PART II

Policy Measures to Support High-Growth SMEs in the Western Balkans

Background and Context

1.1 Introduction

As opposed to Part I and Part III of this publication, Part II was written by Professor Stephen Roper from Warwick Business School (University of Warwick), who worked in co-operation with the partner organisations (OECD, EC, ETF, and EBRD) to perform targeted research and reviews of a specific area within the European Charter for Small Enterprises, namely high-growth SMEs. The SME Policy Index 2007 Report identified the areas of innovation in SMEs and technological development as in particular need of improvement and development. Consequently, this part focuses on policy measures to support high-growth SMEs in the Western Balkans.

Numerous empirical studies have demonstrated the importance of high-growth SMEs (HGSMEs) in creating new jobs and introducing and commercialising radical innovations. This means that HGSMEs can act as catalysts for change, helping economies to restructure quickly in response to changing economic, social and market conditions. For the Western Balkan countries (WBCs) there is the potential for HGSMEs to create significant gains in both short-term prosperity and longer-term structural change.

Creating an enabling environment and effective support programmes for HGSMEs is not easy, particularly in the specific circumstances of the WBCs and the current economic recession. Moreover, as policy targeted at HGSMEs has developed rapidly in recent years, the evaluation evidence from existing policy programmes is relatively limited.[1] Central to many HGSME support programmes, however, are the provision of business information and knowledge transfer between firms, and between firms and universities/research institutes. Network contacts and relationships with larger firms both nationally and internationally are also seen as important as HGSMEs grow and develop. Beyond the start-up phase, managerial and marketing skills allied with

Table 1

Policy areas and programmes for HGSMEs

Policy area	**Policy programmes** (see annex 2)
Creating an enabling environment for HGSMEs	National SME promotion events (6.3)
	Range of business services (9.1.2)
	Quality of business services (9.1.3)
	Availability and accessibility of information (9.2.1)
	Business information centres (9.2.2)
Finance for HGSMEs	Credit guarantee schemes (7.2.1)
	Venture capital/equity funds (7.2.6)
Supporting innovative enterprises	Enhancing SME competitiveness (6.2)
	Support training on technology (8.1.1)
	Innovation and technology centres/ co-operation (8.2.1)
	Inter-firm clusters and networks (8.3.1)
	Business incubators (9.1.1)
	Intellectual property rights (8.2.2)
	Electronic signature (9.3.1)

adequate financing and effective protection for intellectual property rights is also vital to sustain innovation and growth.[2]

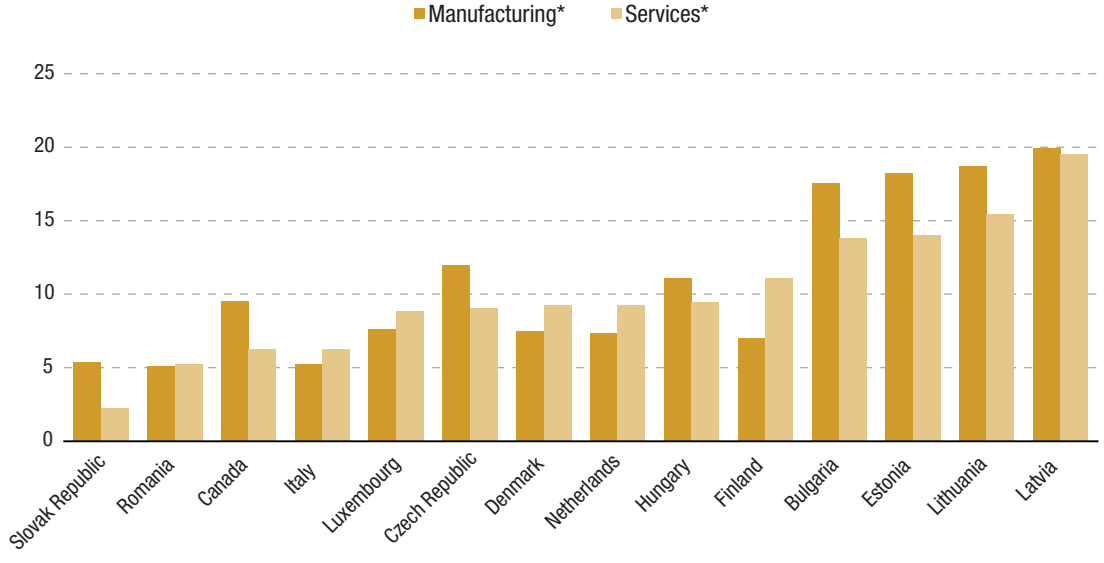
Governments – in partnership with other stakeholders – can play a crucial role in shaping the environment in which HGSMEs can flourish, providing appropriate business information, supporting networks and skills development, and ensuring the availability of suitable business finance. Here, we focus on three key policy areas: creating an enabling environment, finance and supporting innovative enterprises, each of which is represented by a series of specific indicators in the SME Policy Index (see Table 1).[3] In Section 2 of this report we focus on identifying international leading practice in each policy area, examining a range of specific policy programmes and exploring their applicability to the WBCs. This builds on a recent study by the OECD Working Party on SMEs and Entrepreneurship on HGSMEs and innovation which involved a review of literature and broad-ranging policy audit of OECD countries[4]. In Section 3 we focus more specifically on the situation in the former Yugoslav Republic of Macedonia, drawing on the information gathered in a mission conducted in March 2009. In Section 4 we consider the specific situation in Serbia, again drawing on a mission conducted in March 2009. Section 5 concludes with some summary remarks and some suggestions for future consideration, including the evaluation of policy programmes.

1.2 Defining HGSMEs

To enable statistical comparability, the OECD defines a high-growth enterprise as a firm with an "average annualised growth in employees (or in turnover) greater than 20% a year, over a three-year period, and with ten or more employees at the beginning of the observation period." The share of high-growth enterprises can then be calculated as the number of high-growth enterprises as a percentage of the population of enterprises with ten or more employees.[5] Using this definition between 5% and 20% of the stock of enterprises are high growth on the basis of their turnover growth. As Figure 1 illustrates, these proportions are typically higher in the Eastern European economies,[6] although no specific figures are available for the WBCs.

Other international studies use different definitions of high growth. The Global Entrepreneurship Monitor

Figure 1 Share of high-growth enterprises (turnover definition), 2005

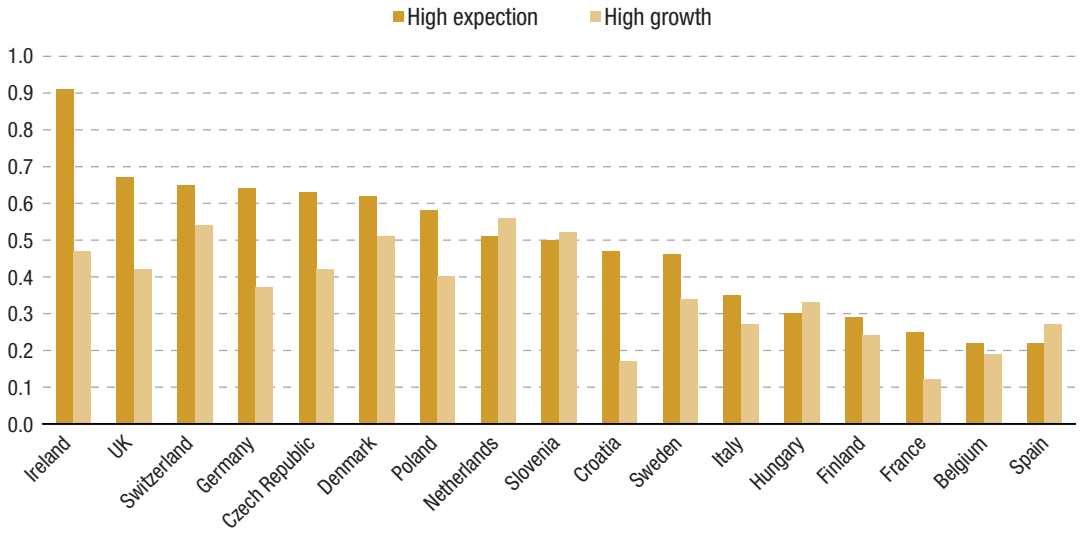


Note: Manufacturing includes mining and quarrying and electricity gas and water (ISIC Rev.3 10-41). Services includes: wholesale and retail trades, hotels and restaurants, transport storage and communications, financial intermediation, real estate, renting and business activities (ISIC Rev.3 50-74).

Source: OECD (2008), "Measuring Entrepreneurship – A digest of indicators", OECD-Eurostat EEIP Programme, p. 19.

(GEM), for example, focuses on individual entrepreneurs as the unit of analysis (rather than firms) and defines "high-expectation entrepreneurs" as those nascent and new entrepreneurs who expect to have more than 20 employees in 5 years. In GEM, "high-growth" entrepreneurs are established entrepreneurs who currently have 20 or more employees. Both can be expressed as a percentage of the adult population to give an indication of the general level of population engagement with "high-growth" enterprise.[7] In general terms across Europe, between 0.2% and 0.9% of the adult population report being engaged in high-expectation enterprise with a smaller – and more uniform – percentage engaged in high-growth firms (Figure 2).

Figure 2 GEM indicators of high-expectation and high-growth entrepreneurs as a percentage of the adult population



Source: GEM (2007), *Report on High Growth Entrepreneurship*, Table 3, p. 22.

Figures 1 and 2 suggest that HGSMEs are only a small minority within the broader population of SMEs (perhaps between 1:10 and 1:20) although having, of course, a disproportionate impact on job creation and market dynamism.[8] In terms of the policy programmes for HGSMEs discussed in the following sections, however, it is clear that definitions vary among countries and among individual policy programmes. The analysis therefore adopts an inclusive approach and does not put forward or adhere to any specific definition of an HGSME.[9]

1.3 Targeting Support for HGSMEs[10]

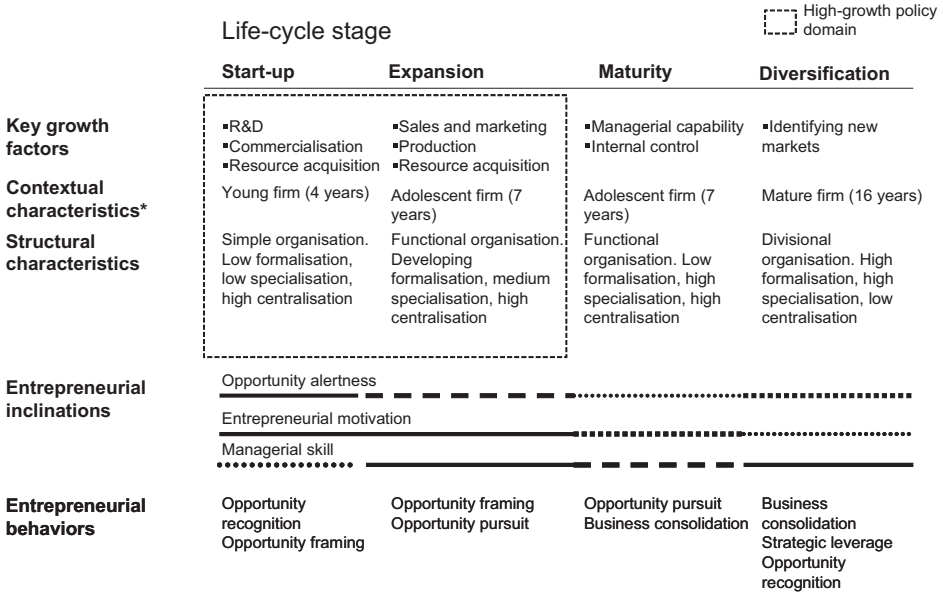
Several empirical studies confirm the importance of high-growth firms for job creation. In the United Kingdom, 4% of new start-up survivors were responsible for 50% of jobs created by all new firms ten years later. In the United States, 3% of the fastest growing firms, so-called "gazelles", generated over 70% of the new jobs created by new firms between 1992 and 1996. The aim of support programmes for HGSMEs is to enable recipient companies to achieve high growth which would not have been achieved without the programme. A key issue, however, is how to identify firms with the potential for high growth given that the potential for high growth is neither visible nor measurable. As a result eligibility conditions vary, widely, among countries and include:

- ***Newness***: The Australian Commercialising Emerging Technologies scheme requires firms to be less than five years old,[11] while the Spanish Support Programme for Innovative Young Firms has a cut-off at eight years old;

- ***Size and growth***: Some programmes insist that firms have already achieved a size (turnover) threshold, in some cases linked to an age limit. The Danish Gazelle Growth scheme requires more than EUR 268 520 turnover with potential for further growth to EUR 13.42 million;
- ***Estimated growth potential***: New Zealand's Growth Services Range requires potential growth of 20% a year sustained over five years;
- ***R&D intensity***: The Spanish Support Programme for Innovative Young Firms requires at least 35% of staff engaged in R&D activities and minimum R&D expenditure criteria;
- ***Defined growth strategy***: Turkish KOSGEB support is conditional on a firm developing a strategic road map or business plan.

