While the programme activities focus on improving the overall entrepreneurial culture within rural areas of the respective host countries, for example, school curricula for entrepreneurship, training programmes for public administrators, trainers' guides and train-the-trainer seminars, creating gender awareness among decision makers and strengthening their institutional capacity, there are still some direct support activities, especially tailor-made, sector-specific small business management and technical courses for women entrepreneurs, which may have limited outreach. It might be appropriate, therefore, to focus on supporting national entrepreneurship development networks rather than on individual training courses and firm-level advisory. In this respect, some member States belonging to the OECD have developed interesting models of network-based entrepreneurship development programmes, which provide incentives for business associations, research institutions, SME agencies, business angels, local credit cooperatives or banks, venture capital funds, etc. at the regional level to pool resources and offer their services in a coordinated manner. For example, one of the most comprehensive programmes is the German EXIST—University-based start-ups programme (www.exist.de). In this programme, regions compete for government funding. Every region that participates in the competition has to develop networks of supporting institutions. In this way, about 50 regional networks have been induced, although only the five best networks finally received government funding.

Given the limited potential for market expansion in many traditional local activities, UNIDO should consider broadening its service offer for entrepreneurship development to target specifically innovative growth-oriented entrepreneurship, such as students, scientists, managers, repatriates and civil servants with international technological or business experiences. Reference is made here to an evaluation of UNIDO's activities in Ethiopia, which underlines the need for improving the selection of candidates for its SME training (UNIDO [168]). Such special entrepreneurship development programmes could raise awareness for innovation and create incentives to increase career prospects in the private sector. Accordingly, UNIDO could help to introduce business plan competitions as a means for selecting promising innovative business ideas, preferably in alliance with strong private sector partners, such as leading banks or media companies, and to establish business incubators for promoting spin-off enterprise creation from universities and similar institutions. Moreover, considering the lack of medium-sized companies in many developing countries, specific programmes addressing the needs associated with firm growth and internationalization could be important to complement start-up promotion.

5. Clusters and business linkages

Business linkages are important elements of competitiveness. Cooperation allows firms to reap economies of scale and scope, for example, by sharing information and expertise as well as joint purchases or sales. Moreover, most innovations evolve from interaction among firms or between firms and supporting institutions. Geographic concentration makes it easier to obtain externality gains, some of which spatially-concentrated firms accrue by virtue of their location, for example, the availability of a skilled local labour pool, inputs and machinery, and at the same time, facilitates collective action by local economic agents to share resources (Nadvi [112]). At the same time, concentration increases rivalry among firms, which is another important driver of innovation and competitiveness. Clusters, defined as territorial agglomerations of closely-related industries, are important elements, therefore, of industrial development. Clusters also prove advantageous for SME promotion agencies, as working with groups of firms reduces their costs per client and increases their programme outreach.

In recent years, a huge body of literature on the potentials and limits of cluster promotion has been published, providing volumes of empirical evidence from both developed and developing countries. The present report cannot provide a complete overview of cluster policies.[23] Instead, an attempt is made to distil the most important lessons learned which have especially relevant implications for policy-making. The Schumpeterian perspective on innovation, market creation and structural change, in particular, greatly contributes to better understand the foundations of longer-term competitiveness of clusters:

- Most clusters in developed countries are in traditional knowledge-extensive activities where handicraft-type production methods prevail. Common cluster activities comprise the production of garments, footwear and other leather products, furniture and simple food products, as well as certain service activities, such as petty trade and automotive repairs.[24] Many SME clusters are strongly threatened by increasing business concentration and the advancement of high-volume production and distribution systems within their home countries, and even more so by imports from countries with considerable comparative advantages, especially with regard to scales and labour costs. Low-cost imports, in particular, from China are precipitating crises in many clusters throughout the developing world. Integration of global supply chains and the rise of supermarkets in developing countries are expected to accelerate business concentration and put additional pressure on small-scale production. Cluster development has to respond to these structural challenges. In many cases, competitive disadvantages of local clusters are such that it is inevitable to depart from established cluster trajectories and develop completely new markets and business models. Merely relying on incremental improvements, for example, promoting joint purchases of the traditional handicraft-based cluster trajectories may be insufficient to cope with changing market conditions;
- The synergetic features attributed to clusters in OECD countries—complementary specialization, feedback loops driving innovation, pervasive local externalities—are often largely absent in SME clusters in developing countries. In fact, many clusters almost exclusively consist of

[23]See, for example, Meyer Stamer, Harmes-Liedtke [107]; Morris, Robbins, Barnes [110]; Pietrobelli, Rabellotti [126]; Enright, Ffowcs-Williams [51], as well as several UNIDO manuals.

