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STRENGTHENING ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT IN EAST GERMANY:

LESSONS FROM LOCAL APPROACHES



Final Report

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TABLE OF CONTENTS

INTRODUCTION 7

PART I: CURRENT CHALLENGES AND OPPORTUNITIES FOR ENTREPRENEURSHIP AND SME DEVELOPMENT IN EAST GERMANY 11

PROSPECTS FOR REGIONAL DEVELOPMENT AND ENTREPRENEURSHIP IN EAST GERMANY 13

Introduction 13
Regional differences in the Eastern German federal states 14
Prospects for further economic development 17
Consequences of demographic development on business start-up activities 21
Areas for policy intervention 24
References 27

FOSTERING ENTREPRENEURSHIP IN EAST GERMANY: MULTI-LEVEL GOVERNANCE IN A TRANSITIONAL ECONOMY 29

Introduction 29
What is an entrepreneurial economy? 31
Policy design and delivery in a multi-level governance system 35
Areas for policy intervention 45
References 50

PART II: KEY POLICY ISSUES IN ENTREPRENEURSHIP AND SME DEVELOPMENT 55

CHAPTER 1: ENTREPRENEURIAL CULTURE AND ATTITUDES 57

CULTURAL ASPECTS OF ENTREPRENEURSHIP 59

Introduction 59
The role of attitudes in the business foundation process 63
The situation in East Germany 65
Areas for policy intervention 66
References 69

MAIN FINDINGS FROM LOCAL CASE STUDIES AND POLICY RECOMMENDATIONS 73

CHAPTER 2: MODERNISING AND DIVERSIFYING EXISTING SMEs 79

MAKE EXISTING COMPANIES THINK ABOUT THEIR GROWTH 81

Introduction 81
Modernising and diversifying SMEs – some theoretical aspects related to East Germany 82
Areas for policy intervention 90
References 95

FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES 101

CHAPTER 3: FINANCING ENTREPRENEURSHIP 107

POLICY ISSUES IN FINANCING ENTREPRENEURSHIP 109

Introduction ... 109
Models of SME financial behaviour ... 110
Models of supply-side behaviour ... 111
Financial market inefficiencies in Eastern Germany ... 112
Financial sources for Eastern German entrepreneurs ... 117
Areas for policy intervention ... 120
References ... 123

ANNEX ... 130

FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES 133

CHAPTER 4: UNIVERSITY ENTREPRENEURSHIP AND TECHNOLOGY TRANSFER ... 138

FOSTERING UNIVERSITY-INDUSTRY LINKS ... 139

Introduction ... 139
Policy issues and challenges ... 142
Approaches to university-industry links in OECD countries ... 146
Areas for policy intervention ... 148
References ... 149

FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES 155

CHAPTER 5: RURAL ENTREPRENEURSHIP ... 160

FOSTERING ENTREPRENEURSHIP IN RURAL AREAS ... 161

Introduction ... 161
Policy issues and challenges facing entrepreneurship development in rural areas ... 163
Approaches to rural enterprise policy in OECD countries ... 171
Areas for policy intervention ... 173
References ... 181

FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES 189

CHAPTER 6: ENTREPRENEURSHIP POLICY DESIGN AND DELIVERY FRAMEWORK ... 194

POLICY DELIVERY: CHALLENGES AND OPPORTUNITIES FOR ENTREPRENEURSHIP AND SME DEVELOPMENT ... 195

Introduction ... 195
The policy framework for entrepreneurship ... 197
Challenges to entrepreneurship in East Germany ... 202
Areas for policy intervention ... 211
References ... 214

FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES 217

PART III: CONCLUSION AND OVERALL POLICY RECOMMENDATIONS ... 223

CONCLUSIONS AND OVERARCHING POLICY RECOMMENDATIONS ... 225

Address the fragmentation in policy design and delivery ... 226
Foster business growth ... 227
Build an entrepreneurial culture ... 228

AUTHORS ... 229

Tables

Table 1. EU structural funds New German Länder (without Berlin) 37
Table 2. Extent and nature of entrepreneurship in East Germany, 1991-2005..... 196
Table 3. Entrepreneurship development in the local case study regions..... 196

Figures

Figure 1. Productivity level in districts and district-free cities - GDP/employment person in Euros..... 15
Figure 2. Clustering of regions according to site factors..... 17
Figure 3. Convergence process in the Eastern German regions 1999 to 2004 19
Figure 4. Age-specific retes of business foundation - grouped according to kind of self-employment..... 22
Figure 5. Evolution of business start-up numbers through 2020 - results of a shift-share analysis..... 23
Figure 6. Factors influencing foundation-related attitudes and capabilities, as well as business foundation activities..... 65
Figure 7. Financial structures of Eastern and Western German SMEs..... 113
Figure 8. Relevance of finacial sources for Eastern Germany SMEs..... 114
Figure 9. Private capital sources to cover SME's financial demand..... 119
Figure 10. Policy recommendations to strengthen Eastern German entrepreneurs..... 120

Boxes

Box 1. Being inspired from good practice in fostering an entrepreneurial culture..... 77
Box 2. Being inspired from good practice in growing existing SME..... 106
Box 3. Being inspired from good practice in financing entrepreneurship..... 137
Box 4. Being inspired from good practice in fostering university entrepreneurship and developing local science industry linkages..... 159
Box 5. Being inspired from good practice in enhancing rural entrepreneurship 193
Box 6. Being inspired from good practice in enhancing effectiveness in policy delivery.. 222

INTRODUCTION

This report on "Strengthening Entrepreneurship and Economic Development in East Germany: Lessons from Local Approaches" is the result of a two-year work programme on the challenges and opportunities for entrepreneurship development in East Germany undertaken by the Organisation for Economic Co-operation and Development, through its Local Economic and Employment Development Programme (LEED), in collaboration with the Federal Ministry of Transport, Building and Urban Affairs (BMVBS), Angelegenheiten der Neuen Länder department. Over the period 2006-2007, a series of project meetings, study visits and workshops to selected localities across East Germany have been conducted.

Six geographic areas have been proposed by the participating six East German *Länder* [States] ministries for local case studies: the districts of Mittweida (Saxony) and Altenburger Land (Thuringia); the districts of Uckermark (Brandenburg) and Parchim (Mecklenburg-Western Pomerania); the university and research centre in the city of Halle/Saale; and the Berlin city borough of Marzahn-Hellersdorf. To each of the local case study areas a study visit has been organised with interviews and discussions about the barriers and challenges to entrepreneurship with representatives of local organisations active in entrepreneurship support as well as with selected entrepreneurs. In subsequent regional workshops, preliminary findings and draft policy recommendations have been discussed with local stakeholders and representatives from the Federal and *Land* [State] ministries. In addition, the introduction of international good practice examples of policy initiatives as illustrations of key policy recommendations offered workshop participants an opportunity to engage in an interactive learning process around policy innovation and new local approaches to foster entrepreneurship. For each of the local case study areas a discussion paper was prepared.

These four discussion papers provide an external perspective on local entrepreneurship environments, including both opportunities and challenges. The papers aim to facilitate the identification of further policy changes to strengthen entrepreneurship. Key messages, in terms of suggested policy actions and initiatives, were summarised in Action Plans that should stimulate discussion of a possible implementation of these policy recommendations at the local level. Throughout the project, both the discussion of strengths and weaknesses, and the presentation of policy recommendations were not meant to provide an exhaustive picture of the local scenario or to lead to immediate policy actions. The aim was, rather, to stimulate and catalyse a process, whereby regions, cities and districts in East Germany can stand back and reflect on their overall options, needs and priorities, by facilitating an information exchange on innovations and good practices from a range of OECD member countries.

The local case study areas have been selected with a two-fold rationale. Firstly, the project activities aimed at facilitating the engagement of these localities in an international exchange about innovative local policies and approaches on entrepreneurship and economic development. Secondly, the local case study findings were meant to contribute to a wider, global assessment of challenges and opportunities for entrepreneurship development in East Germany. Hence, the ambition was to bring together the local findings from the four local case study areas (and the six participating localities), and to embed these into a wider discussion of what policy can do to foster and strengthen entrepreneurship and how local tailoring of policies and local actions can help to increase the effectiveness of policy.

The global assessment exercise produced two documents: an on-line compendium of policy recommendations and this report, "Strengthening Entrepreneurship and Economic Development in East Germany: Lessons from Local Approaches". Both documents are built around six thematic areas to further policy intervention and local actions, which have been identified as relevant in initiating new and/or enhancing and geographically expanding existing policy support activities. These themes are:

- Entrepreneurial culture and attitudes;
- Financing entrepreneurship;
- Modernising and diversifying SMEs;
- University and entrepreneurship;
- Rural entrepreneurship;
- Entrepreneurship policy delivery.

Areas for policy intervention, which are not mentioned in the above list, are not excluded from discussion. Each listed theme, rather, brings together a number of sub-themes. Important areas for policy intervention, such as SMEs' innovation and internationalisation activities, are not listed as single themes, but are discussed both under modernising and diversifying existing SMEs, and university entrepreneurship. The theme of rural entrepreneurship, for example, includes a discussion of ways to foster entrepreneurial activities in rural areas that go beyond activities in the primary economic sector. Certain aspects of entrepreneurship such as entrepreneurial culture and attitudes, financing, modernising, and diversifying entrepreneurship are discussed with regard to rural contexts.

The on-line compendium (www.oecd.org/cfe/leed/entrepreneurship/compendium) has been developed as a practical instrument to browse through policy recommendations and implementation methods developed around the six thematic themes. The compendium aims to provide access to a broad German and international audience, and, in turn, to allow it to make use of project findings and policy recommendations for local approaches to strengthen entrepreneurship. International learning models that illustrate policy recommendations and provide inspiration for policy innovation, and good practice examples in East Germany, selected and presented by the governments of East German *Länder*, can also be explored.

This report highlights both theoretical and practical aspects of policy action in the above listed themes with reference to East Germany as a whole. Brief overviews of each theme present policy issues and challenges discussed in literature with references to the East German context. These linkages allow readers to draw upon the theoretical debate around the role of public policy when developing new policies and strategies to foster entrepreneurship and SME development. A synthesis of identified challenges and good practice initiatives in entrepreneurship and enterprise development from local case study areas accompanies a discussion of appropriate policy responses in selected OECD countries that points out relevance to East Germany. The on-line compendium can be read as an on-line accessible annex to this report.

The report is structured in three parts. In part I, current challenges and opportunities for entrepreneurship and SME development in East Germany are presented and discussed. Part II is structured in six thematic chapters. Each chapter starts with a summary of main findings from the local case study areas by the OECD. The following chapter highlights both the theoretical and practical aspects of policy action with regard to the development of new policy approaches and options. Finally,

OECD policy recommendations, resulting from local case studies, are presented as a "Checklist" along with a selection of international learning models and good practice examples in East Germany. Part III concludes the report with key overall policy recommendations that address challenges to entrepreneurship development in East Germany as a whole.

PART I

CURRENT CHALLENGES AND OPPORTUNITIES FOR ENTREPRENEURSHIP AND SME DEVELOPMENT IN EAST GERMANY

Part I of this report presents and discusses current challenges and opportunities for entrepreneurship and SME development in East Germany. The first section presents an analysis of the impact of existing regional differences, resulting from diverging geographic factors and inherited economic infrastructure, on entrepreneurship and SME development. In particular, demographic changes and the out-migration of young and qualified people pose a demanding agenda for policy. The second section presents an overview of the existing policy framework for entrepreneurship and SME development, including emerging trends in business start-up and development in East Germany with a focus on the local case study areas.

PROSPECTS FOR REGIONAL DEVELOPMENT AND ENTREPRENEURSHIP IN EAST GERMANY

Joachim Ragnitz, Germany

Introduction

Seventeen years after Germany's unification, the different regions of eastern Germany developed so differently that they can be said to have drifted apart. Saxony and Thuringia are seen as particularly dynamic and economically strong federal states ('Länder'), whereas the remaining three 'Länder' (including Berlin) are generally viewed as lagging behind in the convergence process. However, this sweeping image oversimplifies: a more discriminating look at the eastern German 'Länder' shows both strong and weak regions in each of them; none of the federal states proves to be so homogeneous that a global perspective does justice to the specific state of problems of the various regions.

The regional differences on the relatively local level result primarily from regionally divergent site conditions, on the one hand, and from historically grown economic structures, on the other. These divergent conditions have survived to this day, not least as a result of the privatisation policy of the 'Treuhandanstalt' (privatisation agency). People's decisions to migrate also play a role in this: Where a dearth of economic activity means jobs are scarce, people tend to leave, a trend reinforcing the spatial disparities. So it can be expected that the spatial patterns becoming apparent today will also quite likely determine the picture over the coming decades. In this sense the situation resembles that in western Germany, where long-established spatial structural patterns have survived until now.

Economic policy has set the goal of preventing such spatial differences from growing too large and of ensuring "the equalization of living conditions" in all sub-regions of the Federal Republic. Apart from the provision of general public services (e.g. access to educational and infrastructural facilities), this also includes the creation of adequate job offers for the resident population. With special regard to eastern Germany, this also implies reducing income disparities. To this purpose, business companies are offered incentives to settle, on the one hand, and, on the other, support programmes are provided to boost new business start-ups within the specific region. This OECD research project is studying in detail the extent to which these efforts have been successful. Beyond that, economic policy has established a wide range of instruments to support companies even after the start-up period proper, in particular in terms of investment, as well as research and development.

The subsequent section will show what regional differences are relevant to current dynamics of and prospects for growth in eastern Germany. As the further development in the 'new Länder' will be strongly affected by demographic influences, a specific section is devoted to the implications of population shrinkage and ageing. The likely effects of demographic change on business start-up activities in the 'new Länder' are more closely studied afterwards. Followed by the last section, which presents economic-political conclusions for further regional business promotion measures in the 'new Länder'.

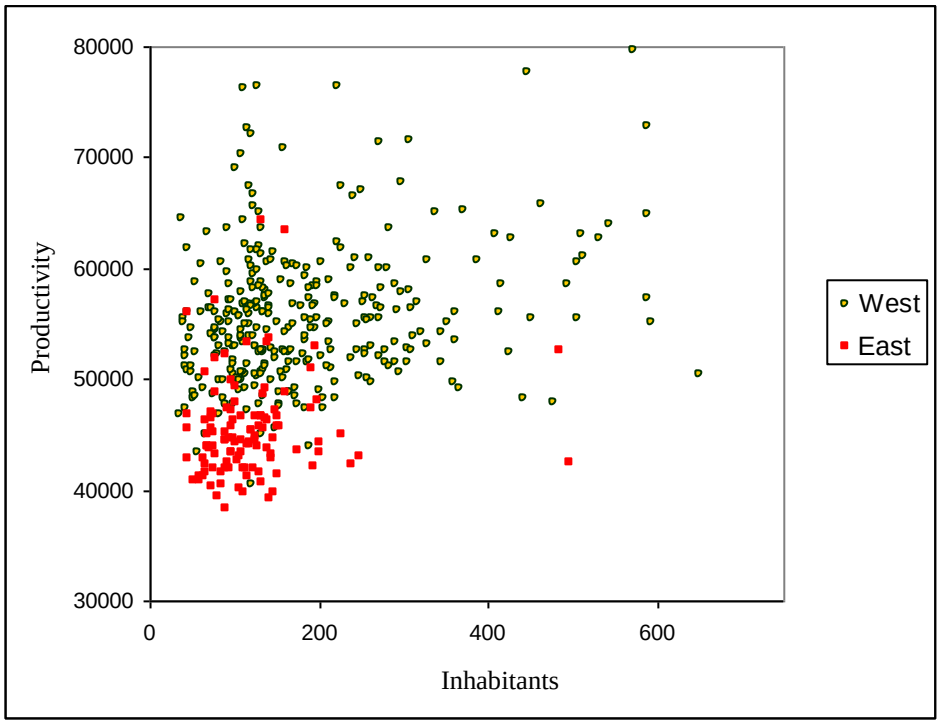
Regional differences in the Eastern German federal states

Analyses of the situation in the 'new Länder' mostly refer to an aggregated level and derive from it far-reaching conclusions about the convergence process's prospects for success. In fact, the 'new Länder' have generally been catching up only very slowly over the past decades, if the indicator chosen is the evolution of the real gross domestic product (average growth rate in eastern Germany: 1.25%; in western Germany: 0.8%). The picture turns somewhat more favourable when population decline is taken into account. Then, eastern Germany's gross domestic product (GDP) per inhabitant proves to have risen by 2.0% (6-year average), which is markedly faster than in western Germany (1.4%).

However, the analysts have not taken into consideration that the situation in the eastern German regions has increasingly differentiated over the past years. Even today per-capita income and productivity in the eastern German Länder lag considerably behind those in western Germany, and this finding holds true on the regional level as well. Only a few districts in the 'new Länder ' have meanwhile been able to catch up with the weakest districts in the West as regards productivity; others still show a big gap (see also Figure 1). In view of this situation it hardly appears proper to treat all regions in eastern Germany equally; a regionally differentiated analysis proves appropriate.

High regional productivity levels are attained primarily in locations where subsidiary companies of internationally engaged large corporations have settled, for example, in the Teltow-Fläming district (branch enterprises of Daimler-Chrysler, BMW), in the city of Dresden (branch companies of Infineon and AMD, on the one hand, and of VW, on the other) and in Eisenach (branch enterprise of General Motors). Furthermore, the sectoral structure plays a great role in the region. It explains, for example, why the districts of Merseburg-Querfurt and Uckermark (both locations of crude oil processing) exhibit a productivity level well above the average, although Uckermark is generally regarded as the very epitome of a lost region. It is also quite conspicuous that especially the districts grouping around Berlin reach high levels of productivity, clearly a consequence of new business settlements in the environs of the German capital. A factor favouring this trend has also been the link to the motorway network, because it facilitates accessibility to the economic clusters in western Germany and the adjacent countries. This factor does not suffice by any means: good traffic connections alone do not guarantee the settlement of high-growth companies when other site conditions are not appropriate.

Figure 1. Productivity level in districts and district-free cities - GDP/employment person in Euros



Source: Länder' Working Group on National Income Accounts (VGR); the author's computations.

At the bottom of the scale above are found all peripheral districts located on the Polish and Czech borders. Their geographical situation alone already makes them unattractive to investors. Other, rural districts also mostly fall into this category. It is thereby noticeable that a number of districts in Saxony and Thuringia are among the economically weakest regions. The positive image these two federal states have among the general public is inaccurate in many localities. The two Länder profit from the attractiveness and economic strength of their centres. However, a closer look reveals that many eastern German centres of agglomeration have not yet been able to fulfil the attributed function of a "growth pole" (more details on this are found below).

Taking the unemployment rate as an alternative indicator for the description of regional differences also reveals considerable variation between the individual districts. Conspicuously, no close relationship with regional productivity was found to exist (correlation coefficient: -0.05). The lowest unemployment rates are found in the districts located on the former inner-German border, a consequence of the ease of East-West commuting here. Likewise, districts surrounding larger cities have below-average unemployment rates because of the job opportunities available in the core urban centres. By contrast, precisely districts of high productivity often face above-average unemployment. The reason for this lies in the aforementioned strong impact of individual enterprises on the productivity coefficient. These are either very capital-intensive companies with a correspondingly low effect on the number of persons employed, or manufacturing premises in regions characterised by low economic strength. Thus, the expected spill-over effects of such new business settlements have quite obviously not yet been produced in the region, which at least casts doubt on the sense of settling new companies in the open countryside.

As already noted, the eastern German agglomeration centres have not yet fulfilled the function of growth poles generally ascribed to them because of their factors of potential (population density, existence of universities and research institutions, accessibility, economic structure, etc.). There are indeed a few larger cities (Dresden; in part also Jena) that can boast of both a high productivity level and strong productivity growth, but most of the cities show only average or even below-average levels. This in turn also means that potential spill-over effects into the surrounding areas are slight. This is mainly because, precisely in the eastern German towns and cities, the needs for adjustment after the transformation have proved and are partly still particularly large.[1] So oversized industrial structures that were difficult to privatise dominated in urban areas in eastern Germany. Moreover, unsettled property relations used to prevent the settlement of new companies there. Lastly, many eastern German towns unmistakably present unfavourable "soft" site conditions (lack of recreational facilities, deficiencies in urban development) and therefore do not always prove attractive to skilled, educated individuals. Ultimately this has often induced companies to settle in the surroundings rather than in the urban core centres.

An additional factor is also involved here: In eastern Germany, there are few larger cities. Only Berlin, Leipzig and Dresden number more than 500,000 inhabitants. Compared with western Germany, most of the eastern German agglomeration centres must be considered medium-sized towns, which even in the 'old' federal states have only in exceptional cases accommodated large, high-growth companies that are able to contribute substantially to economic growth.

Finally, a look at the site factors growth-relevant on a regional scale shows that many regions in the 'new Länder' still have – in part increasing – disadvantages in this area. Accessibility to the nearest upper centres and agglomeration zones proves to be poorer on the whole than in western Germany, with the motorway network less dense and population density – an indication of economic agglomeration advantages – markedly lower than in the 'old Länder'. In addition, the economic structure has a comparatively high share of productive branches that are low-intensity in human capital, due to the specific branch structure and the specialisation within the various branches of the economy.[2] This renders the 'new Länder' unattractive for technology-oriented business start-ups or company settlements because these often depend on regional network partners with similar manufacturing patterns. Though the education and training methods in the former East Germany still means that the level of qualification of employed people in eastern Germany is better than in the 'old Länder ', nowadays – under market conditions – a large part of these qualifications are only limitedly utilisable. It can also be shown that the human capital endowment of eastern German regions is tending to deteriorate because young people are not adequately striving for education and training and because they are leaving the region.[3]

Figure 2 shows the result of a cluster analysis in which the individual districts in Germany have been classified according to the character of their site conditions (including human capital intensity in production; population density; accessibility). It can be seen that the problem regions (reddish colour) in the eastern German 'Länder' have grown in number whilst the regions with favourable site conditions (bluish colour) tend to be concentrated in the West. This does not mean, however, that investors willing to settle would not find favourable business locations in eastern Germany as well. But these are less abundant, one reason why only a few regions, above all in the southern part of the 'new Länder', attract companies from abroad. In addition to Dresden, the mid-German area around

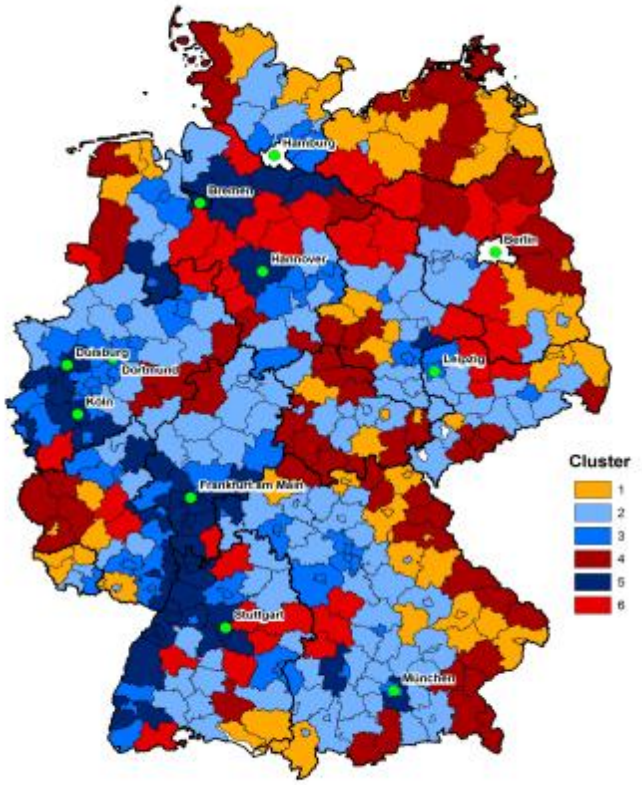
[1] See DIW/IAB/IfW/IWH/ZEW (2002).

