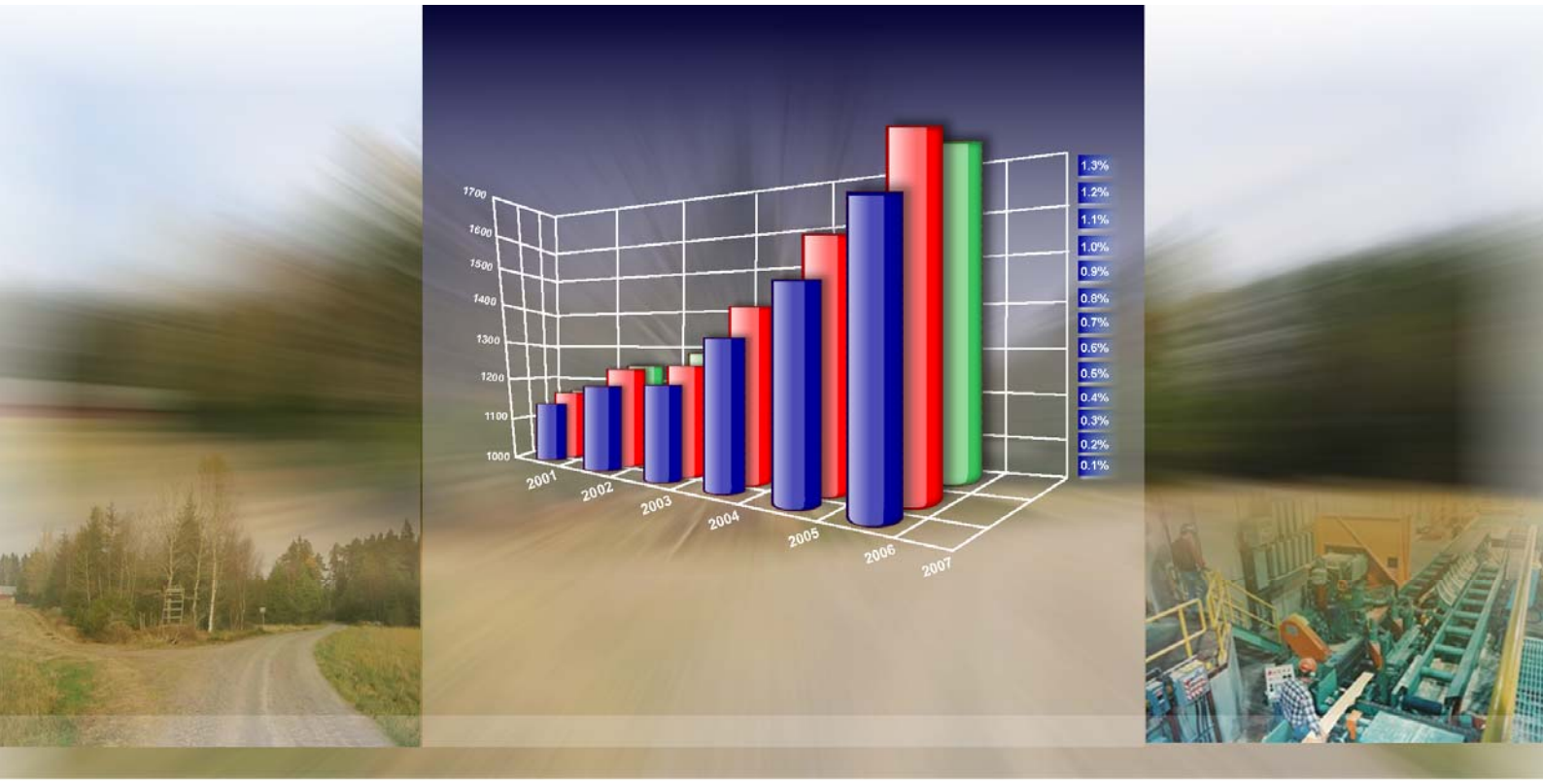
Competence Development for Growth
International Outlook and Analysis



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Competence Development for Growth
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PART ONE: ISSUES AND CONTEXT

1. INTRODUCTION[1]

Research rarely focuses on the needs for competence upgrading in Small and Medium-sized Enterprises (SMEs) specifically.[2] Still, through a range of studies and surveys that approached this issue indirectly, we have a reasonably clear understanding of relevant aspects and issues. These include the highly idiosyncratic nature of SME needs, the difficulties for SMEs to articulate these needs effectively, the importance of balancing the upgrading of various internal skills and that of becoming better at purchasing certain services from professional external providers, limitations in the supply of vocational training, and the difficulties for universities and higher education institutions to adjust to the specific needs of companies. Studies adopting a holistic or comprehensive approach to such issues in the competence upgrading of SMEs are few and far between. Further, relevant comparative information at international level is practically non-existent.

Against this background, the present report aims to structure some of these issues and to examine the associated success and failure for competence development strategies and policies around the world. While Part One outlines the issues, Part Two of the report presents the results of an extensive mapping of different programmes, with consideration to variation in company size and needs of upskilling and training. Given the considerable territory covered, and the limited availability of thorough evaluations, the emphasis is on search for evidence of a particular kind of approach to the issues as stake. There is no attempt to be exhaustive or precise in the characterisation of broad industrial structures or entire policy agendas. While focusing on SMEs and reviewing different types of skills upgrading, the study still touches upon other related experiences generated in training and development of human resources more broadly, including in larger companies. In addressing such connections, however, the report merely aims to paint the big picture.

The study examines a limited set of precise aspects of competence development. At least four types of incentive structures are relevant, however, and will be connected to in different types of programmes, i.e., those that are:

- framed by government or other public actors, such as those related to regulations, taxes, provision of finance for education or investment, tariffs, etc;

[1] The authors, Thomas Andersson, Ingrid Andersson, Glenn Gran and Andreas Mossberg, would like to thank Marie Hallberg, Christian Möller and Matthieu Roest, IKED, and Martin Henriksson, Malmö University, for their input and data compilation. Boyan Kostadinov, IKED, is thanked for graphic design. We also gratefully acknowledge financial support from NUTEK, as well as the responses and support of the contact persons who provided valuable information from the studied countries. Insightful comments and suggestions for improvements were received from Göran Bruhlin and Piero Formica. The authors alone are responsible for errors and omissions.

[2] Except for where stated differently, this report applies the definition recommended by the European Union (in this area, there is no universally accepted official definition). According to this definition, an SME is an enterprise which: (i) has fewer than 250 employees.; (ii) has either an annual turnover nor exceeding € 40 million, or a balance-sheet total not exceeding € 27 million, and; (iii) of which not more than 25 per cent of the capital voting rights are owned by one or more enterprises falling outside the SME-definition. In terms of complementary concepts; a "micro firm" is defined has having fewer than 10 employees and a "small company" between 10-50 employees.

- generated within academia, for example, career paths or scientists, disciplinary demarcations, attitudes in regard to ruling authority vs. creativity, in connection with vocational training or special programmes catered for executive education or management training;
- shaped by market forces, notably for companies in product as well as factor markets, showing up in their drive for profit, share, innovation, search for or defence of knowledge, etc. and
- relevant for individuals, such as striving for higher salary, joy of learning, increased self-confidence, better use of time, and so forth.

Rather than surveying evidence of each of these, however, the report focuses on the need and usefulness of a particular combination of measures. In this sense, it outlines a new and potentially powerful approach to competence upgrading and regional development. In particular, by examining the presence of certain connections or consistency between initiatives in these two areas, the report aims at taking a "step forward" compared to the previous literature, as well as compared to what is generally attempted in most current policy programmes. The focus is on the means of capturing the potential for positive synergies between measures targeting skills upgrading around core business within firms, and those strengthening external service provision. We examine to what extent the potential benefit between these two sets is being exploited around the world, and we outline what advances could be made in future approaches.

The objective is to help spur new and more innovative and coherent hands-on methods to foster competitive SMEs and regional economies through skills upgrading. The key question is what could be done to combine an upgrading of companies' internal competencies with a strengthening of conditions for external professional service providers. It is argued that internal capabilities and a dynamic overall environment or milieu may be complementary, motivating the adoption of a comprehensive approach that addresses both in parallel. What that approach should look like, and how it could be implemented, will greatly depend on circumstances, including the specific features of companies, universities or other centres of skills upgrading, industrial structures, and so forth. Still, as will be seen, an international comparison enables a number of systematic observations, and can lay the basis for new insights into what is required for designing and implementing of more effective and relevant programmes in this area.

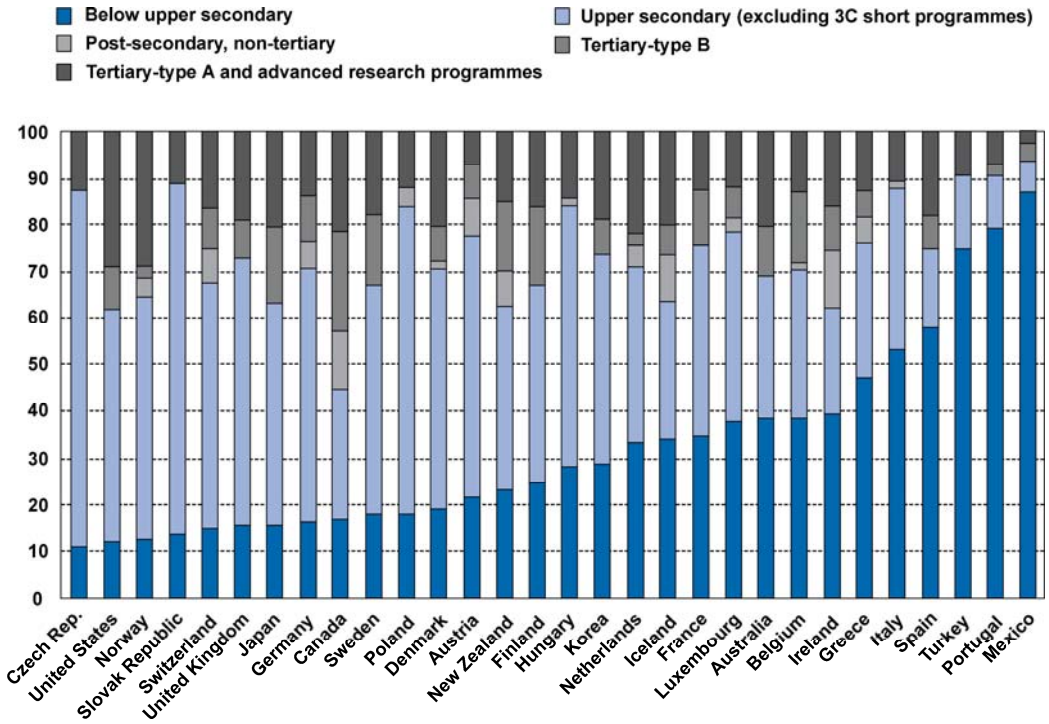
As the next step, following this study, already planned pilot projects could help clarify how the notions and lessons of this study can be put to concrete use. The purpose of the pilots already envisaged for Sweden will be to gain insights into practical applications of the key messages, and on that basis provide further guidance on the implementation of comprehensive regional programmes tailored to specific local circumstances.

2. BACKGROUND

Educational attainment has traditionally been viewed as greatly important for economic performance. Figure 1 illustrates different developed countries standing in this respect. As illustrated, Sweden ranked in 10th place, with respect to the share of the population which has attained at least "upper secondary" education. Further, the enrolment and output of the Swedish educational system, viewed from the share of the population which has attained a higher education, has increased rapidly in Sweden over the last 20 years. At the same time, many other countries, also in the developing world, have increased their numbers at great speed. Moreover, the general relationship between quantitative measures of education and economic performance has basically faded (Barro and Lee, 1996; OECD, 2001).

Today, it is acknowledged that quality is of greater importance than quantity in education and human resource management. It is critical how skills are utilised, and that they are continuously upgraded throughout the economy. Special issues arise for small and medium-sized enterprises (SMEs), and for peripheral regions.

Figure 1: Level of education attained by the adult population (2002) - Distribution of 25- to 64-year-old population



Note: Countries are ranked in descending order of the percentage of 25- to 64-year-olds who have completed at least upper secondary education.

Source: OECD (2003b)

It should be emphasised that the population of SMEs includes a wide diversity of firms. Some SMEs have high growth potential whereas others are inherently stagnant. In between we find many different categories of firms which are more or less prone to growth, because of sectoral belonging, characteristics of the entrepreneur, ownership structure, etc. Specific kinds of SMEs may encounter their particular issues and barriers. For instance, SMEs in manufacturing and SMEs in services demonstrate differences, often with the latter particularly dependent on

intangibles and less so on assets in the form of machinery and other physical assets, and with the former relatively more active in international trade. Medium-sized firms with a few hundred employees clearly tend to be much more established and less subjected to liquidity constraints and be less vulnerable than small firms with 5 or 10 employees. For women entrepreneurs, specific barriers for start-up and growth have been identified with regard to access to information, access to finance, access to markets, access to networks and validation (UNECE, 2004; IKED and GKP, 2007).

In a general sense, however, SMEs account for the bulk of employment in practically all countries except for the United States. Further, SMEs tend to be subjected to lower levels of skills in management as well as among employees, and also make disproportionately low investments in vocational training. This category of firms tends to be faced with sharper liquidity constraints than bigger firms. It is more difficult for them to free up time for employees to engage in training and, for various parts of their organisation, they may have greater problems to allow for specialisation in different functions. A related aspect is that management may have difficulties in evaluating and knowing how to exploit employees' skills.

Yet, SMEs are today viewed as crucial for the vitality and dynamism of most economies (OECD, 2005; European Commission, 2007). This is not only because of the sheer number of these firms and their share of the economy, but also because they are less burdened by costs that have been sunk in historical activities, compared to larger already established companies, possibly enabling them to be more flexible and prone to experimentation. Given their smaller scale these firms can enjoy higher flexibility and are better able to assume risks in new areas; they may thus be more innovative and represent an important source of new competition (Jovanovic and Nyarko, 1996; Peneder, 2002).

For enterprises to be competitive, however, there is a need to foster processes that can allow for sufficient continuous learning, both in terms of management capabilities and training of staff. At the outset there is the issue of the competencies and learning ability of the founding entrepreneurs, and the propensity of individuals with various kinds of skills to attempt start-up of a new company varies tremendously between countries, as does the survival rate of firms (Global Entrepreneurship Monitor, 2006). As a firm grows and passes through stages of expansion, e.g. from none to 1 employee, or from 5 to 10, it meets with a changing mix of crucial challenges. In the case that a company suffers serious setbacks and has to slash costs, and SMEs are much more vulnerable to recession than bigger firms, it is typically thought easier to rebuild an organisation that has lost all its physical records and systems than one whose employees have become marked by degraded qualities and competencies. A competitive firm is not only a portfolio of products or services, but represents a portfolio of competencies that are organised and used in a way that, above all, enables a response to customers' needs (Hamel et al., 1994).

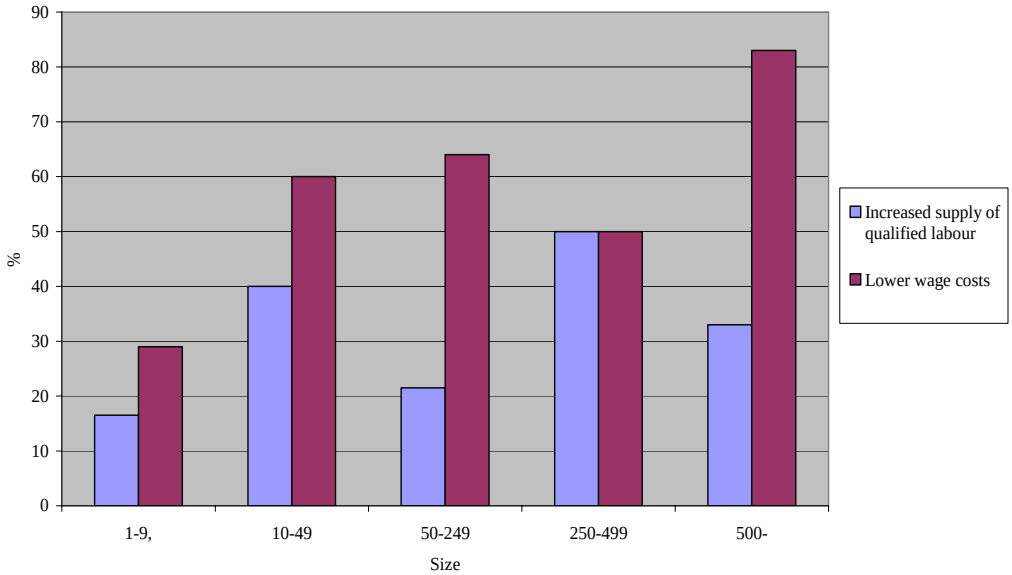
In Europe, there are clear-cut indications that enterprises in general, including SMEs, are increasingly attentive to the need of managing knowledge and skills. Data presented in the ENSR Enterprise Survey indicates that more than half of Europe's SMEs view competence development as a key part of their general business strategy. In Appendix 1, further observations are made on which percentage of SMEs reported that competence development activities are a key part of the general business strategy. Meanwhile, approximately four out of ten European SMEs admit a need to upgrade their in-house competence base. This concern is the strongest amongst the medium-sized enterprises, with micro and small enterprises apparently adopting a somewhat more relaxed attitude. Appendix 1 includes additional information on the rate and frequency of firm-start ups, survival of new firms, and average size of firms in selected European

countries. The figures illustrate the low entry-rate, somewhat higher record of survival among entrants, but relatively small scale of new firms in Sweden. A review of analysed initiatives in the country study is provided separately in Appendix 3.

As will be shown in this report, the available evidence at national level confirms the important role attributed by SMEs to the upgrading of their human resource basis. Thus, 40 per cent of Austrian SMEs argue that further education constitutes one of the key factors for the future success of the enterprise, whereas for another 18 per cent it is the most important impact factor for future enterprise success. Up to 86 per cent of Belgian SME-executives believe that an involvement in training benefits the enterprise's general efficiency. In Denmark, up to 83 per cent of national enterprises confirm a positive return on investment for competence development activities. It is thus not surprising that for 67 per cent, continuing development of competencies in general is regarded as crucial or very important for the competitiveness of the enterprise.

In estimating the importance of lower wage costs across companies of different size, an ongoing IKED survey among 500 companies in the province of Småland, Sweden, indicates that large companies consider wage costs particularly important for expanding employment. This may be a reflection of emphasis on mature, standardised production in many such firms. Wage costs are a significant determinant for all but the smallest companies and, even then, almost 30 per cent indicate this factor to be very important. The supply of skilled workers is stressed especially by groups of firms with 10-49 and 250-499 employees. According to this data base, in some 35 per cent of cases, large companies consider a greater supply of skilled workers as crucial. Swedish firms with less than 50 employees are reported to be the most constrained by the supply of skilled workers.

Figure 2: Changes that would lead to increased investments in Sweden in the long run, percentage of firms answering important or very important



Source: IKED database

It is difficult to gather hard data on changes over time in this area; however, a number of factors, operating on both the demand and the supply side, clearly act as driving forces for enhanced skills upgrading. At the same time, some of these are also interwoven with circumstances that account for complications in the ability of firms and individuals to respond to the needs.

According to the ENSR Enterprise Survey 2002, lack of skilled labour has been the main constraint on business performance of European SMEs in recent years. Further, the fact that SMEs underline the importance of skills upgrading is, in itself, an indication of the problems they are confronted with in this area.

2.1 Pressures for Skills Upgrading in SMEs

In the following, we briefly discuss a number of factors which we view as currently placing high demands on SMEs with respect to the development of their competence base:

New technologies

The accelerating introduction and diffusion of new technologies, ICT in particular, brings an unprecedented flow of new opportunities and heightened competitive pressures, resulting in a continual need for raising competences and shifting organisational requirements in the workplace. For instance, 51 per cent of Portuguese enterprises with ten or more employees identify the introduction of new technologies as the main factor generating training needs. The success of technological and organisational innovations within an enterprise depends to a large extent on the ability, skills and intellectual capacity of individuals at all levels to absorb change and interpret the rapidly changing environment. Therefore, the old "Tayloristic" success formulas characterised by the division of labour between "thinkers" and "doers" appear not applicable in the current knowledge-intensive economic environment.

Internationalisation

The increasing internationalisation of markets and the subsequent competitive pressures faced by SMEs, as well as changing legal requirements, give rise to in additional competence needs, e.g., in language, marketing, business law, etc. Various studies suggest that the internationalisation of firm operations tends to be accompanied by a growing ability on the part of firms to make effective use of an appropriate mix of knowledge sources, spanning research, learning from suppliers and customers, university or institute relations, or those that are internal to firms or which reside within groups of firms (Criscuolo et al., 2005). The traditional instruments for knowledge and technology transfers, i.e. those embedded in the trade of goods or following from foreign direct investment, remain important but are now increasingly complemented by a range of other mechanisms. This includes the internationalisation of labour markets and the enhanced mobility of experts and workers across national borders. SMEs face relatively stiff challenges in recruiting and/or retaining competent staff.

In a general sense, SMEs are on average relatively dependent on local markets with regard to both factor inputs and product markets, indicating that they may fare relatively badly when competitive pressures increase. At the same time, similar to larger firms, SMEs have a great potential to gain from all the various aspects of globalisation. This is particularly as the advance of ICT makes information easier to come by, and as liberalisation and regulatory reforms are in the process of making foreign markets more open to access by newcomers, including SMEs. An increasing number of SMEs also take the step to outsource and locate parts of their operations in other markets through offshoring, thereby being able to lower costs and improve means for market access. At the same time, SMEs still tend to encounter greater risks than bigger firms when embarking on such strategies, in part because they may have less bargaining power or be less informed about the risks. In order to capture the potential benefits of globalisation, it is often decisive for SMEs to be able to team up with other firms. In this way, globalisation brings a range

of specific needs for SMEs to adjust their means of doing things and to organise themselves, including so as to be able to manage more complex combinations of internal and external structures and assets.

The ageing workforce

Another important reason is related to the ageing of the European workforce. Swedish estimates show, for example, that during the next 10-15 years, in some industries around half of all small business employees will retire. As older workers carry with them many years of experience, the development ahead will no doubt cause an important part of the enterprises' key competencies to be lost, with negative consequences for efficiency and productivity. Meanwhile, however, rapid technical progress and swift changes in the workplace make many older workers appear obsolete before retirement. Many in effect lose their self-confidence prematurely, and are induced to leave the firm even before reaching retirement age.

This situation means that the ageing work force gives rise to several inter-related problems. A number of research projects have shown that these can be tackled, however. Part of the solution has to do with practices for retraining and life-long learning for the individual worker. Beyond this, however, effective solutions may require a strengthening of trust and collaboration between complementary skills in the workplace, so to enable them to enrich each other while supporting the specific core skills and learning practices of the individual organisation. Success in this regard can, for instance, make older workers more able to mentor younger workers, and speed their learning process in those areas where they can benefit from sharing the experience of the older ones. Countervailing measures can thus safeguard both the preservation and the renewal of critical competencies, which is also gaining in importance as firms must increasingly compete on the basis of firm-specific knowledge and skills. Firms thus face important challenges, how to make good use of the experience of older workers, while allowing for more effective training and matching of "old" and "new" skills in the workplace.

Enhanced focus on tailor-made skills

In parallel with accelerating technological change, it is becoming increasingly important to adapt goods and services to the specific needs of customers. Such adaptation oftentimes holds the key to greater value added. It hinges on appropriate mechanisms for tracking and interpreting customers' needs in more fundamental ways than used to be the case, so as to be able to predict what is coming and act sufficiently early to allow for preparation. Customer-driven production systems place high demands on firms to be flexible, efficient and robust with respect to exchanges of products and information. The proximity to customers and the ability to collect and process relevant often tacit information relating to a mixture of characteristics pertaining to the products themselves as well as to the users and various services aspects, matter greatly for success.

Another aspect is that SMEs operate in niches and are often oriented and expanded around an original core of competencies that has to do with the special abilities of the owner. The result is a mixture of strengths and weaknesses which, when confronted with changing and more complex market conditions, lead to strongly idiosyncratic needs for skills upgrading. At the same time, SMEs do not have the same scope for internal division of labour as do larger firms, which results in additional demands on managers and workers in SMEs to manage a portfolio of multiple skills.

These specific issues and needs of SMEs are far from always well understood by firms themselves, at least in early stages or stages of rapid expansion. Lack of management skills, supportive administration and associated strains in work organisation, including severe time pressure in firms that face liquidity constraints and may have grown and transformed quickly from very small scale, contributes to the difficulties.

The strategic nature of knowledge exchanges

Knowledge is not a public good. On the contrary, there are ample observations demonstrating that the decisions how to diffuse, expose or protect knowledge are becoming increasingly decisive and demanding at firm level. As the technologically leading firms become more sophisticated in their management and exchange of knowledge with suppliers and clients, SMEs also meet with greater requirements regarding how to manage their knowledge and skills upgrading.

Many SMEs in traditional industries were created by "practical men". Even today many SMEs are set up by individuals that have limited educational merits. Their means of gaining information and engaging in trade are often not well adapted to the logic of today's knowledge exchange. Such considerations add to the special challenges confronting many SMEs. As we will come back to, they also face special issues in working out remedies through exchange with universities and many other institutions which offer training.

An important aspect in this context is the growing importance of research and development (R&D), through which an increasing number of firms are actively engaged in the development of new knowledge, or in genuine knowledge creation addressing how to put existing technology to use. It is now increasingly observed that not only big firms but many SMEs are able to engage actively in, and benefit from, R&D. At the same time, R&D continues to be associated with benefits of scale. R&D generates spillovers and many SMEs are too small or too narrowly focused to capture a significant share of the gains. This implies that, in this case as well, it is generally very important for SMEs to team up with other players, whether in the form of other firms or research institutes or universities, and engage in R&D that is integrated with the operations of trusted partner organisations.

Some researchers argue that firms' engagement in R&D is more important for understanding variation in their innovative and economic performances, compared to their engagement in softer means for technology and knowledge transfers, including training or informal exchanges and networking (Arvantis and Woerter, 2006). Still, it needs to be recognised that formal R&D is yet of limited significance in SMEs, and its viability is likely to be strongly related to human capital and mechanisms for skills upgrading. Both the managerial and economic literature has shown that the prevalence and the organisation of human capabilities critically influence firm performance, including what returns can be earned from R&D (Black and Lynch, 2001; Piva and Vivarelli, 2007). Whereas this is more or less universally applicable, special issues arise for SMEs. Although the heterogeneity of this population of firms needs yet again to be kept in mind, the challenges of accessing and governing the right mix of skills, as well as of mobilising appropriate complementary external skills, are inherently severe for this category of firms.