[24]See, for example, the case studies in World Development, vol. 27, No. 9 and in UNIDO [165].

micro and small firms, which have been created for "supply-push" reasons and multiply through imitation and informal apprenticeships (chapter II, section C1). Their range of activities is typically limited to handicraft-type activities with low entry barriers, and local economic agents lack the capital and skill requirements to move into complementary upstream or downstream activities. Most small enterprises represent survival activities that sustain people temporarily, rather than reflect economic dynamism;

- Trust and willingness to cooperate cannot be taken for granted. Economic agents often rate the risks of interaction, for example, opportunistic behaviour and leakage of confidential information, higher than its benefits. This applies especially to situations where firms engage in identical, rather than complementary, activities and where competition is fierce. In fact, avoiding cooperation may be a well-founded decision for the individual entrepreneur (Meyer-Stamer, Harmes-Liedtke [107]). This questions the main underlying assumption of many networking programmes, that is, that cooperation is always a win-win strategy, which is mainly a matter of convincing allegedly "stubborn" entrepreneurs to unleash collective action;
- Cluster analysis and policy-making should "focus on systems of knowledge accumulation, rather than just production systems" (Bell, Albu [19]). This underlines the importance of supporting knowledge-generating activities in firms and institutions. It also requires identifying change agents and creating incentives for them to transfer part of their knowledge. Furthermore, it is important to strengthen extra-regional and international links in order to avoid path-dependency and lock-in effects, and to enhance the absorptive capabilities of local firms;
- Production and trade are increasingly taking place in tightly coordinated value chains and production networks (Stamm [150]). In these chains or networks, lead firms gain increasing importance. They are often drivers of innovation, coordinate networks and set the parameters for products, processes and logistics to which other firms of the network conform, thereby determining the conditions for smaller firms to participate. Moreover, lead firms strongly influence the distribution of gains along the chain (Humphrey, Schmitz [68]). As a result, they develop into important partners in cluster policies. Schmitz, Knorringa [141], Nadvi [112] and others provide empirical evidence of the increasing importance of global buyers for the development of local clusters. Box 4 shows how linking up with a global buyer transformed a cluster of informal garment producers from a poor Guatemalan highland environment. For policy initiatives aiming at SME integration in global production networks, it is, therefore, fundamental to ensure that lead firms are involved and have ownership in the programme design (Rugman, D'Cruz, [135]; Altenburg [6]).

Cluster initiatives in OECD countries increasingly focus on systems of companies in closely-related industries within a larger region or a small country. Supporting very small groups of firms at the local level, for example, a small town, as many donor-driven cluster programmes do, may be too narrow a focus, leaving out relevant firms and institutions that are functionally linked to the local activity, but not spatially concentrated (Meyer-Stamer, Harmes-Liedtke [107]). On the other hand, facilitators need to be closely connected to the local business community and supporting organizations. This calls for entrusting cluster activities to lower government levels. Whether this should be the provincial or local government depends on the resources and capabilities of the respective government levels (Morris, Robbins, Barnes [110]).

Box 4. San Pedro Sacatepéquez, Guatemala—linking a cluster of poor garment producers to the global market

A majority of the inhabitants of the small town, San Pedro Sacatepéquez, in the highlands of Guatemala, earn their living in subcontracting firms in the clothing trade. The town has five medium-sized firms (with more than 100 sewing machines each) and approximately 250 small producers. In total, they created some 4,000 jobs.

In the 1970s, all firms in the town manufactured only small amounts for the domestic market, as a rule for boutiques and chain stores, which supplied pattern charts, fabrics and accessories and paid very low piecework rates. Workshop organization corresponded to that of handicrafts, that is, each garment was manufactured completely by one worker with one machine. Large customers were not interested in production in San Pedro, since the small firms were not in a position to cater to large orders and to guarantee product homogeneity. Moreover, labour productivity, as compared with Taylorist serial production, was extremely low.

In 1988, the Van Heusen Corporation in the United States faced a severe bottleneck in supply to the United States market. Since the representative of Van Heusen Corp. in Guatemala was aware that San Pedro was a location of small subcontractors in the clothing trade, he decided to organize a group of small manufacturers as subcontractors for Van Heusen Corp. Twenty-two micromanufacturers, possessing 10-15 sewing machines on average, were chosen and received contracts, technical advice and credits at favourable interest rates to purchase special machines for sewing buttons, buttonholes, etc. A Van Heusen Corp. representative was permanently located in San Pedro during the initial phase so as to supply prefabricated products, ensure quality and monitor the subcontractors. These contracts stimulated a rapid growth of subcontractors.

In 1993, the local subcontractors of Van Heusen Corp. formed a private limited company, Villa Exportadora, and set up an office to attend to their administrative affairs. Production initially remained decentralized in the various production sites of the partners.

In the late 1990s, Van Heusen Corp. was criticized by the United States because the international subcontractors employed minors and also violated other international labour standards. In response, Van Heusen Corp. granted the subcontractor, Villa Exportadora, an interest-free credit for purchasing real estate and constructing a modern factory building. Production currently takes place on the basis of modern organization of work and the required standards of labour law. The economies of scale, resulting from these measures, have boosted labour productivity, which is now higher than in many other established large-scale subcontracting apparel firms in Guatemala. Villa Exportadora has today become a medium-sized private limited company, which offers 239 safe full-time jobs. The production site of Villa Exportadora has 225 sewing machines and produces for the main customer in the United States. In addition, the remaining 12 partners, as individuals, possess another 500 sewing machines, with which they work in small shops, mostly located in their homes. The small shops serve a diversified range of customers, both in local and export markets.

Apart from Villa Exportadora, many other garment firms in the location benefit from export-oriented subcontracting. Other large customers followed the example of Van Heusen Corp. and issued contracts to small firms in San Pedro. Although they do not support their subcontractors in the same way, they still contribute to job creation, higher incomes and learning processes in management. For instance, almost all small firms are functioning in accordance with the principles of Taylorist serial production, have modern machines at their disposal and are capable of meeting higher quality standards.

Source: Interviews with partners of Villa Exportadora, the former head of the Van Heusen Corp. branch in Guatemala, and small firms in San Pedro Sacatepéquez.