Overall, however, eligibility criteria vary widely and often have a strong subjective element. It is also clear that the nature of HGSMEs means that their resource and support needs vary throughout the life-cycle of the business. One recent study, for example, identifies a four-stage life-cycle model and argues that the "high-growth policy domain" comprises the initial start-up and expansion phases when resource needs and business development are paramount. Underlying the start-up process, however, are entrepreneurial inclinations or motivations and entrepreneurial behaviours on the part of the wider population (Figure 3). The challenge this poses is not simply to identify HGSMEs but also to effectively match public support to firms' life-cycle stage.

Figure 3 Life-cycle stages of innovation-driven growth and the HGSME policy domain



Source: Autio, E., M. Kronlund and A. Kovalainen (2007), High-Growth SME Support Initiatives in Nine Countries: Analysis, Categorisation, and Recommendations", Report prepared for the Finnish Ministry of Trade and Industry.

The challenge of identifying potential HGSMEs is made all the more difficult due to their diversity both in terms of sector and origin. In the WBCs and other transition economies, for example, many rapidly growing businesses have emerged in traditional sectors – e.g. food, textiles – where new market opportunities have developed. Other high-growth SMEs may result from spin-outs, buy-outs or foreign direct investment. For HGSMEs in any sector issues around capital availability, partnerships, skills and export development are likely to be important. For technology-based HGSMEs there is the added complexity of intellectual property management, development and protection. Both are discussed in subsequent sections.

Policy Support for HGSMEs

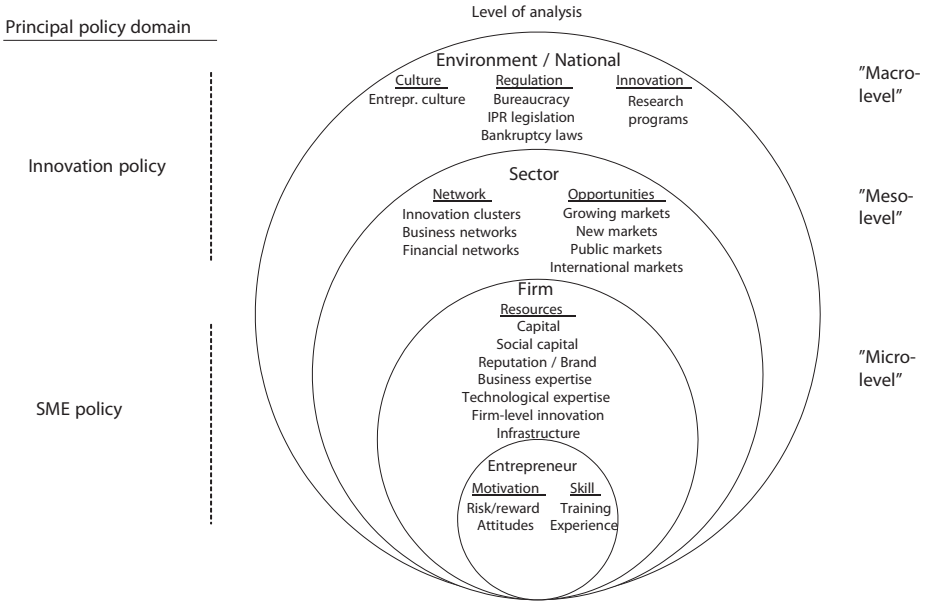
2.1 Levels of policy intervention

Recent research on creating advantage has emphasised the positive role of public policy initiatives in stimulating regional innovation and enterprise to boost economic development.[12] A broad range of initiatives may be important, however, in creating the framework conditions within which HGSMEs can start and prosper. Evidence from the United States suggests, for example, that regional new firm formation rates are linked to cultural creativity and social diversity.[13] Other studies have suggested that with appropriate policy support, it is possible to stimulate the combination of markets, technological and business services, and appropriate financial structures that will encourage HGSME and cluster growth.[14]

Alternative levels of intervention are therefore possible to support HGSMEs and different countries have adopted different approaches to shaping the business environment and, more broadly, to SME policy (Figure 4). In Denmark, for example, a systemic approach has been adopted focusing on establishing appropriate environmental conditions for enterprise rather than providing public support to individual SMEs. More generally, however, countries have adopted a balance of support to both shape environmental conditions which are conducive to HGSME start-up and to foster subsequent growth and development.[15]

The focus here is on three elements of the environment within which HGSMEs develop included in the SME Policy Index: measures to promote entrepreneurial and innovation inclinations and behaviours, or an enterprising and innovative culture (including the provision of training courses for prospective or nascent entrepreneurs, award schemes or competitions); availability of business services and information likely to be crucial during the start-up and expansion phases of HGSMEs; and availability and accessibility of business information.

Figure 4 Life-cycle stages of innovation-driven growth and the HGSME policy domain



Source: Autio, E., M. Kronlund and A. Kovalainen (2007), "High-Growth SME Support Initiatives in Nine Countries: Analysis, Categorisation, and Recommendations", Report prepared for the Finnish Ministry of Trade and Industry.

2.2 Enterprise promotion initiatives

The decision to start any business and, in particular, a HGSME requires a combination of opportunity, skills and self-belief. Business information can help potential entrepreneurs to identify and evaluate business opportunities and this is discussed below. Here, the focus is on measures intended to encourage entrepreneurial and innovative inclinations and capabilities.

Perhaps the key starting point in developing entrepreneurial inclinations is a business and entrepreneurship-friendly atmosphere in which business success is seen as positive and there are positive entrepreneurial role models. Creating this type of environment is, of course, a relatively long-term project requiring engagement from a wide range of different organisations including the education system. Assessing the situation across the WBCs in terms of measures to encourage an entrepreneurial and innovative culture suggests substantial progress in recent years. Enterprise and innovation events, competitions and fairs have become relatively common. At best, these initiatives have involved a network of actors at regional and national level and generated valuable co-ordination and partnering activity. This collaborative or systemic approach reflects examples of leading practice such as the Finnish Y4 entrepreneurship development process (Promote Entrepreneurship in Society by Co-operation) which has involved broad-based partnerships of organisations[16] working together to create an enterprise-friendly society.[17]

In general terms, however, while welcome, these initiatives in the WBCs have been rather piecemeal and uncoordinated. Future policy implementation in this area could take a more holistic perspective, adopting a multi-channel approach to increasing the awareness of opportunities for enterprise or innovation. This approach is well illustrated by the "Gruender-mv.de" campaign implemented in Mecklenburg-Western Pomerania. This aimed to increase the awareness of entrepreneurial opportunities by improving the image of entrepreneurship as well as creating a more positive environment for business start-up. The target audience for the initiative was those in the 18-50 age group and activities included a website providing information on start-ups and entrepreneurship, a telephone hotline radio and television spots, advertising and articles in newspapers and magazines, as well as raising awareness at schools. These media initiatives were also supported by business plan and e-commerce business competitions.

Such activities may play an important role in raising awareness of business activities; changing perceptions of entrepreneurial activity; stimulating business networks; and exposing firms to national, regional and international customers. To date, however, the key focus of these initiatives in the WBCs has been on mainstream SMEs rather than having any specific focus on HGSMEs which are likely to be either innovation-led or export-led firms. Interesting exceptions here are the awards for Best Technological Innovation offered in Bosnia and Herzegovina, and Serbia. Even these awards, however, focus on pre-start activities. It may be worth the WBCs considering the introduction of awards initiatives celebrating the innovation and export achievement of established firms. For example, in the United Kingdom, the Queen's Awards for Innovation and Export Achievement are awarded annually to companies with outstanding innovation and export performance. The awards are promoted widely and help to highlight the importance of both activities to the economy. They also act as a focus for celebrating excellence and inspirational role models to other firms in the United Kingdom.[18]

Alongside such general measures (which can be taken to promote a positive climate for enterprise), specific measures have been adopted in some countries to encourage start-up among different population groups. In Ireland, for example, the Enterprise Start programme has proved effective in encouraging those currently employed to move from employment to business start-up often with high-growth potential.[19] Other key measures have involved moves to increase the level of enterprise awareness and engagement at schools, universities and colleges. This reflects the implementation of the EU Oslo Agenda, designed to integrate enterprise learning into each stage of the educational process and where good efforts by a number of the Western Balkan countries have already been noted in Chapter 1.[20] A framework established by the Norwegian government, for example, provides a national policy agenda which sets out clear objectives and progression in enterprise education across all stages of education.[21]

For HGSMEs in particular, promoting enterprise activity in higher education is likely to be of key importance. Here, EU recommendations for across-campus entrepreneurship education are timely[22] while international experience provides some very positive examples of practice with general lessons on what makes this effective (see Box 1). Strong institutional support is central to the effectiveness of these college or university initiatives that can be supported by regional competitions

Box 1

Developing entrepreneurial graduates

A key driver of high-potential enterprise in the Western Balkans is likely to be the level of graduate enterprise. Developing this resource calls for the creation of opportunities for students to develop entrepreneurial skills and attributes as part of their higher education. This will require "entrepreneurial universities" where the focus is on developing graduates who have the knowledge, skills, motivation and entrepreneurial capacity to address economic and social needs.

Establishing the entrepreneurial university requires an enabling institutional environment, the engagement of key stakeholders inside and outside the institution, and the development of entrepreneurial approaches to teaching and learning. An enabling institutional environment is likely to require involvement from all members of the university community and strong leadership commitment. Stakeholder engagement may involve international linkages and dedicated resources such as a commercialisation office or technology transfer team. Developing entrepreneurial teaching requires a shift from learning "about" to learning "for", where students learn entrepreneurial techniques that can be applied to a broad range of entrepreneurial settings. Student placements and other forms of business engagement are likely to be part of such entrepreneurial teaching that will also need to involve faculty, entrepreneurship educators and entrepreneurs.[23]

The University of Waterloo situated at the heart of Canada's Technology Triangle provides an outstanding example of an entrepreneurial university. Strongly embedded within the regional community, dense co-operative networks on technology and enterprise between the university and local community are complemented by the university's co-operative education programme. "The rotation of students to industry and back to the classroom solidified already tight relations with local industry. The reflexive relationship has allowed the curriculum to keep up with the ever changing technological frontiers of industry."[24] Over 250 spin-outs from the university have resulted in part from the university policy of allowing ownership of intellectual property to rest with its creator (faculty or student), encouraging both creativity and enterprise.

or business plan competitions, such as that run by the Business Innovation Programme in Serbia. The outcomes of the Charter indicators for entrepreneurship in higher education being piloted in 2009-2010 in the Western Balkan and Southern Mediterranean regions being supported by the ETF will be important to determine if and how more strategic entrepreneurship promotion in third level education can be achieved.

2.3 Supporting business service provision and quality

High-quality business services provide a key input to HGSMEs particularly in the start-up and expansion phases. Such services may be accessed privately by firms or may provide the mechanism through which publicly funded support services are provided. In general, however, HGSMEs are likely to require more sophisticated services than most start-up businesses and are more likely to draw on private, and often internationalised, business services. In this sense, public support might best be focused on facilitating access to such services rather than direct service provision. The Australian COMET initiative, for example, subsidises firms' expenditure on a range of business development services such as marketing, commercialisation or IPR management. Key areas of importance to HGSMEs are likely to be broadly based business development services – dealing for example with legal or regulatory aspects of business start-up, technology-based services supporting R&D and innovation, and support for internationalisation. Issues around IP may also be important for technology-based HGSMEs and this is discussed below.

Business service provision suitable for the majority of start-ups has developed rapidly in the WBCs in recent years through, for example, business centre networks (the former Yugoslav Republic of Macedonia and Montenegro), regional development centres (Albania) and networks of public and private consultants. The more sophisticated services required by HGSMEs (to support equity investment

or internationalisation for example) remain less developed. For most HGSMEs the difficulty lies in being able to identify and access the appropriate services quickly and effectively. Public sector agencies can play a key role here in brokering both public and private sector services to HGSMEs. The Finnish Growth Firm Service is one example of such a scheme, providing a one-stop shop service for HGSMEs and information on the services they might need. The Finnish service is, however, limited, to providing access to public support services while in other countries such public services also provide information on private sector providers (See Box 2).

Box 2

Growth Firm Service, Finland[25]

The Growth Firm Service was started in 2003 by the Finnish Ministry of Trade and

Industry. The programme identifies firms and entrepreneurs with a high-growth potential and act as a one-stop shop for public services relevant to growth firms. Consultants in all Finland's public agencies concerned with business support look for promising growth firms. When identified, the consultant offers a growth analysis session with the firm, and based on the growth analysis, specific needs for achieving growth are prioritised and appropriate services from the four participating institutions are enlisted. In total, there are approximately 100 different support services that can be offered

The target group is HGSMEs although most participating firms are technology companies. Participating firms have been very happy with the service; they appreciated being approached and provided with a single contact person instead of one for each institution.

Other key issues relating to business service provision in the WBCs emphasise the quality of business support services. Here, there is no clearly established international best practice, although schemes to professionalise support have become more common both at the level of the individual business advisor and the support organisation. A notable example is the Flagship Award scheme run by Prowess in the United Kingdom, establishing quality standards for the support offered to women to start and grow their businesses (see Box 3).

Box 3

The Prowess Flagship Award, United Kingdom[26]

The Prowess Flagship Award is a best practice quality standard for excellence in women's enterprise development. This nationally and internationally recognised quality mark has been achieved by organisations all over the UK Supported by UK government departments and regional agencies, the Flagship Award incorporates three quality mark standards for start-up support, support for established businesses and support for women's business networks.