Finally, there are many indications of the speed with which important factors are currently changing in this area. With declining transport and communication costs, changing regulatory frameworks, internationalising production chains, sharpening competition, and evolving customer and societal needs, the role of geographical proximity to other firms or customers, the

means of establishing or maintaining trust and open means of exchange, the requirements of satisfying customers and quality constraints, and so on, are in a state of flux. These developments affect SMEs, including their needs and means of raising competencies, in particular ways.

2.2 Matching Problems in the Provision of Human Capital

While confronted with such pressures for adjustment, SMEs meet with certain complications which hamper their ability to respond. We will here pay particular attention to the presence of matching problems, between the demand of skills on the part of SMEs, and the actors supplying such skills. The implications of such mismatch are seldom carefully examined in the context of skills upgrading for SMEs. Further, previous work has seldom addressed the connection between training programmes and policies aimed at strengthening core skills, and measures enhancing the access to complementary services and capabilities. The presence and significance of such linkages lay at the core of the present report.

The presence of matching problems in training and investment with human capital has been widely known for years. While the skills of the individual are important, the management literature has underlined that competitive advantages crucially derive from tacit capabilities at collective, e.g., firm level (Damanpour, 1991; Becker, 1993; Hamel et al., 1994). Knowledge and skills are often less visible to competitors and more difficult to imitate, compared to more tangible assets, providing a viable basis in many cases for building sustainable and robust advantages. This aspect reflects the broader phenomenon that intangible assets and intellectual capital are gaining ground as decisive determinants of competitiveness.

Meanwhile, a desire to rely on past successes tends to induce established groups to act so as to hinder the adjustment processes. Excessive reliance on given contacts and tacit knowledge in combination with neglect of external linkages and lack of foresight may account for lock-in effects due to the dominance of established practices (Amin and Cohendet, 1999; Martin and Sunley, 2001). The adoption of new work practices can thus be at odds with learning collectively accumulating through previous success periods, leading to gradual failure to recognise changing trends, and thereby a distortion towards excessive reliance on incremental improvement at the expense of openness to radical renewal (Harrison and Glasmeier, 1997).

In universities and other formal education institutions, educational programmes are typically generalised in various ways. SMEs are particularly affected by an inability on the part of the formal education system to match enterprises' specific needs at a given point in time. This, in turn, implies an added need for SMEs to engage themselves in articulating and "pulling" appropriate competence upgrading activities.

Meanwhile, satisfying the specific needs of SMEs, if it can be done, is more desirable from the firms' perspective than the upgrading of more generally applicable skills among employees. This goes back to the traditional contract and bargaining problem already identified by Becker, which holds that employers under-invest in upgrading of general skills among employees since they thereby become more mobile and have a tendency to require higher wages.

A related problem concerns the inability or disinterest on the part of academic, traditional universities and research institutions to develop training programmes that are relevant for the individual SMEs. First of all, it is far from trivial to determine which kinds of courses, programmes and insights are indeed sufficiently relevant for meeting with the specific requirements of a certain population of SMEs. Second, how to package products enabling skill

upgrading so as to be able to succeed with their implementation is far from straight forward. This is both due to the challenges of, e.g., bringing together a critical mass of customers interested in a certain product, and to the difficulties of offering it in ways that are appropriate and accessible. Third, universities and other institutions offering training may not have accumulated the relevant skills, or be characterised by motivations that make them well placed to manage the task. Adjusting to concrete, perhaps somewhat trivial and repetitive needs, in skills upgrading may square oddly with the incentives of academic institutions, which above all strive for scientific excellence.

These issues need to be addressed with a view to the traditional standing of universities, which continue to serve as the prime authority in knowledge creation. University organisations are traditionally based on broad coverage, stability, and resistance to change (Martin, 2003). Today, however, universities cannot stand in isolation as their position is becoming viewed as integrated with society. The new expectations are exemplified by the notion of the entrepreneurial university (Clark, 1998; Hay et al., 2002), and the importance of co-operation with both the public sector and industry as elaborated within the Triple Helix (Etzkowitz and Leydesdorff, 2000).

It is increasingly understood that the potential for learning and successful innovation tends to be dependent on conditions allowing for intensive interactions between different kinds of assets and competences. Elements of this have been recognised in the literature for years, including in the context of industrial districts (Marshall, 1890), competence blocs (Dahmén, 1950), clusters (Porter, 1990), and innovation systems (Lundvall, 1992). There is also a notion of "task specific human capital", that cuts across a set of firms (Gibbons and Waldman, 2005; Balmaceda, 2006), which is likely to be interwoven with local or regional societal and industrial commonalities, traditions and particularities in local skills profiles.

Beyond the presence of such awareness, there are huge uncertainties what strategies and policies are effective in supporting the upgrading of relevant skills. The financial and regulatory framework guiding university and training systems are a far cry from coherent promotion of adaptiveness and effective interface with specific societal actors, and there is great resistance to change in that sphere (Hazelborn, 2006; Carayannis and Formica, 2007), Further, upgrading of competencies that are internal to firms will not in itself be sufficient in many instances. All functions cannot be handled internally, and capturing the gains from skills upgrading in an individual area may require an enhanced capacity to exploit skills in other areas. For instance, in order to cope, SMEs often need to upgrade in parallel the following kinds of competences: i) specific technical skills related to modern communication tools and equipment, materials and substances, methodologies, etc; ii) managing marketing, branding and sales channels that are crucially needed for enabling them to adapt to customer requirements and exploit their specific products within an increasingly globalised economy; iii) upgrading process and product development capabilities, including the management of global as well as local standards of various sorts, protection of intellectual property rights, managing security threats, etc. and; iv) in organising an effective, constructive and dynamic interaction coupled with division of labour vis-à-vis other enterprises within networks or clusters.

As part of the response, efforts are widely made to sharpen the edge of operations within firms by adjusting the boundary lines between internal processing versus transactions performed at arm's length (Black and Lynch, 2000). Private firms intensify efforts to upgrade core business, while increasing the capacity to outsource other functions, and seek to become fully effective in developing, accessing and exploiting all relevant knowledge in their particular niche of operation.

Parallel adjustment in strategy can be observed in other kinds of organisations, such as public sector authorities and universities, although obviously less subjected to competitive pressures.

The task how to develop effective strategies for the procurement of external services is demanding, however. It is well-known that the selection of appropriate suppliers can be extremely difficult, and even more so when the choice has to with the establishment of partnerships that are to last over time and where it will be important that the partners are both capable and willing to continuously improve their service. Beyond this, the establishment of such constructive partnerships will in part depend on the ability of the firm to design appropriate incentives for the counterpart, for instance by being able to offer "rewards" in return for exceptional performances or, by contrast, take repudiating action in the case of failure or misconduct. Also coming into play will be the ability of the firm to screen and monitor suppliers, to handle risk, and the relative bargaining power of the respective actors. While such factors matter in all kinds of procurement and delivery situations (Cabral et al., 2006), again SMEs meet with special challenges, e.g., related to weaknesses in bargaining strength and little margin to handle unexpected outcomes and an acute crisis. All this may greatly reduce their ability to articulate and satisfy their needs for engaging external service providers and make them excessively reliant on internal skills, in effect countering their ability to focus on upgrading of core competencies.

To remain or become more competitive and profitable, there is recent evidence that an increasing number of SMEs have entered a rapid process of outsourcing and offshoring parts of their production activities. This may naturally be motivated by the potential for starkly reduced costs when production patterns can be organised in line with cross-border differences in costs, or by the benefits of improved and more direct access to foreign markets. The problem, however, is that outsourcing and offshoring tend to involve particularly high transaction costs for smaller firms, which may be due to special issues in access to funding (Dean et al., 1998), contracting (Carmel and Nicholson, 2005) or human capital (Nooteboom, 1993). In order to have a chance of success, most SMEs that embark on this route have to renew their combined business and market approaches to cope with a global and distributed product and production environment, and to manage distributed product development within global supply chains. In the case of Sweden, several studies, including at Gävle University, SIF and IKED, have demonstrated that Swedish SMEs commonly fail in these respects. The formal educational skills are comparatively low among SMEs in Sweden, just as in other countries. These firms commonly lack the experience, information and planning capabilities required to judge what will succeed with respect to internationalisation, and they typically lack the bargaining clout that may be needed to retaliate or manage if bullied by larger customers under alien conditions. Embarking on processes of rapid technical and organisational upgrading in an increasingly internationalised environment, SMEs commonly make the wrong decisions and are subjected to high costs and risks. For the regions that depend on them, this may result in an accelerating decline of industrial production, growing difficulties to reallocate the work force locally, and rising unemployment numbers.

Part of the problem has to do with the need for solving organisational relations which allow for specialisation and operational complementarity between different kinds of capabilities. In practically all economies, the service sector is now on the rise, and an increasing number of studies have verified its growing economic importance. According to Triplett and Bosworth (2004), the strong performance of the service sector in recent decades has been instrumental in the high U.S. productivity growth. Other studies have demonstrated the significance of complementarity between services and manufacturing, and that the former may be the key to increasing competitiveness in the latter (Conway et al, 2006).

Again, the heterogeneity of the activities and the issues addressed in this report needs to be emphasised. There are many kinds of SMEs, ranging from very small to somewhat larger, from low-tech to high-tech, from growth-oriented to old family style, etc. Also, the service sector is in no way fixed and uniform. In a general sense, services can be said to be more intangible, more bounded in time, less tradable and storable, and more perishable than manufactured products (Rust and Chung, 2005). At the same time, the difference is more a matter of degree than a matter of kind, and with the increased potential for information exchange that follows upon the advance of ICT, many services are becoming more industrial and "manufacturing-like". As a consequence, services are increasingly subjected to international trade. They are embedded within or closely associated with industrial products, and their quality is on the rise as a function of increased room for innovation (OECD, 2001). Viewed the other way around, the connection to special high-quality services is often the key to added value in manufacturing products. Mastering that connection may not be within the core business of industrial manufacturers. The scope for contracting high quality external service provision may vary greatly, but yet represent the key to enhanced specialisation. Such contracting may allow for economies to scale and scope, and lay the basis for consistent accumulation of complementary skills over time on both sides. As we have seen, this important avenue forward is not easily available to SMEs.

The challenges pointed to here are not merely solved by themselves. Severe information and agency problems are involved, and there is likely to be inherent mismatch in the market place. Likewise, policymakers and public authorities that are taking action to strengthen the supply of skills to SMEs will be unable to effectuate substantive improvement through piecemeal action. Appropriate co-ordination of measures at different levels will be needed. Programmes targeting the needs of upskilling among SMEs have to differentiate between different kinds of firms, and be able to operate so that firms are put in the driving seat to pull responses to their firm-specific requirements. Policies that aim to stimulate or foster the rise of more competitive services, or stronger links between manufacturing and services, must take into account the specific features of a particular region and the kinds of activities that characterise it. In the midst of such interfaces, appropriate forms of intermediaries should fulfil specific and professional interlinking and coordinating functions. One model is that of putting in place, or enabling, the "creation" or "activation" of a so-called "programme animator", or facilitator, who can help engineer and match different forms of supply and demand.

In most of the literature, as in the practical application of this kind of approach across countries, animators and other similar functions have so far been conceived of mainly in the interaction between firms on the one hand, and universities, institutes or public authorities on the other hand. There is a case for training institutions and universities to find ways of organising themselves so as to manage the interface vis-à-vis SMEs in beneficial ways. Clearly, success in this respect cannot be imposed by regulators or other authorities, but will hinge on the presence of playing rules, institutions and incentives that can allow actors on the two sides to identify win-win scenarios and processes. Again, opportunities and requirements will vary depending on the kinds of actors in the specific situation, and between regions. A geographically dense cluster will meet with issues that differ from those that apply to actors that are scattered across a vast geographical area. Large traditional universities that are heavy on basic research, are organised for general-purpose skills, and which have a heavy reliance on relations with big business, will view the interface vis-à-vis SMEs differently than those institutions that are younger, more specialised, less focused on basic research, closer to local communities, and so forth. An effective animator response will have to be designed accordingly.

Measures aimed to raise core competencies in firms should, however, be paralleled by those that strengthen the environment for supporting the provision of relevant complementary competencies, notably through professional private service providers if long-term innovativeness and quality are to be ensured. Here, again, there will be a need for actors or mechanisms that can serve a bridging or matching function. In this case, there may or may not be an actual presence of service providers that have developed the skills demanded by SMEs. The SME sector may not have articulated its demand for such complementary services, and the actual rise of responsive service providers offering appropriate value-for-money, trustworthy products, may be far from a trivial affair. Making a difference in this respect is thus likely to require more than merely a broker; it may take the creation of an "arena" which is capable of raising or visualising a critical mass of both the demand and the supply of relevant competencies. In this case as well, universities along with science parks, industry communities, local authorities, and so forth, may be in the position to provide important bits and pieces, or to inject the stimulus that can make it happen. It appears, however, that the chances of success can be magnified in a situation where there will be parallel progress in the strengthening of firms' core competencies, on the one hand, and an increased availability and provision of complementary external competencies, on the other hand.

3. METHODOLOGY

3.1 Key Concepts

The problems that arise in schemes to assist in skills upgrading in SMEs are partly common for all kinds of environment, while partly also specific depending on circumstances that may have to do with industrial features or the institutional peculiarities of individual countries or regions. In the current project, we have aimed to map, examine and structure a particular range of schemes, pursued by a selected set of countries around the world. The purpose has been to help lay a better basis for understanding the actual objectives and directions of efforts employed by policymakers in this area, as well as to look for informative lessons of what may work under various conditions.

In organising experiences and lessons, one complicating factor is the prevalence of a marked variation in fundamental definitions. For instance, the perception of competence development, as well as the demonstrated preferences for various methods to stimulate investment in competence upgrading, vary across countries. This variation makes it important to apply a reasonably uniform set of definitions of key concepts that can help serve as a foundation for deriving internationally comparable observations and conclusions. The study's approach study is outlined in Box 1.

Box 1: The Competence Development Concept

This survey specifically focuses on "occupational competence". The increased interest in human capital as a key resource in enterprise competitiveness has resulted in a number of attempts to define competence for the use of empirical as well as theoretical research on skills upgrading in SMEs (Argyris 1993, Commission 2001, Nordhaug 1993). The definitions differ in detail but identify in general three main components: knowledge (obtained through education), experience (skills obtained from job environment and from social life) and aptitude (a person's capacity of combining the former two in order to efficiently perform in a job).

The definition chosen for this survey is provided by Nordhaug (1993) who defines competence as "the composite of human knowledge, skills and aptitudes that may serve productive purposes in organizations".

"Competence development" is here referred to as the learning process through which the skills of employees are upgraded. Whereas the employees' own efforts are critical, the behaviour of employers and also other actors may be of great importance. To understand the issues involved, the process may be divided into two main dimensions: the mode (how is the training organised, formal or informal) and the arena (where is the training undertaken, internally or externally) (Elstad, 2002).

Meanwhile, learning processes are constantly occurring among individuals within organisations, on the one hand, as well as between organisations, on the other hand. Learning is, in part, an act on the part of the individual human being. At the same time, learning is also in part a collective process that involves and has consequences for the relations between human beings within as well as between organisations. Conditions and processes that allow for complementarity and/or specialisation between different individuals and organisations influence the effectiveness and the relevance of learning.

Another observation concerns the role of stakeholder relations. Policymaking in the area of competence upgrading is not merely a task for governments, public authorities or other intermediaries. Motives and incentives on various levels matter for learning processes. As for frameworks characterising different countries, those with governments that are actively promoting competence development activities typically display greater awareness of competence issues on the part of the private sector, and a greater openness among business organisations to explore a variety of training methods compared to those countries where the government has adopted a more passive stance. There are also major differences with respect to the role played by

regional and local authorities. Industrial relations, and the engagement of labour unions as well as NGOs at local level, may be of great importance.

Further, not only attitudes and approaches applied in a static sense matter in this context. The ability of an individual, as well as of the organisation that an individual belongs to, and even of other organisations that the individual relates to, to respond and adjust to changes in the world around, is greatly significant for what learning can take place. The way in which different players interact greatly influences not only what kind of learning is going on, but also whether different learning processes are conflicting or mutually beneficial. Outcomes in this regard are influenced by whether there is a distribution of responsibilities that can help encourage a healthy distribution of labour among potentially complementary actors and capabilities (Andersson et al., 2004). In practical terms, the approaches applied by different countries will be examined with a special view to whether certain potential benefits from inter-connected players and stakeholders have been taken into account.

Reviewing the international literature, the methods presented below (Box 2) represent examples of commonly practiced means for competence development. The most extensively applied method, undertaken by SMEs, is generally that of sending employees to branch specific expositions and trade fairs. The environment represented by these kinds of events tends to provide convenient access to certain technologies and market developments. Moreover, the show floors often provide a mix of established and potential customers as well as suppliers, and can therefore be regarded as potentially useful venues for networking and fostering of new business relationships.

Other extensively used methods include traditional activities such as reading professional literature, internal meetings for knowledge exchange, personal development meetings and work rotation (in-house or in other companies). One method that is not so commonly listed is "delegation of tasks and responsibilities". However, the overall experience is that this kind of "decentralizing" initiative, usually initiated at management level, promotes involvement and initiative among employees. Additionally, this is regarded as a tool for the development of second-generation leadership.

Another method, addressed e.g. by Prahalad and Ramaswamy (2000) and Day (2000), emphasises the importance of direct communication with customers as a significant source of information, learning, and competitive advantage. Visiting expositions and trade fairs, as noted above, may in itself provide only general, and not sufficiently specific, guidance to what is really needed from the viewpoint of a specific firm. More is needed, particularly because the most important information is of a "tacit" rather than "general/codified" nature. Insights that are crucially needed for using the information can only be gained through interface with relevant partners and counterparts. Appropriate communication with customers can generate such powerful benefits, motivating an articulation and manifestation of those aspects in training and competence upgrading.

Box 2: Main methods for improving the competence base in SMEs

Method	Mode	Arena
1. Visiting expos/trade fairs	Formal activity	External activity
2. In-house training courses	Formal activity	Internal activity
3. External courses	Formal activity	External activity
4. Work rotation	Informal activity	In./Ex. activity
5. Study visits outside firm's location	Formal activity	External activity
6. Delegation of work tasks	Informal activity	Internal activity
7. Financed professional literature for reading after working hours	Informal activity	External activity
8. Permitted/encouraged reading of professional literature during working hours	Informal activity	Internal activity
9. Personal development meetings	Informal activity	Internal activity
10. Regular meetings with employees incl. elements of education	Inf./For. activity	Internal activity
11. Recruitment of for the firm new competence	Formal activity	External activity
12. Tutor/mentor for newly-employed	Informal activity	Internal activity
13. Senior tutor/mentor for already employed	Informal activity	In./Ex. activity
14. Cooperation with external competence	Inf./For. activity	External activity
15. Linked competence development to salary by e.g. a bonus system	Formal activity	Internal activity
16. Project work	Formal activity	Internal activity
17. Participation in networks	Informal activity	External activity
18. Study visits at the same location	Informal activity	Internal activity
19. Temporary work in another firm	Formal activity	External

Source: IKED

Related to this, an issue of concern is the incentive structure for the relevant actors, whether governmental organisations, academic institutions, companies and/or individuals. Selected observations are thus made as regards the role of different stakeholders, and to what extent top-down versus bottom-up approaches are applied and appear successful under different circumstances.

While the survey presented in the following chapters introduces some broader policy approaches, and makes observations of relevant structures and institutions, its prime purpose is to present the results of a targeted search of findings on the precise issues addressed in this report. The aim is particularly to identify and examine those cases in which there are, at least, elements of a comprehensive set-up. That is, we are looking for cases in which attempts are made to link measures in search of learning processes within organisations - that aim to sharpen core business competencies - and those that aim to strengthen the capability of organisations in order to mobilise complementary capabilities outside the organisation.

In this search, which actors and sets of activities and experiences have proven useful varies between countries. Again, this reflects significant variation in conditions among countries. The study consequently does not attempt to present a comprehensive survey of any particular set of actors or policies. There is no systematic scrutiny of the population of SMEs, certain industries,

or scrutiny of particular business services or their linkages to manufacturing. Likewise, the report does not explore in any detail the organisational issues confronting universities, or to what extent the prevailing regulations or incentives allow or enable them to engage in vocational programmes targeting SMEs, or to develop other useful linkages in training or research. Further, we do not survey the full set of institutions that is engaged in offering training and research activities integrated with SMEs.

Any comprehensive presentation and analysis of such aspects would have to take on a greater scope and also address additional specific issues problems with regard to definitions and measurement. In some cases, it would also have to embark on examining a range of complex and controversial issues which span the financial and regulatory frameworks. In the case of universities, a comprehensive examination of their role in this context would have to enter into a discussion of their scientific and collegial discourse, the influence on their operations of various value- and incentive systems, the role of competing social obligations, and so on. It should nevertheless be underlined that the organisational issues affecting the supply side of higher education and training are greatly important for the issues at hand in this study. This applies both to the institutions themselves, and to their ability to create, work with, or relate to bodies that can serve to bridge between them and communities of SMEs, such as science parks, incubators, learning centres, and so forth.

Again, however, the country studies presented below have been organised so as to allow for some brief introduction to the context and main trends in those policies and approaches that relate to skills upgrading and vocational training of particular relevance to SMEs. Extending from that, each chapter presents additional observations of those initiatives and activities in each country which we have found useful in exploring our specific theme. The approach aims to allow for conclusions to what extent there has been a movement, and possibly success, in capturing potential benefits from linkages between measures at the two levels. That is, we are looking for cases in which measures that aim at skills upgrading in line with a sharpened core focus within firms, link to those that aim at strengthening firms' ability to draw upon other complementary skills from outside their organisation, notably from professional service providers.

Though the study has primarily focused on a number of European countries, a few particularly interesting non-European countries have also been included in order to make the international overview relevant. The following countries have been subjected to a fairly extensive mapping: Australia, Belgium, China, Denmark, France, Germany, Great Britain, Ireland, Norway and Spain. Country notes have covered: background, e.g., company structure and traditions in vocational education systems; incentives and policies at national, regional and company level; specific programmes and evaluations of these programmes in the cases these exist and are available.

3.2 Evaluation

In Part Two, this study aimed to include the collection and examination of existing evaluations of various programmes. The quality of evaluations varies greatly, and certain checks need to be applied in separating between observations and conclusions that are reliable and those that are not. The study also draws some conclusions on "good practices" in evaluation of competence programmes, which will be useful in the implementation of a possible future pilot programme.

Policies aiming at social gains associated with changes in the behaviour of private enterprises could generally, in a theoretical sense, be understood as aiming to generate impacts characterised

as additionalities. The effect might be indirect, and occur through an overall increase in productivity or employment as a result of increased investment, better functioning markets, improved competition or collaboration among participating and non-participating firms, etc. In an evaluation along these lines, negative effects through dead-weight losses and distorted incentives are generally evaluated against the potentially positive static and dynamic effects.

As for methodologies applied across countries, efficiency analysis (in the form of a standard CBA-approach) is a widely implemented tool, sometimes enhanced with complementary efforts to assess the value of intangibles, such as the creation of new networks, structures and services. The toolbox may include a portfolio approach. A separation needs to be made between the requirements of ex ante, mid-evaluation or monitoring, and ex post assessment.

Programme and policy evaluation experiences differ widely among countries, involve a large variety of evaluation instruments and concern a broad range of institutions.

The following issues in evaluation require attention:

- interpreting and addressing relevant aspects of "additionality", in a static as well as in a dynamic sense;
- how "rationale" is specified, possibly including a hierarchy of objectives, and examining whether first best responses are achieved (superiority criterion);
- choosing the level that is optimal, or the most efficient, for policy leverage (micro, sectoral, aggregate);
- balancing between measuring efficiency factor by factor, evaluating influences in a piecemeal sense, and addressing multiple-instruments, multiple-actor effects, including through relevant synergies and other linkages; and
- process objectives: overcoming ex ante – ex post problematics, addressing stakeholders' effects, underpinning incentive effects, motivating players to report data and make evaluation feasible.

Counter-factuals are often difficult to obtain when more aggregate effects and processes are measured, which is increasingly wanted and strived for, i.e. one cannot know what would have happened in the absence of a programme or a measure (using a "control group" to compare is not always practical or effective). Nevertheless, efficiency does need to be measured on the basis of appropriate criteria. The presence of the following represent examples of measures applied for understanding the efficiency and effectiveness of programmes:

- Appropriateness: Does the programme address an objective that can be clearly related to policy rationale in terms of market, policy or government failure?
- Combined Efficiency: How does the policy interact with other measures?
- Own Efficiency: Is the programme cost-effective in achieving its specific objectives?
- Adaptive Efficiency: To what extent are results fed back into policy design and implementation in the first place? Does policy design allow for a sufficient degree of flexibility enabling it to respond to needs for change?

Distinctions between objectives reflect the role of different actors. For those involved in the actual management of a programme, including policy makers or public sector intermediaries, the focus is generally on internal programme efficiencies and on maximising the quality, responsiveness and delivery of a given scheme. For policymakers and society at large, there is a need of a more open-ended approach which allows for consideration of first-best solutions to real problems. There is thus a case for engaging affected stakeholders, for the purpose of pinpointing unwanted side-effects as well as to articulate the presence of yet neglected opportunities.

In practice, considerable information is available to governments on what can be achieved through various individual policy measures. What is more difficult is the task of designing and adopting a set of consistent measures, that is able to address outstanding issues in a consistent manner. Piecemeal actions will generally have only a modest effect on their own, unless they are complemented by measures to address conditions that are contradictory or inconsistent. A policy which looks good on paper may likewise be of little consequence if market actors anticipate that it will soon be overturned. For policy to be consistent and credible, broad support within (and outside) governments for long-term objectives tends to be important, as well as the presence of mechanisms to underpin long-term commitment to these objectives. In many cases, credibility requires proper co-ordination and buy-in among a spectrum of policy domains crossing traditional delineations of administrative competence, as well as among multiple stakeholders.