For cluster development to take off, a critical mass of firms, related institutions and interactions are necessary. Any effort to build clusters from scratch is doomed to failure. Cluster policy should rather try to build on existing structures and initiatives. Cluster development is not, therefore, a promising instrument for equilibrating interregional disparities in favour of the most depressed regions.

Services to promote clusters, multisector cooperation and business linkages rank high on UNIDO's agenda. Cluster development has become one of UNIDO's flagships in SME promotion, and the demand from Member States is growing. In addition, UNIDO has recently gained an international reputation for pioneering efforts to build strategic alliances with large corporations. This reflects the growing importance of clusters and business networks in economic promotion, worldwide.

UNIDO offers the following three service modules, which mainly address clustering and business linkages:[25]

- *SME cluster and networking development.* The focus of this module is on promoting collective efficiency in local clusters of small formal sector enterprises, often rural and/or handicraft producers. Public intervention is mainly justified on the grounds that "in spite of the advantages of clustering and networking, firms and institutions in developing countries often do not have the capacity to coordinate their actions without the help of an external catalyst in order to fully exploit their joint business potential". UNIDO acts as this catalyst to support groups of enterprises to identify common challenges and opportunities, develop a consensus-based vision for the cluster as a whole and strengthen their capacity to act upon such a vision. To implement these visions, UNIDO helps to raise awareness of the advantages of collective action, to build trust and promote joint activities in relevant business areas, such as sharing sales staff, joint bidding, common branding, sharing showrooms, bulk purchasing, joint use of specialized equipment or processing facilities and improved training programmes. In addition, support is given to local institutions.
- *The Supply Chain Development Programme* aims at assisting developing countries to connect to global subcontracting and supply chain networks. The programme includes the establishment of Subcontracting and Partnership Exchanges as technical information and matchmaking centres for subcontracting partnerships between SMEs and usually larger buyers. The programme comprises 56 Subcontracting and Partnership Exchanges in over 30 countries. In addition, this service module organizes supply development and upgrading programmes to provide assistance to clusters of small-scale suppliers.
- *The Business Partnership Programme* is a multistakeholder partnership approach aimed at integrating SMEs into global value chains. The programme has a different focus, namely, that of highlighting the role of transnational corporations as drivers of innovation. A pilot project, which was run with Fiat, aimed at upgrading the automotive components industry in India. In addition, a number of Indian and international partners, including business associations, non-governmental organizations, a research association and an international business school, were

[25]Policy summaries according to UNIDO [169] and the website (http://www.unido.org/en/doc/13092). In addition to the three cluster-related service modules presented here, the Rural and Women Entrepreneurship Development programme and the agro-industries service module also pursue a cluster approach. These two are discussed in the following section.

integrated, and endorsement of the Government of India was ensured (Samii, van Wassenhove, Bhattacharya, [137]). Later, the new partnership model was applied and adapted to a few other countries and sectors, namely, textiles and food processing, and was later extended to include, among others, social and environmental standards. Cooperation agreements have also been signed with a number of transnational corporations, for example, BASF and Ericsson.

What are the conclusions that can be drawn for UNIDO's cluster and business linkage programmes?

The focus of the SME Cluster and Networking Development Programme is on promoting networking among small enterprises, both horizontally within a given locality, and vertically towards external customers and providers of support services. Projects span over a large range of products, from handicraft products for domestic consumption to standardized products aimed at global markets. Most of the supported clusters, however, produce relatively low-tech goods that compete with large-scale factory production, for example, production of knitwear, handloom, footwear and other leather products, woodworking, metalworking, cheese and other traditional food processing, handicraft hammock production and handicraft block printing. In terms of the analysis above, special emphasis should be placed on the sustainability of clusters, especially in terms of their preparedness to avert emerging competition from imports or large-scale producers. For UNIDO's network facilitators, this may at times require a stronger emphasis on change strategies that deviate more or less radically from established cluster trajectories, for example, to:

- Shift from handicraft-type to Taylorist production;
- Shift from supplying individual households or traditional retailers to manufacturing of intermediate goods;
- Supply wholesale traders rather than small local retailers;
- Abandon manufacturing and specialize in distribution and customized services;
- Introduce new business models, for example, franchising;
- Bring in new economic agents (external investors, innovative start-ups);
- Develop non-traditional markets;
- Certify production.

As a general rule, the challenge is to develop complementarities, economies of specialization and cooperation across different stages of the value chain rather than collective action of relatively homogeneous economic agents. Moreover, the focus should be on tapping external know-how to bridge the productivity gap between SME clusters and their large-scale domestic and international competitors (Kaplinsky, Readman [78]). Some UNIDO cluster and networking projects systematically try to link up with external sources of knowledge. For example, UNIDO cluster projects in Mexico and Nicaragua explicitly focus on vertical linkages with more advanced firms. All cluster projects provide information on technological and market trends, as well as international good practices. In some projects, visits of stakeholders to leading international clusters are being organized. According to an evaluation of the first project

experiences, "study tours, and the possibility to learn from successful experiences of other countries and regions, has proven to be, especially among young professionals, a very positive stimulus to improve performance" (Ceglie, Dini [33]). Comparison with better performers enables different stakeholders to learn about new forms of industrial organization and new production technologies, as well as successful cluster policies.