Organisations working towards the Flagship Award are able to access national expertise to help develop their business support and advice services. This leads to completion of a self-assessment document and assessment visit before Flagship status is awarded. Periodic reviews of support procedures and personnel are then required for renewal of the award.

For government departments supporting business development, the Flagship Awards provide an effective quality standard in the business support supply chain. For business support organisations, the Flagship Awards provide a development framework to measure, benchmark and improve services, and an indicator of the provision of the quality of service.

Progress towards the quality certification of business services across the WBCs has, to date, been relatively limited, although a certification scheme for business consultants has been introduced in Croatia and more informal assessment schemes are operated by SME agencies in other WBCs.

2.4 Availability and accessibility of information

Larger companies often have significant in-house research capabilities. Smaller or newer firms are unlikely to have access to these resources, creating scope for valuable public provision. Business Information Centres (BICs) provide a mix of online and documentary resource material and research expertise; they are a key resource for SMEs businesses wanting to identify new markets or obtain information on legal or regulatory requirements. Typically regional development agencies across Europe maintain their own information centres focused on the needs of local firms.

Many of these BICs or European Information Centres (EICs) will be members of the Enterprise Europe Network. Launched in 2008 by the European Commission, the Enterprise Europe Network combines and builds on the former Innovation Relay Centres and European Information Centres (established in 1995 and 1987 respectively). Key services provided by the BICs/EICs include business partner search for technology and business co-operation, databases and rapid access to information on funding opportunities, and promotional and other material. Enterprise Europe Network offers easy access and proximity to local services for SMEs, thus creating regional business gateways. Regional consortia create a coherent support structure for local companies, boosting the region's profile and its competitiveness. To date the only WBCs with member centres are Croatia (with 11 centres) and the former Yugoslav Republic of Macedonia (with four member centres, including the Ss. Cyril and Methodius University, the Foundation for Management and Industrial Research, and the Agency for the Promotion of Entrepreneurship). Bosnia and Herzegovina, Montenegro, and Serbia are also part of the Enterprise Europe Network.

Other European networks and initiatives also have significant potential to be of benefit to firms in the WBCs in terms of internationalisation and innovation, and may in some cases reduce the need for country specific initiatives. The EurOffice network, for example, provides access to a network of business incubators and other support organisations internationally providing low cost in-country business support services for firms seeking to develop their international presence.[27] For innovative firms, the IMPROVE platform within CIP allows companies to benchmark their innovation management against Europe-wide sectoral benchmarks and draw on innovation management consultants for action plans to improve their innovation management.[28] Both networks provide potentially valuable upgrading opportunities for firms in the WBC.

More locally, business service provision through Business Information Centres has developed rapidly in the WBCs in recent years with perhaps the strongest profiles of business support services in Serbia, Montenegro and Croatia. In the former Yugoslav Republic of Macedonia and parts of Bosnia and Herzegovina, the development of business centre networks has also been positive although online information resources for SMEs remain under-developed. The recent launch in Bosnia and Herzegovina of 22 First Stop Shops and supporting web resources is particularly interesting. The initiative by the Serbian Chamber of Commerce to create a web portal for SMEs (along with CD-based support) is also likely to widen access to valuable business information.

In two other economies (Kosovo under UNSCR 1244/99 and the former Yugoslav Republic of Macedonia), voucher schemes have also been used to enable SMEs to access private sector support and consultancy services. Other countries (notably Serbia) have adopted more traditional subsidy supports of up to 50% to enable firms to access private support services. The value of both initiatives is underlined by international experience: state provision of business support services working through light-touch brokerage service combined with quality, validated private sector provision can be an effective model of business support.[29] Again, however, it is worth recalling that these services are intended to meet the needs of the general population of start-ups and SMEs rather than the more specific needs of HGSMEs regarding IP protection, finance (particularly equity) and internationalisation. Even in countries where such generalist business support services are well established, there has been a need to create a differentiated service for HGSMEs such as that in Finland (see Box 2).

A key issue here is how to identify those HGSMEs that are to receive support from this specialist service. Here, a recent review of international best practice conducted for the Finnish Ministry of Trade and Industry is useful as it tried to identify the key lessons from international

experience.[30] The suggestion is that the unit dealing with HGSMEs should be highly selective, particularly when addressing later stages of venture development and that a key criterion for selection would be a strong growth motivation from the leaders of potential HGSMEs.

2.5 Finance for HGSMEs

While there is a general recognition that the availability of adequate financing is crucial for business growth and development, there is little international agreement on where finance gaps are felt most acutely.[31] What is clear, however, is that HGSMEs have greater need and make greater use of external sources of finance than other SMEs, with both debt and equity funding being important.[32] Collateral is a particular problem for HGSMEs, particularly those with no established track record, although some researchers have argued that rather than a constraint on lending, collateral should be seen as a way of strengthening long-term relationships between firms and their investors.[33]

We focus here on two areas featured in the SME Policy Index and of relevance to HGSMEs: credit guarantee schemes and venture capital/equity funding. Credit guarantee schemes have been seen as one mechanism for reducing collateral requirements and increasing the availability of external finance to HGSMEs. Equity finance creates the potential for initial investment in new market offerings and scope for rapidly scaling of HGSMEs. Ensuring adequate availability of equity funding can involve both supply- and demand-side issues.

Credit guarantee schemes

Credit guarantee agencies and funds are common across most EU Member States. Most tend to operate in similar ways, using public funding to guarantee private loans to SMEs for investment, export development or leasing. Examples such as the Estonian Kredex scheme suggest, however, that for HGSMEs with significant capital requirements early in their development, loan or leasing guarantee schemes may be quite valuable. The success of the Kredex initiative stands out due to similarities between the Estonian context and that in many of the WBCs, i.e. an established banking system but continued difficulties for higher risk start-ups in accessing capital due to insufficient collateral, limited equity or a limited credit history.

Kredex is also somewhat unusual in providing guarantees for a range of different types of loans and leasing arrangements. For early stage firms, Kredex guarantees investment and working capital loans; for more established businesses, Kredex will support equity investment schemes, leasing arrangements and provide export credit guarantees. In each case Kredex charges both a management and guarantee fee (typically 1.3-3.5%). These charges and a very low incidence of guarantees being exercised have enabled Kredex to become self-financing within a few years. This is clearly positive from a public finance standpoint but Kredex has also successfully established its credibility with the commercial banking sector, due in part to continued improvement in its product portfolio and an un-bureaucratic approach.

An initiative like Kredex may well be applicable in some of the WBCs supporting HGSMEs regardless of sector. In this sense a Kredex-type initiative might be seen as a complement to measures to support venture capital developments that are likely to focus primarily on technology-based businesses. Kredex has a number of other advantages that could strengthen firms in the WBCs: it tackles the issues of limited security and collateral that constrain investment; it helps to lever additional development-oriented capital into the business sector; and it directly involves the banks in working with client SMEs in a more supportive and advisory capacity. In addition, through its support for export development Kredex offers specific support for exporting companies, reducing dependence on local markets.

Substantial support has already been offered to national banks in the WBCs through the CIP to support the development of credit guarantee schemes along with venture capital and seed funds. To date, however, the WBCs have had varied experiences with operationalising credit guarantee schemes, of which the most comprehensive and effective is the Guarantee Fund of Republic of Serbia. Introduced in 2003, this provides loans for export development and other aspects of business development. The Serbian scheme and the Kredex initiative offer potential models for the other WBCs which generally have more limited guarantee fund arrangements. Croatia, for example, has an export credit guarantee scheme although this is relatively small scale, with similar regional funds in Albania, Bosnia and Herzegovina, and the former Yugoslav Republic of Macedonia. The experience of the former Yugoslav Republic of Macedonia in setting up guarantee funds is also of interest, as funds have been hampered by overly complex application procedures, low guarantee proportions and limited commitment of funding. The

success of the Kredex initiative with its relatively simple administrative procedures is a marked contrast here.

It is important to realise too that there is strong complementarity between the development of business and market information services, and export guarantee schemes. Boosting export growth and internationalisation is likely to require both measures to be in place at the same time and to be providing consistent support for small companies. In Serbia, for example, the Serbian Chamber of Commerce and its regional agencies, and the offices of the Agency for SME promotion provide contacts and information on external market opportunities; export credit insurance is then available through AOFI.[34]

International experience also suggests the value of loan guarantee measures, which may be critical given the volatility of the current economic climate. Indeed, a number of EU countries have increased public provision of loan guarantees as a way of increasing the availability of credit to firms in the current crisis. For HGSMEs, alongside export guarantees, loan guarantee schemes may facilitate their potentially higher capital requirements and their need to invest in advanced technologies. Again, among the WBCs, only the Serbian guarantee scheme covers this type of lending although there is also a Croatian scheme to support new technology investments by firms in some areas of the country. Developing this type of more comprehensive loan guarantee provision is likely to be key in the other WBCs, both to help firms maintain liquidity during the current recession and undertake future investment.

Venture capital and private equity

Private equity investment is central to HGSMEs, particularly in sectors where rapid growth is anticipated and defensible (typically IP-based) such as in ICT and biotechnology. Experience has shown that both supply-side and demand-side measures can be effective. On the demand side, measures can be taken to strengthen firms' investment readiness, with a potential role for banks and agencies in helping businesses to assess and develop their business plans and propositions. On the supply side, the policy focus has been on equity gaps (or market failures) and trying to ensure adequate financing for HGSMEs at different stages of development. Here, there is a need to recognise the potential value for HGSMEs of both informal and formal private equity funding. Informal private equity funding (primarily through business angels) may be important for firms in the early stages of development; policy can play a role in encouraging angel investment and facilitating angel networks. There is also a need to recognise that facilitating angel investment may require specific legislative frameworks.[35]

The current lack of availability of risk capital through equity funding of SMEs and HGSMEs is perhaps one of the key differences between the operating environment for HGSMEs in the WBCs and more developed countries in the EU. Although all WBCs now have the basic legislation in place to underpin equity investment it remains under-developed across the region, although there are isolated examples of angel and donor-funded activity:

Box 4

The Access to Finance Programme, London

The Access to Finance Programme (2000-06) was designed to help companies located in London's Objective 2 areas to access finance for growth and to help address problems of social and economic exclusion. The programme grew out of specially commissioned research highlighting that small firms lack information about the types of finance available (and thus what would be suitable in a given circumstance), and an inability to present a good case to finance providers. Its success has led to attempts to extend its coverage to other parts of London.[36]

The programme helps firms to take advantage of existing sources of funds. A diagnostic tool is used to determine whether companies could benefit from the programme. Intermediaries (typically local accountants) funded by the local government agency provide intensive training and guidance to participating firms. Experience in London indicates that worthwhile leverage was obtained on the relatively low costs of running the programme, especially after its start-up costs had been met.

Box 5

Ready for Growth Programme, United Kingdom, Spain and Greece[37]

This programme, operating in London and the South East of England, Spain and Greece, was targeted at small businesses with high-growth potential operating in the e-content sector. It addressed a perceived lack of investment readiness and the overall lack of investment in this sector. Because the bulk of the participant firms were early stage and required relatively small amounts of investment in the equity gap, the emphasis on funding sources was to tap business angel networks. Funding for the programme (2002-2004) came from the EU.

The key features of the programme were intensive mentoring of each company, an intensive two-day workshop covering the components of planning and developing a funding bid, techniques of pitching for funding and access to support for business plan development. A key feature of the programme was its online support: the use of the website as a recruitment tool ensured a wider outreach and facilitated registration. A free diagnostic investment readiness tool enabled firms to assess their own investment readiness, and get feedback on their strengths, weaknesses and their ability to access equity finance.

During its two years of monitored operation, 502 companies participated: 60% - 70% rewrote their business plans, 30% - 40% successfully accessed equity or other forms of finance, 30% - 40% identified new markets and customers, and 60% developed new business partnerships.

- In Montenegro, there have been some examples of the returns from property sales being reinvested in the start-ups of family and friends;
- In Albania, both the EBRD and the Albanian American Fund provide equity funding for SMEs;
- In Serbia, isolated examples of individual SMEs securing equity investments have been observed although the number remains small.

In addition to the overall lack of equity funding, evidence has suggested that where equity funding has been attracted to the region it has tended to be part of larger co-investment projects (Croatia, the former Yugoslav Republic of Macedonia) rather than supporting the development of HGSMEs. One interesting initiative to address this gap is the EUR 15 million project VENCRO run by the Business Innovation Centre of Croatia. Based on a public call, this co-financed initiative aims to support innovative technology-based start-up companies.[38]

For each of the countries of the WBC there are potentially both demand-side and supply-side issues to be addressed to increase the supply of equity funding. On the demand side, international initiatives have improved the investment readiness of HGSMEs and helped them to develop approaches to relevant funding sources. A customised service is provided to each firm (essentially mentoring) supported by a range of networked resources on which mentors and the firms themselves can draw. These resources may be provided online. In the Access to Finance Programme, local accountants acted as intermediaries using a standard diagnostic toolkit (see Box 4). In the Ready for Growth Programme, similar mentoring was supported by online information resources (see Box 5). Both programmes had positive gains for their client companies and were readily scalable once the initial support infrastructure (online support materials) had been established.