There is, finally, the need of taking into consideration what can allow for an appropriate transfer of lessons: To what extent are the results of a particular policy or programme dependent on the presence of unique enabling factors, or conditions that may not be present in another particular situation? Do favourable impacts materialise through behaviour or performance within one individual sector, or do they draw upon a context-specific interface between different specific sectors? In case developments are occurring within spatially concentrated clusters dependent on geographical proximity, to what extent could they also prevail in more dispersed communities of firms? Are there other regional features which are decisive for generating observed outcomes? What is the influence of differences between various social and cultural kinds of context? Are developments dependent on a particular time-frame, or that processes are able to unfold over a certain extended period of time? Given such considerations, is it possible to emulate successful experiences in other situations?

Of importance to evaluations in many areas today, is the need of broadening perspectives so as not to study individual bits and pieces in isolation, although they are inherently interrelated. There is the need of understanding how actors behave, respond, and adjust to each other. There is also the need of shifting the focus of evaluations to an earlier stage of the process, so that attention is paid to conditions *ex ante* the introduction of a particular programme, and can allow for gradual measurement and learning during the course of a project.

In the present case, naturally we have been constrained by the presence of past evaluations and assessments, the organisation of which must be taken as given. In our search and interpretation of activities in different countries, however, we have paid special attention to those cases in which there has been evidence on, or indications of, the importance of linkages. In the implementation of future programmes in this area, priority should be placed on organising the data so that there is more evidence on what role different actors play and what factors determine the way in which linkages between them influence outcomes.

4. THE NEED OF ADAPTATION

As explored in the preceding chapters, there is a great need for training and upgrading of skills among firms, including SMEs. Yet, the forces of supply and demand meet with challenges and do not match easily, in part because of contradictory interests and incentives, notably affecting the interface between SMEs and universities.

Whereas the precise set of actors and issues confronting them is bound to vary depending on circumstances, some features are of general significance. In the following, we take note of some of the relevant institutions, as well as some of the barriers, that should be kept in mind.

4.1 Institutions and Actors

Several kinds of industry-based schemes and practices have been established since a long time in order to enable the creation and/or continuous strengthening of needed skills. Perhaps most important has been the range of activities typically referred to as apprenticeships. While particularly prevalent in some countries, such as Germany, the general trend points towards a reduced role for this kind of sector-based training activities. In their place has come a flurry of market activities as well as public programmes and initiatives started by mainstream educational institutions, devoted to vocational training and the like.

The national systems for higher education and research nowadays tend to constitute the centre of most schemes that aim at the accumulation of human capital, applying to academia itself as well as to life-long learning and learning more broadly in the workplace. It should be noted that the social returns to education normally are assumed to be higher than those returns that can be captured by the organisation that makes the investment or the individual directly involved, due to various kinds of spillovers accruing to other actors in society. At the same time, as noted, efforts to arrange for an effective supply of skills meet with various complications. The effectiveness of educational systems in different countries has, for instance, been seen to vary with factors such as income distribution, job mobility, etc. (Patrinos et al, 2006).

Rather than how much training is offered, the focus is now on which skills are conveyed or inspired, in which proportion, whether they match with the demand of skills, whether they are serviced over time, and so on. It is inherently difficult for programmes within higher education institutions to "teach" students how to apply their knowledge, skills and understanding of the workplace from the outset. In other words, education has certain difficulties meeting market need (Storey, 1998). Executive programmes and various other training programmes offered to businesses likewise tend to require special adaptation if they are to be truly relevant for meeting company needs.

For such reasons, the mainstream educational institutions should naturally be complemented by other actors that are better placed to package and communicate many of the skills demanded by business. Research institutes, special industry colleges, tailor-made courses or seminars offered by industry itself, and so on, may be more effective in meeting the practical needs of industry. Institutions for higher education and academic research nevertheless possess valuable knowledge resources, also from industry's perspective. The different time horizon, the fundamental link between university research and education, the availability of different kinds and combinations of impulses in knowledge and technology development that are prevalent in academia, may account for added gains compared to what firms encounter and are able to manage on their own.

This is generally well understood by big business, which increasingly forms long-term productive relationships with first-rate academic research and education institutions. These firms are often able to develop a complementarity in the sense that they perform applied research in-house, but are able to be in touch with, and in part (but only in part) inspire more basic and general-purpose research which is going on in universities. Although the boundary lines between basic and applied research are increasingly blurred in some cases, as in biotechnology, there is still generally a good case for some specific division of responsibilities (and yet close contact) between academia and big firms engaged in knowledge-intensive research and production processes.

In regard to SMEs, the complementarities between functions and skills within the firms and those that grow in academic institutions are often less obvious. Still, the potential needs are likely to be just as great in this case, basically for the same reasons. Yet, the realm of what is relevant may be narrower than in the case of a big firm. The time and the effort that can be devoted to identify the opportunity are more limited. In order to make the match, there is a bigger need in this case of appropriate packaging and match-making between the supply and the demand of skills in this case.

Industrial institutes tend to have a more clear-cut mandate to offer training and diffuse technology to business, compared to universities which tend to give priority to research and general education. Problems may arise with industrial institutes as well, however, as these tend to be related to certain, already established industries, and may become associated with vested interests. They are also less effective than universities in linking education, research and business development. Another observation is that industrial institutes, in contrast to private service providers, are publicly funded and may in effect function more like government bureaucracy than private sector agents. One must conclude that all these various actors have their specific strengths and weaknesses in support of competence upgrading in business.

4.2 Obstacles to Competence Upgrading

Competence development activities are often surrounded by a number of contradicting incentives. A literature survey of the topic reveals a number of main barriers that seem to be presently independent of country and cultural context. For this report, it is of interest to consider the most commonly observed problems:

Insufficient financial resources

Measured in relative terms, training costs for SMEs are high compared to costs for larger companies. Costs include not only the fee for, e.g., joining a training course and buying the literature that is necessary for profiting from training, but also the costs related to the absence of the individual employee, the investment to identify the relevant training activity as well as how to use the new skills, etc. The absence of short term benefits in combination with the difficulty of calculating the long-term benefits from sending staff off for vocational training tend to make employers reluctant to invest in competence upgrading activities (Observatory of European SMEs, 2003).

Limited range of relevant courses

Some of the obstacles illustrated as reasons for not sending employees to formal training include too theoretical, not tailored for the need in the specific company and not provided in the nearby

area. Moreover, the different cultures and languages used by entrepreneurs and academics are perceived as a barrier hindering universities and SMEs to co-operate in competence upgrading.

"Cultural" and geographical distance

The mentioned gap between working men and women, on the one hand, and academics on the other hand, is not merely a matter of language. Interests, experience, priorities, etc., tend to diverge fundamentally. Of course, there are huge cultural, sectoral and geographical differences in this respect, as well as all kinds of specific cases at the level of individual human beings. Broadly speaking, however, there is much too little contact and too little mobility between these kinds of communities. There tends to be a cultural and psychological rather than geographical distance which tends to complicate the establishment of functional links between the supply and the demand of skills upgrading in SMEs.[3] At the same time, firms that are technology-intensive, big as well as small ones, can generally be seen to depend on geographical proximity to universities or research institutes (Audretch and Feldman, 2002). Another observation is that technology-intensive SMEs tend to be particularly dependent on personal linkages to individuals within universities, as a prerequisite for benefiting from research activities within such institutions (Zucker et al., 1998).

4.3 The Competence Paradox

When a firm pays for workers to be trained and results are successful, the trainees become more productive in their specific field of work. As a result, they may also become more attractive for other firms. Upgrading the skills of employees may increase the risk of the employed individual being head-hunted to another company. There is also the obvious risk that the worker will be poached by an outright competitor. Similarly, he or she may personally become more prone to seek new employment opportunities.

For such reasons, by investing in the skills of an employee, the paying employer may find himself/herself subsidising other, possibly competing, companies. This is sometimes referred to as a "competence paradox", meaning that enterprises that invest in employees' competence development simultaneously increase the risk that these employees will leave and hurt the company (Leroy, 2002). As one result, an employer may be forced to pay higher salaries to maintain the worker once he or she has become trained, lowering the return on investment.[4] Another consequence is that many managers, notably in SMEs, adopt the view that it is the individual rather than the enterprise that largely benefits from training. The problem may be compounded by difficulties on the part of the manager to understand how enhanced skills can be put to good use within the firm.

These kind of consequences are not a given. Various institutional, regulatory and also mental factors come into play.[5] Most relevant in this context is that the relationship will in part depend on the distinction between "specific" and "general" human capital. To simplify, we may conceive of specific human capital as skills or knowledge that are useful only to a single employer (and

[3] While this applies in a more general sense, SMEs tend to be particularly strongly linked to their immediate geographical neighbourhood, applying to markets for outputs as well as to input factors such as skilled labour or training programmes.

[4] For the original formulation of this market failure argument, see Becker (1993).

[5] The so-called life-long employment system in Japan, for instance, meant that workers had to start with low salaries and could hope for major salary increases later in their career notably in they remained within the given firm. This kind of set-up has been interpreted as allowing for particularly great investment in the skills of employees, but it worked mostly for bigger firms whereas small firms have been subjected to higher mobility in Japan as well. More recently, in part with the introduction of foreign employers, that system has weakened throughout the Japanese economy.

who will thus most likely be more willing to pay for it), whereas general human capital (such as literacy) can be viewed as useful to all employers. In practice, the result of the "competence paradox" is a tendency for employers to prefer investment in overly context-specific skills, at the expense of more general skills, or at least a tendency to try and provide funding only for the former.

Thus, to the extent that SMEs are particularly strongly affected by this factor, they are especially hampered by a "lack of harmony" between the interest of the employer and that of the employee. In practice, the situation is unlikely to be as plain as "black versus white", but for all parties to agree on the usefulness of a particular training package, there may be an especially great need of the skills provider to understand, relate to, and communicate what is useful to the SME.

4.4 Management Challenges

Again, management experiences difficulties in identifying or even realising the specific need of training and enhanced skills inside the company. Many SMEs are reactive in their training activities and the development of a plan for training may not be familiar to them. Fearing loss of control, management may be hesitant to hire a person with higher education, to accept increased independence of employees, or to involve outside specialists or consultants.

Thus, in order to be able to offer a service that is really meaningful, the skills provider may not only have to offer meaningful and appropriate training to individual workers, but may actually have to develop a relationship with the particular firm in ways that are able to build trust, influence attitudes and alter management approaches. This cannot be imposed on a firm but it can be inspired in various ways. Long-term engagement of managers in a relationship with students that belong to an academic institution, so-called "mentorship programs", may serve the double purpose of granting students the chance of getting to understand firms better during their education, while at the same time allowing a manager to get accustomed to would-be academics who do not yet appear threatening, and also to become more prone to hire academics.

4.5 Employee Reluctance

If the company invests time and money in upgrading the skills of employees, and if they come to possess rare knowledge needed for efficient production, the individual employee risks being exposed to additional work. Fear of extended responsibility in conjunction with time constraints due to family obligations or low possibility of career advancement in spite of additional invested effort may lead the employee to reject attending job training activities.

Such considerations may work against the upgrading of skills within enterprises, particularly SMEs. Another aspect is that not all competencies should be supplied internally. In contrast, an increasingly important determinant of firm competitiveness concerns the balance between core (inner) and outer (externally provided) skills development. The latter is also subjected to important supply and demand considerations, which in part go beyond the scope of individual firms. To some extent, their qualities will depend on the interplay between groups of firms within a particular environment.

PART TWO: COUNTRY REVIEWS AND CONCLUSIONS

5. COUNTRY REVIEWS

Introduction

In Part Two of the report, we examine the results of a search for a particular set of experiences within a number of individual countries. Despite the basic commonality in the fundamental issues, it is imperative to keep in mind the institutional and structural differences among countries. Each country section is thus initiated by a few observations on the specific context. Again, however, the country presentations do not aim to be exhaustive. The purpose is to try to identify concrete examples of a comprehensive approach, or elements thereof, as outlined in Part One.

The countries studied below have been chosen for one or all of the following reasons:

- They belong to those identified as having among the most advanced schemes in the area: institutional and societal structures, as well as levels of industrial maturity and development, allow for comparability with Sweden and they are of special interest due to special market- and/or programme characteristics.
- To the extent possible, each chosen country is reviewed in a consistent and transparent fashion to enable cross-checking at the relevant levels. First, SMEs and their role in the economy, development and trends as well as the policies having noticeable impacts on these firms' behaviour, are introduced. Then, initiatives and examples of programmes of special interest with regard to this study are described and, in the case where evaluations are publicly available, evaluations are included.

In this context, it is important to state special statistics of interest while conducting this review. It would be most useful to find and interpret available reliable statistics on (i) conducted competence development/vocational training in SMEs and growth; alternatively, experienced increased market share or profit, and (ii) conducted competence development/vocational training and staff turnover.

In the next section, the review of a range of countries of special interest is presented for the purpose of providing a background and insight into recent initiatives concerning competence development, particularly in SMEs. As a considerable territory is being covered, it is inevitable that certain programmes will have been missed. Given the scanty availability of evaluations, some programmes will also most certainly have been misinterpreted and misjudged in some respects; the emphasis here is on the big picture. The issues of complementarity between different measures have been approached in an explorative manner. The inferences identified will be drawn out and summed up in the ensuing sections.

5.1 Country in Focus: Australia

General Background

Comparison of companies of different sizes is somewhat complicated by differences in definition and focus between Australia and other countries. In Australia, attention is paid notably to the performance of small businesses (see below for the definition of small business in Australia). These firms employed approximately 3.6 million people, representing 47 per cent of the private sector, non-agricultural work force.[6] By June 2004, Australia reportedly had 1'660'000 operators working in 1'269'000 non-agricultural small businesses. By this time, small businesses (with only one operator) accounted for 72.6 per cent of all small businesses, an increase from 68.5 per cent in 2003. At the same time there was a decrease in the proportion of small businesses with two operators from 29 per cent in June 2003 to 25.1 per cent (Australian Bureau of Statistics, April 29, 2005).[7]

Small businesses are defined by the Australian Bureau of Statistics as businesses employing fewer than 20 people in all industries except agriculture where the definition is businesses with an estimated value of agricultural operations (EVAO) of between $22'500 and $400'000 (Australian Bureau of Statistics 2002, Small Business in Australia 2001, Catalogue no. 1321.0). Previously however, the ABS defined manufacturing businesses as "small" if they had fewer than 100 employees. The Australian economy is characterized by the prevalence of entrepreneurship and SME-development. The SME sector plays an important role in society, and most schemes and programmes implemented by the Australian authorities (national and regional) are adopted for the sake of supporting higher growth of SMEs. Australian SMEs are perceived to be more international in their outlook and general profile than are those in most other OECD countries. This is in part reflected in relatively high figures recorded for, e.g., ICT among Australian SMEs (OECD, 2003).

The policy focus, with regard to SMEs, is based on critical success factors of firms in the global market place, including a wide range of policy issues from innovation, uptake of new technology, managerial development, and business improvement to export promotions. The Australian Government's approach to small business policy has two pillars: (i) to build a competitive business operating environment; and (ii) to build competitive firms.

The Australian Government has set up a number of mechanisms to increase the dialogue with small business. These include the National Small Business Forum, Small Business Council, the Small Business Advisory Group and the Office of Small Business.

Education and training that meets the needs of small business may involve: engagement of trainers with managers and staff to understand their needs, specific training needs analysis or recognition of prior learning to ensure training "fills the gaps", is "just in time" or "fit-for-purpose" training, "up-to-date" training in relevant new technology or industry practices and training in respect of potential new markets or products e.g. cross-industry awareness training.

Possible intervention strategies may include practices or programmes that: promote awareness of the benefits of further education and training for small business managers and their staff, provide

[6] Information available from Council of Small Business of Australia (COSBOA), which updates this information from time to time on its website: http://www.cosboa.org/webs/cosboa/cosboaweb.nsf/

[7] Characteristics of Small Business, Australia (Reissue), 2004.
Available: http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/E49E3B4DC3595C92CA2568A900139377

access to clear, simple information and delivery of education and training, provide incentives for education and training, promote training by equipment vendors as "after sales" benefits and promote partnerships between small business and training providers.

Incentives and Policies

The main responsibility to pass control for learning and training from the suppliers of skilled workers, i.e. mainly governmental institutions, to those who in actual terms are demanding these skills, i.e. industry used to be held by Australia's National Training Authority (ANTA), established by the federal and state authorities but was transferred to the Department of Education, Science and Training (DEST) on 1 July 2005.

Actions taken at National level

Australian authorities have initiated the planning of new accreditation procedures for institutions, courses and training providers. The goal is a nation-wide system of competency standards on an industry-by-industry basis. In this process, incentives are included to encourage private training providers to improve the quality of their training which enhances their chance of expansion The national VET system continues to respond to industry, individual and community needs, focusing on capturing the best advice possible from industry; meeting client needs; and clearer, higher quality standards, all within a nationally consistent, quality VET system.

Since 1998, the National Training Framework (NTF) is a nationally consistent, industry-led system, made up of the Australian Quality Training Framework (AQTF) and Training Packages. Training Packages are sets of nationally endorsed standards and qualifications for recognising and assessing people's skills. Training Packages are developed by industries through national Industry Skills Councils or by enterprises to meet the identified training needs of specific industries or industry sectors. To gain national endorsement, developers are obliged to provide evidence of extensive consultation and support within the industry area or enterprise. Training Packages complete a quality assurance process and are then endorsed by the National Training Quality Council (NTQC) and placed on the National Training Information Service (NTIS).

In January 2005, there were 81 endorsed Training Packages. Nine of these were enterprise Training Packages, developed by enterprises for their own unique needs. Training Packages have a set date for review - usually around three years after endorsement. Reviews ensure Training Packages remain current to meet industry needs and allow issues that arise during their implementation to be addressed.

Training organisations must be registered under the AQTF in order to deliver, assess and issue Australian Qualifications Framework (AQF) qualifications or statements of attainment in endorsed Training Packages and accredited courses.

Each year the Australian Government along with State and Territory Governments, allocate approximately $3 million to the National Research and Evaluation Program. Additionally, a range of research and evaluation projects are funded through other programmes such as "Flexible Learning", the "National Adult Literacy Research Programme" and "Workplace English Language and Literacy Programme". Research keeps policy-makers and organisations up-to-date and supports continuous improvement of the vocational education and training (VET) system.

The National Centre for Vocational Education Research (NCVER) is a not-for-profit company owned by the state, territory and federal ministers responsible for vocational education and

training (VET). A board of eight directors, who represent state, territory, and federal governments, industry, unions, and training authorities, manage NCVER. The results of research are communicated through a range of activities which include bringing together users and producers of research. A key knowledge brokerage tool is the VOCED database, managed by the NCVER and found at www.voced.edu.au. VOCED is an online research database containing information on more than 27'000 research papers and reports from around the world.

In recognition of the importance of industrial growth via a well educated and skilled workforce, the Australian Government is committed to grant funding for vocational education and training. In "Committed to Small Business" (2004) the Australian Prime Minister, the Minister for Industry Tourism and Resources, and the Minister for Small Business and Tourism, make an official statement of the importance and actions taken to support the development of Small Businesses. The main policy focus is directed towards bureaucratic burden reduction and simplification, with an emphasis on regulation impact assessments (OECD, 2005).

Actions taken at regional level

The set-up of training programmes for SMEs in Australia is somewhat similar to that of the US model. The overall governmental agency is the "Small Business Agency", which operates about 250 regional offices throughout the country. Each office has its own training programme and operates quite independently, i.e. decides which training programmes it would like to offer at its particular office. It is also up to the office to decide if the course is to charge the companies using its services or if it should use its budget to offer courses free of charge.

In addition, there are Australian (Federal or Commonwealth) government department initiatives, e.g. Australian government initiative (http://www.business.gov.au), Australian government Department of Industry, Tourism and Resources (http://www.industry.gov.au) and its Office of Small Business e.g. Building Entrepreneurship in Small Business Program (BESB), Commercialising Emerging Technologies (COMET), Innovation Investment Fund, Small Business Answers Program which funds 60 Small Business Field Officers.

The Australian government Department of Employment and Workplace Relations (http://www.dewr.gov.au) with respect to the Employability Skills & New Apprenticeship Centres and Indigenous Business Australia (http://www.iba.gov.au) has carriage for delivery of two key programmes. They are the Home Ownership Programme (HOP) and the Indigenous Business Development Programme (IBDP).

Actions taken at company level

Frequent use of ICT also facilitates the use of on-line training. This type of distant competence development is increasing in popularity. The Australian government has created a website with nationwide reach (www.training.com.au), offering courses in a wide variety of areas. All programmes operating on-line are free of charge. At this site, companies are given the opportunity to calculate their return on investment in training, as a form of an incentive to engage in competence development. The government has also promoted e-trading practices between SMEs and governmental agencies, and an e-commerce strategy for small businesses (OECD 2005). Other initiatives include web-based services, such as those found at www.business.gov.au.

At the enterprise level, as expressed in the document "Committed to Small Business", the policy focus is strategically targeted at creating competitive export-oriented firms with enhanced

innovation skills, and simultaneously addressing specific impediments facing small businesses in their development. Governmental assistance includes programmes on enhancing access to information, practical assistance and finance support for SME exporters as well as encouraging SME networking activities and development of modern management skills for SME managers.

Specific Programmes

Vocational education and training in Australia has traditionally focused on accredited courses, provided by a range of training providers, leading to a qualification. In 1998 the concept of Training Packages was introduced. In 2004 there were 81 training packages, covering approximately 90 per cent of the workforce occupations where VET is the primary platform for recognition. Many training packages contain qualifications and skills sets designed to support SME management needs, i.e. they are designed to contain industry competencies as developed by Industry Skills Councils in consultation with employers. With special focus on SMEs, the Business Services Training Package has established a generic concept and approach to competence development for small enterprises.

In addition, there is the Small Business Assistance Programme, the Australian government AusIndustry competitive grants and initiatives such as; Australian Tourism Development Program, Building Entrepreneurship in Small Business, Commercialising Emerging Technologies (COMET), Innovation Investment Fund and the Small Business Answers Program which funds 60 Small Business Field Officers.

The Small Business Assistance Programme, announced in the May 2002 budget, has been developed to assist small business to develop and grow by means of competitive grants and initiatives for providing and enhancing the access to vocational skills development and mentoring services for SME managers.[8] Several initiatives with limited duration and geographical coverage have been introduced. One such initiative is the Small Business Training Bonus Scheme which was implemented over a nine-month period in three regions in New South Wales. More than a thousand businesses were targeted and sent a $500 Training Bonus voucher to be used for a certain range of training programmes offered by selected, approved and registered training organisations. The outcome indicated that one-to-one and small group training was preferred as well as training in information technology and office skills.

By the end of 2002, 81 per cent of all Australian employers provided some type of training for their employees.[9] Of all employers, 79 per cent provided unstructured training and 41 per cent provided structured training. Larger employers provide structured training to their employees to a greater extent than smaller employers. Between 2001 and 2002, 98 per cent of employers with 100 or more employees provided training, compared with 70 per cent of medium-sized employers (employers with 20-99 employees) and 39 per cent of small employers (employers with less than 20 employees).

[8] For further information on subprogrammes see: www.ausindustry.gov.au

[9] According to ABS definitions and terms used in Australia, training includes unstructured (informal) learning activities such as self-directed learning, networking, coaching or mentoring, so long as it is knowingly participated in, such as a business forum or network. It also includes structured (formal) learning activities such as undertaking an accredited or non-accredited course, of any duration (short-term and long-term), in any mode (on-the-job training, off-the-job training, e-learning, apprenticeships or traineeships), in any field of study (including industry-specific, management, information technology, taxation or other government regulations), and delivered by any provider (e.g. peer learning or business networks, training consultants, equipment vendors, industry or professional associations, schools, TAFE, higher education or private providers).

Turning to employer training expenditures, employers with 100 or more employees contributed 71 per cent of total net direct training expenditure. The majority (74 per cent) spent in excess of $20'000 AUD (net) on structured training, compared with 20 per cent of medium-sized employers (employers with 20-99 employees) and less than 1 per cent of small employers (employers with less than 20 employees).

Evaluations

The NCVER has created several general evaluations for their programmes, including evaluations on the benefits of individuals, employers' views and the benefits to society (including environmental and growth aspects). NCVER manages a national survey programme on VET students and graduates and on employers' views of VET training provided by public (government) funds.[10] NCVER's statistics are however somewhat limited.

5.2 Country in Focus: Belgium[11]

General Background

While Belgium has no standard definition of the concept of an SME, there has been an increasing tendency towards using the definition recommended by the European Union (see footnote 2). On this basis, SMEs represent over 99 per cent of all enterprises in Belgium and provided in year 2000 employment for more than 3 million of the country's total population of more then 10 million and contributed to entrepreneurship and innovation. SMEs create a value added of € 96' 883 million, compared with € 150'226 million for all Belgian enterprises in year 2000 (see table 5 in appendix 1).

In today's complicated competitive economic environment, human capital is increasingly recognised by countries and by business organisations as a key instrument for development and competitiveness. In this environment SMEs are particularly aware of the importance of developing "skills", "knowledge", and "competence" to reassure their competitiveness in the future. National public authorities are just beginning to develop different types of policies that are intended to improve domestic SMEs. Belgium is a country in the process of decentralization, which means that more and more responsibilities are relocated to the regions (Flanders, Wallonia and Brussels). The majority of policies regulating enterprises are regionalised and no longer exist

[10] NCVER publications are available on their website whereof the following may be of interest:
Australian vocational education and training statistics: Student outcomes 2005 - Summary
http://www.ncver.edu.au/publications/1637.html
Returns on investment in training: Research at a glance http://www.ncver.edu.au/industry/publications/675.html
Australian vocational education and training statistics 2001: Survey of Employer Views on Vocational Education and Training - At a glance http://www.ncver.edu.au/industry/publications/669.html
Recognition of prior learning: At a glance http://www.ncver.edu.au/publications/1662.html
Fully on-the-job training: Experiences and steps ahead http://www.ncver.edu.au/industry/publications/1492.html
Employers and qualifications: At a glance
http://www.ncver.edu.au/industry/publications/1638.html
Employer-provided training: Findings from recent case studies - At a glance
http://www.ncver.edu.au/industry/publications/1636.html
Training of existing workers: Issues, incentives and models http://www.ncver.edu.au/industry/publications/1551.html
Other websites of possible interest include: Australian Chamber of Commerce and Industry http://www.acci.asn.au
Centre for the Economics of Education & Training (CEET) at Monash University
http://www.education.monash.edu.au/centres/ceet

[11] The authors are grateful for valuable comments on this section by Sigrid Dieu, National Coordinator Refernet, CEDEFOP, Belgium.

at the federal level. Policies such as economic expansion (advice, venture capital, restructuring), research, development and innovation, education and vocational training, and labour market policies, are now regional matters. Innovation and the skilling of workers are increasingly considered as key factors in company competitiveness, and continuing training has become seen as an area in which the interest of employers and of workers can converge.