[2] See Ragnitz (2006).

[3] See Schneider (2005); Brandenburg (2006).

Leipzig and Halle has favourable site conditions. In a certain way this can be explained by the fact that this was already a core industrial region of Germany in pre-war times.

Figure 2. Clustering of regions according to site factors



Source: Federal Office of Statistics; the author's computations.

Prospects for further economic development

One might now be inclined to regard the regional problem situations in the 'new Länder' as a phenomenon of transition that primarily reflects unsolved problems of the history of Germany's unification and that will sooner or later solve themselves. In fact, however, experience gained from structurally weak regions in western Germany, as well as theoretical considerations, speaks out against this viewpoint. Few regions even in the 'old Länder' have actually succeeded in catching up in the convergence process. The peripheral regions in Bayrischer Wald, on the North Sea coast or even in the southwestern Palatinate have so far been unable to overcome their structural weakness, and this despite in part massive funding support. Adjustment crises in previously dominant and now hardly competitive branches (textiles and footwear industries) have exacerbated unfavourable site conditions. Likewise, the area adjacent to the former boundary with eastern Germany has not yet managed to lose the aura of a structurally weak region although the unification of Germany had made its location more attractive. That these regions have at least partly been able to keep pace with the growth processes in Germany was caused to a considerable degree by migration processes. Population decline has contributed to increasing per-capita incomes even with poor economic performance. Implicit

compensation mechanisms operating under the tax and transfer systems have also prevented regional disparities from becoming excessively large.4

That is exactly where theoretical considerations focus. Although the neo-classical growth theory has arrived at the conclusion that the diverging marginal productivities of capital make processes of convergence possible and likely, the underlying assumptions of constant (or declining) returns on scale and of a lack of mobility are not fulfilled in reality. But if increasing returns to scale in production leads to faster rates of the diffusion of technological progress or of a greater availability of skilled manpower, thereby making marginal productivity in the prospering centres higher than in the structurally weak regions, then the result will be divergence rather than convergence. In such a case, the centres will grow more strongly than the peripheral areas. There is much to suggest that this description reflects the situation in many eastern German regions better than the simple convergence model.

- Following unification, eastern Germany's industries shrank drastically. Though these industries have meanwhile embarked upon a dynamic path of growth, their share in the country's net domestic product generation is markedly smaller (19%) than in western Germany (24%). Furthermore, manufacturing industries in quite a number of districts account for less than 10% of net domestic product. This applies not only to district-free towns, but also and particularly to rural districts in northern Saxony-Anhalt, in Mecklenburg-Western Pomerania and parts of Brandenburg. The manufacturing industries largely determine productivity advances in the overall economy as a result of the pressure of national competition and larger potentials of technological progress; these specific factors of the sector structure therefore impair the convergence process.

- The re-industrialisation process starting after 1994 was borne, above all, by subsidiary companies of western German or foreign corporations. They have established primarily subordinate production premises in the 'new Länder', whilst the higher-valued company functions remained at the traditional company headquarters. This circumstance lowers the chances for swift productivity increases (which are often linked to the development and application of new products and processes). In addition, employment opportunities for persons from certain groups of professions are declining in eastern Germany because the existing production units require mostly manufacturing staff.

- To the degree that the restoration of eastern Germany's industrial sector was implemented by the privatisation measures of the 'Treuhandanstalt', the regional economic courses set by the former East Germany ("principle of decentralised concentration") was continued. Under market conditions, these sites often proved competitive to a limited degree only. Due to poor networking within the region (including because of the lack of suitable partners), spill-over effects are not sufficiently produced.

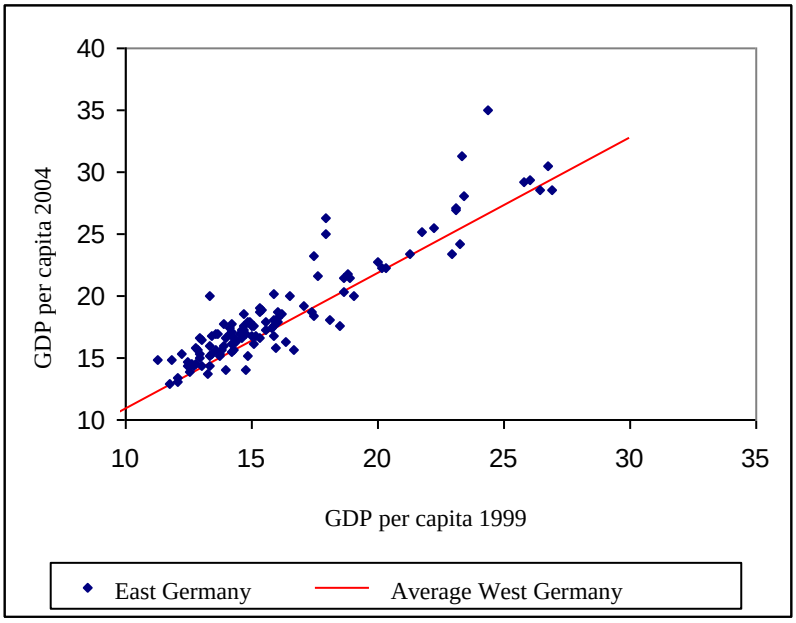
- Right after unification and again during the 2000-2004 period, a great many people moved away from eastern Germany. This migration movement affected, above all, the peripheral regions with high unemployment. Because it is especially younger and well-qualified persons who tend to leave the 'new Länder' (whilst migration into these regions is mostly limited to older, returning persons), the regions' human capital endowment is consequently being depleted. Further, it is typically precisely those population groups who are active and willing to work to an above-average degree that venture the step into the unknown. This

[4] See Lehmann, H. et al. (2005).

negative selection process reduces the number of potential business founders in the region subject to out-migration. This additionally dampens the possibilities for favourable economic development.

Although since the late 1990s per capita GDP growth has been stronger in eastern Germany as a whole than in western Germany, quite a number of regions have not experienced any convergence with the western German average between 1999 and 2004 (more recent figures are not available) (see Fig. 3). Apart from some rurally structured regions in northeastern Germany, this applies to a number of core cities such as Berlin, Rostock, Schwerin and Erfurt and their environs. A few regions even have had to sustain an absolute decrease in per-capita income. By contrast, a higher per-capita GDP growth was reached in the districts of Sömmerda, Merseburg-Querfurt and Teltow-Fläming, as well as the district-free cities of Eisenach and Dresden, all known as locations of successfully operating major companies.

Figure 3. Convergence process in the Eastern German regions 1999 to 2004



Source: Länder Working Group on National Income Accounts (VGR); the author's calculations.

The foreseeable demographic development is the greatest challenge for further economic development in the 'new Länder'. Of course, demographic projections covering a period of several years do pose a problem, because migration movements in particular are very hard to predict. What is more, these are known to depend considerably on the economic success of a region (and thus on the availability of jobs), so they are not exogenously determined. Nonetheless it must be assumed that eastern Germany will suffer considerable further population shrinkage over the next 10 to 15 years, associated with a heavy increase in the average age of the population as a whole and of those able to work. The findings of the 11th coordinated demographic projection are that the population in eastern Germany will go down by somewhat over 10% between 2005 and 2020, with the average age rising by more than 4 years from currently 44.2 to 48.6 years. Developments in the working-age population taken alone will be even more dramatic: here the decrease will amount to over 20%, and the average age of this group is expected to rise from 40.4 to 44.1 years.

The uncertainties of a demographic projection on a local scale are even greater, because here the migration movements may have an even stronger impact on demographic development. The available estimates likewise suggest that particularly the peripheral regions of eastern Germany will sustain quite substantial losses in population, whilst the eastern German conurbations are likely rather to experience stagnation or slightly decreasing population numbers.

The change in population size will then influence the economic development of a region in multiple ways:[5]

- Taken by itself, the population decrease reduces demand for goods in the region. To the degree that this demand is for "non-tradable goods" (e.g. services, products with high transport costs), this will lower production, with correspondingly unfavourable effects on labour demand, as well. The demand for the production of "tradable" goods, on the other hand, is largely independent of the demographic development in the region.

- A reduction in the number of persons of working age may result in a diminished supply of labour unless previously unused potentials (unemployed persons; women; older employees) are fully utilised. Therefore, enterprises are expected to face growing difficulties in meeting their labour demand. This situation, in turn, may lead either directly to lowered production or to rising labour costs due the shortage of workers. However, this effect will be dampened if declining demand leads to cuts in production anyway.

- The ageing of the pool of employable persons (and hence of the number of those actually working), which is linked to the demographic change, may slow the increase in productivity. Here, a possible decline of the physical capabilities of manpower due to ageing is less relevant than a deteriorating endowment with "modern" human capital. As the share of older persons in company staffs rises, the diffusion rate for new knowledge will slow down, unless the companies invest increasingly in advanced-training activities. This is particularly problematic in technology-oriented sectors, because grasping new technological know-how presupposes corresponding previous knowledge. Thus, innovation activities can also decline in a shrinking and ageing society.

- Older persons tend to be less mobile than younger ones. This holds true for spatial, sectoral, professional and enterprise-related changes. The reasons for this are the higher individual costs of a shift from former societal and company environments. Thus, in an ageing society, structural change can be slowed, which in turn will have an unfavourable impact on productivity growth, especially since older societies tend to be less attractive for new companies to settle in (except for those that want to sell products and services specifically targeted at older people living in the region).

- Finally – and this is especially important in relation to this project – the shrinkage and ageing of populations can have a negative impact on the number of business start-ups in a region. This aspect will be more closely covered in the following section of the chapter.

Additional changes in the structure of consumer goods demand are to be expected – shifts towards "old-age-specific" goods – though a number of available studies (Lehmann (2004) show that, on the whole, these are likely to be of little importance. Nonetheless, these effects may have quite notable effects for individual, highly specialised branches.

[5] For more details, see Ragnitz et al. (2007).

This short survey of possible impacts indicates that the demographic development in eastern Germany and its regions will very likely have unfavourable repercussions on further economic development. In fact, a number of studies deal explicitly with the consequences of population shrinkage and ageing for the future economic growth in eastern Germany. They arrive at pessimistic assessments. For example, Ragnitz et al. (2007) came to the conclusion that, under certain assumptions about the development of productivity and the employment rate, the shrinking potential of employable persons will lead to a low growth in real gross domestic product of just 1.3% per annum through 2020. As a result of the parallel decrease in the total number of inhabitants, the GDP per inhabitant would grow by 2%, but the convergence process vis-à-vis the West would further slow down. In a computed projection based on a growth-accounting approach, Deutsch et al. (2004) have found that the per capita GDP, currently two-thirds of the western German 2002 level, would go down by 2020 to less than 60% as a result of demographic development. It is obvious that these negative trends in regions with particularly marked population decrease will be much more pronounced. This finding also suggests that, under regionally differentiated scrutiny, the convergence process will in the future make little progress.

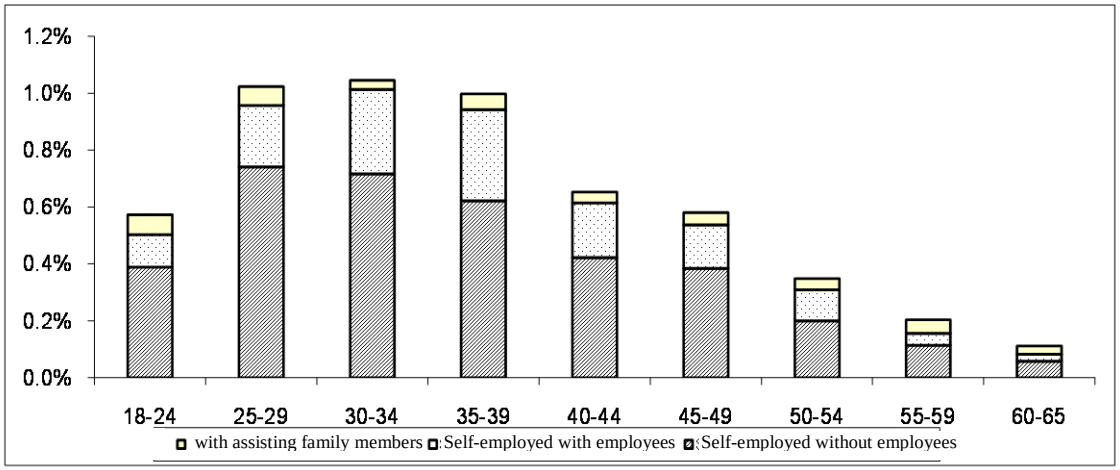
Consequences of demographic development on business start-up activities

As already mentioned in the preceding section, the demographic development is very likely to negatively impact the number of future business start-ups. Here, several channels of action must be distinguished. On the one hand, it is to be expected that ageing and shrinkage of the potential workforce will directly result in a reduced number of individuals willing and able to start a business, because a business start-up typically takes place at the beginning of a working life. On the other hand, demographic trends also modify the economic framework conditions under which new businesses are started. This section will empirically investigate these direct and indirect relationships.[6]

Although business foundation research no longer focuses primarily on the individual involved with the actual business start-up, the individual features of business founders are still attributed considerable influence. In particular, the important characteristics relevant in the demographic context, i.e. age and gender, but also marital status, have repeatedly been identified as significant factors of influence (KfW (2004). An evaluation of the 2002 micro-census has revealed that, especially in the generation of the 25- to 39-year-olds, the likelihood of business foundation is above average. In the older cohorts aged 54 plus, business start-ups do not occur in noteworthy numbers (see Figure 4). Regression estimates further show that, aside from age, a number of additional individual factors (gender, nationality, marital status), the business founders' level of qualification and social environment parameters (community size, quota of self-employed persons in the respective federal state) play a substantial role (Ragnitz et al (2007) p. 83ff). A U-shaped course of business foundation tendency can be derived from the regression estimates, with the highest probability of foundation at 32.6 years. Beyond the age of 45, this tendency was found to fall again below that of 20-year-olds. The founders of businesses of the secondary sector have proved to be markedly older than those of service-rendering firms.

[6] The results presented in the following chapter are based on preliminary work done in a study conducted for the Federal Ministry of Economics and Technology. See Ragnitz et. al. (2007).

Figure 4. Age-specific retes of business foundation - grouped according to kind of self-employment



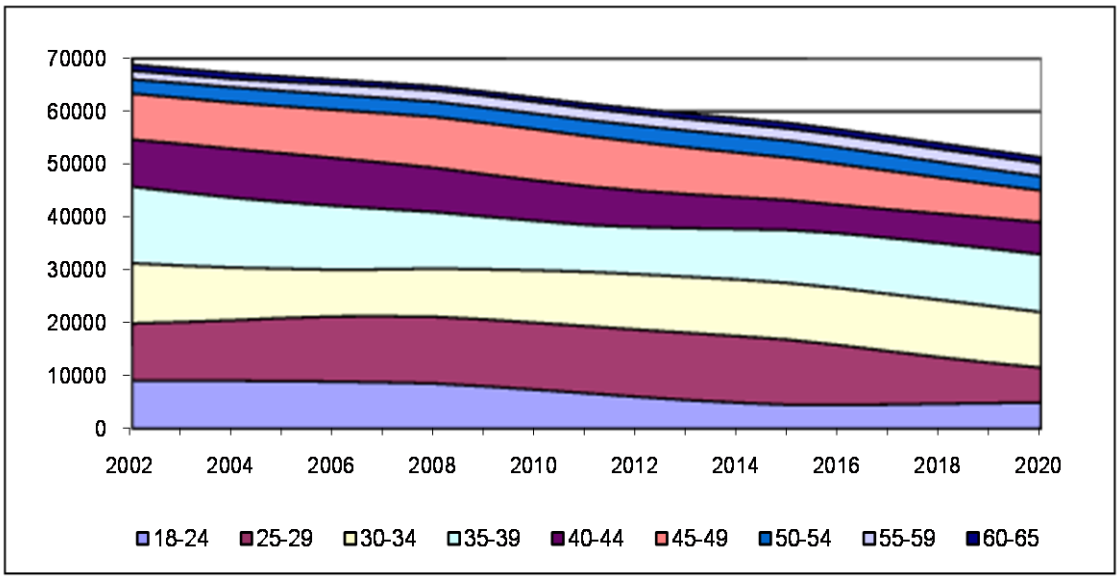
Source: Ragnitz et al. (2007)

There are several intuitive explanations for the decreasing propensity to business foundation with increasing age. Certainly an essential aspect is individual life style, i.e. the choice between self-employed and employed occupation, whose basic features have to be decided near the beginning of a person's working life. Furthermore, growing age and social ties tend to diminish both spatial and professional mobility, making it harder for individuals to leave a professional career once chosen. In addition to psychological factors, economic reasons play a role here because possible seniority components in payment increase the opportunity costs of business foundation for older employees. The devaluation of the human capital may play another decisive role. On average, the vocational or professional education of older persons dates back quite long time so that business start-ups are more unlikely, especially in knowledge-intensive sectors. Also, the proportion of specific knowledge in individual human capital increases with growing age; this knowledge would be devalued in part by changing profession, i.e. also after a business start-up. This also increases the opportunity costs of founding a business. Finally, the willingness of older persons to take risks tends to decrease because the time available to build up a risk-bearing fortune in a business start-up falls in proportion the founder's rising age. What is more: Young people becoming self-employed face fewer credit restrictions because the cash value of their future income and hence of their attachable assets is *ceteris paribus* higher than with older persons.

Assuming that the start-up rates found in the micro-census will remain unchanged over the next few years – which implies that demographic development does not modify the framework conditions for business start-ups – a shift-share analysis could be used to estimate the number of future business foundations.[7] This calculation makes it possible to estimate how the number of business foundations will change solely due to demographic influence (varying magnitude of change in the sizes of the individual age cohorts). As shown in Fig. 5, after the year 2020 the number of new self-employed persons will go down by 25% in the eastern part of Germany. This trend will particularly affect Brandenburg and Mecklenburg-Western Pomerania, whilst Berlin would sustain only a slight decrease in business foundations.

[7] As already mentioned, it cannot be ruled out that the propensity to found businesses in the population as a whole also decreases because the willingness to migrate is higher among potential business founders. However, no empirical results are available on this particular aspect.

Figure 5. Evolution of business start-up numbers through 2020 - Results of a shift-share analysis



Source: Ragnitz et al. (2007)

A breakdown of individual demographic effects shows that most of the decline in business foundation numbers through 2020 is attributable to population shrinkage in eastern Germany. This factor alone accounts for 17% of the decrease in start-up numbers. Ageing, i.e. shifts in age structure, will cause only about 8% of the decline.

The decision to become self-employed, however, does not depend entirely on the individual characteristics of the potential business founder. Essentially, the decision is also governed by the respective regional conditions of supply and demand. Consequently, demographic development may directly influence the start-up activity not only via the supply of suitable founding individuals, but also via the demographically conditioned changes in economic framework conditions.

Because a shrinking population also causes a region's demand for goods to decline, the conditions are likely to deteriorate for business foundations in sectors producing primarily non-tradable goods. This will affect specifically the (household-related) service sector, as well as locally orientated skilled trades. For the production of tradable goods, on the other hand, it is rather the conditions on the supply side and hence the availability of manpower, human capital and know-how that would prove relevant. A good human capital endowment should have as beneficial an impact on business start-ups as do moderate wage levels. But these factors will also tend to deteriorate due to demographic development.

Econometric estimates confirm these considerations. In addition to population density, the amount of disposable income in a region, particularly in eastern Germany, has a significant influence on the number of business start-ups, especially locally focused small firms. Furthermore, the accessibility of a region has proved to greatly influence the number of business foundations. Peripheral regions show significantly lower business foundation rates. This is in agreement with the generally accepted idea that a privileged location and infra-structural linkage constitute major site factors enhancing start-ups.

All in all, it is quite likely that start-up activities will sensibly decline specifically in regions affected very heavily by demographic change. But it cannot be ruled out that an age-induced structural change might lead to a start-up impetus in certain branches (e.g. health-care and recreational services).

A decreasing number of business foundations can trigger negative impulses for further economic development in the 'new Länder'. Business start-ups are important firstly for securing the entrepreneurial stock because, for age reasons alone, quite a number of firms will have to close down in future. The big wave of business foundings in eastern Germany dates back to the 1990-1992 period. Under the assumption that the great majority of the business founders of that time will retire over the coming years, the lower number of potentially self-employed persons will result in considerable business succession problems (see Berlemann et al., 2007). Secondly, business start-ups are vital for the renewal of the technological basis of a national economy and for the implementation of innovative ideas. If for demographic reasons the number of business foundations declines, the technological basis for increased economic growth will also slow down. Both considerations suggest that much attention must be given to policies to improve the framework conditions for business start-ups also in future.

Areas for policy intervention

The question arises whether and how economic policy should respond to the dampened prospects of convergence for the eastern German economy by taking specific measures. The "whether" is by no means trivial here; there are in Europe and the world over many examples of economic policy practices that have accepted or even actively fostered the emptying and thus economic weakening of fairly extensive areas of a territory. Apart from that, there are examples of traditionally industrialised regions where after several years or even decades endogenous potentials have developed a new, thus contributing to rising prosperity again. Precisely because the distances between the peripheral regions in eastern Germany and the economic centres in the 'new Länder' themselves and in western Germany and the neighbouring countries are not very great, relinquishing a balancing regional policy might place only small adjustment burdens on the affected population.

However, the idea of an "equalisation of living conditions" that characterises German (and increasingly also European) regional policies speaks in favour of policy-makers taking regional political measures also in future with the aim of balancing out regional divergences. Thus, the question "whether" to implement regional balancing-out policies is a rather academic one. It would be better to consider which measures would be best designed to enhance a more promising development above all in the peripheral regions.

The strategy pursued so far in regional policies (in addition to supplementary steps in social policies) focused primarily on investment assistance for enterprises, as well as on support for regional investment activities. There is now an increasing shift of priorities in favour of innovation support. Indeed, this has much to recommend it, because the capital stock in existing companies has meanwhile been largely modernised and brought into line with the western German capital intensities. It is only with a view to creating additional jobs that investment supports are still justified. This is also the reason why Germany's federal government and most eastern German Länder have meanwhile linked the granting of investment supports and allowances to the condition that new jobs are created. Innovation support, on the other hand, is targeted directly at boosting the competitiveness of existing companies. In this way, it can contribute, more strongly than pure investment support, to the stabilisation of the existing entrepreneurial basis. When used as a regional economic instrument innovation support can be increasingly applied broadly, i.e. not remain restricted to only certain technology sectors. This has helped enhance innovation activities also in sectors other than the typical high-tech sphere and thus strengthened the regional economic structure. This is particularly reflected in support programmes funded by the Federal Ministry of Education and Research (BMBF), which,

under the heading "Enterprise Region", have chosen an explicitly regional approach for their various programme priorities, largely irrespective of technological considerations. In line with this, innovative schemes for the service and tourism sectors, for example, are likewise regarded as eligible for subsidies.