On the supply side, policy initiatives are possible at two levels: encouraging the development of informal equity or angel funding, and supporting the development of more formal venture capital markets. Programmes such as the UK's Ready2Invest, for example, have used workshops, case studies and social networks to encourage high-worth individuals to consider becoming business angels and joining investor networks.[39] Face-to-face events were supported by online resources, allowing individuals to assess their suitability to become a business angel and at the same time providing an indication of the potential risks to capital. In the Ready2Invest programme, a key partnership was that between the regional development agency and an existing investor network. For the WBCs there is definite potential clearly to expand informal venture capital or angel investment through the development of regional (or sectoral) angel networks. This

relatively low-cost measure can bring new finance into the business community and support HGSMEs. Such initiatives may work best when informal venture capital networks are aligned with specific incubators, as in the example of the Oxford Innovation Centre.

The public-private partnership underlying the success of the Ready2Invest programme has been a key element of most policy programmes to expand venture capital lending. As the history of the venture capital industry in Finland and Israel suggests, early public investment can provide useful pump-priming for a nascent venture capital industry geared to technology-based companies.[40] Admittedly, in both of these economies, the underlying level of technological advance and investments in R&D were significantly greater than those in the WBCs, but the initial success of the Croatian VENCRO programme does suggest that similar co-financed initiatives might also be valuable in other WBCs.

2.6 Supporting innovative enterprises

Promoting innovation among SMEs is crucial to their success. Recent years have seen a shift in focus, however, from a narrow emphasis on technological innovation to a broader focus on support for both technological and non-technical innovation. This reflects the growing importance of the service sector to wealth creation and increasingly R&D spending[41] as well as a growing appreciation of the importance of non-technical innovation even in manufacturing.[42] ICT is a key enabler of much technical and non-technical innovation, and is an area where significant progress has been made in the WBCs in recent years.

We focus here on a number of aspects of support for innovative companies that feature in the SME Policy Index:

- **Supporting training on technology (SME Policy Index item 8.1.1, see annex 2)**: The 2007 report pointed to limited progress in this area, although some pilot projects were in place. Development had progressed most rapidly in the former Yugoslav Republic of Macedonia where technical training programmes involving both public and private sector providers were operative.

- **Supporting R&D and innovation**: Although not included in the SME Policy Index explicitly this is a significant area of policy intervention with relatively high levels of publicly supported company R&D in a number of Eastern European economies (Slovakia, Czech Republic).

- **Innovation and technology centres/ co-operation (SME Policy Index item 8.2.1)**: This covers innovation and technology centres, technology transfer initiatives and collaborative university-industry R&D.

- **Inter-firm clusters and networks (SME Policy Index item 8.3.1)**: This covers programmes designed to stimulate industry or regional clusters.

- **Business incubators (SME Policy Index item 9.1.1)**: Business incubators provide a supportive environment for early stage businesses and may be either freestanding or linked to universities or research institutes.

- **Intellectual property rights (SME Policy Index item 8.2.2)**: IPR protection requires both an appropriate legal framework and effective enforcement.

- **Electronic signature (SME Policy Index item 9.3.1)**: Electronic signature systems enable direct interaction with government services and create legally enforceable contracts within countries' legal systems.

Supporting training on technology

Support for technology training is an established area of public policy support for SMEs in a number of countries with long-established programmes including South Korea (SME Training Institute, 1978), New Zealand (Industry Training, 1992) and Belgium (1994). SME support programmes generally focus on three specific types of skills:

- Managerial skills, including the development of managerial skills by those running technological spin-outs from universities;
- R&D related skills to improve firms' knowledge-generation capacity but also their ability to collaborate with universities or other organisations on R&D collaboration;
- Exporting and internationalisation skills for firms with an established local market presence and that are seeking to develop further.

Across the WBCs there is little consistent or large-scale provision of technological training of this sort. One issue highlighted by a number of countries is the low level of commercial R&D activity in the WBCs and therefore the lack of priority given by SMEs to technology management and innovation-related management issues (including IPR management, development and protection). In both the former Yugoslav Republic of Macedonia and Serbia, for example, business R&D accounts for a small proportion (5-10%) of total R&D spending, compared to an average of around 60-65% in the EU15.

In developing this area of policy it is worth noting that two delivery models predominate internationally: grants or subsidies that enable SMEs to take advantage of private training services; and the direct public provision of training courses through training centres and other support infrastructure such as incubators, business or innovation centres. The subsidy model can be effective where private sector services are available locally. In some areas of the WBCs where private sector service provision is weak, however, a centre-based model may be more appropriate. Often in these programmes training may be combined with other aspects of capability development. Turkey's Export Promotion Centre, for example, promotes exports through training alongside support for R&D, trade information, publicity and marketing support, and network building.[43] Other initiatives such as the competence centres and business incubators discussed below also generally have a training element.

Supporting R&D and innovation

Programmes to support R&D and innovation in firms have a relatively long history with the Canadian scientific research and experimental development programme, for example, introduced in 1944. There is also strong evidence from a large number of studies of the effectiveness of such public support on innovation activity and positive effects on business performance.[44] This positive effect can operate through a number of different organisational mechanisms, however. First, and most obviously, public support for private R&D may reduce the cost to firms of building up their knowledge stocks, enhancing business performance and firms' ability to conduct future research projects.[45] Second, public support for R&D activity may contribute to developments in firms' human resources and innovation activity.[46] Third, public support for R&D or innovation may improve firms' ability to absorb R&D results or knowledge from elsewhere. Fourth, reputational or "halo" effects may also stem from receipt of public R&D support. Fifth, public funding of R&D may also create the potential for R&D cost savings through collaborative R&D and the sharing of research results. As a result, policy in this area is often linked strongly to skills development and the development of new R&D and innovation co-operation.

Traditional support programmes for R&D and innovation have provided grant support. More recently other support mechanisms have been used including the widespread adoption of R&D tax credits, loans and guarantees (Austria, Spain) innovation vouchers (the Netherlands) and equity financing (Australia).[47] R&D tax credits have perhaps proved less effective in supporting R&D and innovation in SMEs due to low take-up. Equity financing, however, has advantages both for the enterprise and the public support agency. The enterprise does not have to worry about the payback as they will be asked for dividend only when they realise a profit. For the agency there is the prospect of some return if the innovation project is successful. Ownership dilution effects may, however, make equity support unattractive to some SME owners. Innovation vouchers have proved an effective way of both encouraging R&D and stimulating new collaborative relationships between SMEs and knowledge providers; these could be larger firms, public research institutes or universities (see Box 6). This type of initiative may be particularly valuable in the WBCs where levels of university-SME interaction are low.

Two other aspects of international programmes to support R&D and innovation are notable. First, policy developments have frequently linked R&D support with internationalisation either to facilitate internationally collaborative R&D (e.g. EU Framework Programmes) or link R&D performers to potential markets (e.g. the Israel-US Bi-National Industrial Research and Development Fund).[48] Second, and more recently, policy development has focused on supporting service sector innovation of which a particularly interesting example is the Tekes Serve scheme (see Box 7).

For the WBCs there is a widely recognised need to expand the level of R&D and innovative activity by firms, evident in recent steps in Serbia, for example, to introduce R&D and innovation grants. Such measures have the widest applicability where (like the Tekes Serve scheme) they cover both technical and non-technological innovation (see Box 7). Building stronger university-industry links is also important, however, and the example of the Dutch innovation voucher schemes might be interesting here (see Box 6). Both schemes will contribute to firms' R&D and innovation capacity and may also help

Box 6

The Dutch Innovation Voucher scheme

The Dutch Innovation Voucher scheme was originally introduced in 2004, building on a range of other regional pilot projects.[49] The context for the voucher programme was a widely held view that knowledge sharing between public research institutes and SMEs in the Netherlands was inadequate. Consequently, the main objective of the innovation voucher scheme was to introduce SMEs to public research institutions and so stimulate R&D and innovation in SMEs. The details of the scheme have changed in recent years but the key element is the issuing of an innovation voucher (worth typically EUR 7 500) to an SME to be redeemed for services at a public knowledge provider. The issuing of the voucher has two main impacts, both of which overcome major incentive barriers to engagement between SMEs and public knowledge providers. First, the voucher empowers the SME to approach knowledge providers with their problems, something that they might not have done in the absence of such an incentive. Secondly, the voucher provides an incentive for the public knowledge provider to work with SMEs when their tendency might either have been to work with larger firms or to have no industry engagement.

Eligibility criteria for the Innovation Voucher programme are broad with only a light touch administration. Impacts have been significant, with high levels of additionality, positive effects on new collaboration and some evidence of impact on SME innovation outputs.[50] Since 2004 the Innovation Voucher scheme has been extended and enlarged in the Netherlands and similar schemes have been adopted in the UK, Ireland and Belgium.

Box 7

The Tekes Serve – Innovative Services Technology Programme, Finland[51]

The Tekes Serve - Innovative Services Technology Programme (2006-2010) encourages the development of innovative service concepts and service business models in companies, strengthens and diversifies service-related innovation activities (especially in SMEs), improves productivity and quality of service activities in various industries, and boosts academic research in the area of service innovation and service business. With a budget of EUR 100 million over five years (around 50% publicly funded), the programme is geared to challenging projects, where the novelty value is at least of national level. The project proposals are evaluated based primarily on the novelty of the service innovation, not necessarily on the novelty of the applied technology.

Particularly interesting here are the broadly based definitions of service innovation and business models adopted in the programme and for which support is available:

Service innovation is a new or significantly improved service concept that is taken into practice. It can be for example a new customer interaction channel, a distribution system, a technological concept, or a combination thereof. A service innovation always includes replicable elements that can be identified and systematically reproduced in other cases or environments. The replicable element can be the service outcome or the service process as such or a part of them. A service innovation benefits both the service producer and customers and it improves its developers' competitive edge.

Service business models: A service innovation is a service product or service process that is based on some technology or systematic method. In services however, the innovation does not necessarily relate to the novelty of the technology itself but the innovation often lies in the non-technological areas. Service innovations can for instance be new solutions in the customer interface, new distribution methods, novel application of technology in the service process, new forms of operation with the supply chain, or new ways to organise and manage services.

to strengthen absorptive capacity, which is seen as crucial to effective open innovation.[52] Other placement-based measures may also be helpful in this respect. One study highlighted an example of the UK Teaching Company Scheme, in which a graduate placement from a university was based with a company to undertake a specific project. In the case reviewed, a graduate placed with a manufacturing company instituted ten new innovation routines of which seven were related to new information gathering or absorption[53] (see Box 9).

Innovation and technology centres, university-business co-operation

University-SME linkages across the WBCs are not well developed and a range of policy initiatives are underway to strengthen this co-operation. Typically these involve the establishment of technology centres within universities with a mission for engaging in technology transfer with SMEs. These centres and linkages remain underdeveloped in all WBCs, however, with the universities and SME communities continuing in largely "separate worlds". Many university academics in the region continue to work in a traditional open science model, equating public funding of their work with a need to publish their results openly. Little awareness of IP development and protection on the part of many reinforces this orientation. More recent international developments have stressed the importance of the innovation model of university orientation (see Box 8).

Internationally, measures to promote collaborative R&D have a relatively long history, although measures specifically targeted at SMEs are of more recent origin. A number of different policy models have developed, however, including:

- ***Project-based*** collaboration programmes are generally focused and short term. The Tekes Serve scheme discussed earlier (see Box 7) illustrates

Box 8

Changing models of university business engagements[54]

The historical norm has been the open science model, where new knowledge is viewed as a public good, and universities place little priority on IP ownership. The EU (2004) argues that this open science model is most effective in stimulating commercialisation where "the technology has far reaching implications and where the risks of mis-appropriation by private interests are detrimental to the public interest" (p.11). The incentive structure in the open science model suggests that universities are likely to adopt an essentially passive approach to IP development and exploitation, instead investing any available resources in additional research activity. Commercialisation then depends on the absorptive capacity of firms.

More recently, however, and most notably in United States since the Bayh-Dole Act, universities and public research organisations have placed increasing emphasis on their *private* ownership of IP, and consequently have had the incentive to adopt a more proactive role in IP development and exploitation. This gives rise to the licensing model (EU, 2004). Here, universities engage in basic research, but are proactive. They devote resources to the identification, development and subsequent exploitation of IP, generally through patents and licensing. The EU believes that this approach can generate substantial benefits. "It is estimated that at least half the new products based on university patents would not have been developed if the results had been put in the public domain without patent protection" (p.11).

Mowery *et al*. (2004) argue that the increased focus on the commercialisation of university research has, however, at least in the United States gone beyond the licensing model, influencing the nature of university research itself. This has "changed the research culture of US universities, leading to increased secrecy, less sharing of research results, and a shift in the focus of academic research away from fundamental towards more applied topics" (p.1). In this innovation model, universities both adopt a proactive approach to IP development and exploitation *and* re-orient the type of R&D they are undertaking to bridge the gap between fundamental university research and its commercialisation. The EU contends that the social benefits resulting from the adoption of this innovation model may be larger, and more regionally focused, than those from the licensing model.

this type of measure. Key implementation issues here relate to eligibility criteria and, where funding is rationed, the process for project selection.

- ***Physical infrastructure*** projects such as research centres provide an upgrade to capacity and a focus for long-term collaboration and training.