Life-long learning belongs to the shared responsibilities of the social partners, the Communities (Flemish, French-speaking and German-speaking) and the Regions. Thanks to the limited role of the Federal authorities in this area and the emphasis on the role of the sectoral social partners in collective bargaining, there is no "single" policy view on life-long learning in Belgium. However, all parties involved are making considerable progress in improving competence development: all indicators point to a quick rise in overall participation in life-long learning and measures are being taken to improve adult access to life-long learning, especially through innovative funding and leave mechanisms for workers, and validation of non-formal learning.

The Communities in Belgium promote an entrepreneurial culture, providing courses in schools to encourage SME start-ups. In most national university and third-level training establishments the promotion of entrepreneurship continues. These establishments also provide the founders and managers of SMEs with one-off programme facilities, efficient management tools which are directly appropriate to all their funding, marketing, legal, logistical and human resource problems. When it comes to training, it is the regions that finance specific measures coordinated by training bodies, which in addition to advisory and reception services, provide "à la carte" programmes for those people wishing to start their own businesses. The SME-Creation guidance and advisory service for future business creators is coordinated by the IFAPME.[12] The aim is to offer prospective entrepreneurs individual consultations to assess their motives and projects. Tailor-made training and individual follow-up are then proposed.

Incentives and Policies

Actions taken at national level

The national public authorities in Belgium are developing a range of different policy measures intended to upgrade the national SMEs' competence base and to ease the bureaucratic burden of SMEs. These measures include support for formal training, access to external consultancy services or empowering methods to management and organisational innovation, simplified procedures and a review of tax policy measures for SMEs. In addition, special attention is paid to technical competitiveness, particularly with regard to awareness of current and future standards as well as intentions of improving access to intellectual property rights.

In addition, a growing importance is attached to the introduction of so-called "competence-based training". The purpose is to find ways of sharpening the ability of firms to identify and cultivate crucial knowledge and skills obtained through practical experience.

In support of stronger incentives, Belgium has introduced an obligatory levy on employers to fund continuing vocational training. This was established in various collective agreements (1989-1990, 1991-1992, 1993-1994 and 1995-1996) between different sectors in the economy.[13] The social partners concluded a recent central agreement for the whole private sector, including a commitment to raise the investment of companies in the training of their employees in respect of

[12] IFAPME: Institut de formation pour petites et moyennes entreprises

[13] http://www2.trainingvillage.gr/download/compendium/e-pays.pdf

the wage bill by 2004. Besides the general effort for the training of workers, the social partners also agreed to continue the commitment to invest an additional 0.1 per cent of the wage bill in employment and training, this being assigned for at-risk groups. The social partners generally commit to make sure that one in two workers follows training by the year 2010; all the persons concerned will make efforts to ensure that 60'000 workers are involved in a training effort each year.

Approximately 55 per cent of all Belgium SMEs conducted some form of training in 2002, which in comparison with large enterprises was a weak performance (86.7 per cent). There was also a significant difference when it came to how many people followed training. In SMEs the number of employees who followed training was precisely 32 per cent, while in large enterprises the number was considerably higher with 58.7 per cent. In contrast, however, the training cost for employees was more than twice as high in large companies (see table 5 in Appendix 1, for statistics on conducted training, costs and how many that followed training).

Actions taken at regional level

- Flanders

i. Since March 2002, the Flemish government is covering half of the expenses for special "consultancy/advice vouchers" intended for the Flemish SMEs. The aim of this measure is to encourage SMEs to seek external counselling when making vital decisions in a wide range of issues (general corporate organisation, strategy, employee management, etc). The individual counselling project costs € 300. Each SME can buy a maximum of 820 vouchers a year for the face value of € 30. Consultancy vouchers are intended to ensure better support for entrepreneurs.

ii. Since 2002, for all enterprises with economic activities in the Flemish Region, training vouchers are a new initiative of the Government. Initially in 2002, the budget for "training vouchers" was € 45 million. All training provided by a recognised Flemish government trainer (in twelve months from date of issue) could be paid for with training vouchers. A voucher has a face-value of € 30. The company pays 50 per cent of the cheque and the Flemish government the other 50 per cent. Each company can buy a maximum of 200 cheques a year. From 2003 on, sectoral social partners are invited to strengthen the system by making a contribution to the 50 per cent costs paid by the company. This is limited to general training (European definition) to SMEs and to a maximum of 20 per cent of the value of the cheques (this is to avoid problems with EU competition rules). Training vouchers are intended primarily as a means of achieving the aim of life-long learning.

- Wallonia

i. The training scheme in Wallonia was implemented in the end of 1998. The financing is arranged in the same way as its Flemish counterpart. Its objective is to raise SME consciousness for the need to invest in training to maintain competitiveness and to make it possible for them to respond to technological changes. The aim of the scheme is to stimulate training in SMEs with less than 50 workers through a simplistic, flexible and efficient incentive mechanism. The voucher scheme is run by FOREM on behalf of the government in the region of Wallonia.[14] This organisation plays the role of a facilitator for SMEs to meet their training needs and also an interface between SMEs and training providers. They are not involved in the issuing and

[14] FOREM is the Walloon vocational training and employment service.

processing of training vouchers, this task was given to an independent company named Sodexho Pass.

A training voucher can be purchased for € 14,87 and has a face value of € 29,75. The value of the voucher corresponds to the price of one training hour, and therefore receivers benefit from a financial support of € 14,87. The face value of the voucher is based on the sum of an average salary cost per hour of € 19,82 plus an average training cost per hour of € 9,91.

ii. Since 1998, Le FOREM has been busy installing a network of competence centres. These centres concentrate on a specific sector, and are therefore mostly set up in the neighbourhood of enterprises that are active in this respective branch. Their training is mostly based on advanced sector technology, co-operating with all parties concerned: the employment service, sector organisations and education.

In some sectors, universities and research centres are also involved. Competence centres offer training to unemployed, employees, employers and schools in that particular sector. The aim is to have 30 centres by 2006.

iii. IFAPME has continuing training courses for self-employed persons or heads of enterprises. The purpose is to update their knowledge and supply them with the expertise they need to keep their enterprises competitive. The Institute also organises further-advancement training or retraining courses, redeployment training, and complementary teacher training, which tends to improve company managers' ability to teach the apprentices they engage.

Actions taken at company level

Apart from the financing of sectoral training, companies increasingly participate actively in the vocational training policy:

Collective labour agreements concluded at the company level can implement a sectoral agreement and, in the absence of a sectoral collective labour agreement, apply directly to the provisions laid down at the cross-industry level (notably regarding the obligation regarding groups at risk).

In some cases, close cooperation is organised between the sector and companies in definition of objectives and resources to be deployed for worker training. For instance, some collective labour agreements make provision for companies to draw up a training plan.

Specific Programmes

CVT courses can be provided in a range of places. External courses planned and supervised by a separate organisation, while internal courses are planned and organised by the company itself.

i. PLATO - Flanders

Belgium, together with other countries, has developed a group of measures intended to foster enterprise networking for knowledge exchange purposes. It is worth drawing attention to the activities supported by the PLATO project, started in 1987 in Flanders (Belgium) and currently widespread in other EU Member States such as Denmark, Germany or Sweden. The programme is scheduled to last for two years. The recipients of this programme are SMEs from the targeted region (Kempen) and have between 3 and 100 employees. The principle of PLATO is that large companies become "godfathers" for SMEs, where large enterprises assist, both collectively and

individually, smaller firms in their development. The PLATO initiative arranges for SMEs to be monitored by large firms, which appoint professionals to assist them with any management problems. Specific objectives of PLATO include the transfer of management know-how from large firms to SMEs; exchange experience between SMEs and, the creation of business networks linking small and large firms.

ii. INSPIRE - From inspiration to innovation

The Flemish Institute of Self-employed Entrepreneurs (VIZO) aims to increase companies' chances of succeeding by enhancing their necessary knowledge. They try to achieve this aim in co-operation with the SYNTRA network of recognised educational establishments. An initiative of VIZO and the SYNTRA centres is the programme INSPIRE. It is also supported at the European level by the European Social Fund (ESF) for Flanders. The programme is scheduled to last 36 months. The normal receivers for this type of programme are family-run SMEs that tend to be rather conservative and need to be encouraged to adopt new approaches.

INSPIRE's constant concern is to foster human development and help to create organisations where employees are happy to work and feel that they are doing a valuable job. This benefits the organisations' performance, competitiveness and image.

The specific objectives of INSPIRE include making companies aware of processes of renewal and to foster those processes with a view to successful innovation, establishing regional learning platforms, bringing together the directors of SMEs with a view to promoting exchanges of experience and mutual support and advice within the bounds of the project, increasing competitiveness in SMEs, improving management skills in socio-organisational innovation and development, and enhancing exchange of experience between SMEs and their network partners.

Evaluations

Since the introduction of training vouchers in Wallonia, 63'188 have been sold but only 40 per cent have been used. Even so, the number of SMEs and workers concerned, together with some of the responses received from employers, indicates that the system successfully addresses a number of SMEs' main obstacles and concerns. SMEs undoubtedly welcome the simplistic and efficient means by which they can obtain a 50 per cent subsidy on training costs. Additionally they embrace the opportunity to find the appropriate training suited to their needs through the training cheques.

Possibly the most innovative characteristic of the scheme is that it is linked to a certification system which guarantees a quality standard of the training offered to SMEs and their workers. This should contribute to a transparent demand-driven training market.

In 2002, after 15 years in existence a study was undertaken to asses the impact of PLATO in the Flemish region of Kempen. As main results could be mentioned: i) the continuous growth in the number of participating firms (from 100 in 1988 to more than 1'000 in 2001) and the fact that SMEs are certainly targeted since 75 per cent of participants have less than 20 employees, (targeted companies are young), (92 per cent of the companies are still active today); ii) PLATO firms have a stronger growth with respect to value-added, productivity, investments and cost-effectiveness of the own assets, but lower scores with respect to solvency and liquidity; iii) Respondent companies participating are globally positive about PLATO and consider their expectations met.

More specifically, 84 per cent of the SMEs see the exchange of experience, 82 per cent the increasing professionalism of the management and 79 per cent the interest for a strategic approach as the major results for their company, and 64 per cent of (ex-) participants are still active in PLATO. The increase of management knowledge for SMEs (SMEs 68 per cent/mentors 76 per cent), networking between companies (43 per cent/67 per cent) and motivating/self-confidence of the managers (37 per cent) are considered as the major merits of the PLATO project in the past 15 years. Furthermore, 98 per cent of the participating companies consider that the measure has contributed to the development of the region. An extrapolation from the survey concludes that in 15 years, the creation of 7'325 jobs can be linked to the PLATO measure.

The VIZO INSPIRE initiative was unfortunately shut down because of financial disagreements with the European Social Fund (ESF). This was mainly because ESF changed the financing rules during the project. ESF co-financed the project with VIZO, however, VIZO used many of their business consultants in the project to enable them to gain knowledge and apply it in other projects. VIZO confirmed that the project was successful at the time in which it was operating and that they will still use many of the ideas from the INSPIRE initiative in other projects.

5.3 Country in Focus: China

General Background

In China, enterprises are defined as small enterprises in the range of 50-100 employees and medium sized enterprises in the range of 101-500 employees. The number of SMEs constitutes approximately 99 per cent of the total number of industrial enterprises in the Chinese economy. After the liberalisation of economic reforms and the opening of the economy towards the global economic community, SMEs have experienced tremendous development and are now increasingly important actors in the quest for rapid Chinese GDP growth.

Due to the special situation of being in an economy in transition, and the still low and uneven level of economic development, Chinese SMEs are currently facing a number of problems, such as: outdated equipment and low level of technology; lack of skilled workforce; low level of operational and management expertise; lack of necessary management training; lack of access to international markets; imperfect legislation; ineffective incentive policies; and lack of financing.

Measures to promote growth of individual and privately-owned enterprises have been introduced by the Chinese Government in order to (i) enhance operations of most types of industries and commerce; (ii) undertake business activities abroad and; (iii) cooperate with foreign partners and by this enhance the possibilities for growth and development.

In addition, a number of agencies promoting SME development have been established by the Government, namely the China Centre for Business Cooperation and Coordination (CCBCC), China International Cooperation Association of Small and Medium Enterprises (CICASME), the Department of Township Enterprises under the Ministry of Agriculture and the "Spark Plan" Office, responsible for implementing the Spark Plan (see below), under the Ministry of Science and Technology (previously under the State Commission of Science and Technology). At the same time, regional and local authorities have developed various policies and schemes that influence recruitment and management of SMEs in their localities. Evaluating the situation is complicated and here we will have to limit ourselves to some tentative observations.

Incentives and Policies

The Chinese Government's principle concept of policies regarding SMEs aims at (i) creating a competitive market environment for SMEs; (ii) eliminating any disadvantages facing SMEs due to size or other economic or social characteristics and; (iii) a general emphasis on the crucial role of SMEs in promoting a free competitive market dynamism and income opportunities in general and Chinese GDP growth in particular, and (iv) job creation through the development of SMEs.

Competence development in Chinese SMEs mainly depends upon incentive policies given by the local and central government. Most managers have not received adequate advanced education and/or systematic and scientific training in operational management and thus limit the ability to meet the new requirements for competing in the constant developing competitive, both national and international, markets. To meet this gap in knowledge, skills and quality, the Government has introduced various kinds of activities. Here, two specific programmes are looked at in some detail.

Specific Programmes

Turning to specific programmes, the selection has been guided by APEC recommendations on best practices.

i. SME Human Resource Development Programme

The SME Human Resource Development Programme is provided and organised by the China Centre for Business Cooperation and Coordination and the China International Cooperation Association of SMEs, both under the National Development and Reform Commission (and formerly until March 2003 under the State Economic & Trade Commission). The general aim of the programme is to bridge the knowledge gap of SME managers caused by inadequate educational background and lack of exposure to modern corporate operational procedures and skills.

Specifically outlined objectives of the SME Human Development Programme are to create good learning environments and conditions for SME managers through sustained efforts; to broaden views through various means and channels; to deepen the understanding of the market economy and problems faced by SMEs; to enable SME managers to master the skills to ensure that their enterprises survive and grow in a changing market economic environment; and to enable Chinese SMEs to enter the international market with a new look.

Whereas the main structure and contributions of the SME Human Development Programme are outlined below:

- It provides usage and utilization of part of the funds of domestic and international SME programmes to contract domestic and foreign economic experts, scholars and successful entrepreneurs to give lectures at training courses and seminars for selected directors and managers of SMEs from various geographical origins within China.
- It organises study tours and field visits to enterprises, both nationally and internationally, to integrate newly learned theories with practices.
- It selects one or several enterprises to conduct experimental management training at all levels to improve overall competitiveness of the selected enterprise.

- It provides centralized training to increase efficiency and facilitate administration.
- It provides focused training on specific topics to meet the demand of the receivers characterized by varied training needs.
- It gives opportunities for trainees from different geographical areas and industries to establish close "personal relationships" and exchange experiences on management, enabling new networking and cooperation possibilities afterwards.

All provincial and municipal economic and trade commissions have subsidiary organisations, i.e. local SME offices, responsible for working with the SMEs in their region. Typical receivers and target groups of this programme are SMEs and SME managers with a relatively good performance record.

ii. The Spark Programme

The Spark Programme of China is provided and organised by the Office of the Spark Programme of Ministry of Science and Technology (MOST) (previously under the State Science & Technology Commission). The general aim of the programme is to promote integration of scientific and technological development into economic development as an engine for economic development in the rural areas of China.

The specific outlined mission and objectives of the Spark Programme are to spread scientific and technological "sparks" to rural industry areas; to improve the competencies of rural labour in general and provide guidance to farmers in revitalizing the rural economy by means of scientific and technological progress in particular; to direct rural township enterprises to operate in a sound modern business manner; to promote the development of a market economy based on scientific and technological progress in rural area; and to accelerate the pace of agricultural modernization and rural industrialization and build a new rural area with Chinese characteristics.

The main structure and contributions are outlined below:

- It develops a batch of technologies and equipment suitable for application by enterprises in the rural areas;
- It fosters a batch of highly qualified technicians and managers as well as entrepreneurs in the rural area;
- It promotes the establishment of scientific and technological support systems in the rural areas; and
- It promotes the development of high yield, quality and productivity in Chinese agricultural business.

The Spark Programme is managed by four levels of government; central, provincial, prefectural and county. Typical receivers and target groups of this programme are SMEs as well as rural township enterprises.

Evaluations

Evaluations have been requested from the National Development and Reform Commission (NDRC) but have not been made available as of yet.

5.4 Country in Focus: Denmark

General Background

In Denmark, SMEs account for some 70 per cent of total employment. While there is no specific policy aimed at SMEs, certain policy measures do target issues that pertain to SMEs specifically. While this particularly applies to measures reducing the administrative burden, there are also policies aimed at various kinds of capacity-building of relevance to SMEs, e.g. in the area of seed funding and risk capital (OECD, 2005; Andersson and Napier, 2007). There has also been a recent shift towards higher priority on such policies in support of innovation (Siune & Aagaard, 2006).

Denmark in particular emphasises policies which attempt to induce more favourable framework conditions for entrepreneurship in a general sense, such as measures taken to enhance competition and facilitate market entry by new firms. Whereas the policy has shifted in this direction since the current government came into office, Denmark still has a special legislation for educational and vocational guidance. An Act on Vocational Guidance was passed already in the mid-1950s. It was replaced in 1981 by an Act on Educational and Vocational Guidance, which was revised in 1996. An earlier OECD review noted that "the Danes are unusually independent". This stance is grounded in great respect for the individual. As a result, Danes find it difficult to embrace any policy that sharply constrains personal choice. Their impulse, in fact, is always to widen the range of personal choice (OECD, 1999, op. cit., p.9). The Danish debate has, to a larger extent than in other countries, an increasing character of a so-called "Competence Block Building" perspective.

There is also a focus on fostering technological diffusion in Danish programmes. Among the Nordic countries, Denmark is often referred to as the one that has the most strongly combined innovation and technical development with questions about SME and entrepreneurship development. Examples of such initiatives are the GTS system, the TIC network and the Regional Labour Market Councils (see section on specific programmes below).

The Danish system of vocational education and training (VET) represents a somewhat centralised structure in which all standards (regulations) are approved and laid down by the Ministry of Education after having been prepared by the social partners. There is no regional level in the VET system, only the local and the national ones. In total, there are 115 vocational colleges (commercial and technical) in the Danish VET system. In a sense, this system can be said to constitute a further development of the apprenticeship principle, although with significant time added requirements added and devoted to theoretical teaching.

In the vocational education and training system, reforms have recently been introduced which have considerable implications for guidance provision. Two aims of the reforms are particularly significant in this respect. The first aim is to achieve a more simplistic structure, with fewer and broader admission channels into VET courses. The new structure offers only seven access routes (compared with 90 before): six into technical courses and one into commercial. The second aim is the introduction of greater flexibility within the learning programmes, with a modular curriculum, resource-based learning methods, and individual pathways supported by tutorial structures, recognition of prior learning, personal education plans, log-books and individual study portfolios. This in principle sets the skills and concerns of the guidance counsellors at the heart of the teaching and learning process.

The effect has been a paradigmatic shift of the VET system in Denmark, moving from qualifications to competencies and from teaching to learning. Although the Danish VET system is rather qualification (curriculum)-based, the development of individual competencies as an innovative challenge (pedagogically) for the system, enjoys high priority. Flexibility and individual programmes seek to enhance and encourage learners to take more and more responsibility for their own learning.

Incentives and Policies

Actions taken at national level

The Danish system provides some tax incentives for individuals interested in starting a company or for people using entrepreneurs in the home service sector. Despite the existing systems, co-operation between business and universities and few research spin-offs was still lacking. As a result, a new initiative was started in an attempt to create a number of innovation systems.

In the autumn of 2004, the Danish government together with social partners set up a committee which, in the next 12 months, would undertake a comprehensive review of current conditions in the field of adult and continuing vocational training (CVT). The Danish Ministry of Education enjoys a somewhat restricted monitoring function with regard to the setting of frameworks and overall objectives for education. Cooperation between employers and employees in committees and bodies in which they are equally represented at all levels is reported to be exemplary.

Actions taken at regional level

Administratively, Denmark is divided into fourteen counties. Similarly, the labour market is divided into fourteen regions, each with a regional labour market council and a public employment service. At the national level there is a corresponding National Labour Market Council and National Labour Market Authority (AMS) which are in charge of the practical administration of the labour market system; all these bodies report to the Ministry of Employment.

At local level, vocational training committees advise colleges on specific elements of priority with regard to the training programmes. These are also engaged in establishing links with the surrounding (local) business environment. Labour market trends are reflected in the training offers via this interplay between committees and colleges whereas competition with regard to quality of the training provided is stimulated by autonomy of planning of the vocational colleges, including budgeting. As a result, a vast number of Danish colleges have merged to become vocational training centres that offer initial and continuing vocational training as well as services to surrounding (local) business community.

The Regional Labour Market Councils (Arbejdmarkedsrådet) have been established in order to adapt public national directives to the regional conditions in order to make sure that the undertaken actions are based on goals and objectives that are appropriate for the local needs. The councils are commissioned to identify target groups and target sectors that are in need of skills upgrading activities in each specific region. The councils also provide the governmental level with analysis and forecasts of regional labour market developments.

Moreover, the councils carry the responsibility for setting the standard on what shall be fulfilled by various competence upgrading actions. It has an obligation to follow up and evaluate if these standards are achieved, meaning that action plans live up to the anticipated results. The way in

which it approached the assessment task involves elements of process evaluation and monitoring. Apart from reporting on results, the approach thus serves to arrange with corrective action during the process of implementation, and to correct imbalances in stakeholder representation.

Regional incubator centres, entrepreneurial nodal points at the regional level and several regional science parks have been created. Despite these initiatives, there is a lack of entrepreneurs, few initiatives concerning entrepreneurship education, and generally high taxes. The combination of taxes levied on SME owners are the third highest in Denmark, which comes after Belgium and Sweden in this respect.

Actions taken at company level

At company level the Danish model has a long tradition of collaboration to find solutions to competence development and this is often the reason for close cooperation with local educational institutions. Trade committees at the sector level decide on vocational training qualifications and stipulate the conditions for the training. Representatives of the social partners and local authorities form a college board of governors, and appoint the director of the college, monitor his/her work and approve the budget.

Specific Programmes

i. GTS Network

The institutes making up the GTS network ("Godkendte Teknologiske Serviceinstitutter" - Authorised Technological Service Institutes) develop and communicate technologically-based knowledge to private companies and public institutions. The GTS institutes are independent, non-profit organisations authorised by the Minister for Trade and Industry. Basic grants are allocated on the basis of a strategy plan mapping out the technical/scientific areas in which the individual institute must build up competence. The institutes' research activities are partly sponsored by the Agency for Trade and Industry, by approximately € 33.8 million (DKK 250 million) a year. The GTS institutes employ around 3'000 people. However, the scheme has not been able to elicit the expected demand from SMEs, and only about a third of the budget appropriations of € 2.7 million (about DKK 20 million) per year have been used.

In order to reduce the economic barriers preventing SMEs from using the GTS system, the Danish government has, since 1997, made it possible for first-time users to buy introductory services at reduced prices, the long-term purpose of which is to induce SMEs to collaborate on a regular basis with the GTS institutes. The strategy for 2002-2005 focuses - among other things - on the support of clusters and networks of companies. Specific objectives of the GTS Network are to provide technological services for all types of companies, but have a special obligation to service small enterprises; to support clusters and networks of companies and, to develop and communicate technologically-based knowledge to private companies and public institutions.

The GTS network has the following position in the knowledge system:

Universities. These work mainly with basic research and do not address the commercial needs of trade and industry.

Government research institutes. Government research institutes carry out strategic research based on the needs of the authorities. They perform long-term research with defined objectives, but are not purely market oriented.

The GTS network. The GTS network meets the needs of trade and industry for technological service.

ii. TIC Network

Technology Information Centre – TIC – is a nationwide, independent and non-profit organisation with at least one regional centre in each of the Danish counties, the main office TIC Denmark lying in Copenhagen. TIC's customers are especially small and medium-sized companies and entrepreneurs in the areas of manufacturing, technology-based crafts and knowledge-based service. Specific objectives of the TIC Network are to offer the companies knowledge and counselling as well as tools for development and growth and contacts to relevant experts and information centres, including information and knowledge about industrial and graphic design.

Evaluations

Each institute in the GTS network delivers an annual report, showing whether it has achieved its objectives for the year, and the grants are released on the basis of this report. Moreover, every three years evaluation are undertaken on the technological service institutes (GTS), aiming to ascertain whether each GTS institute's development activities, professional competence and range of services are of the content and quality required to optimise the institute's current and upcoming activities in relation to both the short-term and long-term needs of trade and industry and of society. In this context, it must be judged whether the organisation has a structure that ensures proper professional support and that strengthens the function of the entire networks. The Council for Technological Service is responsible for the overall management of the evaluation of the institutes. The final assessment reports are presented to the Council for consideration.

The GTS Performance evaluation focuses on three areas, Efficiency, R&D Contribution and Customer Satisfaction and Usefulness. With regard to R&D contributions, two trends appeared, first a decreasing participation by GTS Network members in international R&D projects, and secondly an increase in published scientific articles. Much of this is explained by changing and complicated financing conditions by several EU projects, etc. Turning to efficiency, overall turnover and profit per employee is showing a positive trend, and indications continue in this direction.

As for Evaluations of Customer groups' use of the GTS network, the results show that 57 per cent of Danish SMEs, 15 per cent of Small Danish enterprises and 46 per cent all Danish public institutions have at least once used the service of the GTS network. The network is thus the third most contracted advisor for Danish public institutions. The satisfaction among users was high overall; 86 per cent of Danish SMEs, 73 per cent of Danish Small Enterprises and 92 per cent of the Public Institutions were satisfied with the services provided by the GTS Network. For the marketing skills of the GTS initiative, the target group knowledge of the GTS network as a concept, 19 per cent of Danish SMEs, 26 per cent of Danish Small Enterprises and 35 per cent of the Public Institutions were aware or fully informed of the network and its advantages.

Regarding strategically important improvements and future goals with respect to the GTS network includes: increasing the service towards targeted businesses with an innovation profile; increase the turnover from SMEs (SMEs' purchase of GTS services); increase in the number of

customers from competence/knowledge intensive clusters; and increase in the number of customers originating from the service sector.