The Supply Chain Development Programme enhances vertical linkages between SME suppliers and (usually larger) customers. The main focus of the programme is on matching supply and demand by providing technical information. However, as the record of matchmaking programmes for subcontracting services, for example, databanks and fairs, around the world suggest, information failure is not the main bottleneck. Customers usually select their suppliers according to multiple criteria. Identifying potential suppliers and receiving offers that specify product properties, production capacities, quality parameters, prices, location etc., is usually not a major problem. Potential candidates may be identified through existing registers or business associations, and customers may make calls for tenders to receive offers from interested firms. However, customers usually expect their suppliers to meet additional criteria which are not available as codified information: suppliers should be reliable, flexible, committed to the partnership, willing to expand in accordance with the customer demand etc.

Whether suppliers fulfil these requirements is a matter of trial and error and incremental trust-building. Customers often start by placing small orders with their new suppliers and gradually increase their volume if the first deliveries meet their expectations. For the suppliers, on the other hand, long-term relationships with important customers usually imply specific investments, which may be useless for other partners. Specific investments create dependency on the partner and weaken the bargaining position of suppliers in future negotiations. Consequently, suppliers will only make such investments once they have built a relationship of trust with their customers or, alternatively, negotiated complex contract arrangements.

Finding the right partners and establishing long-term supplier relations often has the tendency of being a slow and incremental process.[26] This limits the effectiveness of simple matchmaking instruments. UNIDO would be well advised, therefore, to continue pursuing a more integrated approach, building up trust and actively involving large customer firms in a long-term process of upgrading their supplier base (Altenburg, Hillebrand, Meyer-Stamer [7]). UNIDO's recent supplier upgrading programmes already adopt this approach.

The Business Partnership Programme is a very promising innovative approach for linking large transnational corporations to local companies and other relevant actors. The programme thus tackles the lack of integration of industrial structures in developing countries and helps to reduce the wide productivity gaps between both groups of firms (chapter II, section C).

[26]The experiences of two Centres for Supplier Development in Mexico which have been supported by UNIDO confirm this experience: "The two centres established in Jalisco and Chihuahua are profoundly different from the traditional subcontracting exchange schemes that operate in many countries with the aim of linking the demand and the supply of subcontracting services. The centres in Jalisco and in Chihuahua do not operate on the idea that the main obstacle to the creation of such links is an information failure (which is at the basis of traditional types of subcontracting exchanges). While instruments that tackle the information gap are used (like the creation of databanks on demand and supply), the centres concentrate mainly on technical support initiatives to address the basic problems of capacity failure and difficulty in establishing relationships based on trust" (Ceglie/Dini [33], p. 12)

In addition, it invests in the networking process. However, public-private partnerships of this kind necessarily bear some risks and, therefore, must be handled carefully, as follows:

- From the point of view of development agencies, partnerships with the private sector make sense only if the public contribution triggers an additional development impact that goes beyond the impact that the private partner—in pursuance of his own interests—would have had anyhow, or that he is legally obliged to comply with. If a firm receives public financial support for activities that are not additional in this context, this represents a windfall profit for the firm and a waste of public resources;

- The criterion of additionality is especially relevant, because public-private partnerships around the world are often criticized for supposed violation of this principle. Even though no public programme that aims at supporting the private sector can fully rule out unnecessary transfers, it is essential to clarify, prior to every support programme, where the line can be drawn between what, under the given market-based framework conditions, can be expected of the firms involved, in terms of their own profitability calculations, and where. It would then make sense to set additional incentives to induce the private sector to assume additional development-related commitments;

  Additionality is, however, difficult to define, because transitions are fluid between the long-term, possibly even philanthropically motivated, interest of companies and the core areas of public goods, in which markets tend to fail. Furthermore, information is distributed asymmetrically, that is, only the private partner is aware of what investments he/she would have made even without flanking support, and he/she may seek to gain as much support as possible for activities that lie in his/her own economic interest. There is, therefore, no choice but to work with assumptions of plausibility. Nevertheless, this should not mean that the public partner is released from his/her obligation to weigh the cost-benefit relation as thoroughly as possible and to justify his/her decisions in this light;

- Transaction costs need to be considered. Strategic alliances with firms imply a series of principal-agent problems, because public and private actors may pursue partly different interests, and private partners, "agents", have an incentive to maintain information asymmetries in order to negotiate favourable contract conditions, for example, to maximize public support, to leave the expected outcomes relatively unspecific and externalize risks. This again underscores the need to clearly define the contractual relationship, with services, prices, distribution of risks etc. that it may entail, as well as to reach agreements on targets and monitor the extent to which such targets have been met;

- Partnerships will only be successful if they create win-win situations. Consequently, private sector partners may expect such partnerships to strengthen their market position. As public funding is involved—UNIDO and public partners from the national government may, for instance, absorb part of the transaction costs involved in dealing with, and upgrading, local suppliers—competitors may claim that such agreements distort markets;

- Public-private partnerships with multiple stakeholders are very complex and involve demanding processes. Each new partnership initiative will have different combinations of stakeholders with specific interests, different goals and obstacles and different dynamics. In fact, the list of recently initiated partnerships reveals a considerable diversity. Managing such diverse

multi-stakeholder processes requires unbureaucratic procedures and considerable empowerment of project managers to enable them to take quick and discretionary decisions. Moreover, know-how on the management of such processes necessarily has a strong tacit dimension. This makes it difficult to codify procedures and integrate them into the mainstream activities of a large non-profit organization. Hence "the continuation, replication and adoption of a new paradigm in the same or other contexts (countries or sectors), however successful though experimental in nature, is far from automatic both at the organisation's as well as the country level" (Samii, van Wassenhove, Bhattacharya [137]).