The stronger emphasis placed on innovation support (whilst maintaining selected investment support programmes) may likewise be seen as a mean to stabilise already existing companies. Although in a market economy it has to be accepted that uncompetitive enterprises disappear from the market; but in the view of the companies with a frequently still insufficient equity capital base and due to imperfections of the credit markets, especially for innovation financing, the State, too, can justifiably practice a kind of "stock maintenance". But this must not lead to the prevention of inevitable clearance processes. This can be furthered by allotting more funds in the form of loans (in place of lost grants).

The basic orientation of the support policies for the ‘new Länder’ outlined here should be maintained also in future. In principle, however, a more stringent selectivity should be practised, both technologically and regionally. Support funds should, where possible, be concentrated on those of a region’s branches that are capable of development in order to attain sustainable effects for further economic development. In particular, actual and potential growth poles should be kept in mind.

Whether this will suffice to prevent the likely erosion of the economic basis precisely in the peripheral regions, is uncertain. Rather, there is much to be said for exerting effort on settling existing outside enterprises and founding new enterprises. But since it appears illusory to induce internationally active big corporations to opt for a business location in these regions by granting settlement supports, it will be necessary to rely on strengthening endogenous start-up potentials. Settlement supports – which do have their justification – should rather be concentrated, above all, on agglomeration areas, with a view to allowing them to turn into genuine "growth poles" with corresponding spill-over effects.

As elucidated in section 4, the expansion of the entrepreneurial basis through business start-ups is hampered by the expected demographic development. It does not appear to be reasonable to counteract this trend by taking measures in population policies. To the degree that these would be geared to change reproductive behaviour by means of incentives, they are likely to have long-term effects only. To the degree that they aim to improve social living conditions in regions affected by out-migration, this approach fails to perceive the usually decisive cause for migrations movements, namely the lack of jobs and thus of opportunities and prospects in the region. A stabilisation of the economic development is therefore urgently needed, also bearing in mind the demographic development.

Nonetheless, the unfavourable influence of population shrinkage can and should be counteracted in various ways among the younger cohorts with regard to business start-up activities in individual regions, this being, in principle, applicable to the whole of Germany. Firstly, self-employment as an alternative to employed occupation needs to be encouraged to a greater degree. This should presumably be started in the schools, since many teachers – notably in eastern Germany – tend to convey to their pupils a negatively distorted image of the entrepreneur. At universities, too, self-employment should be promoted and taught by imparting the respective notions, and not only in courses in business administration. A second approach would be to reduce the risks of business foundation especially for older persons. This could, for example, include a state insurance option under which business founders would be allowed to acquire unemployment benefit claims by paying low (or income-related) contributions. Beyond that, it seems important especially for older business founders to have access to appropriate counselling offers; if necessary, these should be government-subsidised.

Finally, it is certainly necessary to continue using the existing instruments of start-up financing. In doing so, care should be taken that the house bank principle is not abused to demand excessive conditions of credit worthiness or proven sustainability of a start-up venture. In such cases, loans (from revolving funds) should be increasingly granted. In terms of incentive (repayment obligations) and equity capital substituting (improved credit worthiness) effects, these are better than business promotion by means of "lost grants". Such a practice would also counteract the foreseeable reduction of the available volume of support funds.

A potential hitherto inadequately utilised for founding enterprise lies in hiving-offs (spin-offs) from universities and research institutions, on the one hand, and big corporations engaged in research, on the other. Typically, these are not located in the peripheral regions, but an increased number of hiving-offs could help overcome the structural weakness of the eastern German agglomeration areas and contribute, in the medium or longer term, to the latter's function as growth poles spilling over into the peripheral area. In addition to the aforementioned incentives for a stronger shift to self-employment, facilitating career moves from research institutions to business companies and vice versa could be helpful.

Despite all this, of course, it must be borne in mind that, under conditions of shrinking populations, the founding of enterprises will be able to make strong contributions to regional development only if they are not primarily targeted at local demand but designed to access supra-regional markets. In this case, dependence on local demand, which is only weakly increasing in eastern Germany, becomes irrelevant because incomes can be attracted from outside. Measures to support business start-ups should bear in mind this structural effect by applying graded support rates.

In view of the demographically caused lack of skilled labour, it still seems reasonable to increase investments in the education system. Currently a disproportionate number of pupils leave school without any certificate. This is due not only to the relatively large number of people in the 'new Länder' who are not interested in education, but also to a lack of individual fostering for pupils with learning problems. In addition, the inclination of young people in eastern Germany to pass on to the university is markedly lower than in western Germany. Correspondingly, policies are required that would improve all levels of the education system. This would include lowering the average age of the teaching staff at schools, a revision of the curricula and the creation of attractive conditions at schools. Nor should the further education of employed persons be neglected; in comparison to the other European countries, Germany as a whole reveals relatively low further-education ratios, especially in persons of 50 years and over. Policy-makers are gradually becoming aware of the need for change, but the need for action is especially urgent in eastern Germany.

All in all, it is necessary to involve the regional actors in the elaboration of regional development strategies, particularly in the peripheral regions with a communist East Germany legacy, where a basic attitude of passivity often predominates and people often rely on impulses "from above". Precisely in places where committed segments of the population have meanwhile emigrated, this mental obstacle hindering the improvement of the economic situation should not be underestimated. It can only be overcome by enlightening the public and fostering civic commitment. To this effect, all relevant stakeholders at the regional level have to be involved, i.e. the local community administration, the region's entrepreneurship and civil society institutions. It might be helpful if additional freedom for entrepreneurial engagement can be created at the regional level by lifting centrally imposed standards.

In this context, it should be emphasised that networking among local actors is often still insufficiently developed in the peripheral regions. Where initiatives of this kind do not emerge from local impetus, they should be also fostered by federal or federal state measures, for example by means of temporarily funding paid network managers. The use of "business angels" may be helpful.

Even if these policy measures are implemented, it is unrealistic to assume that the consequences of the regionally differentiated demographic development and the divergence of regional site conditions can be completely overcome, i.e. that an overall balanced economic development can be achieved. Rather, it must be expected that a number of eastern German regions will lag behind for a long time. As public monies dwindle, no attempt should be made to counteract this trend by providing more support funds. Should individual regions lastingly empty out, this can even be seen as an ecologically beneficial development. It therefore appears time to re-interpret the principle of "equality of living conditions" and to shape regionally differentiated minimum standards of general public services.

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FOSTERING ENTREPRENEURSHIP IN EAST GERMANY: MULTI-LEVEL GOVERNANCE IN A TRANSITIONAL ECONOMY

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Introduction

The key to promoting a place is a comprehensive knowledge and understanding of policies and strategies which successfully contribute to economic development. Whereas the story of economic development has often been the story of a nation-state, the unit of analysis has shifted to the sub-national local level during recent years. Successful national "models" of development have been studied extensively, and national policy prescriptions and recommendations have been drawn up for less successful nations (i.e., Reynolds et al 2003). Nonetheless, it is mostly a matter of specific regions lagging behind the rest of a nation and a matter of specific regions within a nation developing successfully. In this context, it is also the matter of a specific policy mix, which is appropriate to promoting a region's economic development. This leads to one of the core question of spatial economic development: Why do some regions take the lead while others lag behind? This question has not been answered yet due to a lack of regional case studies and due to an absence of understanding and analyses of which policies and strategies contribute to economic development at the local level. There is still an increased risk that existent strategies favourable to nation-states are interchangeably used at the national and local levels, and that the meaning and differences that lie behind them are not understood thoroughly. In addition, there is a rising tendency to transfer policies across nations and sub-national economies that seem to contribute to economic development at one place but may not have any impact on another place due to historical, cultural and institutional peculiarities which might differ greatly from one another. Clearly, there is no one-size-fits-all-solution. Each place - a nation, region or city - has to develop an optimal policy mix based on individual historical, cultural, social, economic and political experiences. In this context, the OECD LEED study "Perspectives on Strengthening Entrepreneurship in East Germany" provides fresh evidence on policies and programmes which have been designed and implemented in the East German regions to promote economic development and entrepreneurship. The study focuses on six regional cases and the specific policy delivery arrangements within them. It focuses on entrepreneurship policy which has been acknowledged as one major force for economic development and job creation by academics and policy-makers alike.

The European-level policy and strategy making is relevant to entrepreneurship development in member states, both at a national and sub-national level. During the 2000-2006 EU programme period, various cohesion policy instruments – primarily the Structural Funds – were created to implement the so-called Lisbon Strategy (Audretsch & Grimm 2005). With the Lisbon Strategy and mandate, the European Commission committed itself to promote entrepreneurship as a major driver of innovation, competitiveness and growth from 2000 onwards. Armed with this new European policy mandate and approach for generating economic growth and job creation, the Lisbon European Council devised a comprehensive strategy to increase the competitiveness of the European Union's (EU) member states and to achieve sustainable growth. In 2000, the Lisbon European Council set a clear strategic goal for the European Union "to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion"

(European Council 2000). Along with the European integration process, a new framework for policy-making has been developed by the European Commission from the year 2000 onwards including a new encompassing strategy to spur entrepreneurship across European nations and regions. This contributed to the design and implementation of entrepreneurship policies and programmes at the national and local levels. All those frameworks which have been developed in Europe with the start of the new millennium have one goal in common: to improve the environmental conditions for entrepreneurs. Against this background, it is important to shed light on the evolution of the new European growth strategy as formulated by the Lisbon European Council to better understand how the new European growth policy became translated into a development strategy with a central role of entrepreneurship. The central role of entrepreneurship policy as a strategy for economic development is certainly consistent with the European growth policy. The broad sweep of the Lisbon mandate to reinvigorate European growth by creating an entrepreneurial Europe must involve local implementation.

Along with the unification process, six new federal states (in the following referred to as *Länder)* were integrated into the jurisdiction of the Federal Republic of Germany. The federal government budgeted for a huge financial transfer to the former East Germany in order to achieve equal living standards and similar public services within the five new federal states. Due to this transfer and process, the role of the federal government greatly increased, as did its centralist tendencies. These centralist developments within Germany took place contrary to a regionalisation process within Europe that was accelerated by the European integration (Burgess and Gagnon 1993). Economic transformation and entrepreneurship development in the East German *Länder* was made possible because of the above-mentioned financial transfers, which have been supplemented by the European Union. Over the period 2000-2006, EUR 226 billion were invested in the so-called Objective 1 regions across Germany, including the East German *Länder.* Within six years, Germany received EUR 32.2 billion primarily targeted to transform the East German *Länder*. Socio-economic and political transformation became reality due to such impressive financial transfer as well as new (entrepreneurship) policies designed and implemented at *Land* and local levels in East Germany. It has to be kept in mind that the former socialist states in transition have different developmental goals than other German creative hubs such as Munich (Bavaria) or Stuttgart (Baden Wuerttemberg) as well as different environmental conditions. The developmental goal is rather to establish the fundamentals for a future sustainable development than to compete with the "giants". The major developmental goal of the above-mentioned regions can be paraphrased as achieving an economic and sustainable basis for competing in a global market economy while facing considerable challenges like out-migration resulting in a "long-run competitive disadvantage" (Camagni 2002).

It is interesting to observe that all German governments elected since 2002, have intensified the implementation of so-called new entrepreneurship policies to induce economic growth in the new and old German *Länder*. With a wide range of new programmes and initiatives, policy-makers aim at improving the entrepreneurial environment for start-ups and small and medium-sized enterprises (SMEs). Numerous public programmes for the promotion of start-ups were designed and initiated after evidence had accumulated suggesting that national, regional, and local growth is strongly correlated with a significant yearly increase in the number of new companies, and a significant turnover rate of old and new firms (Audretsch and Fritsch 1992; Sternberg, Otten and Tamásy 2000; Sternberg and Bergmann 2002; Reynolds et al 2001; Reynolds and Storey 1994). In other words, all German political parties have more or less widely accepted the view that economic growth is interdependently correlated with a favourable entrepreneurial environment and see it as a major task to implement new policies to promote start-ups and entrepreneurs. Undoubtedly, these federal initiatives are a step in the right direction. According to recent research findings and data, we know that local policies for the promotion of new firms are important growth issues. They are universally important (although the design and focus of such promotional policies might differ substantially across regions and nations),

and they are assumed to be contributors to regional economic development (Audretsch 2002; Lall and Yilmaz 2001). In Germany, the *Länder* [states], districts and municipalities have successfully worked out regional and local image-campaigns, strategies and policies for the promotion of start-ups and for new firms to compete inter-regionally and, in a global context, with places and metropolitan areas around the world. The support of "local heroes", understood as new, innovative, mostly small firms and self-employed individuals, has become an important growth issue. Local heroes have successfully created jobs, occupied innovative niches and adapted flexibly to a constantly changing, global environment (Audretsch, Grimm and Wessner 2005).

There has also been significant activity at the local level to improve the entrepreneurial framework. Local policies become more and more important in a global world in which cities and regions compete for investors, on the one hand, and consumers, on the other. The "strategic management of places" (Audretsch 2003: 20) is becoming a major task for local policy-makers who need to strongly promote their region or city. Local policy-makers know best how to promote their locality in an optimal fashion. Federal policies offer an important and useful framework for the promotion of start-ups and SMEs, but the main impetus for the promotion of economic growth – which has been proven to be regional process – is expected to derive from local policies (Feldman 2001; Bonser and Audretsch 2001; Ohmae 1995; Taylor 2002). Although the role of local and regional policies for the promotion of a so-called entrepreneurially friendly environment has increased, the capacity of local policy-makers to shape the entrepreneurial environment with new entrepreneurship policies has decreased during recent years. According to criticism expressed by researchers and policy-makers alike, a gradual weakening of the German federal states has taken place during the last 15 years, mainly due to European integration and the German re-unification process (Beyme 1993; Sturm 1997; Wagner 2004). Both processes have created several trends which hardly existed prior to 1990. Most importantly, they fostered the trend toward centralisation by allocating more and more fiscal and economic responsibility to Brussels (European level) and the federal government (national level), thereby diminishing the capacity to act politically and economically at the local level. It is important to understand the entrepreneurship delivery frameworks at federal and *Land* levels to find out whether the different frameworks at multi-levels provide a fruitful and comprehensive framework for local heroes to compete at the local level. In the following, the entrepreneurship policy delivery framework of three new German *Länder* - Thuringia, Saxony, and Saxony-Anhalt - as well as three municipalities within these three states will be elaborated upon with the goal of pinpointing the entrepreneurship policies which have been transferred, integrated and developed in Thuringia, Saxony and Saxony-Anhalt after the declaration of the Lisbon Agenda to improve existing environmental conditions.

This chapter is structured as follows. In section 2, the meaning of the term "entrepreneurial economy" is discussed to develop a better understanding of why entrepreneurship policy became so important throughout the last decade for promoting economic development and how European and other developed economies have changed over the last decade from a managed to an entrepreneurial economy. Section 3 looks closer at the different levels of governance involved in entrepreneurship development, the rise of entrepreneurship as the critical force in driving industrialised economies, and in section 4, overall conclusions and policy recommendations are presented.

What is an entrepreneurial economy?

The United States' present growth and prosperity originates from the re-enforcement of entrepreneurship and innovation – both themes of the American economy. In recent decades, this meant a transition away from a managed economy and into an entrepreneurial economy (Audretsch 2007). Such a "new" entrepreneurial economy is strongly characterised and driven by change and innovation resulting in a high degree of turbulence, measured by an increase of firm entries and exits,

as well as diversity (Audretsch, Keilbach & Lehmann 2006). Both higher turbulence and diversity have been coming along with the transformation toward "a more entrepreneurial form of capitalism" (Kauffman Foundation 2007) in the United States generated by a huge shift to self-employment, an increased contracting behaviour of large and established enterprises (primarily with the goal to reduce costs) and a rising demand for consulting. It is driven by agents of change who continuously search, create and implement new products, product quality, methods of production, methods of organisation and management (Schumpeter 1946; 1952). The entrepreneurial economy of the 21st century is demand- and market-driven on a global scale and, therefore, dependent on a continuous innovation process which, in turn, generates jobs, new knowledge and new competence. Entrepreneurial activity and innovation became the key drivers for a national, highly industrialised economy to grow.

If economic growth requires continued entrepreneurial activity and innovation – and this is common sense in academia - policy-makers have the task of setting the basic conditions for innovative production and creative behaviour. These conditions - an intellectual framework and cultural environment for creative work, low barriers to business registration (the cost and time to formally register a business), flexible labour markets or patent laws which promote the commercialisation of innovative ideas - differ fundamentally from the conditions we are familiar with from the 20th century. In Germany, the so-called *Ordnungspolitik* promoted the active involvement of the state in economic and market affairs. The ordoliberal foundations of the Social Market Economy which characterised Germany's economy in the second half of the 20th century , were developed by the economist Alfred Müller-Armack in 1947 (Müller-Armack 1948). His plan refers to an economic and political order based on a market economy but strengthened with institutionalised social complements (to limit the negative consequences of a free market economy), and with legislative instruments (to fight economic concentration and the misuse of power) (Broyer 1996). This idea is largely based on the "Freiburg School" (Rieter and Schmolz 1993).

The ordoliberal foundations of the Social Market Economy contributed successfully to a regulatory and policy framework which supported primarily large companies which dominated the German economy from the 1950s through the 1980s. Since research has shown that neither large companies (as was supposed in the post-war period), nor small companies are mainly responsible for job creation, but instead most jobs come from new and innovative companies, regardless of their size, entrepreneurship policies have been on the rise (Birch 1981; 1987; Acs & Audretsch 1992; Reynolds & Storey 1994; Audretsch, Grimm & Wessner 2005). Hence, policy makers and government administrators should aim to create a regulatory framework conducive to creative, independent start-ups and innovative minds.

Therefore, we should first answer the question: *What is an entrepreneurial economy?* Second, we must understand how an entrepreneurial economy differs from the previously described managed society in order to better assess whether policy makers have developed the right framework to support development of an entrepreneurial society in Germany. It is worth considering American economic history to answer this question, because America's allure to innovative, freedom-loving people is as old as the United States of America itself. The attraction of entrepreneurial minds to America is based on extraordinary micro- and macro-social conditions for entrepreneurial activity (Audretsch & Grimm 2005; Grimm 2005). The country's heritage speaks mainly of exceptional people with a pioneering, innovative drive. US economic policy is characterised by classic economic liberalism – theoretically discussed by its most prominent proponent, Adam Smith. This economic policy plays a crucial role in American everyday life and applies a simple regulatory scheme: it requires individual responsibility and initiative, and market freedom and voluntary restraint by the state. Statutory regulations must not hinder the individual from improving his financial situation. Social welfare may not paralyse his motivation and business activities. The tasks of the government are restricted to law and order, and protecting society from outside enemies. There is hardly any other country in the world where this

message fell on such fertile ground as in the US, and this message contributed greatly to the smooth transformation from a managed economy to a highly entrepreneurial economy in the late 1980s and 1990s.

This leads us to the question: what is an entrepreneurial economy at the beginning of the 21st century? Why and to what extent does it differ from the economies of previous decades and centuries?

The children of the new entrepreneurial economy live in a world that has changed drastically (Audretsch & Thurik 2000; Audretsch & Thurik 2002; Uhlaner & Thurik 2004). The re-emergence of entrepreneurship and the shift from a market economy to an entrepreneurial economy accelerated during the last twenty years due to a globalisation process which differs greatly from globalisation processes of the past. The term "globalisation" is used to refer to a worldwide, principally economic integration, which puts national economies under pressure to take action and compels them to adapt. The renaissance of the term globalisation since the late 1980s can be traced back to at least two radical events and trends, which led to a qualitative leap in the internationalisation of economic affairs:

First, the dramatic development of computers and information technology enabled a new style of globally interlinked production, engineering, logistics, and worldwide financial transactions, completed in a matter of seconds, and instant price comparisons, creating intensified price competition.

Second, the collapse of socialism in East Germany, Central and Eastern Europe, acccompanied by the transition from a predominantly politically-defined competition between systems (market economy and socialism) to a predominantly economically-defined location-related competition between nearly all the world's economies. Almost immediately, this competition also gripped regions and cities around the world, which were competing more intensely than ever before for mobile capital and innovative, highly-qualified workers.

These technological and political changes were accompanied by increasing pressure on locational politics. Research shows that the external environment is crucial for encouraging entrepreneurship that leads to growth and development. There is a high demand for modern, competitive ideas for national, regional and local public policies, which not only differ from each other substantially but which may even compete with each other (Porter 2000; Porter & Stern 2001). The "strategic management of places" (Audretsch 2005: 20) is taking place on different geographical levels, whereby a particular challenge lies in meeting the global challenges with local measures tailored to regions. Innovation and growth processes, as Feldman and Audretsch demonstrate in their research, are also determined locally (Audretsch & Feldman 1996). In his latest publication, David Audretsch underscores that the "world is not flat" as Thomas Friedman states (Friedman 2005) and that places will prosper only if local heroes take initiative and responsibility (Audretsch 2007). He refers to the fact that places all around the world need to develop their own concepts and compete for the establishment of new businesses and creative minds. Since locations are characterised by differing profiles, histories and stages of development, policy makers cannot fall back on a one-size-fits-all-regions strategy, but must instead develop locally-driven strategies in order to make their locality attractive and competitive (Grimm 2005).

According to Richard Florida, the development of places is primarily a question of recruiting highly-qualified, creative human capital: in the more highly developed countries it is less a question of attracting investment capital than of creating attractive living conditions for innovative and creative human capital. For Florida, the secret recipe for the promotion of "hot spots" is neither low costs for doing business nor low real-estate prices. Technology, tolerance and talent are the drivers of innovative places which are optimally characterised of for creative minds, for different and like-

minded people, and for the innovative elite from America and abroad (Florida 2002). According to Florida, economically assessable variables such as low tax rates, low work costs, and little regulation are of decreasing importance for the attractiveness of places.

There are further characteristics of a fruitful environment which supports entrepreneurial activity. Above all, there must be acceptance for people who are willing to realise visions, dreams and ideas and to strive for the apparently unattainable. The courage to take risks and a high degree of personal responsibility is held in high esteem by the American public (Leipold 2000: 32; Grimm & Herz 2004). The opportunity to take risks is extremely important in an innovative, fast-changing economy. This implies that failure rather than success might be the outcome of an entrepreneurial endeavour. Tolerance for failing and providing opportunities to turn failures into successes therefore play a crucial role when it comes to designing a policy framework for entrepreneurs. John Haltiwanger provides fresh data showing that "creative destruction" – meaning a high turnover rate of new but also dying firms which is one characteristic of an entrepreneurial economy – is conducive to economic growth (Haltiwanger 2006). Using the tabulations of a few longitudinal data sets, Haltiwanger shows that job creation in the United States is mainly generated by new and young firms. He emphasizes that, at the same time, these job-creating young firms are very volatile and often tend to fail. In other words, the idea that new young businesses create many new jobs is valid, but the jobs are not permanent; in other words, job security is not guaranteed. This again shows the differences between the market economy and the entrepreneurial economy. The idea that everyone can have stability in their lives – which dominated attitudes during the post World War II period until the 1970s – no longer works. Post-modern globalisation has accelerated at high speed.