- ***Competence Research Centres*** (CRCs) bring together enterprises and research centres in a long-term collaborative relationship aimed at a particular technology under independent governance arrangements. CRCs have proven to be a valuable initiative, providing a focus for university-industry research collaboration. The best established of these programmes (in Sweden) has provided overwhelming evidence of the value of this type of initiative, a result echoed in early evaluation results from Hungary and Estonia (see Box 9). In recent years, CRCs have also been seen as playing a more significant role in internationalisation and SME development. CRCs often act as a focal point or gateway for international R&D collaboration, and their relatively high profile can provide an attraction for SME participation. COMPERA, one of the ERA-Net networks, has an established role in sharing best practice in the implementation of CRC programmes (www.comp-era.net).

- ***Clusters*** are looser constellations of university and corporate partners in a specific sector and generally have a geographical focus.

- ***R&D and innovation networks*** may be regional, national or international. San Diego's CONNECT programme, for example, has both cluster (i.e. regional) and innovation network characteristics, sponsoring a range of activities (workshops, seminars, networking events and awards programmes) designed to bring together knowledge creators from universities and research institutes with entrepreneurs and investors (www.connect.org).

Other forms of collaborative R&D scheme that have proven highly effective are based on personnel transfer. These recognise the importance of individuals as "carriers of knowledge" and have helped bridge the gap between universities and small companies. One of the most established of these is the UK's Knowledge Transfer Partnership programme (see Box 10) that has been operating in almost unchanged format for over 25 years. Evidence suggests it substantially benefits both participating companies and broader economic growth. A similar approach (also supported by strong evaluation evidence) is the Innovation Assistants programme in Brandenburg in which a wage subsidy is offered to SMEs

Box 9

Competence Research Centres: Linking research and innovation

Modelled on the Engineering Research Centres set up in the United States in the mid-1980s, CRCs have been successfully established in a number of European countries since 1995. Among the most recently established networks of CRCs have been the KKK Competence Centres established in 2000 in Hungary and Competence Centres established in Estonia in 2003.

According to the COMPERA ERA-Net network a CRC is a "structured, long-term R&D collaboration in a strategically important area between academia, industry and the public sector. The aim is to bridge the gap between scientific and economic innovation by providing a collective environment."[55] Typically CRCs concentrate on a specific technological area and have some long-term (ten- year) public funding. In general CRCs comprise a university-based research facility undertaking collaborative research with a network of partner firms.

The longest established European CRCs are the Swedish Competence Centres which were established in 1995 and evaluated in detail in 2003.[56] The evaluation concluded "the Swedish competence centres programme is a relevant and effective instrument that builds the people and networks needed for industrial competitiveness, tunes universities towards socio-economic needs… and produces significant social and economic value… In sum: the argument for competence centres is overwhelming."[57] Key impacts were identified in knowledge creation, upgrading research skills, extended networks, innovation and attracting inward investment.

in the region to encourage innovation and effective commercialisation.[58]

Starting from a very low base, some efforts have been made in all of the WBCs to strengthen university-SME links in recent years. This is not an easy policy problem, however, and presents continued challenges for more developed economies. Best practice dictates the importance of enterprising universities oriented around the innovation model, alternative technology transfer mechanisms based on collaborative projects, vouchers and placements, and well developed intermediary and focal institutions that can provide the focus for university-business collaboration. Intermediary organisations work between the more basic research units within universities and smaller companies, providing technology transfer

Box 10

UK Knowledge Transfer Partnerships

The UK Knowledge Transfer Partnership (KTP) programme was originally established in 1975 as the Teaching Company Scheme. The scheme is one of the UK's flagship technology transfer mechanisms with over 1 000 projects currently running.[59] Each business involved in KTP identifies a strategically important project and develops a collaborative project plan with a partner university. A suitably qualified graduate will then work in the company for between one and three years to implement the project. The graduate is closely supervised by staff from the business and from the partner university. For SMEs, two-thirds of the cost of the project is paid by the UK government. KTP has proved popular with companies as a profitable investment and popular with graduates (three-quarters of whom find jobs in their partner companies). Regular evaluations for the UK government have also established that KTP provides value for money from a public finance standpoint.

The KTP scheme is supported by a network of regional advisors across the UK, with each university also having a designated staff member or members who liaise with partner companies. Advisors and KTP project partners are supported by a web portal (www.ktponline.org.uk), providing best practice case studies and information.

services or a combination of technology transfer and applied research services. Perhaps the most prominent example of this type of institution is the German Fruanhofer Institutes.[60] A different approach, that has proved practical and positive in a range of different economic contexts, is the notion of Competence Research Centres (see Box 9). Although these vary somewhat in their structure and organisation, they have a number of very positive aspects that might be of value in the context of the WBCs:

- They act as a focus for university-business and business-to-business collaboration around a particular technology and usually involve an extended network of firms;
- They act as a focus for international partnerships, helpful in thinking about applications for international research funding (e.g. framework programmes);
- They can act as a focus for training and development in a particular technology and in particular developing an academic culture that is business-oriented;
- They serve as a national focus for development in a particular technology and can be promoted as a flagship development.

Finally, it is worth noting that in the WBCs the governance of the R&D/innovation/commercialisation value chain is often divided between ministries. This can create the potential for policy co-ordination difficulties (e.g. the former Yugoslav Republic of Macedonia, Kosovo under UNSCR 1244/99 and Serbia). In some advanced economies this has been addressed by creating state bodies with the responsibility for monitoring and developing the innovation system. The key example here is Vinnova, the Swedish agency (see Box 14).

Inter-firm clusters and networks

Promoting inter-firm clusters and networks can play a significant role in sharing technological and market

knowledge, and boosting business performance. The earlier discussion of competence centres, for example, illustrates the potential power of inter-organisational networks in R&D and technology commercialisation. More generally the example of Silicon Valley and its imitators across the globe suggest the potential for the emergence of clusters of high-growth, technology-based businesses. Business networks also play an established role, however, in improving market access[61] and enhancing capabilities for innovation and development.[62]

There has been some support for cluster development across the WBCs. In most countries these clusters are focused on traditional resource-based industries linked to metals, wood processing, food and textiles, although in Serbia and Croatia there are also some more high-tech clusters operating. Serbia has the clearest cluster strategy, one of the five pillars of its 2008 SME Strategy, although the Croatian National Centre for Clusters at the Croatian Employers Association (part of the Pro Inno Europe Network) also provides some co-ordination and support services to Croatian industry clusters. In the former Yugoslav Republic of Macedonia cluster development – with an emphasis on regional as well as industrial clusters – has also been a significant element of policy through 2007 and 2008. In most of the other WBCs, cluster development and support has been less systematic and often donor-led with USAID active in this area in Bosnia and Herzegovina, and Kosovo under UNSCR 1244/99.

Given their stage of development these cluster initiatives (and the implicit focus on developing areas of international specialisation) are probably relevant to the WBCs. In more developed economies, however, it is important to recognise that policy has moved somewhat away from cluster development, while still acknowledging that industry networks and focused collaboration are of considerable value. Instead of generalised industry clusters therefore policy initiatives have tended to be more focused on building thematic networks for research, marketing or skills development.

Business incubators

Business incubation first emerged in the US in the mid-1980s to support start-up development and tackle problems associated with lack of capital, poor management and insufficient market understanding. In general terms, business incubators provide support for new ventures to grow and survive during their early years when they are most vulnerable. Typically "the role of business incubators is to provide a supportive environment, where new entrepreneurs receive training and assistance in business management and marketing, various other business services, and access to seed capital."[63] It has been suggested that incubators add value to their tenants in four areas: diagnosing business needs, selecting and monitoring their tenants, providing access to business networks and providing of access to capital. It has also been suggested that incubators may enhance the entrepreneurial culture of an area and act as a magnet for highly skilled individuals looking to benefit from the services provided by the incubator. Analyses of the Israeli incubator network suggest that this attractor effect of incubators may work even in rural and peripheral areas. This effect may be deceptive, however, as the same study also suggests that the subsequent success rate of firms attracted may then be relatively low.

Box 11

Oxford Innovation, United Kingdom

Oxford Innovation (OI) provides a leading practice example of the effective combination of incubation services, business support services and angel investment. Originally based solely in Oxford, the group now has 15 incubation facilities in Southern England used by over 400 technology and knowledge-based businesses. In addition, OI offer a virtual office service (Oxiflex) for micro-businesses in search of business support and meeting room space.

The company also runs three business angel investor networks used by entrepreneurs from across the UK Perhaps the best known is the Oxfordshire Investment Opportunity Network which holds monthly investment presentation meetings in Oxford. Typical meetings attract around 90 potential investors with up to six businesses seeking finance from EUR 282 000 toEUR 2.26 million.[64] Over the last five years, it has raised more than EUR 21.5 million of business angel and venture capital investment for 92 companies.[65]

Two key success factors emerge from the incubator literature. First, the context in which the incubator is located is a very significant influence on its success. In the Israeli case, for example, research has shown that incubator success rates increase sharply where they are closely related to venture capital provision.[66] The example of Oxford Innovation highlights a similar point emphasising the importance of business incubation and support alongside the provision of appropriate capital (see Box 11). The implication is that incubators can form a valuable part of a systematic approach to supporting the growth and development of HGSMEs but are unlikely to succeed in isolation. Second, the evidence suggests that the management and operation of the incubator itself can also be a significant determinant of its success with different forms of incubation service of value to different types of company.[67] In Jyväskylä Science Park in Finland, for example, the regional development company has developed parallel incubator and light-touch mentoring (company-clinic) approaches for HGSMEs with different needs (see Box 12).

Business incubation services remain patchy and under-resourced across most of the WBCs although most WBCs have some strong examples (often the result of strong local support and donor finance). Croatia has a national incubator strategy and a national programme to support their operation and establishment. Here, where the incubator system has been operating for longer there is also some evidence of effective graduation. In the majority of the other WBCs, incubators which began their operations 2007-2008 have yet to produce their first graduates. The state of knowledge around business incubation across much of the region is strong, with leading incubators providing effective in-house support to their client companies. International links from the incubators are also strong. Two key issues remain. First across much of the region the incubator networks are

Box 12

Incubation and light-touch mentoring, Jyväskylä Science Park, Finland[68]

A systemic approach to business incubation has been developed in Jyväskylä Science Park, Finland since the first incubation facilities were offered in 1992. This involves a combination of formal incubator and light-touch provision.

The formal incubation process includes both pre-incubator and post-incubator phases where assistance and counseling are offered to firms. The pre-incubator phase represents the planning phase for business operations. Together with expert personnel from the business incubator, the future entrepreneur prepares a business plan for the company. It takes two to six months before a business plan (including a cash flow estimate for one year and budget planning for three years) is ready. During this period the future entrepreneur has access to well developed and tested budget and production planning tools of the business incubator.

Companies that successfully pass the pre-incubation period are allowed up to two years in the incubator. As a principle, premises and facilities are negotiated individually with each company, and the agreement also foresees business consulting services and individual counseling for the incubation period.

The post-incubation phase consists of a mentoring service that is offered for the company. The mentor advises the company and helps find business-related solutions. The mentor can serve as advisor to the company, outside advisor to the board, or a member of the board.

In addition to the physical incubator space, the Jyväskylä Regional Development Company Jykes Ltd., has developed a “light touch” company clinic service targeted at companies working in the field of knowledge-intensive business services. This does not provide physical incubator space but delivers consulting advice to help firms identify specific barriers to the survival and growth of participant companies. The services are also aimed at helping companies to better plan and manage their growth, which is of great relevance for growth-oriented companies. On a needs basis, tools to enhance the company’s capacities and capabilities are developed.

poorly resourced and are therefore able to provide support for only a limited number of potential start-ups. Donor funding would be useful here to provide both capital and revenue-based inputs to extend successful incubators. Second, the lack of equity funding across the region is a clear issue limiting the potential for growth, once firms mature and leave the incubators.

Intellectual property rights

It is clear that in the global economy SMEs are disadvantaged in terms of their protection of intellectual property, both their ability to finance effective protection for intellectual assets and their ability to defend IP rights where these are infringed.[69] Substantial progress has been made in the WBCs in recent years in establishing the legal basis for the protection of intellectual property rights although in some WBCs issues still exist around the enforcement of IP legislation. Internationally, policy development in this area has been rapid in recent years with a focus on IP protection rather than the broader management and development of firms' intellectual assets.[70]

Perhaps the key learning point from the international experience is the value of this broader perspective, in which firms are encouraged to focus on intellectual property as a central information resource and commercial asset to be nurtured. Leading-edge support programmes have therefore been targeted to help firms appreciate the potential value of intellectual property systems as a source of business information and to manage, develop and protect their intellectual assets or more broadly their intellectual capital.[71] This type of broader IP management and development among HGSMEs has been supported by a variety of different programmes. The Finnish programme "INTO road show", for example, aims to help SMEs to use the intellectual property system as a source of business information. By tracking patents and citations for example, SMEs can identify useful new technologies or partners and perhaps identify areas in which development could be concentrated. More business specific support is offered by the Japanese Intellectual Asset-Based Management programme introduced in 2005. It developed a manual for SMEs called *Intellectual asset–based management manual for SMEs*, and provided a range forums and seminars. Even more specific to the individual firm is a Korean measure introduced in 2006 called Consulting for Managing Intellectual Assets for SMEs. It offers customised consulting services to help firms with IP management, development and protection. Essentially similar support is provided by the successful Hungarian VIVACE programme initiated by the Hungarian Patent Office (Box 13).