In addition, a forthcoming Danish innovation policy initiative, with connection to the GTS initiative, concerns "regional-growth environment", a form of cluster thinking where the GTS Institute is going to play a central role.

5.5 Country in Focus: France

General Background

Today, France has adopted the European Commission recommendations regarding the SME definition. However, to facilitate the measurement and analysis of French SMEs, an additional group has been set up: "very small enterprises" (10 to 19 employees).

On the basis of this definition, Metropolitan France has 2.4 million SMEs which represent 99.8% of all enterprises in the industrial, commercial and services sectors and excludes agriculture, financial activities, the renting of real estate and administration. French SMEs employ 8.3 million people, equivalent to 59 per cent of the active population. They further account for 46 per cent of turnover and 53 per cent of value added of all enterprises in the industrial, commercial and services sectors, albeit only 23 per cent of exports (OECD, 2005).

Small and medium sized enterprises play an important role in the French economy, even though the focus on SME policies was not on the agenda until the ministry for SMEs was instituted in 2000. Most SMEs in France are active in traditional industries such as agriculture and handicrafts, however, in recent years and after packages of new promotional policies were put in place, the number of companies has increased notably in the service and ICT-sector. Special measures have been introduced to support local networks, arenas for business contacts, and also competence upgrading with a special view to fostering more dynamic firm creation and growth.

Incentives and Policies

Actions taken at national level

In France, a policy was adopted in the 1970s to support poles of competitiveness. At that stage, the idea was to create "technopoles", i.e. strongholds based on the established presence of traditional industries by linking them to research and learning centres. On this basis, Toulouse was launched as a "technopole" in aerospace and Grenoble in information industry. Meanwhile, Sophia-Antipolis and the Plaine de Saclay were established as new technological centres.

A new approach was launched in September 2004. The aim was to establish so-called poles of competitiveness, this time with the SME-sector as their point of departure. A number of new research projects have been put in place since the launching of this act. Altogether, some 1.5 billion euros have been spent in structuring the poles of competitiveness. 300 million euros alone have been utilized for tax incentives, for the purpose of inducing enterprises to participate in R&D projects that are in line with the specialisation of neighbouring poles. Special credits in the range of 400 million euros have also been earmarked for this purpose. These credits are in particular handled by the Ministry of Industry and DATAR – a national organisation in charge of funds for regional development.

This agenda has also involved the creation of new agencies. In particular, three new noteworthy bodies have been launched:

- The National Agency on Research (February 2005);
- The Innovation Agency (August 2005); and
- The OSEO Group (the fusion of ANVAR – The national Agency on Research Evaluation and Innovation and BDPME – the Development Bank for SMEs).

The OSEO Group plays an important role in upgrading the skills of SMEs and runs several programmes which are both industry-specific and with more general content (see section on programmes below).

At present, France has 66 poles of competitiveness. The newest one - Pole for Open Source Companies - was launched in December 2006. The poles normally form financial interest groups (GIE) or scientific interest groups (GIS). The overriding formula is that the poles should be based on a novel collection of competencies, not merely draw upon traditional skills or assets, such as natural resources. A special focus has been put on one of the most important industries in France, i.e. the one based on luxury and branded goods.

A nationwide programme was launched in 2000 in order to upgrade the skills related to ICT on a more general level. The target group of this programme is principally educational institutions where the goal is to have interactive ICT training in every moment of the education process. The use of new technologies is less frequent in the area of SMEs, which is not fully explained by the fact that French SMEs are found in traditional sectors such as agriculture and regional service providers. The overriding objective of the programme is to facilitate the internationalisation process of SMEs and thereby increase the growth potential.

The traditional programmes for vocational training in France are generally organised for special competences i.e. the competence is thus company-specific. Consequently the system excludes the incitement for the employee to change employers. Furthermore the French company structure is highly reliant on regulations emanating from the government. Traditionally most initiatives in respect to skills upgrading originate from the established education system, thus several of the French Universities offer courses which are mainly open for the large companies. These courses involve special skills such knowledge of legal issues, patent rights, taxation systems and in the technical universities the focus is on the new technologies (Ministère d'Education).

Actions taken at regional level

The regions receive most of their directives from the national level, however, since the launching of the poles of competitiveness a lot more can be done on the initiative of the poles themselves.

Actions taken at company level

A policy encouraging vocational training was officially adopted in 1971, however, its impact was largely low key until the DIF act ("Droit Individuel de la Formation" i.e. the individual's right to continuous training) was introduced in 2003. DIF represented a significant adjustment in the approach to vocational training in France, and recently some 40 agencies have become involved in offering or supporting this kind of training. An important reason for the noteworthy diffusion and scope of the reform is that it shifted a large part of the responsibility for training onto the

employee. Within a context that traditionally has been strongly autocratic and hierarchical, and where there is still a great deal of rigidity flowing from various legally formulated or contracted agreements on rights and obligations of firms and their employees, this act put the individual at the centre of the competence issue. At least in terms of principle, the individual has been designated as the main actor expected to oversee and drive his or her own training. Through DIF, the employee has a stipulated right to 20 hours of training per year and the hours can be accumulated during a maximum period of five years.

The hours of training per adult have increased significantly since the introduction of DIF, as well as the number of Internet sites set up to facilitate the search for appropriate training programmes. Clearly, the act has led to the establishment of a market for training programmes, in which a lot of new innovations and initiatives are developing. One fundamental weakness with DIF is the lack of clarity regarding financing of the training. The act does not clearly settle who carries the responsibility of financing the training. For instance, the role of public actors, including the national government as well as regional actors, versus the employing company is not clearly laid out in the act. Naturally, some training programmes are costly to develop and conflicting interests between employers and employees on the suitable content of training add to the complications. As a consequence, it is often time-consuming and complicated to process a particular request.

The DIF nevertheless represents a very interesting example of a programme which has led to increased awareness of the training and competence issue among both employees and employers, while also stimulating the development of a range of new suppliers creating and offering various kinds of training schemes. Another advantage is the enhanced involvement of new actors, others than traditional institutes for higher education and research, universities and the highly profiled "grandes écoles", which has led to pluralism and greater opportunities for niche strategies and specialisation.

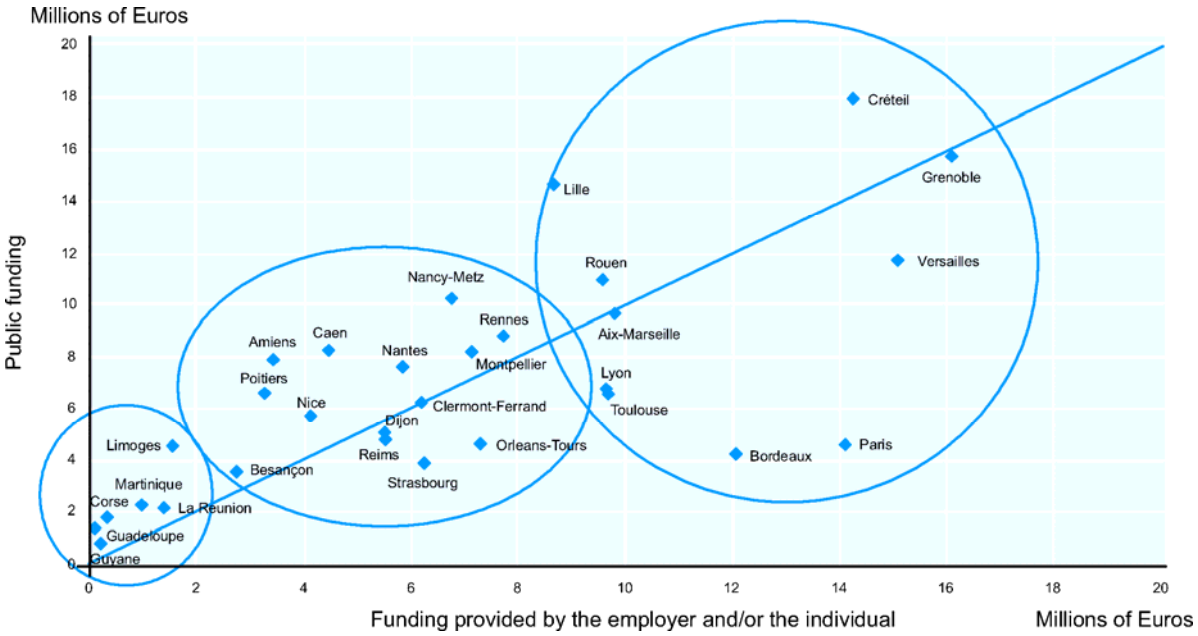
Specific Programmes

The academies of GRETA were established in 1974 as a result of the 1971 act on vocational training. The abbreviation GRETA stands for "GRoupment d'ETAblissements (formations of different actors). GRETA led to a more active engagement in vocational training at the regional level, involving multiple actors. At the same time, this round of initiatives was driven by institutions and companies, not by individual employees.

The GRETA programmes can be used by individuals (with or without employment) or by private and public corporations that see a need for training. After completion of a GRETA training course, a diploma is issued. The GRETA programmes have three sources of finance: public (national or regional), employer or the individual.[15] In 2004, 274 different GRETAs were active in training, and this year the employers carried the training cost in 37% of the cases. However, the regional financing patterns, concerning both volume and providers, show significant variations. The urban areas largely represent those with large funding volumes and a dominance of private financing, whereas more peripheral areas display a rather modest volume as well as little private funding. Bordeaux, Grenoble, Lyon, Paris, Toulouse and Versailles can be found in the first category, while areas such as Guyana, Guadeloupe, Corsica, Martinique, Limoges and Reunion prevail in the latter. See Figure 3. This large dispersion can be explained by the type of subscribers and forms of training which are demanded.

[15] For further info on this topic refer to: www.education.gouv.fr

Figure 3: Relationship between funding volume and public versus private funding in the training programmes of the different GRETA academies, 2004



Source: Inquiry no 63 concerning GRETA activities

The participating educational institutions have their own centre, named CAFOC (Centre Académique de Formation Continue), which is responsible for the pedagogical set-up in each region as well as controlling the standard of teachers and methods. The CAFOC lays a special emphasis on the adaptation of new technologies. The training programmes are organised to meet the specific demand and need of each region both concerning subjects (marketing, special technologies, accounting, etc.) and organisation (integrated courses, alternating courses, individual or group training). Even if each individual who finalises a training programme at a GRETA establishment receives a diploma after training, very few of the trainees will obtain a formal education. Fewer than 4 per cent of the trained individuals will end their GRETA programme with a traditional diploma such as a BTS ("Brevet de Technicien Supérieur"), equivalent to a degree in higher education.

ii. The OSEO Group

OSEO was established in 2005, by bringing together ANVAR (French research and innovation agency and BDPME (SME development bank) around the objective to support regional and national SME policies. Its mission is to provide assistance and financial support to French SMEs and micro firms in the most critical phases of the life cycle.

OSEO covers five areas of activity:

- innovation support and funding;
- Funding investments and operating cycle;
- guaranteeing funding granted by banks and equity capital investors;
- performing studies (SME "Observateur"); and
- providing services to SMEs.

In the context of this report, the last kind of activity listed is the most interesting. In particular, this is because this activity aims to complement the competencies that an enterprise is lacking, in order to ensure a positive return (and growth development). OSEO serves in this way as a one-stop shop for entrepreneurs as well as newly established enterprises. It offers the region a source of support services. For instance, Appui Enterprises provide online information and guidance for businesses within a particular region. One of OSEO's most important strategic priorities is to support enterprises with growth potential over time. While many SMEs in France get off to a promising start, too few succeed in maintaining high growth rates once two or three years have gone by.

At OSEO, an entrepreneur should have the possibility to access networks and experts in a wide range of fields, including research and education, recruitment, finance, ICT-services, public procurement, and industrial property rights. The network aspect of this approach is quite appealing and provides effective guidance and contacts. The accessibility and proximity are furthermore adding value to this set-up.

However, from a longer perspective, there is a risk that the entrepreneur does not get enough training in ordering these complementary services since some are free of charge and others are not. The enterprise could benefit more from learning how to order and purchase the service provide by experts in the market place once the contact has been established. OSEO does not provide training in how to optimise the use of external and complimentary expertise.

In 2005, OSEO provided support to 55'000 businesses. Of these, a total of 8.8 billion euros of financial assistance was provided; 43 per cent of the enterprises receiving support employed fewer than 10 people. Projects are not confined to a specific sector. While two out of three projects concern the ICT and the life sciences sector, there is considerable evidence of innovation in sectors regarded as more traditional and OSEO is convinced that it should meet the needs of all SMEs in order to adapt to an increasingly open international economy.

Evaluations

Since the nationwide strategy on the poles of competitiveness was launched, several steps have been taken to seek the impact these clusters have had on indicators such as employment, foreign trade, patents etc. Almost all of these have demonstrated a positive development at the regional level, and many of the newly developed poles appear to be very active. However, the time factor makes it too early to evaluate real impacts, since the results will not be known for some time yet. Another consideration is that the poles of competitiveness have not had a particular focus on SMEs, although they have nevertheless operated in a way that has often made them relevant for such firms.

Because regional SME development programmes are a quite recent phenomenon in France (see OSEO programme above), proper evaluation processes on different training programmes are not yet in place. Nevertheless, the available evidence suggests that France has gone through a strong improvement in its approach to training. The past rigid and unresponsive training mechanisms have given way to an initiative that narrows the mismatch in the supply and demand of skills for SMEs. It has specifically occurred in ways that have allowed for adaptation to local conditions, and also complemented internal skills upgrading with an enhanced supply of external service providers. The scheme has been able to enhance specialisation processes in ways that appear to have led to positive impacts on enterprises and economic performances, in several regions.

5.6 Country in Focus: Germany

General Background

Germany has approximately 82.5 million inhabitants. By the end of 2004 the number of people employed was 39 million or 44.5 per cent of the population. In 2001, the average number of unemployed persons was 3.9 million, or 9.4 per cent. In 2001, gross national revenue in reached € 2'054.6 billion for a per capital of € 24'900. Gross domestic product totalled € 2'063 billion and € 51'100 per person in gainful employment.

In Germany, SMEs are defined as businesses with less than 500 employees, a sector containing 3.3 million enterprises standing for almost 70 per cent of all job opportunities. SMEs account for 43.2 per cent of all business turnover and more than 80 per cent of all apprentices in the business sector (OECD 2005). The German education system is generally regarded as strong in providing specific training for a profession or a skilled occupation. In 1992 about 65 per cent of the country's workforce had been trained through vocational education.

In January 2003, the German Ministry of Economics and Labour launched an SME initiative as part of the Agenda 2010 (a broader economic policy reform package for the German economy), incorporating six cornerstones: promoting entrepreneurship, SME financing, promoting vocational training and education of skilled labour, reduction of bureaucratic obstacles, promoting innovation and accelerating foreign trade and investment. A bill to amend the Vocational Training act was put forward by the Federal Government in 2004, as the federation of German Trade Unions, employers, employees and the Government joined forces in its formulation. It should be emphasised, however, that lifelong learning, as part of the special German apprentice system, traditionally has attained an important role in the German society.

Today, the focus has changed, as training and human capital upgrading have become associated with innovation and the need of adjusting the workplace as well as the role of the individual employee, so as to become more flexible, dynamic and able to deal with the requirements of rapidly changing technologies and practices.

Incentives and Policies

Actions taken at national level

In the case of Germany one needs to be aware of the strong role played by so-called apprenticeship systems, essentially represent formal vocational training programmes combined with on-the-job training, and with a strong incentive structure attached to it through a widely accepted certification scheme. The training offered is extremely precise, with a combination of skills specific to a particular profession and/or a firm. In Germany, such apprenticeships are well developed for blue-collar and white-collar workers alike. This kind of system stands in sharp contrast with the Anglo-Saxon model, which rather relies on market forces to shape the composition of training. The model is chosen has stark implications in a number of respects, including, wage differentials, labour market functioning, job mobility, and so forth (Adda et al., 2006).

Vocational education and training is a joint government-industry programme. The federal government and the German Federal States share the financing of vocational education in public vocational schools, with the federal government bearing a slightly higher share (58 per cent in

1991) than the German Federal States. On-the-job vocational training, of which the cost is entirely borne by companies and businesses, is expensive to provide than vocational education. In the early 1990s, companies and businesses annually spent 2 per cent of their payroll on training.

The activities of the government in the field of continuing education are restricted to laying down principles and to issuing regulations relating to organisation and financing. The low degree of involvement aims at securing a wide range of institutions that meet the diverse interests of those in continuing education. Such principles and regulations are enshrined in the legislation of the Federal Government and the German Federal States regulations are aimed at establishing general conditions for the optimum development of the contribution of continuing education to life-long learning. Recent initiatives by the federal government include the ambitious pledges for enhanced research and development, including areas such as learning in the process of work, social environment, continuing education and learning on the net and multimedia. These initiatives span the period from 2001 to 2007 and have been set to mobilise some EUR 130 million (with part of the funding originating from the European Social Fund). Another initiative is that of the Learning Regions – Providing Support for Networks, with the aim of reducing the shortage in skilled employees in regional industry by coordinating and matching the supply of continued education. Here, some 73 regional networks are funded with approximately EUR 118 million (OECD 2005).

Continuing education and school legislation at the national level contains regulations pertaining to the continuance of education within the school system, while higher education legislation regulates the development of academic continuing education. In 12 of the 16 Federal States, legislation allows employees to attend continuing education courses (paid educational leave - Bildungsurlaub) for several working days per year (usually five) with no loss in earnings, provided that certain conditions are fulfilled.

Distance learning offers adults in employment the opportunity to take up continuing education on a flexible basis while remaining in employment. Distance learning courses offered by private organisations have required state approval in the Federal Republic of Germany since January, 1977 under the Distance Learning Protection Act (Fernunterrichtsschutzgesetz). The decision to approve a distance learning course is taken by the Central Office for Distance Learning (Staatliche Zentralstelle für Fernunterricht - ZFU) of the German Federal States of the Federal Republic of Germany.

The use of new information and communication technologies as an effective tool in self-organised learning is also becoming an increasingly important aspect of adult education/continuing education. In 2001, the proportion of distance learning offers that was supported online, either in full or in part, was 10 per cent of the total distance learning volume. Many initiatives and projects have been launched to promote the use of these technologies. The federal government assists in disseminating ICT know-how by supporting some 24 regional e-commerce centres of expertise, which aim to advise and provide training to SMEs. Also, the PROZEUS project assists in upgrading the ICT and e-business know-how via knowledge transfers and processes of integrated knowledge development and use.

With regard to concrete action on a national level, initiatives include:

- the National Compact on Vocational Training and young personnel in Germany;
- the Training initiative 2004; and

- the Federation of German Trade Unions – LEA project – "Living and Working".

The goal of the first initiative is to offer all capable and willing youths training opportunities, whereas the second initiative aims at lobbying for an increase in efforts in offering apprenticeships places while the third initiative aims at offering a course where "coaches" gain certification in assisting employees with competence development issues.

Actions taken at regional level

The construction of union networks for workers and staff councils on the subject of vocational education or continuing education – The KomNetz project, is an initiative where the unions support and advise the workers councils by the structuring of life-long learning in business.[16]

Actions taken at company level

At company level, the BASF Training Cooperation and the MayME/VBM Training initiative 2003/2004 are worth mentioning. These initiatives are examples of apprenticeship provision initiatives, increasing the amount of apprenticeship places offered by the industry.

Specific Programmes

i. Learning islands

"Learning islands" are regarded as a German workplace innovation with the purpose of developing employees' technical and social skills, while exposing them to team work and helping the company learn from alternative organisational forms and structures to shape its future organisation. The learning islands are located in a separate section of the work floor and contain production and educational facilities that allow employees to work in teams on integrated and complex project-oriented tasks. These include planning and solving logistical problems.

The semi-autonomous working groups are supported by a member who co-ordinates and intervenes only when necessary. Having these experimental learning islands close to employees helps them identify with the initiatives and become familiar with the process of change. In this way, it is hoped that resistance to change will be reduced. The group is given clearly defined goals that need to be realised in the working period of five weeks.

To encourage employees to look for improvements, feedback about the progress made is given regularly. Senior workers select mentors who are taken off the production line to support employees in the learning islands. The learning island team group is responsible for compensating for the loss of productive labour of their mentor within this period. In doing so, young workers can appreciate the value of in an industrial commercial context. The mentor's role is that of a counsellor: He or she is a contact point for the group, and only intervenes when serious errors are made. The intention is to preserve the group's autonomy as much as possible (Tavistock Institute, 1998).

ii. The Leittext method

[16] Involved trade unions were: The Industrial Trades Union of Metal Workers, the Industrial Trades Union of Miners, Chemical and Energy Workers and the United Service Trades Union.

The Leittext method is a structured form of training conducted close to the job. It begins with trainer-guided phases of theoretical and practical instruction and progressively phases into trainee-managed activities. A Leittext is built around a task that can be unfolded in partial steps. Material that is already part of the workplace is used as much as possible. It consists of an introductory text which gives the trainee a precise explanation of the purpose of the material being tackled and the Leittext questions. These questions are based on an analysis of the activity that is to be carried out, the know-how that is needed to carry out the task, and the corresponding information that is needed to acquire the knowledge. The role of the trainer is focused on activities that stimulate the trainee by developing "Leittext questions", discussions of intermediate results of the trainee's activities, and providing support during the learning process. In practice, the role of the trainer is shared by trainers and workers.

The task group concept has been introduced in the first phase of the process of change. This implied adding minor maintenance and quality control functions to the production process. Daily production planning is also carried out on the shop floor in the new structure. This type of organisation leads to more variety, complexity, and broadly composed tasks with enhanced autonomy and scope. Consequently, there is a greater need for understanding the process, quality and safety aspects. The emphasis is on on-the-job training under the guidance of an experienced colleague, combined with job rotation. The staff assessment system explicitly includes both attending training and work-based learning (particularly through task and job rotation) and contributing to learning processes of others. In this way, the acquired knowledge is also evaluated, recorded and rewarded particularly through the job structure and the assessment system (Tavistock Institute, 1998).

Evaluations

A characteristic of the German vocational education system is the high level of interest in prototype projects and experiments. A major part of the government programme is concerned with experiments which are then widely publicised by means of extensive evaluation, reports and guidelines.

From these extensive evaluations evidence has begun to emerge on the private returns to new training schemes in Germany, which include an emphasis on individuals as well as employers. Skilled German workers who wish to upgrade their qualifications from Facharbeiter to Meister or Techniker level typically do so by taking part-time courses outside of working hours, relying on local public technical colleges (Münch, 1991).

The training may be expected to result in substantial dividends, given the large pay differentials between these qualifications, together with a strong employer demand for higher vocational qualifications. Most evaluations of adult training in Germany unfortunately tend not to distinguish between upgrade and further training (Fortbildung, Weiterbildung), on the one hand, and retraining (Umschulung), on the other (Pannenberg, 1996). Distinctions have been made between the effects on employment and pay. Positive effects on employment have been inferred by two studies. The first study used a comparison group to analyse adult training in Hamburg, finding stronger effects for upgrade training than for retraining. The second study, dealing with Eastern Germany, found that part-time adult courses are associated with lower exposure to unemployment, and full-time ones with the opposite. To the extent that upgrade training is conducted part-time, and retraining full-time, the implication is that upgrade training reduces the probability of unemployment (Becker, 1996).

5.7 Country in Focus: Ireland

General Background

Ireland applies, in principle, the European Commission recommendations regarding the SME definition. In general, small enterprises are defined in the range of 10-50 employees and medium sized enterprises in the range of 50-250 employees. The number of SMEs constitutes approximately 99 per cent of the total number enterprises in Ireland.

Governmental support of SME promotion and entrepreneurial development in Ireland is a relatively recent phenomenon, compared with other European countries. Government policy until the early 1990s was primarily focused on attracting Foreign Direct Investment (FDI); multinational blue chip companies such as Intel and IBM to Ireland. However, national policy concerning SME promotion has changed significantly over the past 10 years, as has the public awareness, visibility and popularity of entrepreneurship. The National Development Plan (www.ndp.ie) highlights the importance of economic and employment growth to economic competitiveness. The development of a highly skilled entrepreneurial society via active and professional support structures, as well as the creation of a favourable SME business environment, are widely recognised. These issues attain a central role in the policy agenda professed by the Irish government.

Ireland has a small and open economy, heavily dependent on international trade, and thus dependent on competitiveness in knowledge and highly skilled areas to sustain economic growth and development. The period 1994-2000 was one of extraordinary economic growth, with employment expanding by 40 per cent. The change from a mainly agricultural and low-technology base to a modern economy has been accomplished with an important expansion of the education and training infrastructure coupled with high participation rates.

Incentives and Policies

Actions taken at national level

Ireland continues to give priority to easing the tax and regulatory burdens faced by the enterprise sector. The phased reduction of corporate tax and the easing of compliance obligations for small firms have helped create a business-friendly environment.

The National Development Plan 2000-2006 underlines the requirements of economic competitiveness.[17] From a planned total investment of € 50.8 billion, about 80 per cent of funds will be allocated for investment in economic and social infrastructure, employment and human resources and the productive sector. The government is committed to work closely with the SME community. Through initiatives such as the Round Table for Small Business governmental representatives, enterprise development agencies and representatives for the small business sector meet and ensure that the voice of the SME community is heard throughout regional and national government.[18] Under the National Development Plan, the City and County Enterprise Boards (CEBs) are responsible for providing training and counselling for new micro-enterprises and entrepreneurs. This training is conducted via the network of 35 CEBs and includes business

[17] For further information with regard to the Irish National Development Plan refer to: http://www.ndp.ie and http://www.eustructuralfunds.ie.

[18] http://ec.europa.eu/enterprise/enterprise_policy/charter_directory/en/representation/ireland.htm

advice/information, mentoring and management development including promotion of quality management and best practices.[19]

The creation of the state agency Enterprise Ireland in July 1998 brought together support services from three separate entities to form a single, integrated organisation committed to the development of Irish enterprises. The emphasis is on advising companies with ten or more employees that have confirmed possible prospects and capabilities. Each company is assigned a development advisor as a primary point of contact with whom to assess the needs and capabilities of the firm. Additionally these advisors assist in formulating an agreed upon growth plan, accessing the range of services and resources needed to execute the plan.