In Germany, we can observe a fixation of the reform discussions on the labour market as the basis of all evil and the cause of meagre economic growth, and it needs to be questioned whether these discussions result in the right response to globalisation. Many countries such as Germany but also France or Italy fail to address the real problem, according to economists such as the Nobel Prize nominee Paul Romer and other prominent colleagues such as Robert Lucas, David Audretsch and Richard Florida, who number among the exponents of the new growth theory. In their opinion, the key to quick and lasting growth lies in the discovery of new ideas: the new knowledge created by an economic entity generates "spill-overs"; in other words, it boosts the productivity of other economic entities (Lucas 1988; Romer 1986). With the emerging role of economic knowledge as the source of competitive advantage, Germany seemed to be well-positioned as a global leader in investments in new knowledge, such as research and development (R&D) and human capital. However in what has become referred to as the Swedish or European Paradox, it became clear that investments in knowledge may be necessary but they are not sufficient to guarantee economic growth and employment generation (Audretsch, Keilbach & Lehmann 2006). Instead, the existence of a knowledge filter impeded the commercialisation and spill-over of investments in new knowledge. This missing link between investments in knowledge and the spill-over and commercialisation of that knowledge is entrepreneurship (Audretsch & Keilbach 2004).

By pinpointing the most crucial variables it becomes evident that raising the spirit of entrepreneurship to release individuality, creativity and the talent of human individuals is of major importance for the competitiveness of places in a global economy. Consequently policy makers and government administrators face the task of developing a policy framework which supports risk-taking entrepreneurs and can finally lead to dynamic economic, social and cultural change (Aernoudt 2003: 5-6).

Policy design and delivery in a multi-level governance system

The European level

After decades of stable economic growth, low unemployment and general prosperity, the 1990s brought economic stagnation and unemployment rates to Europe that had not been seen since World War II. As a result, the European Union had to devise a new strategy to spur economic growth, create jobs and reduce unemployment. Entrepreneurship emerged as the focal point of European growth policy because of the increased evidence suggesting that new and small firms serve as the missing link to economic growth and employment creation (Audretsch & Thurik 2000; Audretsch & Keilbach 2004; Audretsch, Keilbach & Lehmann 2006; Audretsch, Grimm & Wessner 2005; Haltiwanger 2006). With the so-called Lisbon Agenda the European Commission agreed on a new approach to addressing global socio-economic challenges. After pursuing economic and industrial policies which strongly supported clear target groups, such as large enterprises in the 1950s, 1960s and most of the 1970s, and small and medium-sized enterprises (SMEs) in the 1980s and 1990s, the EU strategy changed dramatically at the end of the 1990s, influenced by the rise of the New Economy (Birch 1981; Acs & Audretsch 1992; Gilbert, Audretsch & McDougall 2004; Rutten & Boekema 2005). The successes of many new entrepreneurs, that captured both markets and stock markets, led to the impression that entrepreneurship is the key to unlocking economic growth by promoting new, innovative start-ups which will be able to provide jobs and competitive products and services.

The re-emergence of entrepreneurship and the shift from a market economy to an entrepreneurial economy accelerated during the past twenty years due to a post-modern globalisation process (Audretsch 2007). The United States successfully responded to this acceleration, as documented by formidable economic data, including a higher rate of innovation, measured for example by output of patents and by higher expenditures in research and development (R&D) amounting to 3.15% of the US GDP in 2005 (Brécard et al. 2006). Within the European Union, only 1.9% of GDP was invested in R&D during the same year. In 2005, the consultancy McKinsey published a study[8] which compared European competitiveness globally and pointed out that only 17% of the biggest high-tech enterprises worldwide are still located in Europe. The IT and software industries in particular are located in other – predominantly US and Asian – places while the *Standort Europe* remains in a critical state. Within the US and Asia, policy makers have succeeded in steadily improving the attractiveness of their locality and have attracted those global players who are the most innovative and who provide most of the jobs (Kauffman Foundation 2007: 6).

In response to such new and striking evidence, and the impressive US performance, the European Commission proposed the Lisbon Agenda, with the goal of becoming the most competitive and dynamic knowledge-based economy in the world. When the European Council met in Lisbon on March 23-24, 2000, it sent out a signal to anchor entrepreneurship in a comprehensive policy framework for an entrepreneurial European society. The Lisbon European Council concluded that Europe had to place a policy priority on creating knowledge infrastructure, spurring innovative activity and creating an educational system appropriate for the knowledge-based economy. Along with these priorities, SME policy shifted to entrepreneurship policy as the predominant engine for promoting innovation, growth and employment (Stevenson & Lundström 2005). An ambitious policy framework for the European Union was developed which strongly focused on innovation and entrepreneurship and encouraged financial allocations for research and development (R&D), infrastructure investments, and improvement of information technology skills.

[8] See http://www.mckinsey.de/presse/051115_bb_hightech.htm.

In 2003, the Commission updated the Union's approach with respect to the Lisbon Strategy and emphasised the importance of closely correlating innovation and entrepreneurship and demanding a stronger entrepreneurial orientation from private as well as public sectors (CEC 2003: 7-10). In 2005 – five years into its planned ten-year running time – the enthusiasm with which the Lisbon Agenda was introduced had vanished. Progress across the EU has been disappointing. In a "Commission Staff Working Document" published in 2005, leading policy makers in Brussels commented that "[…] [T]he growth performance of the EU has stayed far behind the expectations from the time launching of the Lisbon Strategy" (CEC 2005a: 2). In many arenas, competitors like the US have continued to strengthen their global economic lead. While other competitors such as China, India and Brazil which have high entrepreneurial potential (Reynolds et al. 2003) constantly improve the attractiveness of their *Standort*, the member states of the European Union still discuss and often disagree on the best way to improve the attractiveness and competitiveness of the EU, the best way to implement entrepreneurship policy and favourable framework conditions for enterprises at the state and regional level and how to promote individual entrepreneurial endeavours within the nation states of the EU. In this context, the Danish Technology Institute notes that the Lisbon Agenda as a policy framework suffers because "[t]he weakness of the Agenda is the weakness of its implementation mechanism" (Danish Technological Institute 2005: 4).

In reaction to this shortcoming, the new Barroso Commission tried to re-energise the Lisbon Agenda by focusing on the need to improve productivity and increase employment rates within the EU member states (CEC 2005b). The Commission strongly encourages national programmes of action, targeting the fact that strategy implementation depends on the nation states and, especially, the local levels within the nation states. Because the EU has failed to act promptly, local and regional initiatives within the EU have gained importance, as David Walburn of the EU Enterprise Policy Group (EPG) explains. "In the absence of major macro initiatives," Walbum notes, "a concentration on programmes that are delivered at the level of the local economy has the potential to make a significant contribution to realising the new Lisbon objectives" (Walburn 2005: 305).

Cohesion policy and Structural Funds contribute directly and indirectly to the six areas emphasised in the Lisbon strategy and its subsequent updates. The objectives of the Lisbon Strategy and those of the Structural Funds largely overlap. Economic growth is a shared objective, which in the case of the regional programmes suggests promoting the convergence of per capita GDP across European regions. The content of the programmes is consistent with the Lisbon mandate, thanks in part to the allocation of European Structural Funds to projects in employment, information technology infrastructure, research, human capital, enterprise development, social inclusion and sustainable development. The total of about EUR 257 billion used for structural instruments between 2000 and 2006 represented approximately 37% of the EU budget.

East German (entrepreneurship) policy making was and still is heavily dependent on financial aid from the Structural Funds. Entrepreneurship policy and delivery at the federal and *Länder* [state] level benefited largely from EU financial support resulting in Joint Tasks such as the so-called *Gemeinschaftsaufgabe Verbesserung der regionalen Wirtschaftsstruktur* [improvement of the regional economic structure] as well as the *Gemeinschaftsaufgabe zur Verbeserung der Agrastruktur und Küstenschutzes* [improvement of agrarian structure and coast security] delivered by the federal and state governments. In Thuringia, regional policies are, for instance, strongly related to and co-ordinated with European strategies. SMEs for example receive funding through the *Gemeinschaftsaufgabe Verbesserung der regionalen Wirtschaftsstruktur (GA)*" embedded in the *Landesinvestitionsprogramm* [State investment program] (*LIP)*, which is in turn partly funded by the European Regional Development Fund (ERDF) (Landesentwicklungsbericht Thüringen 2004). In addition, the Cohesion Fund and the Instrument for Structural Policies for Pre-Accession (ISPA) directly financed individual projects to improve the environment and develop transport networks.

Actors throughout the European Union are strongly encouraged to work together in regional networks to exchange good practices. These networks are often supported by EU cross border co-operation instruments that complement the Structural Funds, such as the Community initiatives. During the period 2000-2006, INTERREG III, URBAN II, EQUAL, and LEADER+ existed as Community initiatives.

For the period 2008-2013 all new German *Länder* will receive substantially less funding which will result in the need to evaluate existing policies, including entrepreneurship policy, to better focus on fewer and/or strongly targeted policy strategies in the future.

Table 1. EU structural funds New German Länder (without Berlin)

State /Promotional Period	In bn EUR 2000-2006	In bn EUR 2007-2013
Brandenburg	3.150	2.119
Mecklenburg-Western Pomerania	2.522	1.670
Saxony	4.930	3.963
Saxony-Anhalt	3.271	2.576
Thuringia	2.818	2.106
Total	**16.691**	**12.434**

Source: Federal Ministry of Economics 2007

With the start of the new promotional period 2007-2013, European cohesion policy, including Structural and Cohesion Funds, will be focused on the objectives of the Lisbon Strategy: growth and employment. The structure of the promotional aims has been redefined: "Convergence", "Regional Competitiveness and Employment" and "European Territorial Co-operation" now make up the agenda. In the new programming period, Germany is the fourth-largest recipient of structural funds. Around EUR 25 billion EUR will be available for all German regions between 2007 and 2013, the biggest amount after Poland, Spain and Italy. Of about 25 billion EUR in the current programming period, around 12.4 billion EUR will go to the new *Länder* (Thuringia will, for example, receive substantially less funding – 2.1 instead of 2.8 billion EUR – in the 2007-2013 period).[9]

For Germany, direct investments to firms and the facilitation of public-private partnerships are key elements in the new structural framework. The German Federal Minister of Economics, Michael Glos, aimed at enforcing the use of EU funds to promote direct investments by firms. Indeed, this would be of major importance especially for the promotion of new firms and young small and medium-sized businesses (SMEs). Initially the European Commission was not willing to support his initiative. But the Federal Minister finally succeeded in upholding an important and effective tool of regional promotion in disadvantaged regions or in regions with structural problems. Also, the implementation and support of new public-private partnerships has been very much pursued since Germany successfully negotiated to allow the use of private funds to co-finance projects. This new structural framework together with less EU funding for the new German *Länder* does have substantial implications for (entrepreneurship) policy making at the national and, above all, at the local level as is discussed below. Another innovation along these lines is the National Strategic Framework Plan, which in the future will be the general document for EU structural aid in Germany.[10]

[9] Data provided by the Federal Ministry of Economics. See downloads http://www.bmwi.de/BMWi/Redaktion/PDF/M-O/nsrp-strukturfoerderung-2007-2013,property=pdf,bereich=bmwi,sprache=de,rwb=true.pdf and http://www.bmwi.de/English/Navigation/European-policy/eu-council-presidency,did=202526.html.

[10] See http://www.bmwi.de/BMWi/Navigation/Europa/EU-Strukturpolitik/nationaler-strategie-rahmenplan-07-13.html (preliminary version from December 2007).

National level

Re-considering this complex, multi-level design and delivery scheme, it is no surprise that an innovation came along with the start of the new 2007-2013 programming period of European cohesion policy: the above-mentioned National Strategic Framework Plan. Within the next few years, this Plan will be the general document for EU structural aid in Germany. This policy tool was designed to integrate the national level into the multi-level governance of entrepreneurship and other policy making objectives. The new National Strategic Framework Plan for Germany focuses on the following strategic aims: innovation and expansion of the knowledge society and strengthening companies' competitiveness; increasing the attractiveness of regions to investors and inhabitants through sustained regional development; orienting the labour market to new challenges in creating more and better jobs; further developing the regions towards opportunities and balance.

An intense public debate is currently taking place in Germany on how to increase the nation's competitiveness on the global market. The main reform activities address the labour markets, welfare systems, and the corporate tax scheme. To return Germany to a sustainable growth path and to fight high unemployment, the federal government announced a comprehensive programme for structural reforms in March 2003, entitled "Agenda 2010". A number of measures have been implemented since then. In particular, the German parliament passed a law restructuring the unemployment benefit system, which also increases incentives to accept jobs. The health care system is also undergoing major reforms. The new government continues this path of reform in its main strands, although some adjustments to various measures are planned.

Strengthening research, innovation and education are considered the keys to the long-term competitiveness of the German economy. Consequently, these areas are a priority for the current government, and were at the centre of the National Reform Programme (NRP) published by the federal government in December 2005. Programmes and initiatives for the aid of innovative regions have been designed and implemented by applying a top-down approach – for example, the programme InnoRegio which is part of the so-called Entrepreneurial Regions initiative which aims to support an innovative *Standortpolitik* [regional development policy]. Other areas which are regarded as important for maintaining a strong economy include market liberalisation and strengthening competitiveness, improving conditions for entrepreneurial activities (including reducing bureaucracy and implementing tax cuts), achieving sustainability in public finances while completing German unification and sustaining social security, using ecological innovation as a source of competitiveness, and meeting the challenges of demographic change on labour markets (European Commission 2006).

The government's national development plan stresses the importance of entrepreneurship for the economy, and has set specific policies and development plans to identify and remove obstacles to entrepreneurial activities. Some of these policy objectives are embedded in other policy frameworks; for example, in SME policy and innovation policy. The central government has set specific targets for increasing the start-up rate, the level of entrepreneurial activity and the number of new businesses. A budget has also been allocated for entrepreneurship policy measures. The Ministry of Economics and Technology has a special administrative unit, primarily responsible for promoting SMEs and entrepreneurship. A special website was created to provide entrepreneurs with first-hand information on how to start a business (*Existenzgründungsportal*).[11] In other words, a virtual one-stop shop for entrepreneurs has been developed at the national level.

To a greater extent, a clear objective now exists to increase broad-based awareness of entrepreneurship and to promote an entrepreneurial culture. Government-sponsored events that profile

[11] For more information see http://www.existenzgruender.de/gruendungswerkstatt/index.php.

entrepreneurship and provide start-up information help advance these goals. In addition, the government in partnership with private sector organisations recognises entrepreneurs through national high-profile award programmes. Diversity (ethnic minorities, women, youth etc.) in entrepreneurship is recognised through awards granted at different stages of business development, including start-ups, youth and growing firms.

Policies have been designed to promote the integration of entrepreneurship into all levels of the educational system. Except for elementary education, a planning strategy exists to integrate entrepreneurship into all levels of education and include it in the national educational curriculum. Curriculum and learning materials have been developed for each education level, including a plan to promote teaching of entrepreneurship. Entrepreneurial courses are widely offered at universities, and a mechanism exists for the national sharing of information and experiences (e.g.: educators' conferences, seminars, databases of resource material). Public funding also exists for the support of extra-curricular activities (e.g., JA, Young Enterprise). Nonetheless, many policies have been developed but not yet implemented, especially at the elementary level.

One major policy objective is to ease the process of starting a business. Efforts have also been made to examine barriers to entry and exit, and the time and cost of starting a business. The government has reviewed its competition policy to ensure open competition for the entry of new firms in all sectors. Initiatives such as tax reduction and relaxed administrative burdens for newly-started enterprises are in place. Non-wage costs and administrative burdens that prevent new firms from hiring their first employee are being reviewed. Tax credits exist to encourage R&D activities by new and small firms. Tax incentives are in place to encourage informal investment in new and growth-oriented firms.

Another important policy objective is the increasing financing for new and early-stage companies. The government has undertaken a review of financing gaps for new entrepreneurs. Government-supported micro-financial programmes are enabling more people to start a business; micro-loan programmes have been developed and installed for groups who may have difficulty accessing conventional financing (e.g., women, ethnic minorities). In addition, the government stimulates the availability of venture capital funds for early-stage firms and supports the development of angel networks or databases to bridge gaps between entrepreneurs and informal investors. The level of support for nascent and early-stage entrepreneurs has also increased substantially.

"First" or "one-stop shops" have been established across Germany to provide new entrepreneurs with business start-up information, assistance and advice. Moreover, the government has ensured that the needs of nascent and early-stage entrepreneurs are met through existing SME service delivery networks. Networks of business enterprise centres in all regions as well as government-sponsored web portals have been set up to provide information and assist nascent and new entrepreneurs. The federal government has facilitated the development of mentoring programmes for new enterprises and growth firms. Furthermore, subsidies are available to support the training of new entrepreneurs. A national incubator strategy was established with government funding to subsidise the initial funding of incubators in key regions.

Local level

In Germany, entrepreneurship policy is created and implemented at various levels of governance. While the federal government provides a general framework for entrepreneurship policy-making at the federal level, the *Länder* [States] are responsible for reinforcing the federal strategic approach and policy framework with clear policy goals and instruments which should correspond to the economic, social and cultural conditions in the individual *Länder*. It should be stressed that that there is no

hierarchical relation between the federal and the *Länder* level in Germany: each level has full authority to independently design its policy in various fields such as innovation, entrepreneurship, and education. A variety of local actors in diverse government institutions are responsible for designing, implementing and assessing policies at the *Länder* level. The ministries of economics (and/or labour) and education are primarily responsible for entrepreneurship policy-making and implementation. Within those ministries, the departments that design, implement and deliver entrepreneurship policies are those responsible for innovation, industrial policy, labour economics, economic development and education. Some of the main tools for promoting entrepreneurship include financial-aid programs like start-up financing or entrepreneurship education at schools and universities. Entrepreneurship policy in Germany is still closely associated with small and medium-sized business policy.

Due to the federal structure in Germany, the *Länder* have a major influence on policy-making and delivery. The same is true for municipalities and/or cities in the German *Länder* which enjoy a high degree of sovereignty including territorial, organisational, planning, financial, and – to some degree – legal sovereignty. Territorial sovereignty incorporates the authorisation of the commune to administer policies within its own districts. The commune has, for example, the right to set up authorities and to assign duties and responsibilities to the local administration. It has the major task of promoting economic development and, in this context, it supports business creation and development at all levels and stages.

Local authorities play a major role in entrepreneurship policy-making as they establish and run an infrastructure to support entrepreneurial activities in their *Standort*. ASK DAVIThe greatest challenge to policy-making at the local municipal level is the shortage of funds that communes currently face in Germany. Due to financial restrictions, many creative and innovative ideas to promote entrepreneurship at the local level cannot be fully realised.

This is one major reason why the tailoring of policy and programmes should align with the reduction of political obstacles which hinder districts located in the periphery – such as the Altenburg land in Thuringia – from successfully competing economically. The following brief overview of the administrative units and geographical boundaries of Thuringia, Saxony and Saxony-Anhalt shows that too many communities and districts struggle for their own image and best practice *Standortpolitik*:

- The Free State of Thuringia is, for example, split into six independent cities (*Kreisfreie Städte*) and 17 districts (*Landkreise*); 1007 communities (*Kommunen)*; in 2002, 62% of the Thuringian population lived in communities with less than 1,000 inhabitants; also in 2002, 93.5% lived in communities with less than 5,000 inhabitants.

- Saxony is divided into three government regions (*Regierungsbezirke* http://en.wikipedia.org/wiki/Regierungsbezirk) of Chemnitz, Dresden and Leipzig which are subdivided into 22 districts (*Landkreise*). Additionally, the state has seven independent cities (*Kreisfreie Städte*).

- Saxony-Anhalt has 11 rural districts, 1033 local authorities and 93 administrative communities. Dessau-Roßlau, Halle and Magdeburg are the three urban districts of the state.

This overview shows that there are too many districts in only three states which are characterised by low population density, a high rate of emigration especially among young and educated people, an aging population and restricted financial resources for entrepreneurial policy-making. Therefore, the aggregation of districts needs to be re-considered to provide fewer districts which have clear priorities and economic targets with better pre-conditions to compete together instead of competing against each other in the global economy. This will automatically result in closer collaboration among policy-makers and people across districts or within aggregated districts to optimise scarce financial resources

and concentrate on a few effective policies and programmes which are specifically tailored to the region.

Policy making at the local level is not only linked to *Länder* and federal policy making. The entrepreneurship policy framework at the national level has been developed in alignment with the EU policy framework, whereas policy delivery happens rather independently of the EU directives. The same is true for the local or state level. The new German *Länder* may perform independently from the national or EU level due to the subsidiary principle which determines the division of tasks between the federal government and the German states as determined by the German constitution. Nonetheless, policy making and policy delivery in the new German *Länder* has been highly dependent on and correlated with EU policy making when it comes to financing. The EU entrepreneurship policy framework which was developed as part of the Lisbon Strategy, on the one hand, and the substantial amount of funding channelled to East Germany through the Structural Funds, on the other hand, became the two major pillars for developing entrepreneurship policies and for delivering local policies for East German states, districts and cities.

The National Strategic Framework Plan, discussed earlier, clearly aims to improve the attractiveness of regions. The regions, or the *Länder* in Germany's – rather than the states or the federal government – are primarily responsible for the strategic implementation of the EU Structural Funds in Germany. It is their task to develop and implement promising strategies to induce economic growth by selecting suitable projects. The regions are supposed to build administrative systems control that are capable of efficiently handling EU funds and preventing misuse of financing. Interestingly, the ball is pushed back to the regions and the local level which have the joint responsibility to develop their own strategies for the promotion of their localities. This includes the development of successful entrepreneurship policies and, above all, the assessment of existing entrepreneurship policies and delivery frameworks.

Keeping in mind that substantially less funding from the EU will be channelled to East Germany, the regions and East German states have already started to redesign their innovation and entrepreneurship policy approaches. For example, in order to support strong specialisations and to improve their images, technology policy has become a main focus of Thuringian economic policy. Most attention is paid to small and medium-sized enterprises, which especially characterise the Thuringian economy (just over 50 out of nearly 80,000 Thuringian companies have an annual turnover of more than 50 million EUR). The vast majority of companies in Thuringia are not able to undertake their own research and development due to their small size. In order to increase the innovative ability of these companies, the technology policy of the Thuringian state government will concentrate mainly on the following areas in the future:

1. An efficient R&D infrastructure. Thanks to substantial investments, Thuringia now has a close network of higher education, research, and technological institutions, which is also expanded on a regular basis.

2. Supporting cooperation between academia and businesses as well as cooperation between companies in clusters and networks.

3. Supporting R&D projects at the individual company level.

4. Supporting the placement of highly qualified personnel in businesses (*Thüringen Stipendium*/Thuringian Scholarship, *Innovationsassistent*/Innovation Assistant to improve personnel exchange between research institutions and businesses).