6. Agro-industrial development

The economies of most developing countries are still, to a great extent, rural and agriculture-based. Most of the world's poor live in rural areas and are engaged in agriculture. However, the relative importance of agriculture tends to decline as countries develop, even though the increasing interest in ecological sustainability is creating new opportunities in fields such as emission trading, recycling of resource materials, biodegradability and biofuels. This structural change has resulted in the marginalization of many farmers in developing countries. Moreover, exports of primary commodities have rarely induced sustainable development and have, at times, even prevented countries from building up more knowledge-intensive industries, owing to the lack of incentives to engage in activities with a long gestation period, and to the effect that resource-rich countries tend to have overvalued currencies, which hampers export competitiveness (Dutch disease effect). Developing countries, in particular, those in Africa and least developed countries, therefore need to embark on strategies that add value and diversify rural production towards manufacturing, trade and services (UNIDO [170]).

The transition from agricultural to industrial production is a major driving force of economic and technological development. Historically, natural resource-based industries have played an important role in facilitating this transition. Countries (and regions), such as Canada, Denmark, Sweden or Taiwan Province of China, have impressively proven that resource-based industries can induce other industrial development (Giovannucci [57]). In many developing countries, agro-industries continue to grow and are among the major contributors to export earnings, industrial production, GDP and employment, even though agriculture itself is losing importance.

From the perspective of poverty alleviation, the growing diversification towards rural non-agricultural activities deserves special attention. As a matter of fact, the importance of such activities is increasing throughout the developing world. "The rural non-farm economy (...) accounts for roughly 25 per cent of full-time rural employment and 35-40 per cent of rural incomes across the developing world" (Haggblade, Hazell, Reardon [59]), and its employment and income shares are increasing significantly. For example, in Latin America and the Caribbean, the estimated share of non-farm activities in rural income generation increased from 25 to 30 per cent in the early 1980s to more than 40 per cent in the late 1990s (Berdegué and others [20]). These activities comprise activities directly related to agriculture (packaging and processing of natural resources, trade in inputs and products, machinery and transportation services, consulting), as well as handicraft, manufacturing or service activities catering to the

demand of local households. Moreover, the importance of rural activities performed for customers outside the rural sector is becoming more important, including tourism and labour-intensive manu-facturing activities. In India, for example, factory employment in or near villages has increased tenfold over the past 20 years, partly due to pro-rural investment policies (Foster, Rosenzweig [54]). In general, linkages between urban agglomerations and their rural hinterland are becoming more varied and intensive (Berdegué and others [20]).

Leading scholars argue that policies that encourage investment in the rural non-agricultural sector may be the most efficient means of reducing rural poverty (Berdegué and others [20]). These activities not only contribute significantly to rural incomes but also reduce the vulnerability of rural households as they could mitigate the impact of bad harvests or falling commodity prices. In addition, non-farm employment provides income opportunities for women in rural areas where male employment prevails in agriculture, hence lessening gender inequalities. The diversification of rural non-agricultural development also slows down rural-urban migration and reduces regional income disparities (UNIDO [170]).

Growth and diversification of the rural non-farm economy presupposes either a substantial increase in agricultural productivity or rising external demand for regional products or services that facilitates capital accumulation and boosts purchasing power. It is crucial, therefore, to identify key opportunities for rural growth. Policy should help to spot such opportunities and unleash a virtuous circle where agricultural productivity growth generates a significant surplus that could be invested in the diversification of the rural economy, including improved forward and backward linkages from agriculture which, in turn, could enable farmers to increase productivity. In many developing countries, however, policy is still biased against rural development, reflecting the lack of political voice of the rural population, in particular, that of the rural poor.

The agro-industries programme of UNIDO offers technical cooperation and advice for improving the competitiveness, flexibility and productivity of agro-based industries. The programme also seeks to strengthen forward and backward agro-industrial linkages that enhance value-added opportunities, and foster the integration of small-scale agro-enterprises into market-oriented agro-produce systems and value chains. The interventions focus on commodity-based agro-processing industries and cover food, such as cassava, cereals, fruits and vegetables, fish, meat and dairy, as well as other agro-products, such as wood and non-wood forest products, fibres, textiles and garments, hides, skins and leather. The focus is also on improving agro-input industries, for example, agricultural machinery, repairs and maintenance extension services. Capacity-building targets both institutional and industry levels. Cooperation with other international organizations, especially the Food and Agriculture Organization and International Fund for Agricultural Development, ensures a comprehensive perspective on rural development.

One of the key activities consists of promoting rural small-scale entrepreneurs, women in particular, in market-oriented agro-processing operations, in order to reduce post-harvest losses, add value, create additional employment and income, and improve food security. The dissemination of appropriate agricultural tools and implements, best practices in product handling, storage, preservation, processing and packaging are used to improve product quantity and quality (see chapter IV, section B4 for the women entrepreneurship programme).