Crucial to the success of the Japanese, Korean and Hungarian schemes is the availability of suitably qualified and skilled IP professionals within the public or private sectors. As indicated earlier, private service development in some WBCs is still limited, especially in more rural areas. There may be a need therefore for public investment in training IP professionals, perhaps by higher education.

The legal basis for the protection of intellectual property in line with the Trade-Related Aspects of International Property Rights agreement is now in place across the WBCs. This is a very significant achievement.

Box 13

VIVACE Programme of the Hungary Patent Office[72]

Established in 2004 by the Hungary Patent Office and funded by the Hungarian government, this programme offers mentoring and advice on patenting and intellectual property to SMEs. The goal of the VIVACE programme is to heighten the awareness of the intellectual property system among SMEs and develop an IP culture among firms in any life cycle stage.

Advisory services can include information on patents, supplementary protection certificates, plant varieties, utility models, trademarks, geographical indicators, designs and copyrights. The programme also runs a telephone help line on IP protection, education schemes in intellectual property for attorneys and other courses, an e-learning package, as well as promotion activities for patenting. The scheme has illustrated the potential for direct intervention to increase the patenting rate and has been successful in increasing firms' awareness of their intellectual property rights.

Enforcement of IP regulations is more patchy, however, with remaining issues of widespread piracy and counterfeiting. Improving enforcement therefore remains one of the key challenges in this area. Levels of awareness of IP rights and protection remain low, limiting the willingness of firms (and those in academia) to seek patent protection. There is therefore a clear need for more training in the area of IP development, management and protection. Chambers of commerce across the region are working in this area and the state agencies responsible for IP protection are increasingly being more proactive in their training provision. Both are welcome steps taking the WBCs some way towards the more comprehensive VIVACE programme (see Box 13).

Electronic signatures and digital security

Digital security and the legal recognition of electronic signatures provide the basis for effective e-business and e-government. In particular, electronic signatures can be important in enabling electronic contracting and procurement. In the EU uniform and relatively effective legal provisions for electronic signatures have been in place for some years, although the extent of their use remains uncertain.[73] Legislative progress in this area in some of the WBCs has also been rapid moving rapidly towards matching EU frameworks. A recent review of the situation in Croatia for example, highlights Croatia's Electronic Signature Act (2002), the Electronic Commerce Act (2003) and the Electronic Document Act (2005). Together these provide the basis for all forms of e-signatures, the regulation of certification authorities, the liability of Internet service providers, and the basic rules and regulation of e-commerce.[74] The same review, however, highlights a number of areas in which the Electronic Commerce Act could usefully be extended including developing e-contract attribution and acknowledgement-of-receipt rules, strengthening consumer protection for e-commerce buyers and establishing specialist jurisdictions to resolve e-commerce disputes.

This type of effective legislative framework is clearly a central factor in enabling the development of e-business. Equally important, however, is the e-readiness of SMEs, or "the ability to successfully adopt, use, and benefit from information technologies such as e-commerce."[75] Governments have adopted a wide range of measures to promote e-readiness, and the European e-Business Support Network highlights some useful examples of national best practice.[76] For example, a number of countries have developed benchmarking tools to enable SMEs to compare their e-readiness to other firms (e.g. the Danish ICT index, Ireland's Self-Test of IT eBusiness Knowledge). Other countries have developed workbooks or web portals which offer advice on going digital (e.g. Netherlands), while some have developed case studies of firms that have successfully implemented e-business strategies (e.g. Ireland, Greece, UK).

Ensuring the availability of e-business support has also been a major focus of action. Lithuania produced a database of consulting companies and freelance consultants offering e-business support. In Austria a key initiative was on training the trainers by providing workshops for independent e-business trainers (undertaken jointly by the Salzburg Research Forschungsgesellschaft and the Austrian Computer Society). In the UK, the National B2B Centre organises network events, educational events and supports individual firms with e-business projects.[77]

Basic legal provision for the recognition of e-signatures is in place across the WBCs but to date there has been very limited use of this technology. Croatia and the former Yugoslav Republic of Macedonia report some limited implementation of e-signature systems in public contracting. Notably in Serbia, although the law on electronic signatures was passed in 2002, it was only in 2008 that the qualified certificate body was actually determined allowing the use of this technology. The main task for the WBCs now therefore is to promote the wider usage and applicability of these technologies.

Policy Support for HGSMEs: The Former Yugoslav Republic of Macedonia

3.1 Introduction

Policy support for SMEs has developed rapidly in the former Yugoslav Republic of Macedonia over recent years although it remains relatively low in terms of government priorities. The emphasis of current SME policy is on promoting business start-up as a means of combating high unemployment, with limited support for firms' subsequent growth. No specific support measures are currently targeted specifically at HGSMEs, although a number of specific initiatives do have the potential to support firms with potential high growth. These include business start-up centres, incubators and some financing measures.

There are strong arguments, however, for suggesting that from a national competitiveness perspective, investment in support of innovation and HGSMEs should be given higher priority. Research from other countries suggests it is the high-growth firms that generate the majority of new jobs and pioneer structural change, generating new products and markets and increasing export earnings. In the longer term, particularly as the former Yugoslav Republic of Macedonia seeks closer integration into European markets, innovation in products and services will be important if its firms are to compete successfully in EU markets. Both innovation and support for SMEs (in general and those with potential for rapid growth) feature only peripherally in the government's current four-year programme, annual working programme and the ten measures that the former Yugoslav Republic of Macedonia government has outlined to tackle the current recession. So in the longer term, effective support for HGSMEs will be important for the former Yugoslav Republic of Macedonia. In the short term of course the current economic crisis is creating other immediate pressures on policy. In this sense many of the pressures shaping policy in the former Yugoslav Republic of Macedonia are also common to other WBCs.[78]

Evidence from other countries suggests that high-growth firms, above all, those which are technology or IP-based and have an aspiration to trade internationally, have different and more complex support needs than those of slower-growing companies that aspire to trade locally. Moreover, HGSMEs have different resource requirements, in general needing much larger access to capital than those of more domestically oriented SMEs. Both specialised support services and a conducive environment for HGSMEs are missing in the former Yugoslav Republic of Macedonia at present. This section assesses the current situation in terms of some areas of the SME Index and provides some recommendations for policy development and upgrading. Some of these measures could be adopted with minimal public investment, such as improving the integration of SME support from different government departments and supporting business angel networks. Others – such as the setting up of public-private venture capital funds or technology transfer support initiatives - will require more public investment and may therefore be more problematic given the current pressure on public finance.

3.2 Creating an enabling environment for HGSMEs

The former Yugoslav Republic of Macedonia has made strides in creating a positive environment for business start-up with a notable simplification in the process of starting a business and tax reform. This was recognised in the *Doing Business 2008* report, published by the World Bank and International Finance Corporation, which placed the former Yugoslav Republic of Macedonia fourth among ten reformers in terms of economic development.[79] Other measures have been adopted to support ICT development, including simplifications to the tax system and the introduction of new educational initiatives. These include the adoption of ICT as a compulsory element of the secondary school curriculum.

Other more specific aspects of SME policy have progressed rapidly in recent years with the creation of the Agency for the Promotion of Entrepreneurship. The mandate of the Agency has been social rather than economic, with a focus on the promotion of enterprise as an alternative to unemployment. The Agency has developed a network of 23 business centres following the model developed in Slovenia. This is a relatively new accomplishment, however, with 12 of these centres only beginning their operations in 2008. By and large these

provide face-to-face advice for developing business plans, with the provision of online information still relatively weak. The key focus of the business centres is the promotion of self-employment or enterprise as an alternative to unemployment, although even here their impact is restricted by few internal resources, limited access to schemes such as the national vouchers programme and the difficulty of obtaining appropriate bank finance.

In addition the Agency for the Promotion of Entrepreneurship has also engaged in other enterprise development activities, notably compiling a database of general and specialist business consultants, and organising training sessions for consultants in areas such as business process re-engineering. The Agency has also taken a lead in the compilation of national statistics on enterprise and enterprise development. It recently conducted a national training needs survey and compiled the *Annual Report 2007 for the SME Sector*.

Other elements of business environment to support growth and development in existing firms are relatively well established in the former Yugoslav Republic of Macedonia. Three chambers of commerce deliver a wide range of training and support services to their members on a commercial basis, and provide international links. The chambers also have effective industry sections and regional groupings which might provide the framework within which more intensive efforts to support high-growth firms might be undertaken. The Economic Chamber of the former Republic of Macedonia, for example, has 50 industry groups and 15 regional chambers within the former Yugoslav Republic of Macedonia.

Donor-led initiatives have also made a positive contribution to the development of business support and support services for SMEs in the former Yugoslav Republic of Macedonia. Organisations such as the Dutch-supported *Macedonian Enterprise Development Foundation*, for example, have made progress in providing micro-credit loans to farmers and micro-businesses through intermediaries and undertaking other enterprise development activities (including pioneering voucher schemes, loan guarantee schemes and enterprise competitions).[80] These activities, however, remain geared to social objectives (poverty and unemployment reduction) rather than maximising the economic benefits of intervention by investment in high-growth firms.[81]

The Regional Business Centres, the European Information Centre and the various donor-led business support activities in the former Yugoslav Republic of Macedonia are only weakly co-ordinated at present. They look at the social benefits of enterprise promotion, and have little individual capability to provide the more concentrated support necessary for firms with high-growth potential. This difficulty of co-ordination of multiple agencies is a common problem in different countries and has generally been solved by developing institutions for system governance and specialist systems of support for HGSMEs.

In terms of system governance, there is a need to better co-ordinate the initiatives of those concerned with different aspects of SME support and development. Particularly important perhaps is the interface between the ministries of education and economy which can influence the relationship between enterprise education and promotion in secondary schools and university-business collaboration. This suggests a need to adopt a more systemic approach to enterprise support systems both for SMEs in general and HGSMEs in particular. Facing similar issues of co-ordination, other countries have increasingly moved to link universities and responsibility for innovation in a single ministry or organisation (e.g. DIUS in the UK, Tekes in Finland) and establish organisations which can effectively champion the cause of innovation and enterprise development in the economy. One valuable model here might be Vinnova, the Swedish agency which, while having a more specific focus on innovation, combines research, advocacy and policy intervention to support Sweden's innovation system (see Box 14). Ideally, this organisation might undertake an initial mapping of existing initiatives (and possibilities), help to identify system weaknesses and gaps, and help to co-ordinate donor and inter-departmental responses.

In terms of specific support for HGSMEs perhaps the most interesting policy model here is the Finnish growth firm service, in which consultants in all Finland's public agencies concerned with business support search for promising growth firms. When identified, the consultant offers a growth analysis session with the firm, and based on the growth analysis, specific needs for achieving growth are prioritised and appropriate services are offered (see Box 2).

3.3 Finance for HGSMEs

The availability of business finance is an obstacle for most SMEs in the former Yugoslav Republic of Macedonia and particularly HGSMEs that are likely to

Box 14

Vinnova: Stimulating linkages, focusing international innovation[82]

Vinnova, the Swedish Governmental Agency for Innovation Systems, is an arm's-length government body promoting growth and prosperity in Sweden by researching and then investing to develop the nation's research and innovation capabilities. Vinnova's approach is systemic and evidence-based. Vinnova has a watching brief on the development of the innovation system in Sweden and its potential for creating advantage. Vinnova is also a direct funder of R&D and innovation programmes designed to address innovation system failures.

Since 2001, Vinnova has developed a detailed understanding of the capabilities of the Swedish innovation system, identifying system failures and then investing to support collaborative innovation projects on a network, sectoral or geographical basis. Increasingly, Vinnova is a focal point for international collaboration among Swedish researchers and innovators and international partners.

Much of Vinnova's direct support for collaborative R&D and innovation is co-funded, with support accounting for around 6% of Swedish R&D investment. Achievements over recent years have involved collaborative competence centre initiatives and support for regional innovation milieus, involving long-term network agreements between diverse but regionally co-located partners.

require higher levels of start-up capital and face higher risks. The recent history of the *Macedonian Bank for Reconstruction and Development* has been difficult, with over-complex procedures and high rates of default necessitating on-going reforms which should be completed in mid-2009. In the medium term this should make it easier for SMEs to obtain debt finance although this is unlikely to make any difference to the availability of equity finance (often important for HGSMEs).

Other commercial lenders are of course operating in the former Yugoslav Republic of Macedonia and the commercial market has developed relatively rapidly in recent years. Pro-Credit Bank for example, entered the former Yugoslav Republic of Macedonia market in 2004 and has expanded to 40 branches across the country providing consumer banking services and small business loans. This and similar developments have contributed to greater availability of loan finance for start-up businesses in the former Yugoslav Republic of Macedonia but these often remain conditional on the supply of collateral and an established business profile.