These specific measures are accompanied by the general state economic aid programmes. Examples include subsidies, low-interest loans, and corporate financing (provision of subordinated loans and venture capital). Since 2004, the Thüringer Aufbaubank offers the so-called *Thüringen-Kapital* to improve the *Eigenkapitalbasis* [capital base] of SMEs. New programmes have been initiated such as *Thüringen-Invest* and *Thüringen-Dynamik*.

The particular significance that the state government ascribes to supporting research and development for the sustainability of the Thuringian economy can also be seen by looking at the ways in which the European Structural Funds are used. Even though the Free State of Thuringia will receive substantially less funding (2.1 instead of 2.8 billion EUR) in the new period (2007-2013), funding in the area of "Education, Research, Development, and Innovation" has been increased by about 100 million EUR (amounting to 459 million EUR in total). In addition, money from the European Social Funds will be used for education and qualification, for supporting innovative networks, and for hiring highly qualified R&D personnel.

With this clear, strong, and targeted policy approach a tendency becomes evident: the Free State of Thuringia (and, similarly, Saxony and Saxony-Anhalt) will move away from policies aimed at subsidising as many individuals and firms as possible without geographical or other specification (*Gießkannenförderung)* to the promotion of a few, very innovative clusters *Leuchtturmpolitik* in the future. This is understandable if one takes into account that far less EU funding will arrive in the Free State of Thuringia (as well as other new German Länder) and that the competitiveness of localities is intense on both the local and global level. Therefore, a strong focus on the promotion of already existing innovative SMEs and innovative regions has been envisioned, instead of the promotion of new and innovative firms in peripheral regions. With this top-down approach pursued by the Thuringian state, it will become more difficult for peripheral regions like the Altenburger Land to strengthen or even develop their entrepreneurial potential. The Altenburger Land is primarily characterised by SMEs which are predominantly active in traditional industries like engineering, metal processing, plastic and rubber, automotive products, glass production, food, furniture, paper and publishing, textiles and agriculture. Modern industrial areas of entrepreneurial activity are few, and in Thuringia, these are found in communication technology, micro systems technology, electronics, IT technology and solar technology. Those sectors will and must profit from the new state policy. It is therefore up to local policy makers to quickly assess which areas need strong targeting and must be supported to profit from the innovation policy approach of the state. In addition, new entrepreneurial and innovative initiatives must be developed. This correlates with the economic policy of the state that aims to assist structurally strong regions as well as developing regions which lag behind (such as the Altenburger Land). It is, in other words, now essential to apply policy-cycle methodology at the state and local level: policy and programme development must be a systematic approach involving four linked stages: problem definition, design, delivery and, above all, evaluation.

In this context, the following facts must be kept in mind when re-designing new entrepreneurship policies for districts such as Altenburger Land: According to the NUI ranking (the NUI Ranking compares entrepreneurship development across all German cities and districts)[12] of the years 2005 and 2006, the entrepreneurship initiative and entrepreneurship climate in the district Altenburger Land shows not only a below-average score but also one of the lowest in Germany. In terms of regional ranking, the district Altenburger Land was ranked in the bottom group (411 out of 439 districts), in 2006. The city of Halle also lost ground and is ranked with NUI 392. The district Mittweida follows a similar trend: while it held the promising NUI ranking of 265 in 2005, it only received the NUI

[12] The NUI indicator shows how many enterprises per 10,000 inhabitants in working age have been registered within a year. ee IfM Bonn 2006 and 2007 via http://www.ifm-bonn.org/index.htm?/dienste/nui.htm.

ranking of 379 in 2006.[13] Not astoundingly, a survey finalised by the Chamber of Industry and Commerce East Thuringia (2005) found that companies in this district rated their overall economic situation and future rather pessimistically. Only 16 percent thought their situation 'good'; 55 percent were generally satisfied; and only 8 percent were planning to expand their staff, whereas 32 percent said they were likely to dismiss employees in the near future.

All the above-mentioned districts chosen as local case studies for the OECD review of local entrepreneurship development in East Germany have lost ground in the 2006 NUI (compared to their 2005 ranking). The critical question is whether the entrepreneurship policy delivery framework developed for those districts has failed to promote of entrepreneurship. This chapter provides a number of points for further analysis and assessment, instead of aiming to deliver an exhaustive answer. Local assessment is needed to shed light on those policies which enhance entrepreneurship. After such a bottom-up evaluation, a limited number of successful policy tools can be selected and fine-tuned by local actors – policy-makers as well as entrepreneurs.

A brief look at the entrepreneurship delivery framework at the local level is useful in this context, and it shows several existing policies. In financial aid for entrepreneurs, the department for business and tourism promotion in the district Altenburger Land supports young businesses in these fields: business and employment funding, regional development, tourism promotion, and public transport. At the supra-regional level, other business support institutions include the Association of Labour and Economic Promotion of Thuringia (*Gesellschaft für Arbeits- und Wirtschaftsförderung – GFAW*) which implements financial assistance programmes and grants financial aid in employment and vocational training; the Chamber of Industry and Commerce of Eastern Thuringia provides information about financial aid and advice for start-ups; Thuringia's start-up network, a partnership of universities, technology centres, business incubators and chambers of industries and commerce for technology- and knowledge-based start-ups; the Business Plan Competition in Thuringia; the start-up service monitoring system (GMS) in Thuringia; the Virtual Start-up Centre of Thuringia's chambers; the Start-up award 'Market Niche' (*Marktlücke*); and a 'Start-up Passport' (*Existenzgründerpass*).

In addition, several financial and technology support programmes are offered at the state level: Investment Programme of Thuringia by the Development Bank Thuringia (*Landesinvestitions*programme – *Aufbaubank Thuringia*); an allowance for consultation and qualification for SMEs by RKW; Venture Capital (*Beteiligungskapital – Beteiligungsmanagement Thüringen GmbH b-mt*); Venture Capital Thuringia (*Thüringen Kapital* – Government of Thuringia); Private Equity Thuringia; GuW-Plus; Consolidation Fund (*Konsolidierungsfonds* – Thuringia's Development Bank); Technology Concept of Thuringia (*Thüringen Technologiekonzeption*); Research Cheques (*Forschungsschecks*); and the Thuringian Scholarship (*Thüringenstipendium*).[14]

A comprehensive net of financial support tools has been developed to promote entrepreneurship at the local and state level. However, it seems that assessment is lacking and that a tailoring of financial aid programmes is needed to advance entrepreneurship development and a delivery strategy with clear priorities and resources.

The districts Mittweida and Halle face similar challenges. According to NUI findings, the entrepreneurial climate in Mittweida dramatically decreased throughout the year 2005 after it had increased since 2003 and the year after mainly because of the introduction of the financial start-up

[13] Ibd.

[14] For further information see http://www.tip-jena.de/; http://www.altenburgerland.de/; 'Local Diagnostic Report for the districts Mittweida (Saxony) and Altenburger Land (Thuringia)' prepared by Regionomica - Berlin for the OECD review on "Strengthening Entrepreneurship and Local Economic Development in East Germany" (November 2005).

grant "*Existenzgründungszuschuss*" and "*Ich AG*". Many of the new businesses which were founded in 2003, and which are necessity rather than opportunity start-ups, risk failure within a few years of existence.

The district of Mittweida has an office for business support and regional development which has been in place since August 2002, and is financially supported by the GA Investment Promotion Programme (the so-called Joint Agreement for the Structural Improvement of Regional Economies – GA Programme). This regional management effort aims to improve the region's identity, making it more attractive to businesses and residents. It helps identify and create a special image, promotes spatial development, mobilises businesses and growth potentials, fosters the creation of networks and clusters, and promotes co-operation with neighbouring regions. The administrative support coming from public institutions in Mittweida has been assessed as efficient and supportive.[15]

On the supra-regional level, other business support institutions are the Saxony Economic Development Corporation (*Wirtschaftsförderung Sachsen GmbH* – WFS), the Chamber of Handcraft Chemnitz, and the Chamber of Industry and Commerce of Southwestern Saxony, which offers the following services: the Saxonian Startup Network (http://www.existenzgruendung-sachsen.de), the Startup Exchange Platform, and a "Round Table" for companies in a critical economic situation.

Furthermore, there is a long list of support activities, mostly technology and financial programmes on the state level. These include: intense consulting and coaching for SMEs (State Development Bank Saxony); Start-up and Growth Financing (GuW) Saxony; liquidity loans for Saxonian companies (*Liquiditätshilfedarlehen*); financial support for insolvent Saxonian SMEs; loan guarantee programmes (Guarantee Bank Saxony); financial support for R&D projects in individual companies; financial support for co-operative R&D projects; and financial support for technology centres. Several of these state programmes are co-financed by the European Regional Development Fund (EFRD), for example, the Financial Support for R&D Projects in individual companies and the financial support for co-operative R&D projects.

One impressive feature of the Mittweida district is a state-of-the-art technology park. The Mittweida Technology Park is an incubator and innovation centre that acts as a central contact point for technology-oriented entrepreneurs, companies and service providers in the district. It provides support for start-ups, financial-aid information, support for and management of innovative projects, business consulting, advice on co-operation and involvement in regional and international transfer networks, and technology and knowledge transfer with universities and research institutions. The centre works in close co-operation with the University of Applied Sciences in Mittweida.[16]

It can be said that Mittweida has established a good basis for innovative and entrepreneurial development. This goes hand in hand with the new state policy approach. Further deepening of the co-operation between local and state policy-makers is recommended to fine-tune the policy design.

The city of Halle has also developed an innovative basis for further economic development. The Halle Trade and Industry Promotion (*Wirtschaftsförderung*) is in charge of co-ordinating activities to promote entrepreneurs, help potential investors, and support existing companies by offering advice on starting a business and information on financial assistance programmes. The city also offers a wide

[15] Initiative Neue Soziale Marktwirtschaft.

[16] For more information on the district of Mittweida go to http://www.landkreis-mittweida.de/cms/250.htm. The information here is based on the 'Local Diagnostic Report for the districts Mittweida (Saxony) and Altenburger Land (Thuringia)' prepared by Regionomica, Berlin for the OECD review on "Strengthening Entrepreneurship and Local Economic Development in East Germany" (November 2005).

range of business support and service institutions: Martin-Luther-University Halle-Wittenberg has several business-related institutions; Weinberg Campus – network in the technology park Halle Saale; Ego – business start-up grant offensive (*Existenzgründungsoffensive*) Saxony Anhalt; Business Angels Network Saxony-Anhalt (BAN); UNIVATIONS – innovation and start-up network of the universities of Saxony-Anhalt, the Institute for Innovation and Entrepreneurship (*Institut für Innovation und Entrepreneurship*), the Chamber of Industry and Commerce Halle Dessau, Chamber of Crafts Halle, Investment Bank Saxony-Anhalt, local banks, and the Labour Office.

The Weinberg Campus of the Technology Park acts as the main contact point for technology-oriented enterprises, departments of the Martin-Luther-University Halle Wittenberg and external research institutes. It includes three technology and start-up centres and the highly specialised Bio-Centre.[17]

Technology support has been expanded, but entrepreneurial spirit still lags in Halle. In recent years, the level of entrepreneurial activity has decreased in comparison with the rest of the country: in 2005, only 1.6 per 1,000 employed in Halle started a new business; for Germany as a whole, the figure is 3.3 per 1,000 employed people.[18]

Areas for policy intervention

The socio-economic environment in the new German *Länder* and districts is characterised by many challenges, but it also includes some impressive achievements. This situation can be summarised as follows:

- all *Länder* and districts face a severe emigration process, especially among young, well-educated professionals;
- the unemployment rate is very high in all districts;
- the percentage of employees and workers in the agricultural sector and manufacturing industries is significantly higher than the German average;
- the manufacturing sector is still predominant though successful in all districts;
- modern growth sectors have been developed and strengthened though they still do not have the impact that they should have in an entrepreneurial and transitional economy;[19]and,
- in all East German *Länder* and districts an entrepreneurship delivery framework has been developed which is primarily focused on financial support for the realisation of start-up initiatives and the support of new businesses.

Current economic growth still depends heavily on the manufacturing sector, which is driven by a high demand of manufacturing goods from emerging markets in Eastern Europe, Asia and, for the moment, Russia (The Economist 2007). As soon as this demand is satisfied, the manufacturing sector

[17] See http://www.weinbergcampus.halle.de/) as well as 'Local Diagnostic Report for the city of Halle (Saxony-Anhalt)' prepared by Regionomica - Berlin for the OECD review on "Strengthening Entrepreneurship and Local Economic Development in East Germany" (June 2006).

[18] Initiative Neue Soziale Marktwirtschaft, Statistisches Bundesamt, Bundesagentur für Arbeit

[19] This might be one major reason why the entrepreneurial climate in Halle and the Altenburger Land is still not high or promising.

in Germany will have to compete with the manufacturing sectors of global competitors that are catching up quickly. The need to further leverage modern growth sectors in East Germany is therefore more pressing than ever before. In this context, the East German *Lände*r will need to emphasise the promotion of a few innovative regions as well as new entrepreneurship programmes and subsidies which are tailored to promote modern growth sectors and the settlement of subsidies of larger companies in the new German *Länder*. Also, the cheap labour costs which helped the manufacturing sector to survive impressively in Saxony, Saxony-Anhalt und Thuringia during the last years will sooner or later be outplayed by global competitors. Then, Richard Florida's thesis that firms follow talent and skilled people rather than investment, tax incentives or low labour costs will be confirmed (Florida 2002; 2004).

As elaborated in this chapter, the creation of new jobs is primarily triggered by new start-ups. It is therefore essential to improve the entrepreneurial climate for entrepreneurial entities (regardless of their size) and individuals in East Germany. The entrepreneurship delivery framework of all new East German states pays tribute to this necessity through the strong emphasis on financially supporting start-ups through a wide range of programmes. However, entrepreneurs and customers face the problem that information about such programmes is difficult to obtain through state and local websites. The catchword "*Förderdschunge*l" (jungle of aid programmes) described the fatal situation that too many programmes and subsidies are available which confuse rather than support entrepreneurial minds. A selection of very few programmes which are easy to understand and apply for would be helpful for entrepreneurs. Therefore, assessment of the existent delivery framework is recommended resulting in the redesign of a comprehensive, lean, and clear entrepreneurship development strategy (Grimm 2005).

During the last decade, policy-makers' efforts to improve the entrepreneurial environment in the districts and *Länder* have resulted in the design and implementation of a huge variety of new loan and support programmes for potential entrepreneurs. A net of very elaborate and complex loan and support programmes for potential entrepreneurs has been woven. Whether such a policy approach has contributed to an entrepreneurial environment is an open question. It seems, at the moment, that current loan programmes are still too complex and difficult to assess online.

Most financial assistance programmes are anything but local. Neither Mittweida nor the Altenburger Land offers any public assistance programme specifically designed for the promotion of local leaders in the districts. Perhaps it would be considered an overreaction to offer another very local programme in addition to many other programmes; but the need to respond to local challenges and the new policy strategy of state governments with just one or two specific programmes is serious, and should not be overlooked. Economic development comes primarily from local entrepreneurial activity, and such activity is essential for effectively competing in a global economy. But policy-makers have not yet achieved the appropriate leverage for implementing very local entrepreneurship policies.

Policy-makers at the state and district level seem to avoid sending a clear message to the people that the world has changed greatly and that – in line with that change – new drivers of economic development need to be created (e.g. "technology, tolerance and talent") to compete in an entrepreneurial economy. As long as this clear message to the people is lacking, people will not understand the necessity to adapt to a fast-changing entrepreneurial society characterised by new labour conditions and limited job-guarantees. Entrepreneurial citizens are needed to create a vibrant environment for creative and innovative communities. Policy-makers may be able to offer a framework for entrepreneurial action and, as assessed above, they are doing a satisfying job in offering an entrepreneurship delivery framework with emphasis on financial support. But it is up to the people to use all those offers and to make things happen. And it is governments that must give people the freedom and courage to make use of public support. Therefore, the existent top-down approach to

implement entrepreneurship needs a complimentary approach: bottom-up ideas and suggestions on how to support regions with policies tailored to the local context.

Therefore, a multi-level governance challenge exists in East Germany. Besides the top-down national and *Länder* policy approaches, bottom-up knowledge is needed to complement the entrepreneurship development strategy on the local level. While local entrepreneurship problems seem to be understood, local policy design capacity is somewhat fragmented and underdeveloped (Hofer 2006). Co-operation between local institutions and policy makers for policy design is strongly recommended at a regular basis. Only then can a clear and mutually agreed-upon strategy for entrepreneurship be developed which formalises the aspirations of key local partners. Such a strategy should be the product of public debate, deliberation and consensus-building among local institutions, as well as consultation with communities, in order to develop a comprehensive, integrated approach to enhance entrepreneurial activity. Clear priorities, roles for partners, timelines and resources can then be defined. It is also advisable to initiate a discussion of the locality's role in some wider region with a certain economic relevance, also beyond administrative borders.

Such a local entrepreneurship development strategy should be aligned with the National Strategic Development Plan as well as the EU entrepreneurship policy framework. With the Lisbon mandate, the European Commission committed itself to promoting entrepreneurship as a major driver of innovation, competitiveness and growth. Though not properly linked to that Agenda, the city of Halle, and the districts Mittweida and the Altenburger Land managed to develop a policy framework which aims at supporting entrepreneurs financially – and they probably managed without even following suggestions disclosed by the European Commission. The European Commission developed a top-down policy approach through the Lisbon Agenda with the goal of strengthening regional policy making and individual entrepreneurship – instead of encouraging the autonomous, risk-taking behaviour of local actors. Europe still lacks imagination concerning the meaning of an entrepreneurial economy and a clear framework for implementing entrepreneurship at all policy levels. What is needed most is an intellectual and cultural environment which encourages creative work and risk-taking behaviour.

In this context, one successful local and good practice programme which perfectly matches the EU vision of an entrepreneurial and innovative Europe was initiated and recently finalised in Thuringia. The so-called ENABLE programme was one important component of the new EU growth strategy strongly focused on promoting entrepreneurship.[20] It started in 2004 and was completed at the end of 2006. Partly financed by the European Union within the framework of INTERREG III[21], ENABLE provided a good example of implementing overall EU objectives at the regional level. Four regions participated in the ENABLE programme: Carinthia (Austria), Kaunas County (Lithuania), Thuringia (Germany) and the sub-regions Sogn og Fjordane and Hordaland (Western Norway). The programme met several goals formulated by the Lisbon European Council of 2000. For example, the Lisbon strategy focused on the establishment of a *European Area of Research and Innovation*, as well as supportive environments for start-ups and innovative businesses. ENABLE focused on promoting and improving conditions to foster start-ups as well as existing small and medium enterprises (SMEs) on a regional level. The programme had a particular focus on SME networks and partnerships involving technology transfer and the commercialisation of research. Because such entrepreneurial and

[20] For detailed information about the programme see http://www1.kwf.at/enable/.

[21] The main approach of INTERREG III was to make use of the experience collected in the course of the implementation of the Structural Funds Programs, and was strongly related to national policies. Thus, INTERREG III helped regions to get in contact with and to develop the already existing networks of co-operation by including as many European regions as possible, as well as in terms of the types of actors included. This helped to intensify economic and social co-operation and interaction throughout Europe (Audretsch and Grimm 2005: 17).

SME networks, along with the concomitant transfer of technology, are geographically localised, co-participation of regions is required. ENABLE had an explicit mandate to contribute to the improvement of European and national policies. The mechanism for attaining this goal involves taking advantage of the collective experience accumulated from the implementation of a broad range of policy instruments and project approaches. Interregional exchange and co-operation were the main instruments for achieving these goals. One of many initiatives developed within the ENABLE programme is "The Alchymist," which helps young entrepreneurs through the difficult phases of getting started. The main goal is to help more young people start their own businesses (qualification), and to make it more common to want to do this (stimulation). "The Alchymist" is an instrument which has been used with success in Innovation Norway, one of the project leaders.

ENABLE combines the efforts of four regions, all which are peripheral from the economic centres of their countries, and face similar challenges and opportunities. Thus, the ENABLE programme involved a compatible match of regions which need to develop alternative strategies for the strategic management of places to compete in a global environment. Though none of the regions are so-called "hot spots", all of them have developed strategies to improve their entrepreneurial and technology-oriented competencies mainly by strengthening small entrepreneurial units as well as the adaptable *Mittelstand* [midsize companies]. With the ENABLE programme, these regions were backed by an excellent institutional support system to bring their ambitions, initiatives, goals and strategies together to compete in a knowledge-based, global economy.

The tri-partite focus of the ENABLE Programme on technology transfer, SME networks and facilitating the start-up of new firms certainly mirrors the policy priorities and approach set out by the European Commission in its Green Paper on Entrepreneurship. Similarly, the central role of entrepreneurship policy as a strategy for economic development in the Free State of Thuringia is certainly consistent with the European entrepreneurship and growth policy approach. Thus, it can confidently be concluded that the implementation of the ENABLE programme in the context of both the economic development policies of Thuringia as well as the European entrepreneurship and growth policies is not only compatible but also mutually reinforcing. The broad sweep of the Lisbon mandate to reinvigorate European growth by creating an Entrepreneurial Europe must involve local implementation. The ENABLE programme is one such programme linking the local and European levels in a partnership that can help shape Europe's future.

Another example of networking and institutional support are "*Solarvalley Mitteldeutschland*" and "OptoNet".. "*Solarvalley Mitteldeutschland*" serves as another good practice example of how regions in East Germany enhance co-operation at the local level while specialising in an innovative niche. Twenty-five firms and twelve research institutes from Thuringia, Saxony and Saxony-Anhalt which specialise in the solar energy and solar technology sector created a new network to better co-operate and promote their expertise. The participants include the Fraunhofer CSP in Halle as well as research institutes and firms from Halle, Erfurt and Dresden. This example serves as good practice mainly because it is an open network for new firms and partners. This initiative also goes along with the Thuringian government's goal of becoming the world's largest producer of solar wafers by the year 2012. One special success story in this context is the development of renewable energy sources in Thuringia, which is now the state with the most consumption of renewable energy in all of Germany and which became one of the main locations of the European solar power industry. Currently, 47 companies with approximately 2000 employees are directly or indirectly operating in this sector. *Mitteldeutschland* became a hot spot of solar firms and solar cell production.

The OptoNet network is another example of good practice in networking. OptoNet is located in Jena. More than 60 companies, universities, research institutions, banks, municipalities and regional establishments have joined up to play an active role in the national and international development of

optical technologies by taking up research themes and identifying areas to concentrate on promoting. The network is involved in policy co-ordination related to attracting businesses, creating new occupational profiles and training personnel in optics. The core region is Thuringia, where the optics sector has a total turnover of EUR 500 million and employs 6,000 people. However, this network also co-operates with partners throughout Germany, especially Southern Germany.[22]

Surprisingly, hardly anything is known about the local leaders who became global players in the development of optical technologies or renewable energy sources. To further strengthen the idea of entrepreneurship it would be useful to better clarify who the people behind such innovative new products and networks in *Mitteldeutschland* and in the city of Halle are. Storytelling would be a good tool to explain how to become entrepreneurial and how to act successfully and autonomously in an entrepreneurial economy. Citizens should become familiar with local leaders and hidden enterpreneurial champions in their state or district. People should know who the Steve Jobs and Bill Gates of their region are.