The report emphasizes the need to cope with structural change and incorporate poor people in the change process. This is especially relevant for rural areas, which are often largely disconnected from information flows and innovation networks. Rural areas are regularly underprovided with services that are crucial for development and change, ranging from basic education, technical and managerial training and business development services to the provision of road and telecommunication infrastructure. As a result, rural people, on average, have less access to information on market trends, technological innovations etc. They often also lack the necessary entrepreneurial skills and technical expertise to identify market opportunities or select the most appropriate among several technological and organizational alternatives. In addition, the rural economy is less diversified than urban areas and, therefore, provides less scope for experimentation and fewer opportunities for learning. From this perspective, it is especially important to look beyond established development paths in rural areas and to identify key trends of structural change as well as non-traditional opportunities for rural growth in agriculture and in the rural non-farm economy.

UNIDO's service offer for promoting rural diversification is focused on forward and backward linkages from agriculture, including complementary services that are linked to agro-industrial value chains, for example, storage, repair and maintenance facilities. However, only a small fraction of the rural non-farm economy is directly linked to local primary production. Services and commerce catering to local consumption and manufacturing activities that process inputs from foreign countries or urban regions, such as metalworking, garment assembly, or production of souvenirs, often develop more dynamically and have greater employment effects even in rural areas (Haggblade, Hazell, Reardon [57]). These activities should equally be considered in UNIDO's activities for promoting rural diversification.

To further enhance the effectiveness of UNIDO's support for agro-industrial value chains, specific attention must be paid to strengthening multi-stakeholder value chain initiatives, involving, for example, processing and trading companies, local business and farmers associations, agricultural research institutions and extension service providers, non-profit promotional agencies and government entities. This is already taking place in some of UNIDO's programmes (although the UNIDO programme in Madagascar had little impact because it failed to ensure the participation of key stakeholders) (UNIDO [171]). In rural areas, agricultural and non-agricultural dynamics are usually very closely intertwined. Efforts to increase competitiveness in agro-industries usually require improvements at all stages of production and marketing, including agriculture, manufacturing and services. Some improvements, with regard, for example, to standards and traceability, necessarily involve all these stages. Multi-stakeholder value chain initiatives are important to initiate a dialogue and participatory assessment of the strengths, weaknesses, opportunities and threats of specific agro-industrial value chains. Their success depends to a great extent on three aspects: *(a)* involvement of change agents and other key stakeholders, such as large exporters, implementers of new standards, research institutes or innovative investors.[27] This is decisive to challenge path-dependent behaviour; *(b)* involvement

[27]Stamm ([149], pp. 116 ff.) shows how Costa Rica's scheme to attract foreign pensioners triggered a strong dynamic of agro-industrial investments and export diversification. About a dozen new export crops were introduced and agricultural technologies adapted to local conditions by SMEs created by foreign pensioners. Many of their firms established only small model farms, concentrating on processing and export. Outgrower schemes benefited many local farmers, resulting in increasing local purchasing power and allowing for considerable growth and diversification of non-farm microenterprises.

of business associations in order to increase outreach; and *(c)* the initiatives should be action-oriented and accompanied by professional moderators, who organize the process, help to define targets and activities and ensure the achievement of agreed results.

With regard to work on policy formulation, UNIDO could become more active in helping governments to develop and implement comprehensive policy approaches for rural industrialization. This is important because "ministries responsible for industrial policies, housing, public works and education are clearly urban oriented. Ministries of agriculture rarely look beyond agricultural activities" (Berdegué and others [20]). UNIDO is in a privileged position to extend such support, as it not only possesses several decades of practical experience in rural industrialization, it also engages in global forum activities, which enable UNIDO to influence the international development agenda.

7. Technology management

Technological progress is one of the most relevant factors that can be used to explain differences in growth rates and thus, of income levels across countries, beyond the mere accumulation of physical and human capital (Keller [81]). Technology can be defined as the application of knowledge to develop tools, materials, techniques and systems to help people meet and fulfil their needs. Technological progress can also be equated to innovation and understood as the development and the diffusion of new knowledge qualified to find better solutions to existing problems. Hence it includes, for instance, the introduction of more efficient management systems, new methodologies of market research or new products. According to the contemporary systemic understanding of innovation, two aspects can be considered as especially relevant for designing technology policies and for donor intervention:

- Technological performance cannot be attributed to one single layer of agents, but is the outcome of a complex interplay of innovative enterprises, conducive framework conditions and adequate institutional support for technology and human resource development;
- Technological innovation cannot be understood, as was the case for a long time ("cascade model", "research to marketing") as a linear process, starting with basic research, passing through applied research and industrial research and development, and culminating in the commercialization of a new product or the application of a new process in business activities. Instead, there are important feedback loops between the different agents of the innovation process. For instance, the adaptation of a given product or process to local conditions leads to important additional information on the shortcomings and potentials that can turn into an important input for the industrial design stage (Kline, Rosenberg [88]).

The latter argument implies that there is no clear-cut distinction between the processes of invention and its subsequent diffusion. Recent research in countries belonging to the OECD showed that a very significant part of technological progress and productivity increases has its sources not even within the respective country but abroad (Keller [82]). Thus, in countries with limited capacities for proper technology generation, a focus on technology diffusion may be more appropriate for increasing per capita income than efforts to create original new technological knowledge.