A clear weakness in business finance system in the former Yugoslav Republic of Macedonia is the lack of equity or risk capital. To date there is no on-going business angel activity, no business angel networks and very limited venture capital investment. This is not simply a supply-side issue, however, reflecting both the limited investment readiness of the former Yugoslav Republic of Macedonia companies with the potential for high-growth as well as the availability of equity finance. Action is necessary on both the demand and supply sides. On the demand side there is a need to promote the potential value to businesses of equity investment (both in terms of the potential capital injection and accompanying expertise) and to increase investment readiness. Here the UK Access to Finance Programme (Box 4) and the Ready for Growth Programme implemented in the United Kingdom, Spain and Greece[83] (Box 5) provide useful policy models. On the supply side, there is the potential for public support or facilitation of business angel networks that could inject additional private capital into the enterprise support system. Supporting angel networks alongside business incubators and the Business Start-up Centre might be a useful first step, for example. Programmes such as the UK's Ready2Invest have used workshops, case studies and social networks to encourage high-worth individuals to consider becoming business angels and joining investor networks.[84] Initially, at least, such initiatives may need to be underpinned by some form of equity guarantee scheme such as the Estonian Kredex scheme (see Section 2.5.1).

3.4 Supporting innovative enterprises

Generally, university-business links in the former Yugoslav Republic of Macedonia are under-developed with few spin-out companies and little emphasis on

undertaking collaborative R&D projects. The former Yugoslav Republic of Macedonia faces an obstacle: the preponderance of small companies in the economy and the relatively small number of larger firms which generally partner with universities. The problem is compounded by low national levels of R&D spending and a particularly low proportion of the R&D undertaken in the corporate sector. In 2004, for example, only 0.25% GDP was invested in R&D in the former Yugoslav Republic of Macedonia compared to an EU average of 1.95%. More significant, however, only 5.7% of this R&D was in the corporate sector compared to 65.3% in the EU15.[85]

This has two key implications. First, knowledge creation is being given a low priority by all system actors in the former Yugoslav Republic of Macedonia, and second, the corporate sector in the former Yugoslav Republic of Macedonia is significantly underestimating new knowledge and new technology. It is also clear that low levels of R&D spending in the corporate sector are likely to be reducing firms' absorptive capacity, or their ability to assess, assimilate and exploit external knowledge. This is turn will reduce firms' ability and willingness to work with universities in partnerships or collaboration.[86] There are also issues around the knowledge which firms in the former Yugoslav Republic of Macedonia have about the potential services or support which universities can offer.

Low levels of investment in R&D by domestic firms in the former Yugoslav Republic of Macedonia are reflected in relatively low levels of R&D employment in industry, and also in an improving but limited level of domestic patenting activity. Over the period 2002-05, for example, around 80-85% of patents registered in the former Yugoslav Republic of Macedonia were registered by foreign companies with foreign firms accounting for a similar proportion of trademark and design registrations. The Office for Industrial Property has taken some steps to improve this situation but, unless these are supported by higher and more widespread private investments in R&D, these are unlikely to succeed. Moreover, efforts have been focused largely on encouraging IP awareness and protection. There is a need to extend policy to encourage firms (particularly in high-tech sectors) to also use the international IP system as a source of business information. Issues arise here, however, about the availability of services for such technology analysis in the former Yugoslav Republic of Macedonia and firms' willingness to pay for such services.

The low level of domestic business R&D in the former Yugoslav Republic of Macedonia underscores the importance of accessing external knowledge as a source of competitive advantage. In terms of international linkages, potentially important here is the European Information Centre discussed above. It provides information on potential partners across Europe as well as links to other EICs elsewhere. In terms of more local, university-business links, perhaps the best developed example in the former Yugoslav Republic of Macedonia is the Business Start-up Centre at the Ss. Cyril and Methodius University (supported by the Austrian Development Agency). This has provided valuable support for the development of enterprise education for students and training for enterprise educators, and has contributed to an important increase in the proportion of students receiving enterprise education as part of their degree courses. The Business Start-up Centre has also supported student business plan competitions and facilitated the establishment of 20 start-up companies, the majority of which are in ICT or related business services. None of these enterprises is a "spin-out" in the sense of having codified or defensible IP which might provide the basis for attracting equity investment. More surprising, perhaps, is that there is also little evidence of the effective commercialisation of R&D being undertaken within the mechanical engineering faculty. In the medium term, a new initiative (supported by the Japan International Co-operation Agency) designed to upgrade the commercialisation capabilities of Business Start-Up Centres will help with this and will also help to strengthen the centres' knowledge of business needs.

Some progress has also been made in the development of business incubators; there are now nine operative in the country, including five in Skopje. Of these perhaps the most notable is the Youth Entrepreneurial Service incubator. The incubator opened in 2007 with support of the Ministry of the Economy and now houses 16 companies and has two graduate companies. Like the Business Start-up Centre, the goal is supporting student enterprise focusing particularly on the ICT sector. The YES incubator provides a standard range of training and support services to firms with limited staff and financial resources. It recognises the weakness of its support services available to firms, particularly in areas of IP management and development. The key difference between the YES incubator and those in other areas is the lack of any focus on moving companies to the point of investment-readiness where they might attract equity investment. In part this reflects lack of availability of such funding in the former Yugoslav Republic of Macedonia, something which clearly limits the growth potential of companies. The importance of the YES incubator is two-

fold. First, it certainly provides an important and supportive environment for its client companies. Secondly, it provides a transferrable model of business incubations which, with additional resources, could readily be extended to other university campuses across the former Yugoslav Republic of Macedonia.

There is a clear need to strengthen university-business linkages and commercialisation activities in the former Yugoslav Republic of Macedonia. One international model that has proved successful here is the idea of the Competence Research Centre. It brings together enterprises and research centres in a long-term collaborative relationship targeted at a particular technology. CRCs have been a valuable initiative, providing a focus for university-industry research collaboration (see Box 9). In recent years, CRCs have also played a more significant role in internationalisation and SME development, likely to be crucial to HGSMEs in the former Yugoslav Republic of Macedonia. CRCs often act as a gateway for international R&D collaboration, and their relatively high profile can attract SME participation.

3.5 Final remarks

Significant steps have been taken in recent years to develop the support frameworks for SMEs in the former Yugoslav Republic of Macedonia. Future growth and development will be influenced significantly by the nation's ability to support high-growth, internationally trading companies. Supporting these companies will require something of a re-orientation of SME policy from solving the social problems of the past (primarily unemployment) to creating opportunities for future growth.

Given the scale of the current crisis, resource constraints are clearly an issue within the former Yugoslav Republic of Macedonia. The proposals here to support business angel networks, develop firms' investment readiness and establish a specialist support group for high-growth firms are all relatively low-cost options. More expensive, and perhaps calling for donor support, would be the establishment of Competence Research Centres, possibly built around existing initiatives at Ss. Cyril and Methodius University.

Policy Support for HGSMEs: Serbia

4.1 Introduction

Although current economic conditions have changed the situation dramatically, the Serbian economy has grown rapidly over recent years, achieving real annual GDP growth rates of 5.7- 8.4% over 2004-2007. Primarily due to the growth in telecommunications, wholesale and retail trade, construction and finance, this economic growth was accompanied by rapid structural change, with significant inward investment in banking, finance and other consumer-related services. Fundamental macro-economic problems remain, however, including a significant trade deficit, relatively high unemployment and a continuing dependence on exports of agricultural, textile and basic metal products.[87] These issues have, of course, been exacerbated by the current international economic recession.

Processes of privatisation and transition continue in Serbia and have contributed to an economy with few medium-sized firms. While some larger firms have made a successful transition from the public to private sectors their medium-sized suppliers have often fared less well. This has led to an industrial structure dominated by small (often micro) firms with relatively few medium and larger companies. In 2007, for example, there were only 598 large firms in Serbia, 2 752 medium-sized enterprises and 283 640 micro firms (including sole proprietors).[88] This structure underscores the need to promote small business growth and development, and in particular those SMEs with high-growth potential.

To date there have been no specific policy initiatives targeted at HGSMEs in Serbia although HGSMEs has been a theme for discussion at the new inter-ministerial National Competitiveness Council. There have, however, been significant developments in the institutional infrastructure which could support such a strategy, and there are specific and very positive initiatives to support innovation-led SMEs (e.g. incubators, innovation centres, technological innovation competitions). Serious issues remain, however, around the lack of co-ordination of such initiatives, under-developed university-industry links and the availability of risk capital that might support the development of HGSMEs. Some of these issues are common to other WBCs, however, for Serbia the under-developed state of university-industry links is particularly disappointing given the strength of some aspects of the research base. Addressing this issue might help to boost the number of innovation-led HGSMEs and attract new investment into the university system.

4.2 Creating an enabling environment for HGSMEs

In terms of the general environment within which businesses operate, the World Bank *Doing Business 2008* report places Serbia 86 out of 178 countries, significantly behind Hungary (45) and Romania (48) but in a similar position to the former Yugoslav Republic of Macedonia (75), Montenegro (81) and Croatia (97). Notably, one area in which the position of Serbia has improved significantly is the availability of credit (loan finance). The necessity for further change in the business environment in Serbia is widely recognised, however, and is a key agenda item for the inter-ministerial National Competitiveness Council. Changes in the general environment for small businesses in Serbia are recognised in the 2008 Strategy for Developing Competitive and Innovative SMEs and 2009 Action Plan, identifying five key pillars where policy development is necessary: incubators as an aid to business start-up, skills and human resources, finance and taxation including the development of equity financing, clusters and business networks, and the regulatory environment.

Promotion of a culture of enterprise and innovation is a key element of current policy, and significant progress has been made here. One high-profile step in this direction was the establishment of the Competition for the Best Technological Innovation (2005) by the Faculty of Technical Sciences in Novi Sad in partnership with the Ministry of Science and Chamber of Commerce Republic of Serbia. It attracted 188 entries from a wide range of student groups, university faculty and other individuals, and has led ultimately to the formation of 35 new start-up companies.[89] Other more broadly based enterprise promotion events are organised by the Serbian Agency for the Development of SMEs and Entrepreneurship, including the annual International Trade Fair of Entrepreneurship "Business Base",[90] regional and local enterprise events, and the regular publication of the widely distributed "SME News".[91] Other donor organisations also organise enterprise promotion activities among high-school and university students.[92]

Gains have been made in recent years in the support to potential entrepreneurs or business founders through the network of regional offices of the Serbian Agency for the Development of SMEs and Entrepreneurship and its partners. These services are targeted at SMEs in general, however, and provide guidance on company registration procedures, legal issues and support in business planning and obtaining micro-finance. It is not clear that the more specific support requirements of innovation-led HGSMEs (regarding IP protection, finance and internationalisation) are being met, and it may therefore be worth considering the development of a specialist (national) unit to provide this integrated support. This need is perhaps particularly significant in Serbia where the availability of private consulting services providing advisory support on IP protection, innovation and internationalisation strategy remains limited.[93] This type of structure has been useful even in countries where generalist business centres are well established such as in Finland (see Box 3). One possibility is that the current innovation unit within the Serbian Agency for the Development of SMEs and Entrepreneurship might be developed to provide a more holistic service targeted at HGSMEs. (Currently, potential HGSMEs are carefully identified and referred to a specialist advice centre.) International experience on this point suggests that any unit dealing with HGSMEs should be highly selective, particularly when addressing later stages of venture development and that a key criterion for selection would be a strong growth motivation from the leaders of potential HGSMEs.[94]

4.3 Finance for HGSMEs

Since 2001, private and business banking services have developed rapidly in Serbia, a factor recognised in the country's improving position in the World Bank *Doing Business* report. Although the National Bank of Serbia has imposed relatively rigorous asset requirements on lenders in order to reduce inflationary risks, this has meant that loan finance (from micro-finance to multi-million Euro loan packages) and leasing finance have become available locally. Interest rates remain high though, particularly for smaller firms. Specialist SME lenders such Pro-credit Bank have established profitable operations in Serbia and created nation-wide branch networks.

In addition to private sector provision, the availability of business finance in Serbia has also been enhanced through a number of state- and donor-funded finance initiatives supporting particular aspects of business development.[95] The most significant of these, the Republic of Serbia Development Fund, is administered by the National Bank and operated through commercial banks. It provides subsidised loans (approximately EUR 6 104to EUR 24 417) to meet the investment needs of business start-up and development. Help is also available through the Republic of Serbia Guarantee Fund and other agencies such as AOFI[96] that offers a range of export and financial supports, primarily to larger firms. Key areas of AOFI's financial activity include financing working capital for export contracts, insurance for export contracts and a recently (2006) introduced factoring service.

For the vast majority of small firms, the type of loan or debt finance currently available in Serbia (in addition to internally generated funds) is generally adequate for working capital, investment etc. For the 4-6% of small firms in the high-growth category, however, the availability of equity or risk capital may also provide a valuable stimulus to growth. And, in more developed EU economies, perhaps half of all HGSMEs (primarily those with some defensible intellectual property or unique asset) attract some equity investment finance, i.e. 2-3% of all start-ups. Currently in Serbia, little or no equity or risk capital is available and this is a recognised gap in the business environment for HGSMEs. The lack of availability of equity funding in Serbia is not unique of course among the WBCs. It closely reflects, for example, the situation discussed earlier for the former Yugoslav Republic of Macedonia, although debt financing there is also more restrictive than in Serbia.