It must be concluded that it will remain difficult for districts such as the Altenburger Land, Mittweida or Uckermark to compete in a global economy. The new policy approaches developed at the state level characterised by a strong focus on the promotion of a few innovative localities resulting in a so-called *Leuchtturmpolitik* will further challenge peripheral regions in the new German Länder. Those regions should adopt the policy cycle methodology quickly to assess which policies need to be pursued, which priorities must take priority and how to tailor policies to the local context. If the assessment of existent entrepreneurship policies is not pursued by local policy makers in the short run, those places will lag further behind in the future. A participatory evaluation of previous and on-going programmes and projects is also recommended, involving major local and regional stakeholders. This will truly help to align top-down policy approaches with bottom-up ones.

Jena stands out as one of the few cities in East Germany that has successfully performed in times of transition. Jena was the home of Carl Zeiss, the renowned optical firm, which moved its headquarters to West Germany after World War II. With its roots in the old Zeiss company, the local firm Jenoptik which was re-established after 1989 has a tradition of precision engineering and technology. Today, the firm concentrates on making star sensors that navigate satellites in orbit. It further concentrates on making lasers used in medical devices and chip factories. The company clearly focuses on global niches. In Jena, the unemployment rate declined to 11.1 percent in 2006, from 16.3 percent in 1998. “With two universities, a clutch of scientific research institutes and a park for high-tech start-ups, Jena bustles like a transplanted Silicon Valley” (New York Times 2007).

Besides Jenoptik, enterprises like Zeiss, Schott Jenaer Glas and Jenapharm with their traditional roots have built up high-tech niches. They develop visionary technologies which then attract other, new high-tech enterprises. High-quality work, worldwide co-operation, a proportion of more than 40% of exports in the industry, well-developed infrastructures and growing economic potential all solidify Jena's reputation as a high-tech location. The effective co-operation of science and business has also contributed to Jena’s development as a successful biotech region. The large number of newly established biotechnology enterprises reflects the impressive strategic management in the area.

The largest University of Applied Sciences in Thuringia is located in Jena as are other non-university research institutes. Jena has an extensive network of a scientists and academics that co-

[22] OptoNet is highlighted as a best practice example of networking in an innovative niche by the Federal Ministry of Economic in the report: Innovation Policy. More Dynamic for Competitive Jobs which is available as a download via http://www.bmbf.de/pub/innovation_policy.pdf.

operates with research institutions throughout Germany and the world. Those affiliated with the optical industry, in particular, see their future in the region.

One reason for Jena's astounding success is the contribution of local leaders. Local policy-makers developed clear goals about how they want to bring about economic transition and development (Grimm 2005). The success of Jenoptik played a major role, but so did the close collaboration between private businesses, academia and local policy makers. Due to that collaboration, Jena was awarded the title Germany´s "City of Science 2008," an honor which will further contribute to Jena's reputation as a high-tech location. The chairman of the jury that chose Jena as "City of Science" argued: "In Jena's application you could see that all actors from politics, economy and science put their heart and soul into the project."[23] The jury highlighted that Jena is characterised by a special commitment of all actors in the city.

In Jena, the new European growth strategy as formulated by the Lisbon European Council has indeed been implemented at the local level or, rather, local actors developed and implemented a strategy that complements the Lisbon Agenda. It was probably not Brussels providing the framework for entrepreneurial activity in Jena but rather local actors, like the city council and the universities, who established clear policy priorities facilitated by substantial public financial support for Jenoptik (whose head of the executive board, Lothar Späth, formerly prime minister of Baden-Württemberg, played a prominent role for the successful development of Jenoptik resulting in the initial public offering of the company in 1998), who formulated forward-looking, proactive policies tailored to local strengths, and who fostered an entrepreneurial climate and framework for young professionals graduating from universities in Jena and other research institutes.

It will hardly be possible for other districts, such as Mittweida and the Altenburger Land, to follow Jena's lead for many reasons. But a closer collaboration and commitment of actors within the district and with neighbouring districts, a stronger focus on modern growth sectors, the development of clear policy goals and greater openness toward creative, entrepreneurial people might help develop a forward-looking perspective to lay the groundwork for a brighter future.

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PART II

KEY POLICY ISSUES IN ENTREPRENEURSHIP AND SME DEVELOPMENT

Part II of this report is structured in six thematic chapters. Each chapter starts with a summary of main findings from the local case study areas by the OECD. In the following chapter, both theoretical and practical aspects of policy action are discussed in light of new policy approaches and options. References are made to good practice initiatives in East Germany and other regions in OECD member countries. A chapter concludes with the OECD policy recommendations presented as a 'Checklist'. Along with a selection of international learning models and good practice examples in East Germany, this final section of each thematic chapter aims to inspire policy innovation and the development of local approaches to strengthen entrepreneurship.

CHAPTER 1

ENTREPRENEURIAL CULTURE AND ATTITUDES

CULTURAL ASPECTS OF ENTREPRENEURSHIP

Heiko Bergmann, Switzerland

This chapter deals with possible policy action to foster business start-up culture and positive attitudes towards business foundation in OECD countries. The formulation of recommendations for political action presupposes that the interactions between diverse factors of influence, start-up related mindset and business foundation activities are known. For this reason, theoretical reference is made first to the relationship among culture, attitudes and foundation activity. Then, empirical results and a model are presented. Subsequently reference is made to the situation in East Germany and – as far as available – to experience with policy initiatives gained in OECD countries.

Introduction

Discussion about cultural features, attitudes and entrepreneurship is nothing new. More than 100 years ago Max Weber studied the relationship between religious-ethical motivations and entrepreneurship. He put forward the argument that Protestant labour ethics had made a substantial contribution to the development of modern capitalism because it had changed the attitude towards labour (Weber 1905). Even if religious motivations in working life nowadays may be less relevant, the debate on cultural features, enterprise-related attitudes and entrepreneurship has remained quite a topical issue. First, however, the concept of "culture" should be clarified and defined. Then, the influence of cultural features on business foundation activities will be addressed and the results of empirical studies presented.

The concept of "culture" is very complex and is used with various meanings. Under a pragmatic definition one can say that any group of human beings whose thinking and acting differs from that of other groups has a "culture" (see Frick et al. 1998, p. 43). Hofstede likewise emphasizes the relationship between culture and group affiliation. He clearly defines culture as "collective programming of the mind which distinguishes the members of one group or category of people from another" (Hofstede 1994, p. 5). According to Fukuyama (2001, p. 31-30), culture encompasses the values, norms, interpretations and modes of behaviour that characterise societies or other social groups. The different definitions clearly show culture to be always a collective phenomenon, for it is shared, at least in part, with humans living in the same social environment or belonging to the same group. Accordingly, any human being belongs to different social groups and thus also carries different layers of "mental programming". In addition to a national level, which is commonly understood under the term "culture", there is also a regional level, an ethnical, religious and gender level (see Shapero 1984, p. 26; Hofstede 1994, p. 10ff). Culture is learnt consciously and unconsciously. It should therefore be distinguished from human nature, on the one hand, and from the individual personality, on the other. Cultural features are passed on in socialisation processes. That is why culture cannot be changed in the short term, but has a long-term character (see Hofstede 1994, p. 5). Against this background, it becomes evident already at this point that political programmes can only ever have a conditioned and long-term impact on cultural features.

In recent years, research has increasingly devoted itself to the subject of attitudes and their role in the process of business foundation. Unlike cultural features and personality traits, attitudes towards

business foundation have proved less stable. They are influenced by environmental factors and may alter as time passes.

Relationship between culture and entrepreneurship

The decision to become self-employed or to start one's own business is influenced by a number of factors. Professional background, the level of education, current employment, personality traits and the social and regional environment have an impact on the start-up decision. Individual factors alone cannot explain why certain individuals become self-employed and others prefer paid employment. Albert Shapero already pointed to this phenomenon some 20 years ago when he characterised the business foundation process as "overdetermined" (see Shapero 1984, p. 23).

Culture can influence economic activity in diverse ways: Culture is known to influence attitudes towards work and consumption. Culture has an influence on the organisation of economic activity and the shaping and effectiveness of institutions, and culture also has an impact on social networks and confidence building within social groups (see Fukuyama 2001, p. 3132ff). Of primary interest in the present study is what kind of influence culture may have on business start-up activities. Such a relationship may be given in different ways. Mostly, analyses on the relationship between culture and start-up activities or entrepreneurship are conducted by considering attitudes towards entrepreneurship or business foundation. One proceeds from the fact that cultural features influence attitudes towards start-ups and that these attitudes, in turn, have an impact on start-up activities. Such a relationship between culture, attitudes and start-up activities may exist on the individual, as well on regional and group levels (see Davidsson/Wiklund 1997, p. 182). There is a direct relationship on the individual level when, on account of cultural features, many persons exhibit a positive attitude towards business foundation and, due to such an attitude, decide to become self-employed or to start a business. In such a case, there is a direct relationship between culture and start-up activities because it is precisely persons with a positive mindset who become self-employed. This argumentation concurs with those of Schumpeter (1934), McClelland (1961) and Kirzner (1985), who likewise describe a direct linkage between attitudes and business foundation activity. Further, there may exist a relationship between culture and foundation activity on the societal level. Etzioni (1987) argues that the values and norms predominant in the social environment of an individual may have an influence on his or her propensity to start a business. In line with this argumentation, a culture averse to business foundation may suppress start-up activities. This would, for example, be the case when entrepreneurs and entrepreneurship have a bad image within a society or a region and the individual therefore does not consider this option of livelihood although he or she does not harbour any reservations towards entrepreneurs. In such a case there is a relationship between culture and business foundation activity not on the individual level but also on the level of groups, region or society.

Seen theoretically, the relationship among relevant magnitudes of influence, business foundation attitudes and start-up activities may be explained by the theory of planned behaviour. This theory, derived from social psychology, is one of the most frequently used approaches to explain and predict human behaviour (see Ajzen/Fishbein 1980; Ajzen 1991). Institutional economics, as well, can establish a relationship between culture and entrepreneurial activity. Institutional economics deals with institutions and their impacts on human behaviour. The term "institutions" is to be understood here in a comprehensive sense meaning both formal laws and organisations and informal rules of behaviour, for example standards, habits and customs. North (1992, p. 3) describes institutions as restrictions of human interaction conceived by people, in short: as rules of game of a society. Commonly, institutional economics is devoted to formal institutions such as law, governmental regulations or enterprises (see Richter 1994, p. 2f). As a matter of fact, informal or, as North puts it, "formless" restrictions do play a great role in modern communities. "Our daily dealings with others – be it in the family, in social relations, outside of these or in working life – are subject to an order that is mainly

determined by behavioural codices, habits and customs and conventions." (North 1992, p. 43,). Formless restrictions emerge from pieces of information that have been passed on in society and are part of culture. Cultural traits and hence formless restrictions are extremely long-lived and change but slowly. Even when form-tied restrictions change abruptly, the culturally specific formless restrictions tend to change only slowly (see North 1992, p. 43ff). Human behaviour and thus foundation behaviour is essentially shaped by institutions. Institutions constitute the scope of action for entrepreneurs. The respective shaping of the institutional framework influences the behaviour of choice in favour of or against business foundation and, consequently, the availability of business founders. The formal institutions of a society ensure the existence of entrepreneurial opportunities. The informal institutions, i.e. attitudes, habits and customs, determine the extent to which these opportunities are actually recognised and grasped (see Welter 2002, p. 2f). The formal and informal institutions are mutually dependent here. If members of a society have a strongly felt need for security, in the long term this will lead to the emergence of formal institutions that meet such a security need.

The approaches presented here are designed to establish a relationship between culture, attitudes and economic activity. Cultural values and norms influence attitudes and patterns of behaviour and in this way have an impact on economic activities. When empirically verifying these approaches, it proves problematic that culture cannot be measured directly. Culture acts as a kind of background variable that manifests itself in attitudes and patterns of behaviour. Apart from cultural background, a number of other individual-related influences determine attitudes and patterns of behaviour, too. Furthermore, people belong to different social groups. That is why regional cultural features overlap with group-specific cultural features (see Hofstede 1994, p. 10ff; Shapero 1984, p. 26). Persons with the same regional cultural background may also display different attitudes and patterns of behaviour. Only in sum is it to be expected that cultural differences lead to varying frequencies of certain attitudes in different regions or cultural groups. Therefore, it is quite difficult to distinguish between individual-related features and cultural features. Attitudes and patterns of behaviour can be categorised as cultural features only when these are not individual features of single persons. Thus it is an empirical question whether certain features can be regarded as individual features or as cultural features of a major group of individuals.

Empirical studies on the significance of cultural features for business start-up activities

Many studies on business foundations have emphasised the significance of the regional "foundation culture" or of the regional "foundation climate" (cf. Armington/Acs 2002, p. 39; Goetz/Freshwater 2001, p. 59; Johannisson 1984, from p. 33f; p. 157ff; Shapero 1984, p. 25f; Shapero/Sokol 1982). However, it must be noted that the concepts of "foundation culture" or "foundation climate" are often not unequivocally defined and operationalised; moreover, they are mostly not directly raised.

A few empirical studies related to regional business start-up activities that make reference to the significance of the factors culture and environment do not cover these in a direct way but handle them merely as a residual category. That part of regional variance that cannot be explained by structural factors is ascribed to the regional foundation culture or the specific regional environment for business founders (for the USA, see Armington/Acs 2002, p. 42f; Goetz/Freshwater 2001, p. 61; for Germany: Fritsch/Niese 2000, p. 241f; for the UK: Robson 1998). But this procedure is unsatisfactory because it remains open which aspects of regional culture or the regional foundation environment are actually of relevance or whether other, unconsidered factors might account for the unexplained remnant of variance.

A study of the significance of cultural factors in the business foundation process is required to directly record values, norms and attitudes of the population of a region. Few studies have so far done

this. In view of the fact that many theoretical papers suggest the significance of cultural features for enterprise foundations, there are an amazingly small number of empirical research results. Davidsson and Wiklund (1997, p. 182) attribute this research gap above all to the high cost of data collection and to the methodological problems of such studies. Because of their relevance for this study, the few studies on culture and entrepreneurship are briefly outlined:

Davidsson and Delmar (1992) and Davidsson (1995) describe the results of an empirical research project covering six differently structured Swedish regions. Using a written survey, a total of 1547 randomly chosen persons of the same age group from the six regions were interviewed for values and attitudes related to start-ups. Aspects such as achievement motivation, locus of control, need for autonomy and change orientation were considered. The regional distinctness of the attitude patterns was then compared with the regional rate of business foundation. Davidsson und Delmar arrived at the result that there are variations in foundation-related values of the regions under scrutiny, but that they proved to be relatively small. Only for Stockholm did they find significantly higher values compared with the remaining regions. Despite these slight differences and individual deviations, the authors found a trend of relationship between foundation-related values and regional start-up activities (see Davidsson/Delmar 1992, p. 451f; Davidsson 1995, p. 49f). Davidsson (1995, p. 52f) further shows that there is a relationship between business foundation activities and regional structural characteristics such as the share of self-employed persons, population density, demographic growth and unemployment. Both cultural and structural factors were found to influence start-up activities, as well. But these two groups of factors of influence might not be independent of each another: " ... where the structural (pull) conditions for entrepreneurship are favourable, the culture tends to favour entrepreneurship" (Davidsson 1995, p. 53). On account of the small number of study regions and of the design of the study, Davidsson is unable to definitely clarify the question of causality of culture, structure and foundation intensity. He suggests, though, that cultural differences might be the result of structural differences: "The possibility would remain, however, that structural pull factors are the real determinants and culture but an epiphenomenon that has no unique causal influence." (Davidsson 1995, p. 55).

To investigate in greater detail the relationship between structure and culture, Davidsson and Wiklund (1997) conducted a second study applying a different design. Using a cluster analysis of all 80 Swedish labour market regions, they identified three structurally equal pairs of regions. The two regions of one region pair belong to the same respective cluster, i.e. they do not differ in terms of branch structure, population density or other structural factors that are frequently used in other studies to explain regional business foundation rates. However, the regions were chosen in such a way that one of them would reveal a high and one a low foundation rate. As the two regions do not differ structurally, Davidsson und Wiklund suspect that cultural differences are responsible for the varying foundation rates. Similarly to the preceding study, the cultural features and attitudes of the regions' inhabitants were surveyed using a questionnaire with randomly chosen individuals 35 to 40 years old. A comparison of the survey results for the three pairs of regions reveals that foundation-related values, views and attitudes are mostly positive in the regions with high foundation intensity. Davidsson und Wiklund (1997, p. 189ff) therefore conclude that cultural differences do explain part of the variation in business foundation rates. However, the cultural differences between the six Swedish regions studied were found to be relatively small. As in other studies, about 70% of the variance of regional foundation rates could be explained by structural features (see Audretsch/Fritsch 1994; Reynolds/Storey/Westhead 1994) and the study conducted in Sweden showed cultural differences between structurally equal regions to be small. Davidsson und Wiklund (1997, p. 193) conclude that cultural factors as the whole can explain a smaller proportion of the variance of regional business foundation rates than can structural features: "Our preferred interpretation of the results is that the cultural differences are minor and that their effects are likely to be small in comparison to the effects of some structural factors." (Davidsson/Wiklund 1997, p. 196).

Mueller and Goić (2002) studied foundation-related attitudes in six transformation countries. They, too, came to the result that the differences between countries can be explained essentially by the level of economic development and not by culture or experience with market economy.

The studies here described make an important contribution to understanding the relationship between cultural features and regional business foundation activities: Cultural factors play a role in the foundation process, but presumably these are of lesser relevance than structural features related with economy and demography.

The role of attitudes in the business foundation process

Whilst there are very few studies covering cultural features directly and investigating them in relation to foundation activities, the relationship between foundation-related attitudes and foundation activities has been dealt with more frequently. The findings show that foundation-related attitudes and abilities exert a significant influence on business foundation activities (Arenius/Minitti 2005, Sternberg/Brixy/Hundt, 2007; Bergmann 2004a, 2004b; Koellinger/Minniti/Schade 2007; Lee/Wong/Ho 2004).

In order to derive recommendations for policy action, the question arises of the factors leading to positive foundation-related attitudes. In the literature, there are few studies that refer to the determinants of positive or negative attitudes towards business foundation. Most investigations deal with the relationship of attitudes and foundation activities, leaving unconsidered the origin of foundation-related attitudes. Bergmann (2004, 2005) studied the factors of influence on individual attitudes towards business foundation in ten German regions on the basis of a representative telephone opinion poll. In line with the distribution of population, two regions in East Germany and eight regions in western Germany were considered. The study focused on three foundation-related attitudes that had proved relevant in previous analyses in relation to individual propensity to business foundation: the assessment of one's own foundation capabilities, the perception of opportunities for founding a business in the region and individual risk aversion, i.e. the question whether fear of failure would stop the respective person from founding a business.

Individual confidence in one's own foundation capabilities was found to depend almost exclusively on the individual traits of the person interviewed and on his or her integration into social networks. Regionally related features are significant, but prove less relevant. People think themselves particularly capable of founding a business if they are already self-employed, have started a business in the past or know somebody who has founded a business successfully.

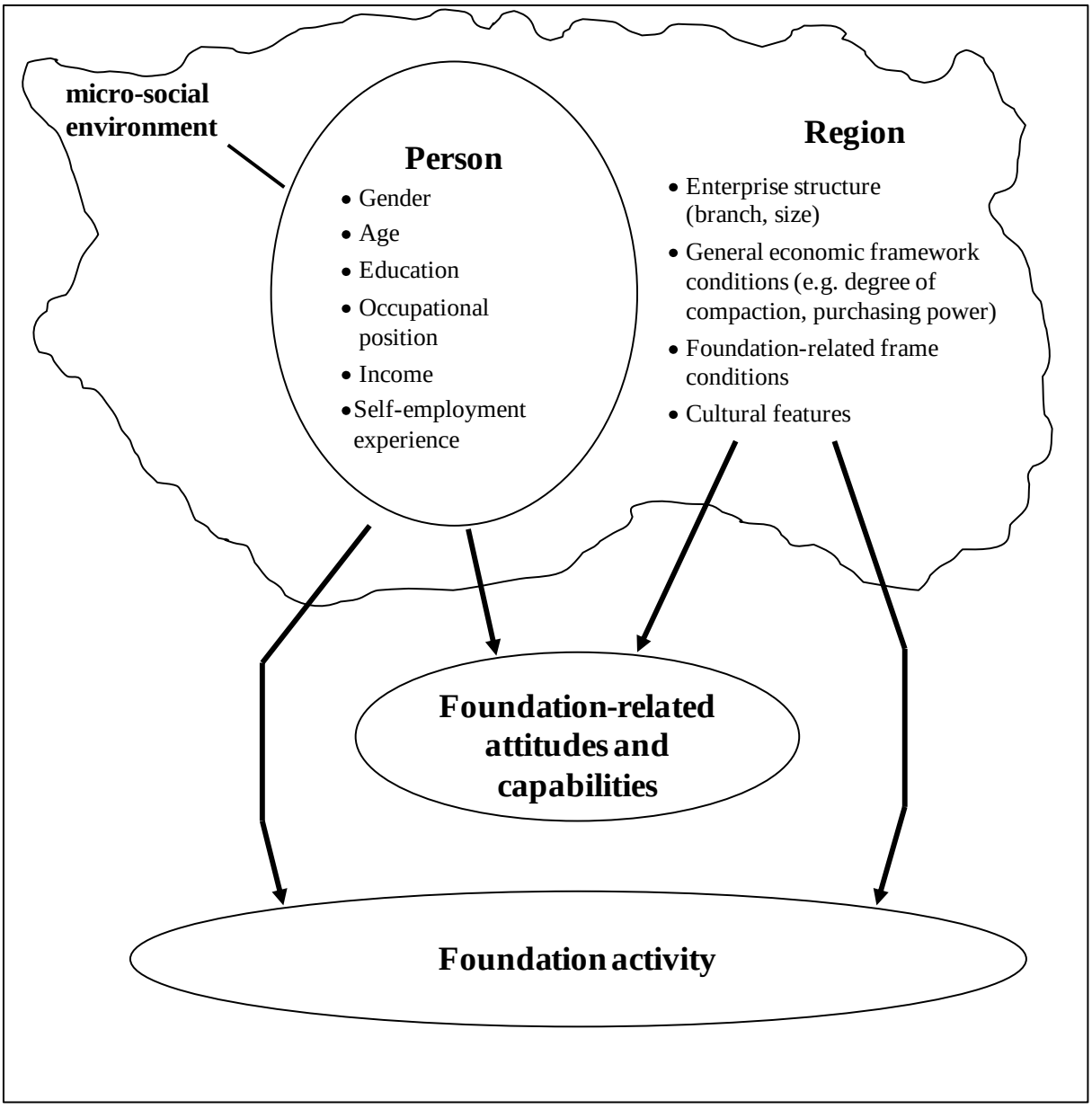
For the other two questions on attitude, the perception of good foundation opportunities and individual risk aversion, individual-related and micro-social factors were also found to be of great significance. Personal experience of self-employment and/or the knowledge of other founders result in a positive mindset for start-ups. But for these two questions of attitude, the regional level is also of great significance: Good business foundation opportunities are seen above all in regions with strong purchasing power or in agglomeration areas. Likewise, the quality of the foundation-related infrastructure has a significant influence, with a close relationship shown between the three variables mentioned above: Purchasing power tends to be high in agglomeration areas where the quality of the foundation-related infrastructure is mostly rated as good. Hence the regional influence on the individual perception of good foundation opportunities is primarily determined by the economic structure of the region.