When viewing the preconditions for effective technology diffusion, one finds that they are very similar to those required for creating new technological knowledge. Successful implementation of new technology requires:

- A private sector with a sufficient number of companies provided with high levels of competencies to deal with new information, and stimulate and manage complex organizational learning processes;
- An institutional setting that provides the innovation system with highly-qualified individuals through initial training and lifelong learning and that assists private companies in their handling of technology-related information, be it research and development in the stricter sense, or adaptation and implementation to local and problem-specific conditions;
- Conducive framework conditions that ensure that there are no artificial barriers to the transfer of technology-related knowledge, either internationally or within a country; that incentives are provided to promote close interaction between the different agents of the innovation systems and that intellectual property rights are sufficiently enforced to provide incentives for the investment in creative or adaptive research and development.

These basic conditions are highly interrelated, as a result, the effectiveness of one is hindered if the others are not in place. This implies that a successful technology policy and donor intervention with the objective to assist developing countries in taking advantage of the technological progress should follow a systemic approach and be based on a comprehensive analysis of the conditions and constraints on the three levels of the innovation system mentioned above.

Technology is an important element of many integrated country programmes of UNIDO and is also an element of several services offered by UNIDO, for example, support of innovative rural energy technologies in the areas of sustainable energy and climate change, or metrology in the area of industrial competitiveness and trade. The most relevant services, however, are found in the area of investment and technology promotion. The general approach of UNIDO's technology promotion is to alleviate market failure that firms and other economic agents in developing countries face in the process of technological learning. The focus is on technology management, which interfaces production with technology, while the aspect of fundamental scientific research and technological innovation is considered as having little relevance for developing countries. UNIDO's approach sees institutions that offer high-quality services to companies and alleviate market failures as highly-promising change agents:

The former Investment Promotion Services Offices have been renamed Investment and Technology Promotion Offices. The basic mission is as follows:

> Investment and Technology Promotion Offices are to strengthen the capacities of client countries and institutions to improve their competitiveness. They are also seen as an instrument to foster international industrial partnerships, in particular, among SMEs. Four types of services are offered by the Investment and Technology Promotion Offices as one-stop shops: *(a)* dissemination of investment information; *(b)* identification and promotion of investment opportunities; *(c)* provision of training in promotional techniques; and *(d)* matching project sponsors with potential foreign investors. Staff of the Investment and Technology Promotion Office maintains active links with the business community and development agencies;

International Technology Centres are designed as a tool to promote international collaboration, to transfer and diffuse technological knowledge and build up technology partnerships. At present, UNIDO's network of international technology centres consists of 10 centres in areas of knowledge highly relevant for the challenges of sustainable development, such as solar energy, hydropower, medicine biotechnology or manufacturing technology. Each centre is embedded in a local network of government institutions, industrial associations, research and development institutes, universities, professional societies and funding agencies. Four additional centres, currently collaborating with UNIDO, are expected to be integrated into UNIDO's global technology promotion and transfer network in the future.

The overall focus of UNIDO on the institutional capacities of developing countries is an adequate approach for an international development agency. Through policy dialogue and donor coordination, links to the macrolevel of framework conditions conducive to technology creation and diffusion should be ensured.

The focus on diffusion and application of technology instead of technological knowledge creation adequately reflects the fact that, currently, the innovation hubs of the world are still very much concentrated in developed countries and that important developmental effects can be reached through an accelerated adoption of knowledge created in these countries. However, during the past decades, a (limited) number of advanced developing countries have proven their ability to become active players in the global innovation process (Mani [102]). This creates additional opportunities for South-South technology transfer that could prove a highly effective tool to achieve accelerated and sustainable development, since the challenges, factor proportion and environmental conditions are similar to a higher degree than in the case of North-South technology transfer and diffusion. The instruments of technology promotion developed by UNIDO, especially the investment and technology promotion offices and international technology centres, bear important potentials to tap these new opportunities.

- With regard to the network of Investment and Technology Promotion Offices, it is too early to assess the extent to which they will be able to make significant contributions to technological capacity-building in the host countries. The reorientation of the concept, from investment promotion to investment and technology promotion, is rather new. On the other hand, the mission of the investment and promotion offices seems rather broad, and some of the services provided may already be delivered in the domain of other national or international organizations. Thus, there will be the need to adapt the concrete design of the Investment and Technology Promotion Offices to the local organizational landscape in order to guarantee that gaps in the institutional setting will be bridged and duplication of efforts avoided. The network character of the Investment and Technology Promotion Offices creates important opportunities to accelerate institutional learning among the countries involved.
- The international technology centres are an institutional response to the internationalization of technology creation. Within the networks, knowledge about technological needs and opportunities can easily be interchanged with the help of information and communication technologies and personal contacts. An important element of these upcoming Centres of Excellence in Technology for Development should be their contribution to the formation of an international

pool of highly-qualified, and continuously updated roster of, experts in the specific areas of competencies. Additional areas of technology with high relevance for developing countries can easily be identified. For instance, one of the action points (awaiting implementation) of the Genoa Plan of Action, developed by the G8-Dotforce, is the support of university-based "networked centres of excellence" focusing on information and communication technologies for development. If an amplification of the network of international technology centres is envisaged, close coordination within the United Nations system (UNIDO, Information and Communication Technology Taskforce, United Nations Conference on Trade and Development) would definitely ensure the necessary funding.

8. Business Information Services

The "globalizing knowledge economy" (Archibugi, Lundvall [10]) increases the information requirements for SMEs even in rural areas of developing countries. Market structures are changing rapidly, new agents that were formerly characterized by traditional structures of production and exchange are advancing into regions. At the same time, opportunities arise to integrate into export-oriented value chains that demand compliance with new standards and norms. SMEs are suffering a major competitive disadvantage compared with larger organizations, as they cannot afford to set aside significant financial resources needed for searching and evaluating business-relevant information and most often do not have staff especially trained in information management.