The allocation of European Social Fund (ESF) towards company training have been pursed by a concentrated approach of; the national training and employment authority of Ireland (FÁS), the Department of Education and Science, the Irish Business and Employers Confederation (IBEC) and the Irish Congress of Trade Unions (ICTU). This involves steering resources towards new projects, and in some cases new providers. The social partners, including IBEC, FÁS and ICTU are participating in the National Qualifications Authority of Ireland, which is developing a framework for the accreditation and certification of training and life-long learning. A particular emphasis is being placed on workplace learning.

FÁS, together with individual unions within the ICTU, individual trade associations, and sectors within the IBEC have been very active in the education and training area. In a number of instances they have established training networks programmes through the Skillnets Initiative. FÁS will encourage training at a sectoral and company level through a series of new programmes including excellence through people and competency development. Innovative and new ways of delivering learning via online, e-learning is promoted by FÁS NET College. The enterprise development agencies in Ireland have been very active in working together to promote business networking, with the aim to enable communities in establishing best practices and mutual learning on the topic of improved business practices.

Actions taken at regional level

In 2000, six business innovation centres (BICs) were initiated in the regions to foster support for a regional focus on manufacturing and tradable service businesses and to provide additional seed capital for new innovative and technology firms. BICs distribute information to small firms through the web, offer access to research in the local economy and business support services, business information databases, online business training and expert assistance in using the internet access business information.

Actions taken at company level

The survey of 2002 on Human Resources Management (produced by IBEC) indicates that the average spent on training, as a percentage of payroll is 3.15 per cent, marginally up on the figure of 3.01 per cent recorded in 2000.[20]

[19] For further information with regard to the CEB refer to: www.enterpriseboards.ie

[20] Framework of actions for the life-long development of competences and qualifications, UEAPME, 2nd & 3rd follow-up report. 2004.

Specific Programmes

i. Excellence through people

Excellence through people is managed by FÁS (the national training and employment authority) and aims to improve a company's operation through staff training and improving employee communication and involvement in the company.[21] Ireland and Great Britain are claiming to be the only two countries in the world to have developed a recognised national standard in this area.

The Irish national standard for human resource development is Excellence through people (ETP). There are two main objectives to the standard: (i) to promote the development of employees to their full potential so as to maximise their contribution to the specific needs of the organisation and, (ii) to show recognition for organisations that has achieved this aim.

Excellence through people is available to all types of organisations regardless of size and sector. The following criteria are considered for application of ETP:

- Section One: Review of Organisation plans and objectives. (150 points)
- Section Two: Preparation of Organisation training plan. (250 points)
- Section Three: Review of Training (120 points)
- Section Four: Implementation of Training (240 points)
- Section Five: Training and development records (40 points)
- Section Six: Employee communications and involvement (200 points)

In order to achieve the ETP certification, organisations must score 80 per cent in each sector and 80 per cent overall. The ETP logo is given for a period of one year during which time organisations entitled to use the certification for marketing or recruitment purposes.

ii. The FÁS cluster programme

The FÁS cluster programme, is managed by FÁS. The programme aims to assist small businesses in the service sector to develop their competitive edge by strengthening their capabilities in management-related areas. The programme is targeted at companies in the early years of their development. It was piloted in three of the FÁS regions – Dublin, Southwest and Southeast. Thirty-one companies participated all of which had less then 50 employees and whose turnover was less than € 4 million. The pilot was completed in April 2004 and a second phase of the pilot has since started.

There are four phases of the FÁS cluster programme:

- Diagnostic Assessment - this consist of a training needs analyses and preparation of a training plan conducted by FÁS Training Advisor in conjunction with the company.
- Cluster Programme - based on the recommendations of Phase 1, participating companies are offered up to twenty days consultancy over a six to twelve month period. This is

[21] More information can be obtained through: www.fas.ie

based on the needs of the company and is usually in the areas of finance, marketing, industrial engineering and quality control. Additional disciplines can be added if required.

- Return on Training Investment (ROTI) measures the effects of training and is designed to provide a focus and direction to help decide on future Human Resource Development-HRD in the company.
- Benchmarking. Companies who reach the final stage of the programme are introduced to a benchmarking exercise which is a systematic and analytical examination of a company's operations.

iii. Skillnets

Skillnets is operated by Skillnets Ltd. The organisation is managed by employer and employee stakeholders – IBEC, Chambers of commerce Ireland, Small Firms Association, Construction industry federation, ICTU – in corporation with the Department of Enterprise Trade and Employment and receives funds from the National Training Fund.[22]

The pilot enterprise-led training networks programme has contributed to in-company training over the last few years. Skillnets was established on an initial three-year pilot basis to address the problem of low investment in training in small and medium seized enterprises in Ireland. It includes an enterprise-led approach to training and development through flexible training delivery methods among those enterprises that previously had difficulty accessing or benefiting from training. Skillnets which represents employer, employee and Government organisations is funded under the National Training Fund. During 1999-2001, a total of 58 networks were supported with financial support of over € 11 million, involving 4'000 companies and 13'000 employees. During the second round 2002-2005 approximately € 15 million will be invested. Fifty-five networks involving 2'400 companies are involved and it is projected that more than 14'000 people will have received training by the end of the programme.

In each network, companies come together to decide what training they need, how, where and when it will be delivered. Particularly appropriate for this approach are SMEs because they may not have the time, expertise or funds to develop training customised to their specific needs. The rate of SME participation in 1999-2001 was 75 per cent and in 2002-2005 around 83 per cent.

Several of the networks are sector-based and are positioned throughout the country. Other networks are created of companies getting together to bring training into their area and make it available to the local industry.

Evaluations

The results of an evaluation are presented in the Skillnets final report 1999-2002.[23]

The report notes that:

Training in small firms participating in the programme is now more of an ongoing and integral part of their operation rather then merely an option.

[22] For further information on Skillnets refer to: www.skillnets.com

[23] Skillnets: Final Report of the Training Networks Programme 1999-2002

Training is based on real and clearly identified company needs and, since it is led by the firms themselves, it is completely linked with work. It is triggered by the demands of work, and happens increasingly on the job.

As a result of this close link with processes, training tends to become flexible and delivered as needed (many times at weekends) to achieve specific results.

Definitions of skills become less generalised and more focused and precise. Several networks have defined a core competencies for skill and functional areas linked to a process of continuous training and certification.

5.8 Country in Focus: Norway[24]

General Background

Norway has a tendency of using both the European Union's definition of SMEs and an additional national variant for local applications. The EU definitions are used in foreign affairs, i.e. reports for EU, OECD, etc. The "domestic" definition of an SME is one with fewer then 100 employees whereas the EU definition is enterprises with fewer then 250 employees. In 2005, SMEs accounted for more than 99 per cent of all enterprises in Norway (SSB, 2005). Furthermore, in 2004 enterprises employing up to four employees represented about 82 per cent of all enterprises. Overall, small and medium-sized enterprises accounted for more than 62 per cent of employment, and about 54 per cent of economic turnover (SSB, 2004).

The Norwegian government was responsible for initiating a plan for a comprehensive innovation policy "From Idea to Value" in 2003. The objective was to get better co-ordinated and targeted efforts for innovation, and to generally improve the achievements of SME policy. It focuses on five main policy areas central to innovation policy, including specific objectives and measures in each area: General Conditions for Trade and Industry; Knowledge and Competency; Research, Development and Commercialisation; Entrepreneurship – starting new business; Electronic and Physical Infrastructure. The Plan incorporates a comprehensive framework for future SME and entrepreneurship policy.

Life-long learning and educational opportunities are essential principles of Norwegian educational policy. The intention is to provide suitable conditions in order to reinforce the competence of the adult population. One of the main challenges will be the work involved in realizing the 2000 Competence Reform. The reform aims to meet the needs for new or changed competence in society, in the workplace, and by the individual. There is a gap developing between the need for and the access to new knowledge in the workplace. This is due to the speed with which changes are taking place in society and the workplace, and the fact that the labour force is growing older. There are not enough newly trained young people available to meet the needs for new competences. Competence development initiatives must be aimed more intensively at adults.

In 1995, universities and colleges were given the responsibility to organise CVET for external clients in their own, respective, areas of expertise. Some 80 000 – 100 000 individuals are estimated to attend CVET provided by private and public education institutions, in the form of part-time and full-time including e-learning and distance education. The majority of the public

[24] The authors are grateful to valuable comments on this section by Mr. Halfdan Farstad, National Institute of Technology, Oslo, Norway.

measures in place are general and open to enterprises of all types and sizes with only a few programmes aiming to promote CVET towards particular industries and enterprise forms. From 2002, all adults have a statutory right to primary education and training (and secondary from 2002) with, in principle, similar content as that provided to regular students. The municipalities and counties, respectively, are obliged to provide appropriate schooling free of charge.

To every extent possible, education for adults should be driven by demand. This education should be flexible, accessible and adapted to the needs of both the individual and the enterprise. The education must be organised while building on individuals' prior formal and informal learning. Even though considerable sums are invested in competence development in the workplace by both the private and public sectors, many companies have no competence development plans. There are major variations between industries and trades. It is particularly important to focus on competence development in small and medium-sized companies and development in the regions.

In order to accomplish training projects specified for small firms in the 2000 Competence Reform a Competence Building Programme has been initiated by the Norwegian Institute for Adult education (VOX) to develop a market for training by means of development contracts for innovative projects. One of the intentions is to develop suitable training programmes for small enterprises and to enhance their capacity to get hold of such courses in the marketplace.

Norway has an efficient database on potential sources of training for enterprises and individuals. The Norwegian Council of Universities and the State Colleges in co-operation with social partners the Norwegian University Network for Life-long training became a national agency under the jurisdiction of the Ministry of Education and Research in 2004.

Among the OECD countries Norway has one of the most highly educated workforces. An extensive public sector, a widespread government involvement in the economy and a centralised wage construction system has led to weak wage signals, low worker mobility and structural problems in re-allocating resources across sectors. The Norwegian government has been recommended by the OECD to shift its emphasis from a supply-driven to a demand-driven model when influencing the education system and should give more self-determination to both institutions and students in the choice of offerings and fields of study. Together with the 2000 Competence Reform, Norway has implemented programmes aimed to address, for example, the Modernisation of the Public Sector, launched in 2002, which includes the introduction of performance-based management in the government, and the 2003 Quality Reform of Higher Education, of which the aim is to improve the quality and efficiency of tertiary education. To be able to correct the skill mismatches more privatisation of industry and improved co-operation between industry and academia are needed.

Incentives and Policies

Actions taken at national level

In comparison to the other Nordic countries Norway has high levels of expenditure on and participation rates in worker training. Compared with the EU countries, Norway has the second highest participation in job-related continuing education and training with 44 per cent (OECD, 2003). In 1999, the average amount spent on employee training was 1.7 per cent of the Norwegian private wage bill, where 86 per cent of enterprises provided training (Eurostat, 2002). Approximately 78 hours per worker annually is spent on training, far above other OECD

countries (OECD 2004).[25] Currently, the government in Norway is emphasizing more precise measures to increase training for low-skilled workers. The government is therefore taking steps to liberalise immigration rules for skilled workers from outside the European Economic Area (EEA). The Norwegian system distinguishes between initial vocational training (IVT) and continuing vocational training (CVT). Nearly all types of vocational training can be provided either as IVT or as CVT. It is the status of the learner, the apprentice or the student in regard to previously completed education or training that decides whether vocational education and training is considered as IVT or CVT.

For quite some time, the Norwegian government has paid considerable attention to the development of ICT skills, including emphasis on both professional and private user skills. ICT education and training at various levels targeting various groups (age, occupation etc.) is available nationwide. Holders of a craft or a journeyman's certificate with extensive relevant work experience wishing to set up a business of their own or wanting to qualify for a managerial position in a relevant sector are targeted by initiatives such as the Training as a "Håndverksmester" (Master Craftsman). In addition, there are integrated training elements in several measures targeting vulnerable groups in the labour market, such as the unemployed.

Praktisk-pedagogisk utdanning (practical-pedagogical training) as CVET are offered for candidates who have completed their academic or vocational training and want to work as a teacher, by 24 higher education institutions.

With regard to support to innovation and entrepreneurship, Innovasjon Norge – Invanor (Innovation Norway) handles various financial measures (within a limited number of programmes) that target product- and competence development within particular sectors.[26]

Landbruksdepartementet – LD (Ministry of Agriculture) is involved in a number of competence development initiatives via the County Governors' agricultural department and other external administration. In addition, there are funds for further education within the agricultural sector, where most funding is allocated to courses provided by the adult education associations.

Financial support targeting business-oriented training is also available from Fiskeridepartementet – FD (Ministry of Fisheries) through sectoral organisations. In order to promote and stimulate demand for education within the sector, a specialised Internet portal has been set up.

Of course, any system - policy, structure and content, as well as actors and arenas - is constantly changing. Important aspects of policy arrangements promoting a flexible, demand-driven system in Norway include: courses developed and organised by industrial sector organisations, tertiary institutions' responsibility for delivery of market-oriented courses in their areas of specializations, adults' access right to tertiary studies based on assessment of prior learning and work practice, formal arrangements / systems for recognition and formal documentation of prior learning, adults' access to grants and subsidised loans through the State Education Loan Fund, the yearly "Competence account", including a yearly survey of CVET (conducted by FAFO[27]), as a national instrument for assessment of policy measures and performance, initiated and financed by the Ministry of Education and Research (Kunnskapsdepartementet), the substantial influence of the social partners in the development of policy, structure and content of upper secondary vocational

[25] OECD 2004, Developing Highly Skilled Workers: Review of Norway. Available; http://www.oecd.org

[26] http://www.invanor.no/templates/Page_Meta____54655.aspx

[27] Fafo - Fagbevegelsens senter for forskning

training at all levels, the comprehensive and flexible system of CVET courses through adult education and distance education institutions, subsidised by the government.

According to the Norwegian CVTS2 report, in 2003 enterprises that consisted of fewer than 49 employees contributed to 83 per cent of all enterprises that provided CVT courses. In 2004, Fafo published a report regarding learning and competence development at work. They found that in 2003 some 61 per cent of employees surveyed stated that they had participated in training or education in the course of the 12 month period and that 57 per cent of the working population took part in courses, seminars and other training not providing formal qualifications. It further illustrates that one in three employees surveyed stated that they receive too little training and education. The most significant obstructions to participation in education/training are the lack of economic resources and the lack of time for the employer.

Approximately 85 per cent of training for employees in Norway is paid for by employees with an emphasis on CVT instead of more formal courses. According to a Eurostat survey (2002), 84 per cent of small enterprises (10-49 employees) offer training compared to 96 per cent of medium-sized enterprises (50-249 employees) and 100 per cent of large enterprises (over 250 employees). Moreover, 81 per cent of workers in small companies are compensated for training compared to 96 per cent in larger companies. The responsibilities connected to vocational education and training and the development of skills in the workforce are shared between the authorities and the social partners. The contribution from the social partners is institutionalised through the Education Act as well as through procedures for representation in central bodies and active participation in preparation, implementation and monitoring of tasks within the field. The social partners have a 2/3 representation in the National Council for Vocational Training (RFA), which is appointed by the government.

The labour authorities provide financial support for in-service training in order to support organisational adaptation, adjustment and restructuring. In Norway, Sweden and the Netherlands, through sectoral bargaining, provisions are being introduced that generalise the right to continuing training. Training enterprises, which take on apprentices as part of the regular upper secondary training arrangement, receive support from the authorities. The size of the grant is determined annually by the national assembly and be equivalent to the cost of a training place at school. Since the 1999 "Tax Act", employers receive an instant deduction for training costs, including the training itself, graduation fees, travel expenditures, books and other materials. However, the employee must have worked full-time for the firm one year and can obtain a limit of twenty months of full time study. The training has to be related to either the employee's competence in a current or future job at the same firm or be internally arranged by the employer. Nevertheless, training that increases skills and the ability to find other employment in the case of discharge is also eligible.

In 1998, the Norwegian Government launched an Action Plan for Small Businesses, with the aim of facilitating start-ups and improving the framework conditions for enterprises. Some of the main priorities in this plan are presented in the following sections: Education for an entrepreneurial society, and training, access to risk capital finance for SMEs, access to research and innovation by SMEs, improved visibility of support services and reducing the administrative burden on companies.

Actions taken at regional level

At regional level, the social partners contribute in the planning of courses of study and in the structuring of the courses that will be offered. Regional authorities make the final decisions in the matter.

Actions taken at company level

Basic agreements at the national level establish cooperation in the evaluation of qualification needs and the design of company training plans. At company level trade unions have rights to information and consult on the length, type and the selection criteria (established through sectoral agreements). However, there is no obligatory financial contribution by companies in training. Even so training in the company can be co-financed (the company pays the cost and the worker contributes the time).There are no special tax incentives for investment in CVT by enterprises. Nevertheless, costs related to vocational training qualify for tax exemption.

Specific Programmes

MOBI is an "umbrella" programme consisting of several smaller programmes. The general aim of the programme is to encourage training, innovation and value adding in companies with little experience of R&D via co-operation with R&D groups and other relevant public- and private-sector development agencies. MOBI's target groups are companies with little experience and competence of R&D, irrespective of their sector, industry or size. MOBI comprises three sub-programmes: Promoting research based competence (KOMPMEG), Industry-College Collaboration Scheme (NHS[28]), and Innovation in networks (ARENA). ARENA is coordinated by Innovation Norway in cooperation with the Research Council of Norway (RCN), while the two other parts of the MOBI programme are operated by RCN.

i. The Industry - College Scheme

The general aim of the Industry - College Scheme is to strengthen the ties and mutual exchange of competence between SMEs and the public colleges in Norway and to stimulate the regional capacity of innovation both in colleges and industry. Specific objectives of the Industry – College Scheme are to help ensure that the latest knowledge reaches companies through a fresh graduate who is familiar with emerging technologies; to encourage the establishment of more lasting, formalised and mutual collaboration between SMEs and the educational institutions involved; to ensure that participating companies get professional support from academic supervisors located at the regional college, and to improve the colleges' institutional role in the regional innovation system.

ii. The FRAM Programme - improved competitive power and profitability

The FRAM programme is Innovation Norway's competence scheme within management and strategy development, aimed at SMEs. By giving the person in charge a foundation for developing the enterprise further, the SMEs are expected to increase their competitiveness and profitability. The average FRAM company has 14 employees and a turnover of 11 million NOK. Approximately 50 per cent of the participating businesses are situated in less developed parts of Norway (business-/infrastructure-wise).

[28] NHS stands for "Næringsrettet Høgskolesatsingen"

FRAM is a management and strategy development programme which aims to increase the competitiveness and profitability of SMEs. The primary aim of the programme is to get SMEs to increase their net result with 5 per cent of turnover as a result of their participation in the programme. Specific objectives of FRAM are to increase profitability in SMEs, to get outside advice by letting external members be seated in the board, and to boost innovation (through new products, new markets, new processes and new ways of running the enterprise).

iii. The BIT Programme – IT and electronic business operation

The BIT programme is Innovation Norway's programme for development of IT solutions for SMEs. Innovation Norway contributes with methods, quality insurance and partial financing. The main objective of BIT is to increase the efficiency of electronic business in enterprises. There has been a development to make enterprises capable of using the solutions effectively. Vital to the BIT programme is that the IT solutions must be based on the needs identified by the companies themselves. Specific objectives of BIT are to enhance the competence and capability in order to accomplish changing procedures, with the aim of achieving better results; to create tailor-made IT solutions; to increase the competitiveness and profitability in SMEs through developing, implementing and distributing general IT solutions for specific trades; and to get various industries and software companies to collaborate and develop industry-specific solutions.

Evaluations

Every year hundreds of Norwegian companies join the FRAM programme; approximately 75 per cent of the participants improve their profitability by 5 per cent or more. FRAM starts with a situational analysis and proceeds with six company workshops over a period of 1½ years. Each company is provided with an experienced advisor. An even larger percentage of the participants carry out extensive improvement measures in order to strengthen their position on a long-term basis. By and large, the participants in the programme are very pleased with their results. It is important to have a management and strategy programme for SMEs like FRAM, due to imperfect markets. In general, only 18 per cent of Norwegian companies evaluate the effect of competence development, amongst whom, approximately half report that they measure the effects of competence development in the form of new skills at work and an equal number stated that they measure if the participants in competence development are satisfied. The main reason why many companies do not evaluate the courses is primarily because of the difficulty in achieving reliable results.[29]

CVET, administered under the framework of Kompetanseutviklingsprogrammet - KUP (the Competence Development Programme), has undergone two evaluations during the period of implementation. The 600 projects targeted with the aim to further develop the market for CVET have trained some 50'000 private and public employees. Whereas the majority of these projects have been work-related, some 25 per cent have been targeting improvements of accessibility to primary and secondary adult education.

Recent interim evaluations reveal high satisfaction from participants, stating that the training provided has been relevant to their work situation and duties. The majority of participants are between the ages of 40 and 60. The most satisfied participants were found among those with relatively low levels of education.[30]

[29] For further info on this topic refer to: www.fafo.no

[30] http://www.fafo.no/pub/rapp/724/724.pdf

A permanent assessment system for CVET has been established. The system is run as part of Kompetanseberetningen (the Norwegian Competence Report), under the Ministry of Education and Research.

To improve the underlying knowledge base with regard to policy decisions on Life Long Learning,[31] the Norwegian government has put forward its aim of conducting annual assessments of CVET. Special attention should in this context be given to evaluation of the relationship between CVET efforts and life quality, innovation and economic success.[32]

The annual survey, Lærevilkårsmonitoren (the Learning Condition Monitor), introduced in 2003, revealed in its first issue that some 11.3 per cent of the economically active population (22 – 66 years old) attended some kind of "formal CVET" and 57.2 per cent some kind of "courses and other organised training". Some 58 per cent stated a positive learning curve through their "learning-intensive" work.

Other research estimates suggests that about 1.3 million economically active individuals participate in education and training annually. This would correspond to some 54 per cent of the total labour force (estimated at 2.4 million).

With regard to attitudes among participants, employees in public administration, education, and the health sector have, in general, a higher participation rate and are more positive towards organised training than employees in the private sector, i.e. in industrial production, energy, construction mining.

5.9 Country in Focus: Spain

General Background

Spain uses the EU recommendations regarding the definition of SMEs. The SME sector constitutes 99.8 per cent of the total enterprises, with the majority in the service sector, and roughly 78 per cent of total employment.[33] Since Spain became a nation, the idea and practice of decentralisation has been the centre of the political scenario. Recent political changes and developments have grown into a newer and a much more powerful idea of decentralized type of government. In terms of adult learning policies, decentralisation has generally resulted in positive outcomes. Since decentralisation has taken place during the last decade and devolution of other related policies has taken place at various times, it is difficult to measure overall effect. Although the process is still somewhat unclear, a regional dimension of public support for worker training has been added (through the Tripartite Foundation which will be explained further on in the text), with regional committees to supervise.

Incentives and Policies

There are various key principles in the institutional framework of SME policies. Horizontality to smooth the progress of access by all SMEs and aim for greater cooperation in departments, and through the exchange of ideas and harmonization with the most representative SME entrepreneurial organisations at the sectoral, regional and national levels; the encouragement of SME service centres as the executive agents for public programmes.

[31] VOX, an autonomous government institution, has the objective to facilitate and support Life Long Learning. (www.vox.no)

[32] http://www.norgesuniversitetet.no/n.nsf/ak/341A876C46DF8D71C1256E94003836E8

[33] Subdirección general de apoyo a las pyme, Área de estadístcas y publicaciones, Madrid, 4 de enero de 2004.

The objectives of the Spanish SME Policy relate in particular to the objectives pursued by the Directorate General for SME Policy (www.ipyme.org) under the Ministry of Industry, Tourism and Trade. Spanish SME policies are designed to address the problems confronting SMEs with regard to the business environment and competitiveness. These problems can be internal, external or finance-related. Internal difficulties include entrepreneurial strategies, management systems, human resource qualifications, processes and products, location and the market segments in which they are positioned. On the other hand, external difficulties include regulation, labour legislation, taxation matters, and production support infrastructures. The One Stop Shop is an example of a joint initiative between the chambers of commerce and the government aiming to remove thresholds for entrepreneurs in launching new business initiatives by providing all the necessary information and expertise at one single point. The government has made some progress in dismantling bureaucratic burdens and barriers, and pledges to do more through the use of ICT, e.g., with regard to tax and social security. The fact remains, however, that the Spanish economy is strongly affected by heavy government interference. Functioning venture capital markets or mechanisms for the orderly provision of private equity are, for instance, sorely lacking.

Actions taken at national level

At national level the main events regarding the development of qualifications and competences during 2003 were the following:

- Development of the new Act on Qualifications and VET.
- Identification and definition of standards of qualifications are to be included in the new system of Qualifications, after approval of a regulation establishing a new National Catalogue of Qualifications. This system is going to be the global framework for certification, validation and recognition of qualifications, taking into account both formal education and training and informal learning.
- A project (called ERA) was launched in order to test a methodology for assessment and validation of informal learning.
- Definition of a new framework for funding continuous training.
- Extension for 2004 of the national framework agreement on collective bargaining, which includes a specific reference to the framework of actions.

Since 2004, the law on continuous training has allowed companies that invest in training to make deductions from social contributions, when they meet all requirements. Minimum finance for micro enterprises is guaranteed. Within the given framework of social dialogue, the effectiveness of these investment incentives was to be analysed during 2005, with special attention to the participation of small companies. Other initiatives include a plan for the advancement of attributes of the information society towards SMEs and FORINTEL, which is a telecommunications training programme aiming to assist workers in upgrading their skills in response to ICT.

Actions taken at sectoral level

Some sectoral employer and union organisations (hotels and restaurants, wood and furniture, etc.) developed. Throughout 2003 and 2004, information and orientation activities, such as

workshops with teachers, vocational orientation guides, sectoral health and safety training modules were implemented.

Actions taken at company level

A variety of practices, events and other initiatives demonstrate that the commitment of companies with the development of competences is relevant and continues to increase. Nevertheless, other data indicates that there are no grounds for satisfaction and much still must be done, especially at the level of SMEs with low-skilled workers.

During 2003, almost 3'000 company training plans were approved to revive co-funding from the Tripartite Foundation for Training and Employment. This translated into € 135 million in order to train more than 2 million employees.[34]

Specific Programmes

i. "The Tripartite Foundation for training and Employment"

The organisation Foundation for Continued Training (FORCEM) has become, through the National Continuing Training Agreements (2000-04), the Tripartite Foundation for Training and Employment (composed of employer, trade union and government representatives). It is financed by contributions from companies and workers, via the treasury and the National Employment Institute (INEM). Additionally, there is public support through a training levy scheme initiated in 1993. In this levy scheme, employers pay 0.7 per cent of payroll into a training fund administrated by the Tripartite Foundation.[35] The continuing training initiatives included in the Tripartite Agreements are: training plans, complementary training and individual training permits.