Individual risk aversion is markedly influenced by the regional level, too. However, it is hard to explain this regional influence by the shaping of economic and demographic structural factors of the

region. The distinction between East and West alone proves to be relevant here. Although a significant regional influence on individual risk aversion can be found, it appears to hardly depend on the region's economic and demographic structural features, which suggests cultural or mentality differences between the regions studied. This finding is of significance because differences in mentality may be behaviourally relevant by influencing the choice of gainful employment.

Against the background of the explanations above, the following model of the significance and role of cultural features and foundation-related attitudes in the start-up process can be devised: Individual business foundation activities depend on personality traits and the respective region. The influence of these characteristics is exerted – almost directly – via foundation-related attitudes and capabilities. Positive foundation-related attitudes thus depend to a great extent on the characteristics of the person and of a region's economic structure and to a lesser degree on cultural background. Consequently, foundation-related attitudes and capabilities play an intermediary role in the start-up process. Policy programmes attempting to influence foundation-related attitudes should take into account these relationships and be aware that foundation-related attitudes prove greatly dependent on the characteristics of the person and his or her regional environment.

Figure 6. Factors influencing foundation-related attitudes and capabilities, as well as business foundation activities



Source: The author's presentation

The situation in East Germany

As regards business foundation dynamics, East Germany presents the following picture: In the early 1990s the number of business foundations first rose sharply, then declined to a level below that of western Germany. In 2003 and 2004 the number of business foundations again went up quite markedly in East Germany, above all due to the massive support for start-ups out of unemployment (Sternberg/Lückgen 2005: p. 14f; Bergmann/Sternberg 2007). When this kind of support for start-ups out of unemployment was restricted, this "boom" ended as early as 2005 (Heger/Metzger 2006). On account of the high unemployment rate, the proportion of start-ups due to the lack of better options of

employment is higher in East Germany than in the West. The growth intentions of these "necessity start-ups" are mostly smaller than with foundations originating from a good business idea.

Various studies have revealed that even more than 15 years after German unity the foundation-related attitudes in East Germany are somewhat more cautious than in western Germany. The most recent country report of the Global Entrepreneurship Monitor (GEM) on Germany clearly points to these differences: eastern Germans tend to assess their start-up environment more pessimistically than western Germans do. Further, there is a great, significant difference in relation to the question whether the fear of failure is an obstacle to business foundation: The value for East Germany, 53% affirmative answers, was 8 percentage points above the value for western Germany. No difference, however, was found when assessing individual foundation capabilities. These are rated as almost equal in eastern and western Germany (see Sternberg/Brixy/Hundt, 2007: p. 21). As noted above, the perception of foundation opportunities depends, above all, on regional purchasing power. A specific effect for East Germany could not be ascertained. Hence, of the variables studied, only the one related to risk aversion actually implies a cultural difference between eastern and western Germany. This marked risk aversion presumably results from the socialist past of East Germany, where taking one's own initiative and personally bearing economic risks were suppressed.

However, the below-average business foundation activity in East Germany can be explained only to a small degree by this cultural background. It is rather and above all the result of the comparatively poor economic development. At least in the initial stage, most founders operate for a local or regional market. Particularly low purchasing power therefore diminishes the incentive to become self-employed, a factor seen as a major obstacle in the regional case studies, too (see OECD 2006b: p. 16). The foundation boom right after the Wall came down showed that even in an environment shaped by a less conducive cultural background, many people take the step to self-employment when entrepreneurial opportunities are available in great number.

Areas for policy intervention

It is hard to obtain a review of policy programmes addressing business foundation-related attitudes or the foundation culture of a region because it is difficult to evaluate such programmes scientifically. Therefore, few publications on this subject are available. The success of supportive measures aiming at the creation of an "entrepreneurial culture" is often measured by the degree to which the programme is known among the population or among a certain group of persons or on the basis of motivation for business foundation (see Landtag Mecklenburg-Vorpommern 2005; BMWI 2006). It is not scrutinised whether such support initiatives actually cause an increasing number of businesses to be started. In the case of Mecklenburg-Western Pomerania, the increase of the proportion of self-employed persons from 7% to almost 10% during the campaign "*Einfach Anfangen*" (simply begin) is most likely not primarily due to this campaign, but rather the result of massive supports for start-ups out of unemployment (see Bergmann/Sternberg 2007) and of a general trend towards more self-employment. This does not imply that these support instruments are ineffective. As a rule, it cannot be scientifically substantiated that programmes launched to enhance "entrepreneurial culture" or to improve foundation-related attitudes actually lead to more business foundations (see Storey 2003). Therefore, an overview of such policy measures is possible only within limits.

An important policy initiative to positively influence the start-up mindset of university students and research workers is the support programme "EXIST – *Existenzgründungen aus Hochschulen*" (university spin-offs). As a first step, it seeks to sensitise students and research workers in favour of entrepreneurial self-employment as a viable option. Another priority is the education and professional upgrading of potential business founders. And as a third step, concrete business foundation projects are helped by means of counselling, coaching and infrastructural backup. From 1998 to 2005 a total of

15 regional start-up support networks were assisted by EXIST. These were previously chosen by means of a contest. The design and implementation of the various measures was done by the respective regional stakeholders. It would go beyond the limits of this chapter to outline all the measures. It can be stated that EXIST did enhance the motivation for self-employment at the universities involved. Compared to the initial situation in 1997, substantial headway has been made at the universities in terms of entrepreneurship education and upgrading. The lengthiness of processes of change that aim to promote a culture of entrepreneurial self-employment is also emphasised by the scientific back-up for the support programme. This has caused the lead aims of the programme as a whole to be reached only in part (see BMWI 2006). Factors contributing to the success of EXIST proved to be the competitive character of selecting the regions eligible for support and the freedom to design the individual measures. It still remains doubtful whether EXIST actually induced sustained processes of change and helped set up sustainable support institutions or whether these will disappear as soon as the support payments are discontinued. Furthermore, no statement can be made as to whether the support programme will, in the long term, result in increased start-up activities with positive impacts on the regional economy (see Koch/Kautonen/Grünhagen 2006). Notwithstanding these reservations, regions with major university locations, for example Halle/Saale, can surely benefit from the experience gained with the EXIST programmes (see OECD 2007a).

Autio, Kronlund and Kovalainen (2007) investigated in nine different countries policy programmes and support initiatives designed to foster high-growth enterprises. Most of the programmes studied do not target attitudes or the start-up culture of a determined group of persons, but provide concrete assistance measures for existing companies, e.g. in the form of advisory services, export promotion and opportunities of financing.

The Mastering Growth Program in the Netherlands is one of the few programmes focussed on the attainment and management of growth from a management perspective. The programme supports workshops in which ambitious companies can learn from each other how to reach entrepreneurial growth. The programme's objectives are to enhance growth motivation and, at the same time, to improve the managerial skills of the entrepreneur. The participants are primarily expected to learn from each other. The programme was started in 2006, so it is too early for a final assessment. However, the programme has aroused great expectations (Autio/Kronlund/Kovalainen 2007: 55f).

High-Growth Start-up is a regional project in South Yorkshire, Great Britain, that was initiated by the Organisation "Business Link". Over a period of 18 months, it offers mentoring and coaching help for high-growth companies. The aim is to equip the entrepreneurs with the necessary management capabilities for enterprise growth. The programme has already given help to several hundred firms. It is generally rated as being very successful. (Autio/Kronlund/Kovalainen 2007: 63f).

The recommendations for action by Autio, Kronlund and Kovalainen (2007: 76) regarding support for high-growth companies agree in many ways with those given in the OECD case study for Halle/Saale (OECD 2007a: 58ff), in particular in its advice to focus on a few high-growth companies, on the motivation of the entrepreneurs and on close cooperation with stakeholders from private business.

What could and should be done through public policy?

Business foundation-related attitudes and capabilities play an important role in the business foundation process. They influence significantly start-up activities and are, in turn, determined by the features of the respective person and region. Against this background one can say that they play an intermediary role in business foundation processes.

Most initiatives fostering entrepreneurship do not focus directly on the improvement of attitudes *per se*, but on an improvement of the framework conditions relevant to business foundation. The existing programmes have so far not provided scientific evidence that policy initiatives aiming to enhance foundation-related attitudes can indeed achieve an increase in the number of business foundations. The number of factors influencing the ultimate decision to start a business is too great to allow a clear-cut answer. There is evidence though that policy initiatives may lead to an improvement of attitudes and capabilities. But often a triggering event is still needed to actually induce people to take the step towards self-employment.

When designing policy programmes aiming at attitudes related with business foundation, it should be borne in mind that they greatly depend on personality traits, on integration into micro-social networks and on regional characteristics. The regional influence on attitudes towards business foundation can be explained quite well by the economic framework conditions of a region. In economically strong regions, people tend to have positive attitudes towards self-employment. In this light, policy measures usually have only a comparatively small and temporary impact on foundation-related attitudes and business foundation culture in a region.

Self-confidence in one's own capabilities to start a business has been found to depend almost exclusively on the individual features of the respective person and his or her integration into social networks. Specifically, the duration the individual's gainful employment, a high level of education and knowledge of others starting a business have a positive influence on one's belief that one is able to start a business. Likewise, in the perception of good opportunities for starting a business and of individual risk aversion person-related and micro-social factors are most relevant: Good opportunities for starting a business are perceived above all in agglomeration areas and in regions with strong purchasing power. In addition, individual knowledge of other business founders and personal experience with self-employment may result in improved perception of start-up opportunities.

A significant difference between eastern and western Germany levels of fear of failure (risk aversion) can be shown that is not completely explainable by economically and demographically structural factors. The question arises whether appropriate measures should be taken to try to reduce this difference. The discussion about the high risk aversion in East Germany should bear in mind that Germany as a whole is characterised by a marked risk aversion: 46.5% of the 18- to 64-year-olds would not start a business for fear of failure. For all countries studied, this value was found to average 35.4% and to be just 21% in the USA (see Sternberg/Brixy/Hundt, 2007: 19). Therefore, one can argue that reducing risk aversion should be attempted generally in Germany. The promotion of individual initiative and of readiness to take individual risks should occur as early as possible and be integrated into all spheres of the education system. As a matter of fact, success in this regard can be expected only in the medium term. (see OECD 2007b: 32).

The positive influence of knowing other business founders and of one's own start-up experience on foundation-related attitudes allow the conclusion that support measures are appropriate, for example by networking persons interested in starting a new business and by presenting role examples. This approach has also been taken up in the regional case studies (OECD 2006a: 38f; OECD 2006b: 17). Other measures proposed in the local case studies, for example the creation of start-up incubators (see 2006a: 12), appear to be less suited to attain an actual improvement in the business foundation climate in a region, as international experience with start-up incubators is limited.

As already stated, empirical studies have revealed that cultural features are responsible only to a small degree for the extent of entrepreneurship in a region. Entrepreneurs themselves do not desire support programmes as much as fewer administrative burdens, greater freedom of action and low

taxation. It is through improvements in this sphere that presumably the attitudes towards entrepreneurial activity could be enhanced best and sustainable.

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MAIN FINDINGS FROM LOCAL CASE STUDIES AND POLICY RECOMMENDATIONS

OECD

The need to strengthen entrepreneurial culture and cultivate favourable attitudes towards entrepreneurship and enterprise development became obvious from all local case studies. The importance of an entrepreneurial culture that encourages start-ups and enhances SME growth has translated into government action and a slew of public-private initiatives. Federal, Land, and local initiatives have been organised, such as entrepreneur's days, business idea competitions and various awards. In some areas, partnerships have been formalised at Land level between the Chambers of Commerce and Trade, the Chambers of Crafts and the Public Employment Service. The idea is to stimulate innovation and support it through internet portals, workshop series and individual events. However, at the local level, in some areas, a lack of identifiable local entrepreneurial role models and success stories became evident. In fact, successful entrepreneurs may even receive more envy than appreciation from other people.

The review of local case studies revealed two main themes in economic activity and entrepreneurship. On the one hand, people tend to seek employment in established companies or the public sector rather than set up and run their own businesses. The current culture still favours undertaking standard tasks and nurtures the expectation of career development within well-established internal labour market structures rather than encouraging the types of capacities that support the development of new and growing businesses – such as creativity, adaptability, self-direction and measured risk taking, and an expectation of career moves between firms and potential periods of self-employment and business management. On the other hand, even when people do set up and run their own businesses, they are often motivated by a desire to avoid unemployment rather than a wish to exploit perceived market opportunities. Therefore, these start-ups tend to have relatively poor growth and even survival prospects.

It is possible that the socio-economic legacy resulting from a dominance of command economy structures during the GDR regime has not been favourable to the emergence of an entrepreneurial culture. However, entrepreneurial activity and development rates worldwide show that fostering an entrepreneurial culture and encouraging the right motivations are not just an issue for economies in transition. These concerns are common to many OECD regions that were dependent on large-scale industrial activity that went into decline, particularly the old-industrial regions of Europe and North America. Many of these regions are now seeking to promote entrepreneurial skills and motivations, in the belief that this is a necessary first step for greater entrepreneurial vitality as well as the development and growth of small businesses overall. A long-term, integrated regional action plan for bringing about cultural change and promoting an entrepreneurial society, encompassing initiatives in education, training, administration, society, businesses, and the media is needed.

Places going through structural changes to their economy often feel that managing this process limits their capacity to generate dynamic and skilled entrepreneurs able to create new job opportunities and new economic activities. The closure of major factories can lead to a shortage of "local patriotism

and pride"[24], which are sometimes considered drivers for local start-ups and economic activity. This is why promoting entrepreneurial skills and motivations requires a strategy that includes improving the image of the districts as a place for setting up and running businesses, promoting successful entrepreneur role models, increasing awareness of entrepreneurial opportunities and establishing mentors for new and potential entrepreneurs. In-migrants, people who wish to return to the districts for family and other reasons, can be a strong asset for future entrepreneurship and economic development. For some of the local case study areas, initial results became visible when a number of successful and entrepreneurially active people entered the districts from other parts of Germany or abroad and successfully started businesses.

The understanding that entrepreneurship is not simply about starting a business, but that, employability and entrepreneurship have increasingly become an inseparable pair, should remind policy makers of the importance attached to apprenticeship schemes. The generation of intrapreneurial attitudes among company managers and staff is an important ingredient in the process of raising a firm's innovation potential and readiness. In some local case study areas, the number of high-skilled employees was above federal average. This suggests viewing an expansion of current activities as widening the group of potential recipients of policy initiatives and including high-skilled employees as a target group with great potential for entrepreneurial activities, in light of the still-limited interest in business succession compared to start-up activities. Being part of a wider economic area is an advantage, as the presence of large, often multinational firms offers a wide range of employment possibilities and the opportunity for employees to gain experience, enhance skills and to be introduced into networks. All this can be relevant when starting one's own business. Increasing responsibility, engagement and the recognition of co-workers is linked to processes of cultural and organisational changes with companies. In strengthening the local economy in its key envisioned economic sectors – health and the automotive industry, most of the local case study areas can draw on the assets of a large pool of qualified young adult workers with academic qualifications and job skills. They can also benefit from a local business community that includes companies of different sizes and specialisations.

The local case studies confirmed the assumption that support to encourage entrepreneurial attitudes is too strongly focused on the unemployed. Avoiding or escaping from unemployment often constitutes the rationale for new business creation. However, such necessity-based enterprises tend to be less successful in competition than opportunity-based enterprises and it is the latter that people should be encouraged to create and grow. A balance is clearly required between activities to support the emergence of entrepreneurial attitudes and skills in the population as a whole and activities that support start-ups and established small businesses. However, it is easy to focus too much on so-called "hard" support, such as finance, premises and start-up counselling, and too little on "softer" support for encouraging the right skills and motivations. The latter type of activity focuses on encouraging people to consider entrepreneurship as a valid career choice for themselves and people they know and to view entrepreneurship as the pursuit of opportunities to profit from the development of new products and services, new markets and new ways of organising production. Widespread necessity entrepreneurship adds to this problem by generating new entrepreneurs from the long-term unemployed with limited capital and entrepreneurial skills. The nature of the entrepreneurship being pursued is relatively weak with respect to product and process innovation, company growth, product quality and the spatial reach of markets. Most necessity-based entrepreneurship addresses non-tradable sectors within local markets, whilst in the long run, unless businesses export out of a locality or substitute for imports, it is unlikely to generate the additional income required to reverse local economic decline in the long term. Actions to increase entrepreneurial motivations and skills are thus

[24] Cited from Declan Murphy (2006): Supporting Entrepreneurship: Innovation, Exporting, Infrastructure and Financing, in: Entrepreneurship in the Districts Mittweida (Saxony) and Altenburger Land (Thuringia), OECD Discussion Paper, OECD Local Entrepreneurship Reviews.

important not just for increasing the pool of people interested in and capable of starting and running a business, but also for shifting the nature of business activity in the districts towards opportunity rather necessity entrepreneurship and towards incremental innovations in products, markets and production techniques that will make local businesses more competitive.

Improving entrepreneurial attitudes implies creating a greater awareness of the opportunities and benefits of entrepreneurship. Such awareness encourages more people to start or grow a business, and it also helps develop a greater entrepreneurial culture within institutions, communities and businesses. In turn, a strong entrepreneurial culture fosters a correct understanding of market and business opportunities that enable small-scale and traditional businesses to seek new possibilities within the local economy and/or across its borders. The local case studies suggest that for the majority of existing SMEs, a narrow conception of markets and growth opportunities negatively influences aspirations and innovation capacities. In addition, staff development and training are often not among the priorities of SME managers, who spend most of their time on a variety of pressing issues. It is important that training offers, including coaching and counselling, are subject to regular quality checks that take into consideration local business needs and requirements.

The various pilot initiatives designed and conducted by a coalition of Chambers and business associations can be named as good practice that should be further mainstreamed. Most of the current training and awareness raising activity, however, seems to be focused on vocational training and adult education, which leaves little margin for fostering entrepreneurial attitudes in schools and motivating students towards considering entrepreneurship as a valuable alternative to dependent labour. Entrepreneurship promotion activities should therefore be extended to new audiences.

The local case studies in East Germany highlighted a number of policy recommendations that can be taken up by national and local governments and organisations active in developing and strengthening entrepreneurship and local economic development. Despite their local provenance, the policy recommendations have a certain relevance for other localities in East Germany and elsewhere. The following list of recommendations should therefore be considered and consulted as a checklist for policy makers and local organisations creating entrepreneurship policy and developing new local activities to enhance entrepreneurial culture, and both foster and spread favourable attitudes and motivations for starting and growing entrepreneurial activities.

	Policy recommendations to enhance an entrepreneurial culture and favourable attitudes
☑	*Increase awareness of entrepreneurial opportunities.* Special promotion activities and promotional material should be developed with the aim of increasing awareness of the opportunities for new business start-ups amongst all segments of the population. Regions and localities should be innovative in initiating their own promotion activities.
☑	*Improve the image of places.* Changing the entrepreneurial culture means changing the image of a place with both internal and external populations. If people do not believe that a place is attractive to live in, and that it allows for being entrepreneurial and innovative, then they will not set up businesses, or will set up or operate their businesses in more attractive places. Campaigns should therefore be created to generate trust in the endogenous strengths and in the future of places. In strengthening their entrepreneurial image places should promote key specific strengths as 'magnets of attraction'.
☑	*Intensify enterprise education and awareness campaigns.* It is important that entrepreneurship is not seen as a cure for unemployment but rather as a means to dynamic economic development. In the long run, promoting enterprise education throughout the education system up to university level increases entrepreneurial aspirations, attitudes and behaviour in the long run. Education from an early age should promote creativity and empowerment as well as provide children and youth with a realistic picture of entrepreneurship as a viable, also temporary, alternative to paid employment that in the future will be more a blend of dependent and self-employment.

☑	*Create identifiable role models and champions*. Regional success stories should be identified and promoted in different media (TV, radio, newspapers, magazines, internet), in different forms (e.g. awards, success stories), at different occasions (e.g. conferences, fairs, events) and by different public and private actors (e.g. local government, chambers, business associations, community organisations, etc.). It is important to demonstrate that entrepreneurship is about taking manageable risks and sometimes even about failing, but however it is worth trying and taking the risk. Practical real life stories and happenings provide people with better understanding of what it is like to be an entrepreneur.
☑	*Establish mentor and patron panels.* The availability of a panel of retired business people to counsel new and expanding companies has been an important feature of working with, and supporting SMEs, in other OECD countries. This type of mentoring service is relevant to both micro and larger SMEs, and at start-up and later stages of development in the life cycles of companies.
☑	*Incentives and support for business succession.* In light of the still limited interest in business succession, compared to start-up activities, more incentives and support structures should be developed. The inclusion of highly-skilled employees, with great potential for entrepreneurial activities, should be considered as a target group for training programmes in business succession.
☑	*Create incentives for SMEs to take apprentices*. Apprenticeships assist young people to gain work experience and provide SMEs with possibilities to test young workers and their capabilities and train them according to company needs. Entrepreneurship is not simply about business start-up, but, increasingly employability and entrepreneurship have become an indivisible pair. It is important to continue initiatives that can raise awareness of skills development needs and can create incentives for SME to take apprenticeships.
☑	*Enhance intrapreneurship.* The generation of intrapreneurial attitudes amongst company managers and staff is an important ingredient in the process of raising a SME's innovation potential and readiness. Increasing responsibility, engagement and the recognition of staff is linked to processes of cultural and organisational changes with companies.

Box 7. Being inspired from good practice in fostering an entrepreneurial culture

Y4 – Making a region entrepreneurial – Finland: Removing barriers to entrepreneurship.

"4x4 pour entreprendre" in Wallonia – Belgium: Stimulating an entrepreneurial climate – getting everyone on board.

Entrepreneurship Action Plan for Wales (EAP) – United Kingdom: Changing people's attitudes to entrepreneurship and fostering a culture of entrepreneurship that includes students, employees, entrepreneurs and the public sector.

Scotland's Birth Strategy – United Kingdom: Entrepreneurial culture and attitudes, Entrepreneurship policy delivery.

Basque: A regional strategy to consolidate an entrepreneurial society – Spain: A long term integrated regional action plan for bringing about cultural change and promoting an entrepreneurial society.

"Gruender-mv.de" – Increasing entrepreneurial attitudes and actions in Mecklenburg Western Pomerania – Germany: Making information about entrepreneurship attractive, easily accessible and ubiquitous.

Determined to Succeed – Making a Smarter Scotland – United Kingdom: An enterprise education programme.

Distance Education Programme on Entrepreneurship Studies (DIEPES) – Finland: A radio enterprise education training programme.

Getting employees thinking about starting a business Enterprise Start Programme – Ireland: Getting high skilled employees interested in starting their own business.

Assist in Business Succession: „ViestinVaihto-ohjelma" programme – Finland: Offering advice and guidance in business succession at an early stage, including an assessment of existing skills and designing a training strategy for business staff.