Addressing the lack of equity funding in Serbia is not simple; it will probably require intervention on both the demand and supply side. On the demand side, there is a need to promote the potential value to start-up businesses of equity investment (in terms of the potential capital injection and accompanying expertise) and to increase investment readiness. Here the UK Access to Finance Programme (see Box 5) and the Ready for Growth Programme implemented in the United Kingdom, Spain and Greece[99] (see Box 6) provide useful policy models. On the supply side, there is the potential for public support or facilitation of business angel networks which might bring additional private capital into Serbia's enterprise support system. Programmes such as the UK's Ready2Invest have used workshops, case studies and social networks to encourage high-worth individuals to consider becoming business angels and joining investor networks.[98] Initially, at least, such initiatives may need to be underpinned by some form of equity guarantee scheme such as the Estonian Kredex scheme (see Section 2.5.1). In addition, it might be useful to consider relating such

schemes to other specific initiatives, such as business incubators or technology centres, as in the case of the Oxford innovation centre (see Box 11).

Intervention to encourage formal venture capital funding into the Serbian market is probably a more medium-term policy; action here might usefully be delayed until financial conditions ease somewhat. International experience has illustrated, however, the potentially positive role of co-funding of venture capital funds with the Finland and Israeli cases often cited.[99] Admittedly, in both of these economies, the underlying level of technological advance and investment in R&D were significantly greater than those in the WBCs, but the initial success of the Croatian VENCRO programme does suggest that similar, smaller scale, co-financed initiatives might also be valuable in Serbia and the other WBCs.

4.4 Supporting innovative enterprises

A number of government-supported and donor-funded organisations are involved in facilitating capability upgrading in Serbia, although the majority of these focus on established businesses. The Serbian Chamber of Commerce, for example, provides a range of information and training services to member firms in addition to more specialist consultancy services, while the Serbian Agency for the Development of SMEs and Entrepreneurship also provides a variety of general and specialist training courses for SME owners and potential entrepreneurs. For established firms, the EBRD's TurnAround Management (TAM)/Business Advisory Services (BAS) programme provides consultancy advice to Serbian enterprises to help boost exporting, profitability and growth. To date around 153 TAM projects have been conducted in Serbia with the vast majority funded by the European Agency for Reconstruction.[100] Other organisations such as Serbia's business incubators also provide some business training services geared to help start-up among students and academic faculty.

In terms of innovation or technology-led HGSMEs, the key issue therefore in Serbia is not so much the availability of services to support business upgrading and development but the under-developed linkages between knowledge generators (i.e. universities and research institutes) and SMEs. This is, of course, not a uniquely Serbian problem, and even in more advanced economies relationships between SMEs and the higher education sector often remain limited.[101] For Serbia, however, this linkage is particularly important for two reasons. First, Serbia has number of internationally recognised research departments and institutes capable of generating significant IP with commercial potential and subsequent income streams. Second, the level of business in R&D in Serbia (as in the rest of WBCs) remains very low by international standards. This means that the dominant source of new technologies originating within Serbia is likely to be the academic research community. Successfully exploiting these technologies is therefore of significant national importance.

Three key issues need to be addressed if stronger links between the research and business communities are to be created in Serbia. These relate to the rather traditional orientation of the academic research community in Serbia, the paucity of enterprise education within the Serbian university sector and the absorptive capacity of many Serbian SMEs. It is important to note that, notwithstanding these issues, there are in Serbia some outstanding examples of effective commercialisation and university-industry collaboration. Most impressive perhaps is the group of firms associated with Novi Sad Technical University, some of which have established an international market presence and generated significant high-level employment.[102]

Serbia has a strong academic history in which the key priority has been the publication of scientific results rather than their commercialisation. This open science model, however, contrasts strongly with changes in the United States and Western Europe, which have increasingly put forth the innovation model of university-business interaction (see Box 8). Moving towards the innovation model will require the building of a stronger IP culture within higher education institutions and research institutes in Serbia, and potentially changing promotion criteria and incentive mechanisms for scientists. Increasingly, for example, in European universities promotion criteria include the standard research, teaching and administrative criteria alongside criteria related to wider societal impact (e.g. patents, commercialisation and social engagement). Despite some gains in changing mindsets in Serbia, the traditional mentality continues to dominate with the majority of university scientists and industry inhabiting largely separate worlds. Linking these worlds without compromising on research quality is a key challenge for the future.

Another aspect of this issue is the lack of enterprise education or teaching on entrepreneurship in Serbian universities and research institutes. Increasingly, providing

students with an introduction to enterprise is seen as critical, and a key part of the activities of the entrepreneurial university (see Box 1). In Serbia, some preliminary practical steps in this direction have been taken through the Agency for the Promotion of SMEs and the various university-based business incubators that have run uncertified business start-up courses. The Business Technology Incubator of Technical Faculties, Belgrade, for example, has hosted training programmes for over 200 students. (This is only a small proportion, however, of the 900 students who graduate from the Technical Faculties each year). Although proposals have been submitted to the Ministry of Education to expand enterprise education in Serbia, to date they have made little progress.

Under-developed university-industry links in Serbia are not simply an academic problem. Change is also necessary in SMEs' ability and willingness to establish partnerships with universities, something which is made particularly difficult due to the limited absorptive capacity of Serbian firms. As in a number of other WBCs, aggregate levels of R&D in Serbia are low by international standards and overall R&D spending is dominated by higher education. Only around 10% of R&D spending in Serbia is in the corporate sector, compared to an average of around 60-65% in the EU15. This has two main implications. First, the level of discovery in Serbian firms is very limited, meaning innovation has to come from outside the firm. And, second, the pool of research-trained employees within Serbian companies is small, limiting their absorptive capacity (i.e. their ability to evaluate and absorb external knowledge). Measures such as the recent Innovation Act, and support from the Ministry of Economy to provide grant support to help companies fund R&D and innovation projects may go some way towards reducing this problem. Other approaches are also possible, however, including student placement schemes (used successfully in a number of EU countries). Perhaps the most successful and longstanding of these measures is the UK's Knowledge Transfer Partnership scheme, in support of two-year placements for science students with SMEs to stimulate collaborative innovation and technology transfer (see Box 10).

Finally, it is worth noting that progress in developing more systemic linkages between the academic community and industry in Serbia is hampered to some extent by different elements of the commercialisation process being covered by different ministries. As indicated earlier, the Ministry of Education is responsible for enterprise education, the Ministry of Science is responsible for supporting scientific research, and the Ministry of Economy and Regional Development has responsibility for the economic exploitation of innovations. This division in the governance of the value chain from investment to research results to commercialisation inevitably makes policy co-ordination difficult. In those countries where innovation is most successful, and university-business collaboration is most intense, responsibility for the R&D and commercialisation value chain (at least) has been brought together in a single decision-making unit. Perhaps the best example, here is the Finnish government agency Tekes, which has responsibility for competitively awarded applied research funding in both universities and companies in Finland, one result of which is a high level of university-industry collaboration.

4.5 Final remarks

Since taking its first steps in SME policy in 2002 Serbia has demonstrated a significant capacity for policy innovation and development. This bodes well for the future. General elements of the business support infrastructure are now in place, with SMEs generally able to access advisory support and loan capital. Major steps have also been taken in promoting an enterprise and innovation culture, both of which will be more important in the future. These achievements could be supported by the development of more specialist advisory services for HGSMEs, most probably on a national level.

Crucial short-term issues for Serbia (as for other economies) revolve around maintaining business liquidity and viability. In the longer term, however, important structural and cultural issues remain, and are reducing the effectiveness of firms' innovation and the commercialisation process. Key concerns include the availability of equity or risk capital, creating a more innovation-oriented culture within Serbia's research institutes and universities, encouraging firms' investments in R&D and innovation, and extending the coverage of enterprise education. It is important to realise also that addressing these issues *together* will generate positive synergies, with private equity (or angel funding) working most effectively when linked to a business incubator or particular cluster, faculty or institute. Similarly, changing faculty incentives for promotion to encourage an innovation culture is likely to be most powerful in combination with incubation, IP services and/or enterprise education.

Upgrading the SME Policy Process

The previous sections have outlined some specific policy options for the development of policy support for HGSMEs in the WBCs. These policy options reflect the specific development and resource needs of HGSMEs in terms of IP development, capital requirements and internationalisation. A recent review of international practice in terms of HGSME policy, conducted for the Finnish Ministry of Trade and Industry, tried to identify the principles which should govern policy for HGSMEs.[103] It suggested policy should:

- Be highly selective, particularly when addressing later stages of venture development;
- Require strong growth motivation from participants;
- Be proactive in trying to identify prospective growth firms;
- Consistently address managerial motivation and skills;
- Involve close collaboration with private-sector service providers;
- Nurture an image of professionalism, competence, and a certain degree of exclusivity;
- Implement sustained and focused development efforts;
- Involve highly tailored management development activities that involve experience sharing and apply an interactive approach;
- Link grants and participation to growth aspiration and achievement of milestones;
- Be prepared to accept casualties;
- Involve seasoned managers who have experience in rapid growth.

There is, of course, the danger of generating an overly complex set of SME and HGSME policy initiatives, and a number of countries (Japan, Mexico and the UK) are moving towards simplified frameworks for business support.[104] More generally there is a move towards the one-stop-shop approach where a single agency or contact point can provide access to the full range of public (or public and private) support services.

It is also worth noting the very significant benefits of increased WBC engagement with EU wide networks. At the level of the individual firm networks or initiatives such as the EurOffices Network or IMPROVE may assist with internationalisation or innovation. At a more official level engagement with ERA-NET type initiatives such as COMPERA may help to both identify and implement new policy initiatives which might benefit HGSMEs.

Finally, it is clear that to date few publicly funded SME programmes in the WBCs have been subject to any very systematic evaluation of their effectiveness. (The situation with donor-funded programmes is somewhat different as evidence of effectiveness is usually a criterion for continued support). In part, the lack of any evaluation of publicly funded SME programmes in the WBCs reflects their rapid development over recent years. In many cases these programmes represent significant public investments and good public policy practice therefore suggests the need for monitoring and *ex post* evaluation. In general evaluation costs are generally 2-5% of programme budget although might be as little as 1% where programmes are large.[105] Previous OECD reports including the OECD Framework for the Evaluation of SME and Entrepreneurship Policies and Programmes provide a useful guide to possible evaluation approaches. Adopting some form of policy evaluation and upgrading process is likely to be important for the WBCs as they seek to develop the effectiveness of SME and HGSME policy, and the policy-making process itself.

Notes

1 *OECD (2008), Working Party on SMEs and Entrepreneurship (WPSMEE) Review of HGSMEs, Innovation and Intellectual Property, OECD, Paris, p. 23.*

2 *Llisterri, J. and J. Garcia-Alba (2008) "HGSMEs in Latin American Emerging Economies", paper prepared for the OECD Kansas City Workshop.*

3 *OECD/European Commission (2007), SME Policy Index 2007 – Report on the Implementation of the European Charter for Small Enterprises in the Western Balkans, OECD, Paris.*

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5 *OECD (2008), "Measuring Entrepreneurship – A digest of indicators", OECD-Eurostat EEIP Programme, p. 18.*

6 *Using an employment-based definition of high-growth enterprises suggests a slightly lower proportion of high-growth firms (1-9%) although the pattern of international relativities is much the same as that suggested by Figure 1. Source: op. cit. p. 19.*

7 *Global Entrepreneurship Monitor (2007), 2007 Global Report on High Growth Entrepreneurship, Directed by Erik Autio, with Babson College, London Business School and Global Entrepreneurship Research Consortium (GERA). Available at: http://www.gemconsortium.org*

8 *An essentially similar picture emerges from a recent review of academic studies of high-growth firms. See Henrekson, M. and D. Johansson (2008), "Gazelles as Job Creators – A Survey and Interpretation of the Evidence", IFN Working Paper No. 733, IFN, Stockholm.*

9 *This inclusive approach reflects that adopted by the OECD Working Party on SMEs and Entrepreneurship (WPSMEE) in their 2008 review of HGSMEs, innovation and intellectual property. See p. 3.*

10 *This section draws on material in OECD (2009), HGSMEs and Innovation, Working Party on SMEs and Entrepreneurship (WPSMEE), forthcoming.*

11 *See http://www.ausindustry.gov.au/index.cfm and also Autio, E., M. Kronlund and A. Kovalainen (2007), "High-Growth SME Support Initiatives in Nine Countries: Analysis, Categorisation, and Recommendations", Report prepared for the Finnish Ministry of Trade and Industry, pp. 34-35.*

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15 *See, for example, Autio, E., M. Kronlund and A. Kovalainen (2007), "High-Growth SME Support Initiatives in Nine Countries: Analysis, Categorisation, and Recommendations", Report prepared for the Finnish Ministry of Trade and Industry.*

16 *Including local companies, business associations, the Chamber of Commerce, local governments, elected officials, civil servants, schools, vocational and professional training institutions, public and private employment services, trade unions and employer organisations.*

17 *OECD (2006), "Entrepreneurship in the Districts Mittweida and Altenburger Land", OECD LEED Local Entrepreneurship Series, October 2006.*

18 *For details see: http://www.queensawards.org.uk/.*

19 *See www.enterprise-ireland.com and discussion of the programme at http://www.oecd.org/secure/pdfDocument/0,2834,en_21571361_38013663_39137502_1_1_1_1,00.pdf*

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