The rapid advances of information and communication technologies contribute to a more level playing field, lowering significantly the search and acquisition costs of information. Two major obstacles remain, however, that prevent SMEs from taking full advantage of the trend towards an ubiquitous access to information:

- The remaining digital divide among and within countries leads to a very diverse situation with regard to quality, speed and costs of access to information and communication technology;
- The majority of the managers and owners of SMEs in developing countries are not sufficiently trained in the field of information and communication technologies. Due to their educational background, they experience more difficulties when going through rapid learning processes than an academically-trained management staff of larger organizations.

This situation assigns an important role to business information services that convert ubiquitous information into verified information, context-specific knowledge and tailor-made services for SMEs. UNIDO's BISnet programme brings together information from different sources and converts that information into solutions, including information and communication technology and e-business support, with the objective of facilitating the integration of SMEs in national and global value chains. The programme follows a one-stop shop approach, linking all relevant national and international information sources in the business resource centre, which is embedded in the local business and institutional environment. They constitute physical locations, where entrepreneurs can seek business advice and support. The business resource centres also host information and communication technology training facilities for individual and group training.

The establishment of a business resource centre follows four sequential steps: *(a)* an SME needs assessment to identify gaps and requirements; *(b)* the development of a commercial business plan for a business resource centre; *(c)* the establishment of a commercially operating business resource centre; and *(d)* rural extensions of the BRC (business telecentres) to enhance the national SME information support infrastructure.

The BISnet programme is currently being implemented or planned in Algeria, China, Cuba, Djibouti, Egypt, Eritrea, Ethiopia, Guatemala, Morocco, Mozambique, Nigeria, Pakistan, Saudi Arabia, Tunisia, Uganda and the United Republic of Tanzania. Business resource centres should be demand-driven and customer-oriented, include private firms as local partners and be based on business plans, that is, codified intentions for the long-term financial sustainability of the centres. The main challenge relates to achieving financial sustainability in environments where SMEs are even reluctant to pay for value-added information. The basic features of UNIDO's BISnet approach correspond to internationally recognized good practices in the provision of business development services (Altenburg, Stamm [9]). However, evaluations of UNIDO's integrated programmes in Ethiopia and Uganda noted difficulties in the long-term sustainability of the business information source due to low effective demand (UNIDO [168]).

9. General policy conclusions

UNIDO's portfolio of SME development services covers the most important needs of SME development. UNIDO has an important role to play in strengthening the SME sector in developing countries with the dual aim of enhancing productivity growth and making development more equitable. UNIDO fulfils both a global forum function, assisting governments in policy-making, and as a specialized provider of technical cooperation for industrial development. The service modules offered are comprehensive and target the most relevant issues of SME development. This creates a unique opportunity for cross-fertilization between practical project experiences and strategic guidance at the policy level. However, the evaluation of the integrated programme in Viet Nam suggests a further strengthening of the transfer of knowledge between technical cooperation and the Global Forum function (UNIDO [173]).

Policy recommendations provided here, therefore, refer to fine-tuning certain policies rather than radical changes. Besides the specific recommendations presented in the previous chapters, three more general policy conclusions are highlighted as follows:

- To focus more strongly on the policy level. UNIDO has a unique possibility to exploit the policy know-how generated within its global forum function for advising governments on high-level industrial and SME policy-making. While UNIDO is an international lead agency with regard to certain services, for example, assistance in drafting SME Master Plans and spreading technology foresight in developing countries, cooperation with a number of countries is limited to microlevel interventions with relatively low outreach, for example, in the case of the integrated programme in Madagascar (UNIDO [171]). Focusing on a high-level dialogue on industrial strategies, including aspects of how to improve the business climate and make it pro-poor, how to design strategies for technology and innovation, or how to integrate SME and investment policies, would further capitalize on the core competencies of UNIDO vis-à-vis bilateral agencies and could have the strongest impact;

- Support at the level of policy formulation, as well as technical cooperation for improving specific instruments of SME promotion should always be based on a systematic assessment and a thorough understanding of structural change. SME policy should enable firms to cope with changing market conditions and to defend markets and upgrade production capacities. To achieve this objective, support for promising activities and clusters of enterprises aimed at building competitive advantages in dynamic industries need to be combined with activities to provide entrepreneurs and workers in traditional sectors of the economy with tools for coping with the inevitable consequences of structural change. From this perspective, it may sometimes be pertinent to interrupt established production patterns and trajectories, strongly emphasizing innovation and technological learning. Benchmarking against successful competitors, enhancing linkages and spillovers between "modern" and "traditional" activities, new public-private partnerships with change agents, innovation contests and awards are some appropriate tools;
- National programmes should be more focused in order to exploit synergies. One evaluation concludes that the respective programme was "from the outset much too broad and dispersed, particularly as compared with the coordination and management capacities both of UNIDO's headquarters and of the main counterpart" (UNIDO [166]), while another one recommends that UNIDO should follow a specialized sector approach in order to maximize its impact (UNIDO [173]).

The SME policy of UNIDO is already becoming increasingly guided by these principles. If this orientation is consequently pursued, it could further enhance the catalytic role of UNIDO in the achievement of the Millennium Development Goals.

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