Half of the funds for the Third National Agreement on Continuing Training come from vocational training contributions of employers and employees, with the remainder being provided by the European Social Fund. The direct contributions of the state budget go through the National Employment Institute (Instituto Nacional de Empleo, INEM).

The majority of the Tripartite Foundations resources are used for training plans. They are either supply or demand-driven initiatives covering the training needs of the companies and workers in all fields of employment. An annual invitation to tender is made for each of the plans, with each of the three training systems represented.

Companies with over 100 employees can submit individual plans, while SMEs need to join forces and submit sectoral or territorial-based group plans. As the number of requests has greatly increased since its initiation, the proportion granted for funding by the Foundation has been reduced.

Paid workers can apply for the individual training permits if they fulfil the requirements as set down below:[36]

[34] Framework of actions for the life-long development of competences and qualifications, UEAPME, 2nd & 3d follow-up report. 2004.

[35] Thematic Review on Adult Learning, Spain, OECD 2003.

[36] Achieving the Lisbon Goal: the contribution of Vocational Education and Training Systems Country Report: Spain.

- To have worked for at least a year in the company where presently employed.
- Permission formally granted from the Board of Directors
- Detailed time table, days, etc. and locality where the course will be performed

There are some problems, however; the high level of bureaucratization makes it difficult for the users to manage their plans. Users have continually demanded greater transparency in the changing criteria of technical and finance evaluation used in each call for plans. SMEs especially have had difficulty participating in the continuing training system.[37]

A Tripartite National Commission will be set up, with the role of determining priorities between different training initiatives. Expected results are to extend the continuing training system to the SME and to the non-profit sector.

Evaluations

The OECD report, Thematic Review on Adult Learning 2003, outlines the idea of the Tripartite Foundation as an innovative and positive element. The fundamental concept of a largely independent entity, integrated by representatives of all parties involved in these issues (the State, Enterprise- and Worker Organisations) is interesting. In sum, the Tripartite Foundation may be viewed as a concrete example of best practices, although it must be said that financial control mechanisms need to be strengthened. Additionally, the report highlights that even though there are SMEs in the management of the fund, they are strongly underrepresented in training participation. The report further describes that there was limited evidence of a "culture of evaluation" in the context of vocational training: "We found a clear absence of evaluation use in connection with process and product issues, thus affecting the quality of adult learning development."

5.10 Country in Focus: United Kingdom

General Background

The UK holds a resident population of 60 million. Unemployment rates peaked in 1993 and have since followed a downward trend. The total number of unemployed persons in spring 2003 was approximately 1.5 million, 5.0 per cent of the economically active population (International Labour Organisation, 2004, Annual Abstract of Statistics (2006) (Office for National Statistics, www.statistics.gov.uk).

SMEs represent over 99 per cent of all enterprises in the UK and amount to approximately four million firms. Similarly, they are the main creators of new jobs. The Department of Trade and Industry (DTI) has been assigned a clear objective to take steps so as to enhance the competitiveness and productivity of SMEs, in part through stimulation of science-industry linkages and innovation in ways that are relevant to SMEs. DTI has specific targets aimed at assisting small businesses, including easing bureaucratic and regulatory burdens faced by SMEs, improving access to appropriate financing, and the support of an entrepreneurial culture and society (OECD, 2005).

[37] For further info on this topic, see www.reformmonitor.org

On the part of research institutions and universities, the last years have seen a noteworthy strengthening of public objectives that they should contribute to the transfers of skills and technologies. As a result, they should act so as to enhance the commercial returns to science and technology. The so-called Lambert (2003) report, accompanied by a series of other government document, has brought a change in perspectives. At least from a theoretical viewpoint, practices in support of life-long learning, through the improvement of competences and in enterprises, is part of the main-stream policy agenda. For instance, the Higher Education Foundation Council for England, which is an important source of funding for university research, distributes funds at least in part with a view to their relevance to industry. In addition, the Office of Science and Innovation established at the Department of Trade and Industry in April 2006 is now set to stimulate research and innovation in areas that are important for society.

At the same time, the degree to which such actors have been able to engineer incentives that underpin a combination of research quality and industry linkages is a matter of debate. Further, universities enjoy a high degree of autonomy regarding how to organise themselves and frame their objectives and instruments. Also, there is great diversity when it comes to the priority and ability of educational institutions to connect themselves to the SME agenda. Whereas a lot of initiatives can be found among different universities and regional constellations to work out beneficial connections, we here take special note of two particular instruments in the context of life-long learning. These are the University for Industry (UFI) and Individual Learning Accounts (ILA). The UFI extends beyond individuals and is aimed at developing an adequate and transparent system to deliver education and training.

Incentives and Policies

Actions taken at national level

In order to offer a strong voice for the small business, the Small Business Service (SBS), an agency of the Department of Trade and Industry, was set up in 2000 and is central to implementing the government's SME policy. The main objectives of the SBS are to:

- help all small business in England realise their potential;
- provide world class business support services to enhance the performance of small businesses with growth potential;
- promote enterprises across society and particularly in under-represented areas and disadvantaged groups;
- help diminish the impact of regulations on smaller businesses; and
- encourage greater use of the internet and e-commence by smaller businesses.

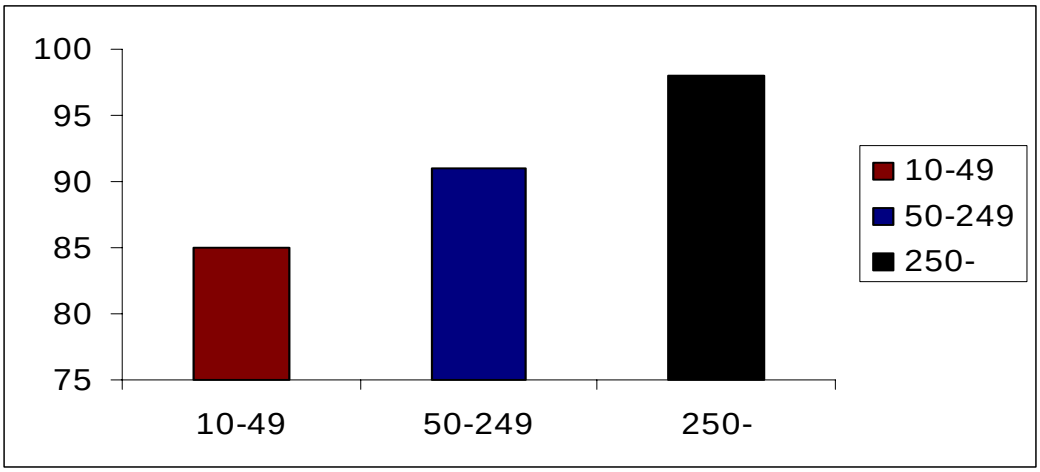
The responsibilities of SBS include taking care of the network of 45 Business Link Operators that offer information, advice and access to specialists on all issues relating to running your own business. Moreover, it runs national services to assist small enterprises i.e. Benchmark Service, the Small Firms Loan Guarantee Scheme, the High technology Fund and the Smart Scheme to encourage innovation. Beginning in April 2005 the eight English Regional Development Agencies took over the responsibility of the Business Link Operators network.

The British Government has introduced the so-called National Vocational Training Certificates, which recognise on-the-job learning, the most widespread form of vocational training for the

employed in Great Britain. These certificates therefore take work experience as the main criteria. Their fundamental importance lies in the fact that they represent an attempt to establish nationwide recognition for vocational training. With 2.7 per cent, the expenditure on employees' training courses as a proportion of total labour costs is the highest in the United Kingdom compared to the rest of the member states. Furthermore enterprises with a written plan for vocational training within the enterprise are most numerous in the United Kingdom (64 per cent).

In 1999, enterprises that provided some form of continuing training were more than 80 per cent in the UK together with the Scandinavian countries and the Netherlands. The difference in size of the companies providing continuing training in the UK can be observed in Figure 4. At 68 per cent, the UK has the highest number of internal training courses of the surveyed counties. Moreover, 89 per cent of all UK enterprises were conducting external training courses that year.

Figure 4: Continuing training undertaken in relation to company size in the United Kingdom



***Source*:** CVTS 2, EUROSTAT 1999

The national network of local partnerships between the business community and the government is run under the name Business Link, which consists of 45 operators and provides advice for SMEs through one single point of access via a contact centre and a web portal (www.businesslink.org). The services are delivered via Personal Business Advisers (PBAs) who assist SMEs with analysis of training needs at firm level. In addition they may take on the role as brokers by matching their needs with what can be provided by appropriate external training suppliers. The UK Skills Strategy states that more efforts and emphasis should be placed on an increasingly demand-led corporate oriented system.[38] The Sector Skills Councils (SSC) are designed to serve as an employer-led key feature. Here, firm- and sector network characteristics are taken into account in attempts to identify which skills are crucial for realising business and productivity improvements and growth.[39]

Actions taken at company level

The Commission's draft report in 2004 on Education and Training 2010 illustrated that 22 per cent of the UK's adult population had participated in education and training in the previous 4

[38] For further information, see: http://www.dfes.gov.uk/skillsstrategy/

[39]For further information, see: http://www.dfes.gov.uk/skillsstrategy/uploads/documents/Skills%20WP%20Part%201.pdf

weeks compared to an EU average of 8.5 per cent. Investors in People (IiP) has come a long way since its beginning 13 years ago. Additionally, 36'000 organisations have now been recognised with the Investors in People Standard, and thousands more are currently working towards accreditation. Approximately ten million employees (36 per cent of the workforce) work for an organisation which is either recognised as an Investor in People (IiP) or committed to achieving the IiP Standard. In the 12 months up to 30th September 2003, 407'399 National Vocational Qualification (NVQ) certificates were rewarded, an improvement of almost 7 per cent on the previous year. In February 2003, the Small Firms initiative was launched to assist small businesses in recognising and meeting their skill requirements through utilising the IiP Standard. As a result, 170 recognitions and 3'568 commitments were made by December. The social partners were involved from the beginning in designing the support and raising awareness among their members.

Specific Programmes

i. University for Industry (UFI)

The University for Industry was established with the ambition of putting the UK ahead of other countries in utilising new technology to improve learning and skills. It is thought to function as the hub of a new learning network, using modern communication technologies to link businesses and individuals to cost-effective, accessible and flexible education and training. Through this network people and companies such as a supermarket, high street shop, college, TEC or Business Link, will be able to contact the University for Industry by telephone, letter, fax, email (through the UFI's website) or by calling at a UFI enquiry desk. The UFI will tell you what learning is available and offer advice if required. Additionally, they will provide you with a course that meets your needs, whether full-time, part-time, or through study at home, at work or at a local learning centre. For example, they could deliver a CD-ROM learning package to your home, or send it via e-mail. Furthermore, they could contract with a college for an evening class, broadcast an interactive TV programme, provide a course over the radio or on the Internet. Students will not need to be tied to one particular location.

ii. Individual Learning Accounts (ILA)

The Individual Learning Account programme was launched nationally in the UK in September 2000, with the aim of enabling individuals to participate (more frequently) in training by encouraging them to open a special saving accounts to pay for their own learning. By October 2001 2.5 million members had registered with the Learning Account Centre as eligible to undertake subsidised learning. Some 9'000 organisations were registered as learning providers.

iii. Adult Learning Inspectorate

The United Kingdom also has the Adult Learning Inspectorate, a government-funded body responsible for raising the standards of education and training for young people and adults.

It was established by, and reports to, the Secretary of State in order to secure the quality, standards and value for money of the provision of education and training within its remit. Under the Act, the ALI carries the responsibility of inspecting:

- further education for people aged 19 or over, which is funded by the Learning & Skills Council (LSC) or a local education authority (LEA);

- training provided wholly or partly on employers' premises for people over the age of 16, which is wholly or partly funded by the LSC;
- training funded (through the Jobcentre Plus) under the Employment and Training Act, including the New Deals; and
- training offered and funded by employers, at the invitation and expense of the employer.

Evaluations

With regard to the UFI programme, outcomes perceived by the project related simply to the experience participants felt they had gained in how to achieve their various ends. Although communication channels between the policy centre and the projects improved, a number of projects still felt that they could have been more effective. Such experiences were both internal (about how they might have operated more smartly) and external (with generic relevance in the wider learning milieu). Projects were concerned about the lack of any formal means of formulating and passing on such lessons to UFI (Atkinson et al, 2001). Although many of these projects would probably have happened without ADAPT funding in some form or another, this funding opportunity brought the work forward in time. This allowed the ideas to be developed on a larger scale, and implemented more professionally, than would otherwise have been the case.

By October 2001, the ILA programme had, 2.5 million members registered with the Learning Account Centre as eligible to undertake subsidised learning. Some 9'000 organisations were registered as learning providers. In October 2001, however, due to complaints about mis-selling and aggressive marketing of ILAs, poor quality and low-value training, and following this, evidence of abuse by a small minority of providers and serious allegations of potential fraud and theft involving ILAs, the Secretary of State announced that the programme was to be to shut down.

After the closing of the programme an evaluation, seeking views on both the strengths and the weakness of the previous ILA scheme, was made. This investigation also aimed at identifying what stakeholders would like to see from a replacement scheme. All providers registered for ILAs were contacted, along with a sample of account holders and other key partners to engage in a constructive dialogue of improvements.

6 SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Needs and Impediments

In the first chapters of this report we underlined the growing importance of competence upgrading for industrial performance, including SMEs in a broad sense. This observation holds for different kinds of SMEs, ranging from the vast community of relatively stable and mature firms, to the more limited group of high-tech and/or potentially fast-growing categories of firms which we may know as gazelles or the like.

The last decade has brought increased expectations that SMEs may serve as creators of employment and restructuring in the economy. These firms account for a growing share of employment and, in many regions, they serve as the only remaining hope for a lasting dynamic local economy as big business is internationalising and becoming more footloose. Policy initiatives to promote small business development are extensively promoted through both national and international funding bodies and a variety of programmes are introduced in many countries to stimulate domestic entrepreneurship development.

Yet, SMEs are more vulnerable than large firms; they invest less in R&D, and their processes for competence upgrading are often problematic. Public funding is commonly provided to educational or public research institutions, earmarked for the purpose of promoting courses adapted to the need of, e.g., traditional or "blue-collar" sectors. Lack of an adequate interface between traditional educational institutions, and the specific knowledge and competence needs of SMEs and entrepreneurs, lead to frustrating outcomes. The lack of communication channels between universities and local SMEs entrepreneurs is due to fundamental incentive problems.

In fact, SMEs typically meet with a host of impediments to skills upgrading, emanating from inherent mismatch or conflict of interest between the various components that need to act together if effective mechanisms for skills-upgrading are to be in operation. We have pointed to the prevalence of: partly contradictory interests between owners/managers and workers; lack of information, skills and/or time on management level, and; differences of bridging between the highly special demands for skills upgrading at firm level and the more general supply of skills which tends to be natural for providers of training, e.g., in universities.

6.2 Summary and Conclusions - Country Reviews[40]

A brief summary of core ideas identified in the reviewed initiatives/programmes displays the following;

- awareness raising and enhancement of capabilities of SMEs (branches) regarding how to develop productivity and quality improvements (Australia);
- technological awareness raising and knowledge transfer of technologies and innovation from Universities and Technological Institutes (Denmark, France and Norway);
- economic incentives of upskilling the (SME) workforce via subsidies of vocational training (Belgium, Spain, UK and partly Australia);

[40] An additional summary of reviewed countries is displayed in appendix 3.

- transfer (business networks) of knowledge, experience and management "know-how" from large firms to SMEs as well as between SMEs (Belgium);
- transfer of knowledge, technology and "know-how" from urban to rural companies (China);
- creation of links between University and SMEs (Norway and UK);
- incorporation of Trade Unions in the competence development process (Germany and Spain);
- creation of a favourable business environment for SMEs with regard to access to information and/or ease of bureaucratic obstacles (Australia, Denmark France, and Norway);
- creation of a favourable business environment for SMEs with regard to management skill education possibilities (Australia, China, Ireland and Norway);
- creation of a favourable on-the-job learning environment and/or coach-guided training and planning possibilities (Germany and Ireland); and
- enterprise-led training networks (Ireland and Belgium to some extent).

With regard to the degree to which an effective combination has been obtained between demand-driven training, on the one hand, and the establishment of a network of local service and training providers on the other hand, i.e. between an internal and external process of competence development, one finds that:

Australia displays, in most parts, an absence of a dual or comprehensive approach. As for the main efforts, programmes are designed with SMEs in focus but the development is rather static, i.e. essentially takes the form of a supply driven process. On the other hand, some of the time-geographically limited initiatives have been based on a richer approach. There are examples of SMEs being stimulated to reveal their specific preferences (programmes such as the Small Business Training Bonus Scheme etc.) in parallel with the adoption of measures supporting and marketing external networks of training and service providers. In this sense, there are some observations of policymakers moving towards the adoption of a comprehensive competence development approach, but the link nevertheless appears somewhat vague. There is hardly evidence of any clear-cut strategy in this respect.

In Belgium, the regional initiatives with training vouchers are also initiatives where SMEs are given a chance to reveal their own preferences with regard to upskilling, although with somewhat less strict indications on where the training is to be purchased. More importantly, in regional initiatives in Wallonia, a facilitating actor has been put in place. This facilitator concentrates on matching the demand and supply of competence development with regard to SMEs. Further, measures have been taken to establish a network of competence centres, each concentrating on a specific industry sector, i.e. industry cluster specific competence centres where surrounding universities and research centres are involved in providing training.

China indicates some tendencies of movement towards a comprehensive approach, however, apparently still based on a somewhat supply-driven approach. Whereas a few governmental agencies are generally taking the lead, and adopt a range of complementary measures, regional authorities constitute more or less rivalling actors pursuing their programmes in parallel.

Evaluating the underlying strategies and the specific strengths and weaknesses of the Chinese approach would be of great interest, but would also require more extensive work.

In Denmark, regional incubator centres, entrepreneurial nodal points and science parks have gained good ground in regional cluster approaches for competence development, somewhat resembling the Wallonian case in Belgium. However, the initiatives of the GTS Network and the TIC Network display more of an emphasis on an external competence development approach, where SMEs are merely being "served" a competent service by a training providing community.

France shows some evidence of internal competence development approaches via the GRETA programmes. However, one should bear in mind that the efficiency of the feedback loop (from the service users to the system) appears weak although it has not, to the best of our knowledge, been evaluated yet. The recent establishments in France, such as the poles of competitiveness with their strong links between universities and enterprises, although not SMEs in particular, have led to new innovation-related skills upgrading that has been connected to regional networks. A new agency, the OSEO Group, was born in 2005 to support entrepreneurs and SMEs with growth potential through a strong focus on awareness-raising processes, i.e. capacity to fully capitalise on the potential external expertise is essential. This establishment has already highlighted the added value a young SME can obtain through better use of complementary expertise. On the other hand, there is no effort to support processes of firms obtaining and procuring such services.

Germany demonstrates a somewhat internal approach even though it is not totally clear how well the process takes care of the expressed needs and demands. The KomNetz project, where trade unions take an active role, presents an interesting approach to collective demand-driven training.

In Ireland, the internal competence development approach is rather uniform throughout all initiatives. The Skillnets initiative could, however, with some extension, come close to also include an external approach if each network would be more actively matched with a defined and local network of service and training providers.

Norway shows evidence of a somewhat supply-driven competence development approach, with a few exceptions. The Industry – College scheme, demonstrates a few interesting features of an external approach where colleges' institutional role in the regional innovation system is set to improve. In addition, knowledge recipients (fresh graduates) are placed in companies as a way to increase their capability to absorb new technology and knowledge.

In Spain, the Tripartite Foundation forms an initiative with characteristics of an internal competence development approach. However, the process seems both supply- and demand-driven at the same time. To some extent, the training content is set, whereas some part is demand-driven by the making of sectoral or territorial-based group plans. Because companies with less than 100 employees cannot submit individual plans, small companies would benefit from a coordinated cluster setup in competence development issues, as in the Wallonian case in Belgium.

The United Kingdom demonstrates, via the Individual Learning account, a system which is similar to that of Belgium and, to some extent, the Australian case. This applies to the opportunities offered by firms to reveal their own preferences with regard to choosing suppliers and defining training needs. In addition, initiatives such as Personal Business Advisors (PBAs) indicate a tendency towards adopting a more comprehensive approach. Other initiatives are more

supply-driven where attempts are made to approach a light version of an external model of competence development, as seen in the University for Industry programme in which a large part of the emphasis is on providing information on what training is made available and by which provider.

6.3 A Coherent Approach

Against this backdrop, the report identified the presence of potential benefits from adopting an approach that aims at jointly addressing upgrading of core skills in SMEs and increasing the supply of adequate external, professional services, while trying to augment potential positive synergies between these two levels. We set out to examine the policies pursued by a set of selected countries, identified in part based on the anticipation that they represented promising candidates for observing such approaches, and the perception that their experience would be relevant and lend itself to useful lessons for the implementation of concrete programmes adapted to specific local circumstances.

As seen from the ensuing review of policies in these countries, the wealth of experience that has been accumulated in recent years includes only a limited number of serious attempts to foster a coherent approach to encompass both direct training of SMEs and measures to bolster complementary service providers. Most programmes remain piecemeal and are also afflicted by various limitations. Weaknesses commonly emanate from the dominating influence of supply-side perspectives to training programmes. There is generally a lack of effective identification of and adaptation to SME needs. Few cases exist of clear-cut synergy effects between measures at the two highlighted levels, and even then, evaluations are few and far between. Issues related to the interactive process-, product- and outcome factors remain weakly articulated, which has implications for the relevance and quality of most vocational training programmes as well as complementary services.

One should keep in mind that reliable, market-based and publicly available data on training and other forms of conducted competence development in SMEs is generally lacking. Many of the evaluations conducted are based on the perception of the individual actors engaged and on subjective measures rather than on firm-based or easily measured and verified outcomes. It is difficult to gauge the connections with economic performances (market shares, profitability, productivity, staff turnover, etc.).

6.4 Learning from Past Experience

Because of the inherent difficulties for SMEs to articulate their competence needs effectively, limitations in traditional practices of vocational training, and the difficulties for universities to respond to their specific requirements, skills upgrading in SMEs can be improved through the development of targeted demand-oriented programmes. Mechanisms for responding to the idiosyncratic needs for skills upgrading among SMEs are observable in several of the countries studied. In Sweden, such programmes have been instituted by, e.g., NUTEK, ALMI and KK-Stiftelsen. Whereas the further development of effective public programmes of that sort is warranted, they represent no panacea to fostering a more capable and dynamic SME-sector.

In many traditional industrial strongholds, manufacturers are struggling to manage everything inside their own organisations, whereas the private service sector is poorly developed. There are inherent challenges for firms to work out effective procurement strategies, which put high demands on managing selection processes, designing incentives, handling complex bargaining

situations, etc. Communities of SMEs cannot be presumed to manage this task effectively, and a spontaneous response in terms of the appearance of effective suitable service-providers is highly unlikely. It may thus be anticipated that a coherent policy approach that is able to pro-actively assist SMEs in raising their capacity to identify and articulate their specific needs, while in parallel taking action so as to both match the demand and the supply of training packages relevant to raising core competencies, and creating the arena for facilitating the supply and the use of complementary skills, could result in great benefits. In this way, attempts should be made to have competence-upgrading schemes go hand-in-hand with processes enabling clusters effects through which internal skills upgrading can be better accompanied by activating specialised external service providers.

With regard to the comprehensive (dual) competence development approach, many of the reviewed countries display attempts to foster both demand-driven training schemes and to provide or stimulate supportive services. Often there is excessive public engagement, however, and public efforts may crowd out, or hinder the development, of professional private service providers. Beyond this, training schemes that increase core competencies are only, in a few cases, explicitly operating in tandem with measures strengthening the provision of complementary services. The Wallonian case in Belgium appears to represent the most effective such combination, based on its linking of a demand-driven training scheme set-up to a network of recommended service providers, and with interfaces supported by a facilitator function aimed to enable matching of the demand and supply of competence development in regard to SMEs. This, and the additional feature of improving both efficiency and effectiveness, via a network of competence centres, may be viewed as representing "best practices" in this domain. On the other hand, no country displays the best performance in all respects but there are various examples of sound approaches in different domains, which can lend themselves to useful lessons.

Naturally, subsidies offered for competence development are generally welcomed by the business community. However, access to information and practices for applying training programmes is often complicated by bureaucratic practices, or lack of clarity on fundamental aspects such as the responsibilities for who is to pay for the services. Certification and control schemes that help assure the quality and authenticity of targeted education providers, content, receivers, means and certification, and enable better matching with real demands in the community of SMEs, are found in Belgium and the UK enterprise-led training, i.e. demand-led training, has been pioneered by Ireland which has managed to make training in SMEs become more of an ongoing and integral part of their operations (with training based on real and clearly identified company needs).

Measures aimed to strengthen the local environment, create virtuous learning loops and stimulate dynamic and innovative clusters, are on the advance as a complement to training programmes. Still, with a few exceptions, linkages between the two have been weakly defined and poorly pursued. The most important exceptions are those of Belgium, Ireland and, to some extent, China and France. Other countries, with Denmark in the forefront, have been toying with efforts to stimulate various kinds of cluster effects, including through linkages with educational and training efforts.

6.5 Recommendations

A way forward: towards Programme Pilots

Although we found that truly comprehensive programmes, that are coherent in those respects contemplated in this report, are hardly present anywhere, the international experience nevertheless points to the potential value of tailored integrated approaches that are able to strengthen internal firm capabilities in parallel with measures that help muster the provision of external services.

The challenges for implementation of concrete programmes include the registration and organisation of relevant information. The issues to be addressed in that context include the ways and means of triggering entrepreneurs to "register" internal need of knowledge support while becoming conscious of, and willing to engage in acquiring, complementary skills from external sources. Within our framework, a set-up has to be worked out which, on this basis, allows for constructive interactions with appropriate training and service providers. Specific skills needs have to be identified, classified and packaged in ways that can serve to enable appropriate matching with the supply of skills. A locally based Internet-platform can be worked out, managed and applied so as to allow for the build-up of a group of "clients", until the number of interested participants has reached a critical mass. In practice, a process of interaction should be set in motion, during which the educational need can be communicated and the supply-side be engineered to adapt and respond. Local universities or other providers of appropriate courses operating at one end, and an evolving professional private service industry on the other, should be teased to work on the quality and relevance of their supply. In this sense, both the demand and the supply side need to diversify so as to facilitate matching specific opportunities to needs of upskilling.

In order to be effective, such ventures have to be highly interactive and supported by the relevant local stakeholders, each of which need to be committed to allow for gradual adaptation and learning so as to continuously enable matching of needs on the demand- with offerings on the supply side. In Sweden, special programmes developing intermediary services have been in operation for a number of years, e.g., KrAft, Minst or TechniQ. These and other projects have already allowed for the accumulation of various experiences that are of great relevance for how to manage these kinds of functions. Beyond this, however, the adoption of a comprehensive approach, in which measures to strengthen the local environment and foster dynamic learning loops and clusters processes, can allow for a dual process of internal and external skills upgrading.

In order to explore how progress could be made in this respect, two pilot projects are being prepared and designed for concrete implementation in two specific regions within Sweden. These programmes should be significant in their own right, while also organised so as to help building a practically based set of conclusions on the viability of the coherent approach.

The implementation of pilot programmes is needed for generating practically useful lessons for the future. The influence of factors such as geographical concentration of firms, scale effects, sector concentration, international linkages, entrepreneurial culture, university organisation, and so on, should be examined and their role for observed outcomes be evaluated. Beyond this, lessons should be aimed for in terms of which adjustments are needed to put in place desirable functions and outcomes under different circumstances. For instance, how is the engagement of stakeholders engineered most effectively in geographically remote or widespread clusters (as in

Northern Sweden) as contrasted with geographically dense clusters (such as Gnosjö in the country of Småland, Southern Sweden). On this basis, efforts are needed to explore in which respects the model incorporates generic applications and/or what components have to be tailor-made for each unique set-up.

Similar issues arise with respect to the organisational features of the programme itself. It could, for instance, be greatly useful to allow for different forms of project ownership as well as mechanisms for committing the various stakeholders for long-term participation. In both cases, the ambition should be to strengthen or catalyse local networks in ways that can make a lasting contribution to the SME sector and the economy. The pilot programmes should aim to generate self-sustaining structures, so that policy support can be phased out later on and be replaced by local competencies and leadership. A realistic target could be for a structure to be in place three years after the start-up of a programme. The details will have to be spelled out in separate project plans and Terms of Reference for their implementation.

Targeted groups of companies could be, e.g., newly established companies or firms in the process of adapting new technologies or staged in other processes of change (e.g., internationalisation, outsourcing, etc.) where the need for competence development in order to boost restructuring and growth may be particularly pronounced.

The specific needs of competence upgrading may be specified, characterised and classified by the programme facilitator, i.e. an "animator". The animator plays a role in assisting in finding ways to obtain required sources of training. Further, the twofold processes of competence development are comprised of:

Internal actors – which aim to provide specific demand-driven training for employees through interface with local universities, institutes and training centres.

External actors – which aim to create a network of local service providers among firms in the regional context. In the long run, the network will attract more external specialists and service providers and consequently lead to the creation of more new firms. The external service providers in the network may, for instance, consist of law firms specialising in patents and property rights, marketing consultants for issues concerning branding and commercialisation, and specialised accounting service providers. Other external actors could be more informal network providers, such as the local chambers of commerce, clubs or associations.

The network may utilise a range of tools for competence development for growth. As already indicated, the role of animators should be designed in a way so as to provide temporary stimulus, and then be phased out so that the network can be self-supportive and continue to evolve through a sound mix of competition and development of vital competences for growth.

Establishing a "best practice model" for entrepreneurial competence development does not represent a trivial task, however. This is partly because models of transferring and exchanging knowledge between small enterprises need to be adapted to specific local conditions. The prevailing relevance and nature of linkages between local communities of firms and nearby educational and research institutions varies, and so does the extent to which existing professional external service providers of various kinds are available.

On this basis, actors in various countries could contemplate ways of applying the insights and implications presented in this report. A suitable programme should aim for launching a set of parallel activities, adapted to alternative structures of implementation that reflect local conditions.

In each of these, certain elements perceived necessary for a successful implementation of the comprehensive approach may be in place from the outset, whereas others are likely to be lacking. A programme may aim to build on, and strengthen, already existing programmes targeting competence development in networks involving small and medium-sized enterprises within local communities. Enabling synergies between internal and external processes of knowledge generation and specialisation, however, there is a generic opportunity for the comprehensive approach to generate further socially beneficial skills upgrading, not brought about by itself due to the presence of information problems, resource constraints and bottlenecks, presently lacking coordination and matching mechanisms, etc. A pilot programme should be designed so as to be particularly effective in testing and gradually refining a unique competence upgrading method, developed for the purpose of stimulating hands-on activity at the grass-roots level backed by broader policy initiatives strengthening the external service environment. An initial demand-led analysis of concrete needs and outstanding issues in the selected regions would be highly recommended.

In Sweden, a combination of national agencies, special programme providers and local authorities could be engaged in future pilot programmes, with the ideas put forward in this report put to practical use. A special effort should be made to evaluate such efforts from the outset. This requires preparing for the application of appropriate assessment techniques from early on (ex ante), to be followed through the project (monitoring and mid-term evaluation), and with ex-post follow-up designed for effective feed-back into future policy design.

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Appendix 1: Statistical Indicators

SMEs' attitudes towards competence development

Table 1: SMEs' attitudes towards competence development activities as a business strategy tool

Competence development: "In my enterprise, competence development activities are a key part of the general business strategy" (per cent of SMEs conducting activities for improving knowledge or skills) by number of employees, 2001

	0 - 9	10 - 49	50 - 249	Total
Totally disagree	13	10	5	13
Disagree	9	9	6	9
Neutral	21	26	21	21
Agree	27	32	34	28
Totally agree	24	21	33	24
Don't know / no answer	5	1	1	5
Total	100	100	100	100

Source: Weighted data ENSR Survey 2002 among 7'669 SMEs in 19 European countries; http://www.eim.nl/Observatory_Seven_and_Eight/start.htm

Background data related to entry rates, SMEs and skills

Figure 5: Firm entry and exit in engineering and services, 1997-2002 average

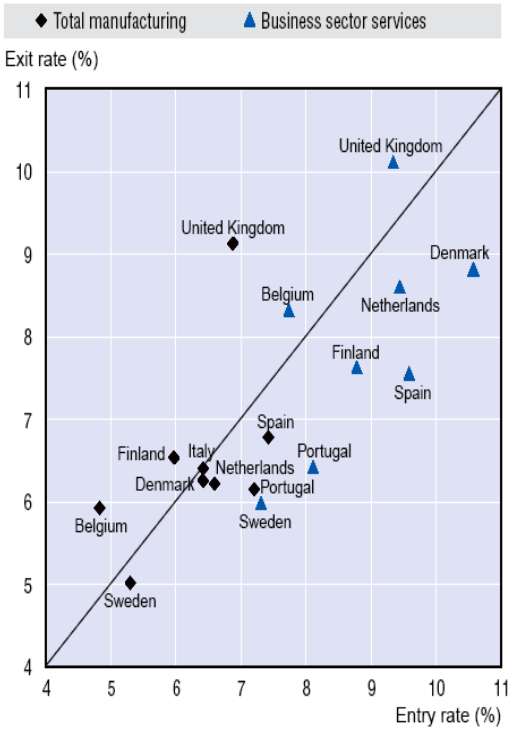
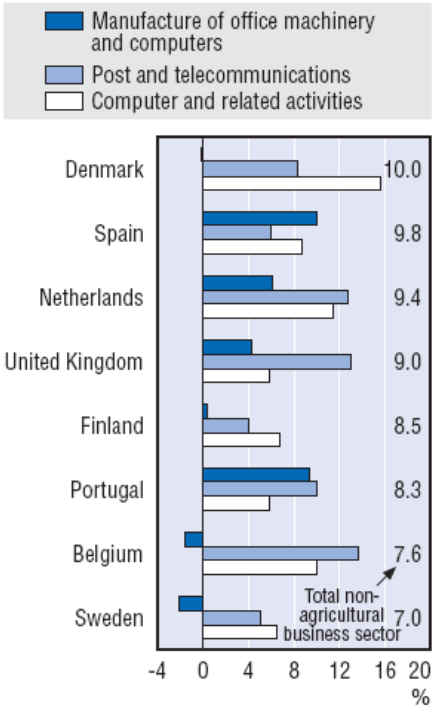


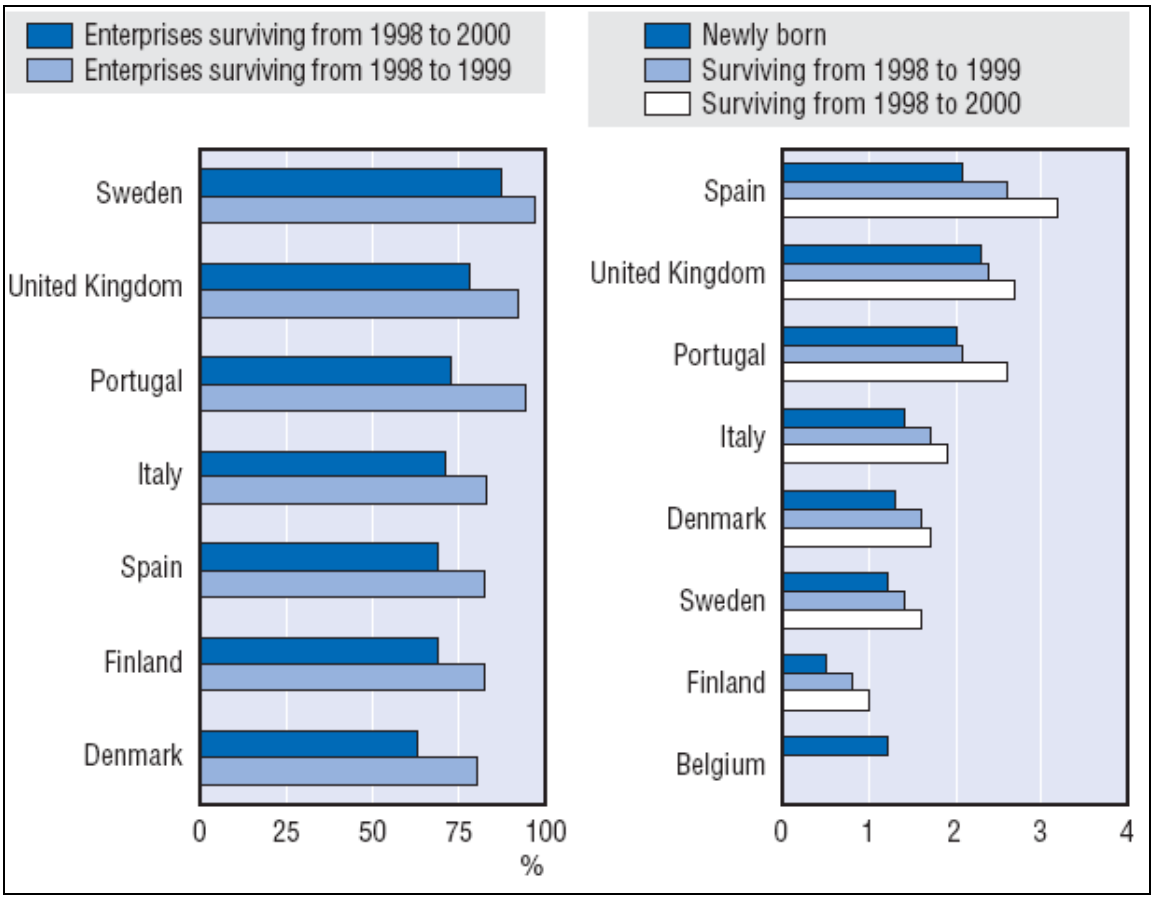
Figure 6: Entry by new firms, net in ICT



Source: Eurostat (2003), OECD (2003)

Figure 7: Firm survival rate, per cent of new firms, 1998

Figure 8: Average size of new firms, 1998



Source: Eurostat, (2003), OECD (2003).

Table 2: Employment (1'000s) by structure, country and size-class, 2000

	micro	small	medium	SME	LSE	Total
Austria	563	511	460	1 534	808	2 343
Belgium	1 416	517	346	2 279	1 029	3 308
Denmark	448	363	278	1 089	495	1 584
Finland	310	205	189	704	486	1 189
France	5 889	3 261	2 471	11 631	5 766	17 398
Germany	8 516	6 069	3 316	17 901	12 010	29 911
Greece	1 041	314	234	1 589	244	1 833
Iceland	30	22	10	62	55	116
Ireland	225	209	183	617	269	886
Italy	6 912	3 032	1 578	11 523	2 820	14 343
Luxembourg	49	50	52	150	57	207
Netherlands	1 357	1 004	1 041	3 401	2 044	5 445
Norway	350	230	196	777	321	1 098
Portugal	1 181	720	568	2 469	661	3 130
Spain	5 994	2 559	1 614	10 167	2 629	12 796
Sweden	614	408	358	1 380	869	2 249
Switzerland	601	573	563	1 737	864	2 600
UK	6 245	3 033	2 507	11 785	9 527	21 312
EU-15	40 768	22 256	15 194	78 218	39 715	117 933
Europe-19	41 749	23 081	15 963	80 793	40 955	121 748

Source: www.eim.nl

Table 3: Percentage of SMEs using different methods for improving the competence base of their human resources in the last three years, by country

	Country																		Total
	A	B	DK	D	EL	E	F	FIN	IRL	I	L	NL	P	S	UK	IS	LI	NO	CH	
Visits to expos/trade fairs	81	66	57	75	37	58	34	72	73	60	53	68	45	77	52	45	74	73	69	58
Courses/seminars/conferences provided by own personnel	21	17	18	25	30	29	16	18	24	17	21	23	13	28	16	19	22	29	33	21
Courses/seminars/conferences provided by external trainers	64	51	50	42	38	40	24	62	63	40	28	53	21	56	46	57	68	65	41	41
Study visits	33	30	26	21	24	21	11	23	27	12	14	24	8	45	17	29	30	27	26	18
Job rotation (in-house or in other firms)	7	11	17	5	10	10	5	23	12	13	6	4	3	18	10	13	7	12	9	9
Tutor/mentoring activities for staff	10	23	22	3	27	3	2	14	30	11	2	32	4	18	21	39	8	17	6	11
Promote reading of professional literature	54	53	41	61	10	11	28	60	49	27	28	61	15	48	47	43	63	69	47	37
Co-operation with consultants and advisers	36	19	31	17	19	16	9	28	36	30	13	31	7	38	30	23	29	32	21	22
Meetings amongst personnel for knowledge exchange	36	30	50	27	44	24	22	49	50	39	27	27	16	45	42	51	44	64	34	33
Other activities	13	3	2	6	4	2	2	8	3	4	6	2	4	11	5	5	13	18	6	4
None	6	8	7	12	27	23	37	7	9	15	20	8	41	8	19	14	8	4	15	19
Don't know / no answer		0				0			1	0		4			1	0	1	1		0

Note: Multiple answers allowed, percentages do not add up to 100 per cent
Source: Weighted data ENSR Survey 2002 among 7669 SMEs in 19 European countries

Table 4: Value added (million Euros) - structure by country and size class, 2000

	Micro	Small	Medium	SME	LSE	Total
Austria	**18 486**	**22 962**	**23 977**	**65 426**	**63 225**	**128 650**
Belgium	**43 048**	**30 749**	**23 087**	**96 883**	**53 343**	**150 226**
Denmark	**16 729**	**14 678**	**13 639**	**45 046**	**31 624**	**76 670**
Finland	**13 076**	**10 097**	**8 289**	**31 461**	**39 507**	**70 968**
France	**164 310**	**134 850**	**125 116**	**424 277**	**502 944**	**927 221**
Germany	**230 574**	**255 612**	**232 954**	**719 140**	**476 002**	**1 195 142**
Greece	**47 687**	**41 787**	**26 343**	**115 817**	**23 933**	**139 750**
Iceland	**1 340**	**994**	**511**	**2 845**	**20 221**	**23 067**
Ireland	**24 308**	**40 550**	**57 732**	**122 590**	**248 647**	**371 236**
Italy	**599 063**	**444 301**	**288 648**	**1 332 012**	**533 974**	**1 865 986**
Luxembourg	**3 110**	**4 707**	**17 231**	**25 048**	**8 712**	**33 760**
Netherlands	**37 031**	**39 182**	**57 451**	**133 665**	**104 768**	**238 433**
Norway	**13 059**	**12 485**	**15 215**	**40 759**	**37 651**	**78 410**
Portugal	**61 201**	**58 239**	**54 442**	**173 881**	**86 427**	**260 308**
Spain	**73 505**	**63 295**	**63 548**	**200 348**	**161 935**	**362 283**
Sweden	**24 675**	**20 906**	**22 492**	**68 073**	**64 087**	**132 161**
Switzerland	**32 224**	**28 568**	**28 376**	**89 168**	**96 884**	**186 052**
UK	**303 402**	**454 799**	**618 794**	**1 376 995**	**2 208 841**	**3 585 836**
EU-15	**1 660 204**	**1 636 716**	**1 633 743**	**4 930 662**	**4 607 969**	**9 538 631**
Europe-19	**1 706 827**	**1 678 763**	**1 677 845**	**5 063 434**	**4 762 725**	**9 826 160**

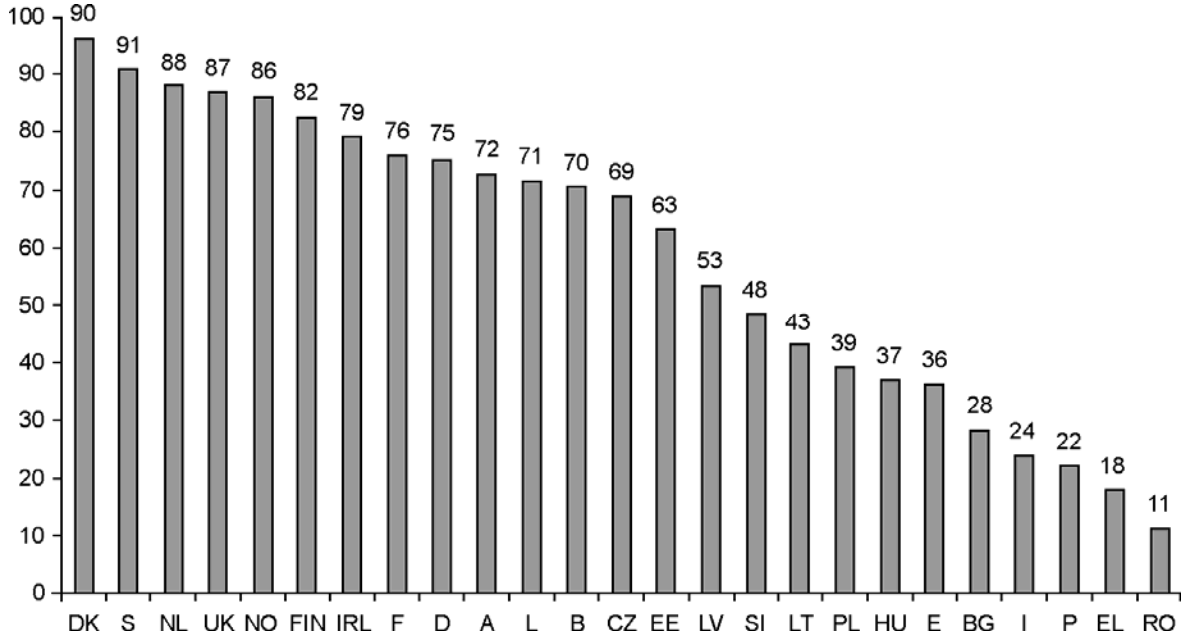
Source: www.eim.nl

Table 5: Statistical data concerning the training provided by companies in Belgium

Training provided by Companies in Belgium (divided by size) (2001-2002)				
	Small Companies	SMEs	Large Companies	Total
Companies with training activities (in per cent of the total number regarding to Companies)				
2001	5,7	55,1	85,6	10,6
2002	5,9	55,6	86,7	10,9
Number of people having followed training (in per cent related to the number of staff)				
2001	6,0	31,1	58,7	39,8
2002	7,0	32,0	58,7	39,9
Training costs (the cost of staff in per cent)				
2001	0,20	0,85	2,01	1,40
2002	0,25	0,77	1,97	1,36
Training hours (in per cent related to the total number of working hours)				
2001	0,13	0,65	1,43	0,93
2002	0,15	0,62	1,38	0,90

Source: National Bank of Belgium, available: http://statbel.fgov.be/figures.

Figure 9: Enterprises offering continuing training as a proportion of all enterprises (per cent, 1999)



Source: CVTS 2, EUROSTAT 1999

Appendix 2: National Contacts for Competence Development and Vocational Training in Selected Countries

Australia

NCVER - The National Centre for Vocational Education Research
National VET research programme
Andrea Averis
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FOREM - Office wallon de la Formation professionnelle et de l'Emploi
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National Coordinator ReferNet CEDEFOP Belgium
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Fax: +32 (0)71206198
E-mail: sigrid.dieu@forem.be

China

National Coordinators
China Centre for Business and Coordinated under state Economics & trade Commission and international Cooperation Association of SMES under State & Trade Commission
Tel.: +86 10 506 4523
Fax: +86 10 500 5908

Denmark

CIRIUS, Center for Information og Rådgivning om International Uddannelses- og Samarbejdsaktiviteter
Mr. Svend-Erik Povelsen
National Coordinator ReferNet CEDEFOP Denmark
Tel.: +45 33 92 57 75
Fax: +45 33 92 56 66
E-mail: sep@CiriusMail.dk

France

Centre INFFO - Centre pour le développement de l'information sur la formation permanente
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Fax: +33-1 55 93 17 28
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Ireland

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National Coordinator ReferNet CEDEFOP Norway
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Fax: +47 22201801
E-mail: signe.a.engli@teknologisk.no
Ministry of Education and Research
Tor-Ivar Wammer
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E-mail: tor-ivar.wammer@ufd.dep.no

United Kingdom

QCA - Qualifications and Curriculum Authority
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National Coordinator ReferNet CEDEFOP United Kingdom
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Appendix 3: Brief Summary of Country Reviews with Regard to Competence Development Policies Targeting SMEs

As for international experience, the report has demonstrated the presence of a considerable variation in relevant policy approaches. A brief summary of the initiatives is presented below. An analysis of these initiatives with regard to what competence development approach - demand/supply driven and/or integrated - has been applied is found in the section "Summary and Conclusions - Country Reviews".

In Australia the policy focus, with regard to SMEs, is on factors which are critical for ensuring business success in the global market place. This includes several policy domains, including the uptake of new technology, managerial development, trade promotion, and other ways to underpin business improvement/productivity growth.

In Belgium, policy measures are oriented towards support for formal training, partly subsidised access to external consultancy services and incentives to management and organisational innovation. Concrete initiatives include regional programmes of training vouchers, which are perceived as rather successful in addressing a number of SMEs' main obstacles and concerns. SMEs have welcomed the simple and fast way they can obtain a subsidy of training costs and the possibility of employing the appropriate training suited to their needs through the training cheques. Possibly the most innovative characteristic of the scheme is that it is linked to a certification system which guarantees a quality standard of the training offered to SMEs and their workers. Evaluations of the other programmes, such as PLATO, show that participating firms are found to display greater improvement in value-added, productivity and cost-effectiveness. The major merits were found to be associated with improved management, knowledge, networking between companies, and increased motivation and self-confidence of managers.

In China, measures to promote growth of individual and privately-owned enterprises have been introduced in order to enhance operations in most types of industries and commerce, promote business activities abroad and to cooperate and with foreign partners. In addition to this, the authorities have developed various policies and schemes that influence recruitment, management and technology transfer throughout regions. One implication of this is active promotion of the establishment of scientific and technological support systems in rural areas.

In Denmark, policies are rather oriented towards creating good framework conditions for entrepreneurs and SMEs. There is also a focus on fostering technological diffusion, as in the GTS network programme, where Authorised Technological Service Institutes develop and communicate technology-based knowledge to private companies and public institutions. Another initiative, Technical Innovation Centre, offers an improved information interface with regard to contacts with relevant experts and tools for growth and development. Strategically important improvements and future goals directives with regard to the GTS network have been set to increasing: the service towards targeted businesses with an innovation profile and the number of customers from competence/knowledge intensive clusters as well as targeting the service sector. In addition, a forthcoming Danish innovation policy initiative, with connection to GTS, concerns "regional-growth environment", i.e. a "cluster approach" where the GTS Institutes are set to play a central role.

In France, internal competence development approaches have been introduced with the GRETA programmes. The establishment of the poles of competitiveness have further led to improved

links between universities and enterprises, and skills upgrading connected to regional networks. A new agency, the OSEO Group, induces awareness-raising processes in SMEs, i.e. capacity to capitalise more on external expertise. On the other hand, there is no effort to support processes of firms obtaining and procuring such complementary services.

In Germany, policy measures are based on laying down principles and issuing regulations relating to the organisation and financing of competence development on a central level, while decentralizing initiatives and implementation to a large extent. Concrete initiatives include the construction of union networks for workers and staff councils on the subject of vocational education or continuing education, where the trade unions actively support and advise the councils on the structuring of life-long learning in business.

In Ireland, measures continue to give policy priority to easing of the tax and regulatory burdens faced by the enterprise sector. Examples of specific initiatives on competence development are the Excellence through People programme, the FAS cluster programme and Skillnets. Evaluations of the latter note that small firms participating in the programme enjoy training as an ongoing and integral part of operations and that training now is based on real and clearly identified company needs.

In Norway, measures have been implemented to emphasise education for an entrepreneurial and training society, to improve access to risk capital finance and access to research and innovation by SMEs, to improve visibility of support services and to reduce the administrative burden on companies. Concrete initiatives include The Industry – College Scheme, the FRAM and the BIT programmes.

In Spain, the Tripartite Foundation may be viewed as a concrete example of innovative thinking and best practices, although financial control mechanisms ought to be strengthened. In addition, despite the fact that there are SMEs in the management of the fund, they are strongly underrepresented in training participation.

In the UK, the improvement of competences and skills through continuing vocational training in enterprises is part of life-long learning. The UK has featured two main instruments in the context of life-long learning, namely the University for Industry and Individual Learning Accounts. Evaluations of the latter programme show that the quality and authenticity of training providers, as well as receivers and means, were to some extent subject to inefficiency and mismanagement, leading to a restructuring of the setup.

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