CHAPTER 2

MODERNISING AND DIVERSIFYING EXISTING SMEs

MAKE EXISTING COMPANIES THINK ABOUT THEIR GROWTH

Markku Virtanen, Finland

Introduction

Fostering entrepreneurship and business growth is clearly important for job creation and economic development. When a planned economy transforms to a free-market system, the importance of entrepreneurship is emphasised, since such a tradition did not previously exist in the business culture. In most cases, the transformation includes privatisation of publicly owned property and therefore, changes in ownership structures in the economy. Several challenges exist in changing ownership structures in an optimal fashion. Appropriate physical and institutional infrastructure will be needed to attract private investment, and well-defined strategies and policies should be introduced to provide a welcoming environment for businesses. As Smallbone and Welter (2001a) state, transformation is much more than an economic process. It also includes social change.

The main goal of regional or local economic development is to stimulate local employment opportunities in areas that create prosperity for the community using existing human, natural, and institutional resources (Blakely and Bradshaw, 2002). Strategies for regional development to stimulate and maintain business activity and employment include increasing entrepreneurial behaviour and improving entrepreneurial culture, encouraging new ventures, innovations and start-ups, attracting businesses and investments, and developing and expanding existing businesses.

The business environment includes cultural, demographic, political, and technological factors and natural resources that deviate between and within countries. It is quite evident that in transition economies, the major problems in fostering entrepreneurship can be derived from the cultural background and a non-existent entrepreneurial heritage. However, during the transformation period, a a lot of potential can be created for opportunity development. There may be a hidden innovation and growth potential in existing firms that can be unleashed by introducing incentives and initiatives to improve business skills and know-how, increase entrepreneurial spirit, and promote an expansion mentality and an entrepreneurial culture. However, such efforts should not focus solely on innovations and growth. The diversity of local firms and the jobs they create should be appreciated, too (Stark and Brown, 1997).

SME policy from the perspective of modernisation and diversification is totally different in transition economies, since before the collapse of the centrally planned economic system, privately-owned small businesses were nearly non-existent in these areas, except in Poland (Konopielko and Bell, 1998). Thus the development and expansion of existing businesses was not as appropriate a strategy in the early 1990's as it could be today.

This chapter focuses on modernising and diversifying of SMEs in East Germany. Thus the chapter will concentrate mainly on policies designed to retain and expand existing firms, leaving strategies and measures to foster start-up businesses mainly outside the scope of the chapter. The main research question is: what kind of policy measures and characteristics could be connected with modernising and diversifying SMEs in East Germany?

The chapter is organised so that first, previous studies will be reviewed and the definitions of the key concepts will be described. Thereafter, areas for policy intervention will be introduced and appropriate policy responses in selected OECD countries and their relevance to East Germany will be discussed.

Modernising and diversifying SMEs – some theoretical aspects related to East Germany

Small and mid-sized enterprises

In Germany businesses are categorised as SMEs if they employ less than 500 workers and produce smaller than 50 million Euro annual turnover (FMET, 2006). In spite of a different definition compared with many other European countries, the distinction between different definitions will not be made in the chapter. Following the above definition, SMEs represent 99.7 % (about 3.5 million) of all businesses in Germany and they provide more than 70 % of all jobs, producing about two-fifths of the taxable turnover. According to FMET (2006), SMEs are the key vehicle of economic development in East Germany.

Modernising and diversifying

Policy issues and approaches on modernising and diversifying SMEs is challenging since the content of the concepts is not unambiguous, and previous studies of these processes are very scarce. Modernising and diversifying SME's includes both the creation of new ventures in order to revise the structure of the economy and transformation of existing businesses. Policy for modernising and diversifying structure of the economy (distribution of the businesses) could include measures and instruments that create potential for new industries and discourage entrepreneurship in traditional sectors (e.g. in agriculture and fishing). The focus of this chapter will be mainly on existing SMEs in traditional and tradable sectors meaning that policy measures intended to change the structure of economy will be paid less attention.

Malecki (1997) argues that the pace of modernisation is slower in small firms since they lack awareness of new manufacturing methods and opportunity to acquire hands-on experience with new technologies. This argument, even if not more than 10 years old, contrasts with that of Blakely and Bradshaw (2002) who state that technology moves easily around globe and people have virtually global access to information. Faster dissemination of information has shortened the cycle tremendously. Information access for SMEs has become easier, and the shortened life cycle generates new opportunities for them, since SMEs are more flexible than large businesses. But at the same time, tighter competition will introduce new challenges for SMEs.

Modernisation could be interpreted as introducing entrepreneurship and innovations in existing firms. Boime (1976) states: "The entrepreneur, insofar as his activities transform the physical nature of the environment and thus the conditions of experience, creates what I call the entrepreneurial ecology. The term as used in this chapter expresses *the changing character of the contemporary world through material signs of modernity*. Not only do entrepreneurs furnish conspicuous evidence of change, they are the first to call attention to it by their lifestyle." This approach emphasises the entrepreneur's role in the transformation process. Boime (1976) highlights the reason why we believe entrepreneurial talents are crucially important – an entrepreneur's activities transform the physical nature of the environment. He introduces an interesting ingredient to entrepreneurs' roles, stating that entrepreneurs may also act as early adopters on the consumer side.

The start-up rate in East Germany boomed in the early 1990's at the transformation stage from a planned economy to a market economy (Irsch, 2005). The Kreditanstalt für Wiederaufbau (KfW) and

Deutsche Ausgleichsbank (DtA) are two quasi-public credit institutions which channel public funds for venture capital investment for eastern states using regional criteria (Sunley et. al., 2005). These funds have been much more directed at early-stage investment than, for example, what has been the case in the UK (Sunley et. al., 2005). In order to increase their competitiveness, the surviving East German firms mainly modernised their plants and equipment at the transformation stage. Fixed assets of East German firms are still relatively high and their modern capital stock affords the East German enterprises an advantage (Irsch, 2005). That is why modernisation of plants and equipment will not be emphasised in this analysis.

Penrose (1959) observes that diversification is perhaps the most inadequately treated characteristic of business firms in economic analysis. She notes that diversification is sometimes called spreading of production or integration which seems to accompany the growth of the firm. This means that diversification is clearly connected with business growth. Thus, policies to promote diversification in SMEs will be closely connected with policies to foster business growth. Porter (1985) deals with diversification strategies in the context of large businesses, noting that in the 1980's the diversification strategy of businesses changed so that they emphasised diversification to the branches, which is close to the core of the business. Penrose (1959) suggests that utilisation of excess capacity of human capital is the trigger that drives corporate growth and diversification. Rumelt, Schendel and Teece (1994) propose that in order to realise economies of scale, diversification requires resource sharing and/or skills transfer between two or more otherwise distinct businesses. The exploitation of underutilised resources most often involves internal growth, as opposed to acquisitive growth.

A more modern approach to diversification introduces a product – market matrix which describes the newness of a product or service in relation to the newness of markets. Product diversification means the supply of new products to the existing market, whereas market diversification represents the opportunity to sell existing products to new markets. Diversification may take place with new products in new markets. In this case, innovation content is especially high since innovation in all cases presupposes new knowledge whether this knowledge is connected with new products, technologies or markets (Afuah, 1998). In radical innovations, the knowledge required to exploit innovation is competence-destroying, whereas incremental innovation means that the needed knowledge is competence-enhancing (Afuah, 1998). Deakins and Freel (2003) tie diversification strategies to marketing strategy, suggesting that successful diversification requires careful analysis of the market e.g. through a feasibility study. After identifying the need for change, focused strategy for diversified development should be introduced. They emphasise that a successful diversification strategy requires both planning and the education and training of entrepreneurs to foster needed change.

At the firm level, recognition of new opportunities, R&D activities, innovation policy, technology base, knowledge of technology and business, and business skills link diversification with changing internal and external circumstances which affect the productivity of the firm (c.f. Penrose, 1959). These forces both promote diversification and limit the degree of freedom to modernise and diversify. Thus these dynamic changes (modernisation and diversification) are closely related entrepreneurial processes. Iacobucci and Rosa (2002) argue that an important reason for establishing new companies is the need for organisational differentiation induced by entrepreneurial diversification of activities. Diversification could be either geographical extension or entering into new sectors (Iacobucci and Rosa, 2002). If diversification includes the formation of a new company by the same entrepreneur, he could be called as portfolio entrepreneur (Huovinen, 2007).

Driving factors and challenges for modernising and diversifying SMEs

What are the driving forces and challenges which spur SMEs to modernise and diversify? Blakely and Bradshaw (2002) identify four attributes as driving forces of the economy. These forces create new challenges and opportunities. They suggest that driving forces are globalisation, accelerated pace, knowledge base, and networks. On the other hand, we could argue that the overall trend is globalisation, which follows from and includes several different phenomena. The driving factors for the need for modernising and diversifying are:

- accelerating pace and faster dissemination of information and technological development (knowledge base) which lead to a shortening of product life cycles;
- the demand for (low-cost country) outsourcing because of the need to maintain competitiveness. This leads to a mobility of resources and affects small and mid-sized subcontractors of large firms;
- the need for a widening resource base through networking;
- harmonisation of norms and regulations (e.g. Single Euro Payments Area);
- increased demand for safety because of tensions between different cultures and religions.

In addition to globalisation, one trend is digital development which affects the appearance of new opportunities (Malecki, 2003). However, the benefits from digital development, and especially the development of telecommunication infrastructure and technology in remote areas, are controversial. If there is access to the networks and such facilities as broadband, they may create new opportunities for ventures in remote areas and create possibilities for distant work. But as Malecki (2003) suggests telecommunication is not a 'quick fix' solution for development in remote areas, and the desired improvements will be limited to a fraction of remote places. He notices that telecommunications technology cannot make up for human capital deficits. Malecki (2003) argues that a more fruitful approach would be to build and enhance the capabilities of local firms and to attract a share of experienced entrepreneurs who are not willing to live in urban areas.

Corporate social responsibility is sometimes presented as a response to, and sometimes as the result of, new challenges created by economic globalisation. CSR is at once viewed as a response to the crisis of the welfare state producing a new model for social governance and as a framework linked to national competitiveness. The greenhouse effect and changes in climate are increasing concerns and have created the trend of sustainable development. The demand for sustainability of business may be in conflict with some of the above trends, but it creates new opportunities in renewable energies. Demand for sustainability will be extremely important in modernising waste management and may require diversification from energy producers. It will also generate R&D processes and serve as a platform for innovations. For example, the new technology creates opportunities to produce energy and fuels from biomass. The driving forces for this kind of development are the norms and directives which demand carbon-free production.

According to the IBM CEO Study 2006, two-thirds of CEOs are going to make fundamental changes to their business because of intensified competition, escalating customer expectations, unexpected market shifts workforce issues, technological advances, regulatory concerns, and globalisation. Current trends in business are open-source innovations, new business models and the outsourcing of R&D activities. In the IBM (2006) study, those businesses which had grown faster than market expectations used 30% more outside sources of ideas than their competitors. Two-fourths of

the respondents recognised business partners and customers as the best sources of new ideas. Ginni Rometty, the director of IBM consultant services, states that: "You should be able to understand the new opportunities hidden within new business models, operative processes as well as planned changes in management practices."

This means that in addition to human and physical capital, businesses are more and more dependent on social capital. Social capital includes structural dimension (networks, network ties, contacts, interaction and organisation of networks), relational dimension (trust, norms and obligations) and cognitive dimensions (language, codes, narratives, and shared norms) (Nahapiet and Ghoshal, 1998). Open-source innovations and the outsourcing of R&D would benefit from a firm's strong social capital, such as networks and network relationships, but also from a firm's ability to reach consensus with its partners.

How can policy makers support SMEs in their effort to follow and adapt to these changes and trends as they develop their business opportunities? Education and training as well as other forms of dissemination of information could be used to raise the level of awareness and knowledge. But it could be argued that the role of business know-how and commercialisation processes should be emphasised regardless of industry in order to foster regional development, regional entrepreneurship and all its connections.

One potential question is: should we change regional innovation systems framework to a more focused framework for business know-how and skills? The current practice in many countries is to build environments which support technological development, for example technology centres, science parks and incubators. These facilities provide excellent input in the innovation process, but they need suitable context (e.g. connection with R&D activities) in order to flourish. Moreover, they do not focus on business opportunities. The development of an opportunity-focused innovation support system could begin by identifying the producers, brokers and users of business know-how, analysing their needs and introducing tailored programs for their business development (Virtanen and Heimonen, 2006b).

Obstacles for modernising and diversifying SMEs

Dubini (1989) argues that disadvantaged areas possess environmental shortcomings that could be counted as market failure and thus there may be need for some kind of intervention. Dubini's (1989) deficiencies are: 1) lack of entrepreneurial culture and values, 2) lack of networks and support services, 3) lack of tradition of entrepreneurship and family businesses in the area, 3) absence of innovative industries, 4) weak infrastructure, 5) weak capital markets, 6) few effective government incentives. These deficiencies are obstacles for entrepreneurship in general, not specifically obstacles for modernisation and diversification.

Obstacles for modernising and diversifying SMEs could be connected to the resources required in the process and situational factors. Resources include human, physical and social capital. Lichtenstein and Lyons (1996) summarise the obstacles to entrepreneurship to include 1) obstacles to use resources, 2) availability of raw materials, 3) availability of work force, 4) information about the resources (visibility), 5) costs, 6) delivery problems, and 7) capacity problems. The majority of these problems are very concrete and mainly operative

Comparing the characteristics of small and large firms, Malecki (1997) points out that the principal disadvantage faced by small firms is the shortage of resources, especially financial resources available for large businesses for expansion and diversification. Diversification as a development strategy has been mainly a concern of large firms where the causes of diversification and its

consequences on firms' performance have been the focus of the analysis (Iacobucci and Rosa, 2002). Wright, Westhead and Ucbasaran (2007) state that many small private SMEs need to address liabilities relating to "smallness" and "inexperience".

Several authors have emphasised that access to financing is one hindrance for SME development (e.g. Malecki, 1997). Public support could be allocated to reduce the impact of market deficiencies (negative externalities) or to improve the level of knowledge and technology and to promote internationalisation of businesses (positive externalities). However, public support should be planned so that market disturbances could be avoided. Thus, support measures should be more focused on support given to the firm against payment. Promotion of positive externalities produces fewer market disturbances and thus encourages the development of measures to induce positive externalities that will be more appropriate in fostering innovations and knowledge-intensive businesses.

Already Modigliani and Miller (1958) noticed the different status of small and new enterprises in capital markets and suggest that some kind of equity gap could exist. However, their conclusion – that the entrepreneur's unwillingness to share the business would be a reason for a shortage of equity capital – requires more profound analysis. This unwillingness to share (control aversion) may lead to an equity gap. However, the evidence of equity gap is not so self-evident since the quality of the business projects seeking equity funding may be too low from the financiers' point of view. Virtanen (1988) studied discrimination in the Finnish business loan market by regressing customer revenue with independent variables including company size and age. He found that the smallest customers in the Finnish business loan market are not discriminated against. The existence of financing gaps in some areas leads to consideration of a correction of this "market failure" by using public support. For example, in Germany public support is allocated to venture capital funding (Sunley et. al. 2005). It is important that this is limited to a minimal and market-failure-correcting intervention. Otherwise, in the long run, generous financial support will probably be disastrous as it may lead to crowding-out effects that could lead towards the undertaking of low-risk projects with low profits. The most destructive potential result of this kind of behaviour would be the flight of private equity to investments where the return on capital will be higher.

Promoting entrepreneurship and SME development

Entrepreneurship, SMEs, and innovations

Malecki (1997) defines entrepreneurship broadly to embrace new firm formation, small firms, innovation as well as regional and local development. He argues that the formation of new firms is especially essential for regional and local well-being. However, focusing on changing existing firms could be a more efficient way to obtain results quickly. The creation of new jobs depends on business in the region. Rajan and Zingales (1998) found that existing businesses generate two-thirds of industry growth, whereas one third comes from new venture creation. The result is parallel with Storey (1994) who discovered a similar relationship between established and young firms.

Many expectations will be placed on entrepreneurs and their businesses when society is changing. These include innovativeness and a new wave of development in the society where the different guidelines and programmes are based (Koskinen and Virtanen, 1998). But these expectations may be overestimated because of the wide diversity of entrepreneurs and businesses. Research on the origins of business ideas has suggested that we should not overlook seemingly mundane business opportunities (Bhide, 2000; Vesper, 1991). Recent data from the US shows that even so-called "gazelles", i.e., fast-growing SMEs, are not only in high-technology but equally also in services and trading.

Stark and Brown (1997) point out that between 40 to 70 percent of the changes in small-town employment result from decisions made by existing businesses. They conclude that preserving and building the local economy is achieved by keeping local firms healthy and happy, and encouraging their future growth. Stark and Brown (1997) quote Larry Ledebur, who coined the term "backyard development" in the 1980s. This means that communities make efforts to generate jobs in their backyards by improving the business climate for existing firms and by fostering an entrepreneurial spirit or expansion mentality among current business owners. The policies should include proactive measures such as development of retail facilities and services in order to prevent outflow of purchasing power (c.f. "magnets of attraction", Murphy, 2006).

Transformation from centrally planned to market economies requires economic and social restructuring, and in this process the development of small and mid-sized enterprises (SMEs) plays a central role. Smallbone and Welter (2001a; 2001b) note that SMEs may contribute to employment, innovation, diversification of economic structure and sectoral restructuring, development of a supply base and the overall transformation of the system. Contribution to employment includes also a motivation push since small businesses may also provide a means of "self-help" for those without a job. Development of a supply base includes changing centralised systems to more flexible ones where SMEs serve the needs of larger firms (Smallbone and Welter, 2001b).

Challenges for transformation economies in developing their market systems include sparking the motivation of individuals and organisations to be productive and create innovations (Behrman and Rondinelli, 2000). Especially radical innovations mean that the knowledge required to exploit innovation is competence-destroying (Afuah, 1998). Schumpeter (1943) recognises the importance of knowledge in an entrepreneurial process when he states that entrepreneurs have an ability to attract supernormal brains. This is especially important for high-tech ventures but currently also in other sectors since new knowledge and innovations are more and more connected with new business models and markets (c.f. Afuah, 1998) Schumpeter's (1943) definitions of entrepreneurship that describe it as a dynamic process of creative destruction deal mostly with the process of existing enterprises. The Schumpeterian approach emphasises the creation of something new as an important function of an enterprise. Baumol (1993) states that these creation processes serve as impulses for the motion of a market economy and thus could be seen in existing firms as processes to modernise and diversify businesses.

SME's should also follow the overall development of innovation systems and new forms of co-operation. More and more innovations are currently the so-called open innovations where experts from several businesses may have been involved at the development stage. On the other hand, commercialisation process should be seen as a continuum from idea generation to market launch. The most important issue will be to mobilise sufficient resources at critical stages of the process (Jolly, 1997). From the SME policy perspective, the open innovation paradigm is interesting since it may create new opportunities for SMEs in subcontracting research and development activities (IBM, 2006).

Growth and internationalisation

How can public authorities most effectively support business growth? In most countries the emphasis of policy programmes has been on creation of new businesses whereas existing traditional businesses have usually attracted attention only at a reactionary stage of the local economy. Thus more rigorous knowledge of growth characteristics should be available for policymakers to help them design focused policy measures for those companies which have growth potential.

Endogenous growth has been one of the major approaches in regional growth studies (Nijkamp and Stough 2000). Endogenous growth theories explain growth from a micro-theoretic perspective so

that consumers maximise their utility and firms their profit with respect to their budget constraints. In the framework of endogenous growth, the development of human capital and new technology play a remarkable role, and that is why the use of this theoretical background is appropriate for studying regional growth, where one perspective is public input in R&D activities.

However, even if the endogenous growth theory starts from a micro-theoretic perspective, it mainly analyses the growth of a certain region as an aggregate-level, macro-theoretic phenomenon. This kind of approach may be problematic because some businesses also grow in regressive regions and branches of industry (e.g. Pasanen, 2003). But as Dabson (2006) proposes, the focus should be on identifying local and regional assets and converting them into entrepreneurial activity.

According to contingency theory, the growth of firms and the ensuing diversification cannot be examined in isolation from their specific situation and environment (Gilad and Levine, 1986; Littunen, 2000). Contingency theory notices changes in situational factors, for example the firm's strategies, which are important in explaining dynamic phenomena such as growth, modernisation and diversification.

The characteristics of growth businesses and their success have not been studied widely but it will be assumed implicitly that high growth correlates positively with success. Birley and Westhead (1990) point out that one limitation in previous research is the assumption that performance and growth are not only interlinked but used as a surrogate for each other. They add that this kind of correlation is not supported in the literature. Pasanen (2003) states that SME success is not related only to high-growth industry sectors, but that successful firms could also be found in other sectors.

Almus (2002) compared fast-growing firms in Eastern and Western Germany by analysing a sample of approximately 2000 observations from manufacturing, construction, trade, transport and telecommunication, and services. He differentiates between technology-intensive businesses in manufacturing and business-related services from non-technology-intensive businesses. Almus (2002) proposes that construction, transport and communication and not knowledge-intensive business services have had higher probability for rapid growth than trade in Eastern Germany. He summarises that there are no signs that firms in technology-intensive manufacturing branches or in knowledge-intensive business services have better chances to grow quickly than firms in other sectors. According to Almus (2002) the rapid growth in Germany overall during the 1990s owes much to the fast growth in Eastern Germany due to the re-unification. Economic development may change the situation quite rapidly but the result suggested by Almus (2002) parallels that of Heimonen and Virtanen (2007). They propose that fast growth and high success is not concentrated in high-tech businesses and may have different characteristics in different parts of the country. However, it will be quite evident that the development of knowledge-intensive business services and trade will increase in importance when the basic entrepreneurial infrastructure is well established.

Virtanen and Heimonen (2006a, 2007) and Heimonen and Virtanen (2007) studied the role of innovativeness and regional differences in the growth and success of existing firms in Eastern Finland. Virtanen and Heimonen (2007) defined fast growth as more than 30 % annual growth continuously in the three-year period and high success by using performance index constructed from financial data. They found that only 12 % (12 firms) of the growing businesses in rural areas (Eastern Finland) were both fast-growing (FG) and highly successful (HS). The distribution of FG and HS firms included only two manufacturing firms and only two that could be classified to include some kind of high-tech in their products and services. The others represented included the construction industry, basic services, and trading. The implications of their study suggest that policy makers should carefully consider the allocation of inputs to innovation activities. From the point of view of job creation, growth and success it may be reasonable to concentrate on traditional branches of industry. The allocation of funds for

fostering innovation should also be reconsidered and more emphasis should be placed on incremental innovations in business know-how including diversification into new markets and development of new business models.

From a policy perspective, it will be essential to be able to differentiate fast-growth businesses. Littunen and Virtanen (2005; 2006) proposed that among the growing firms, the presence of positive situational and "pull" factors were important motivating and precipitating factors in the creation of a new business – meaning that entrepreneurial motivation differentiates growing firms from non-growth companies, so that growing firms are more opportunity-driven (Shane and Venkataraman, 2000; Littunen and Virtanen, 2006). Among the founders of other firms, the motivating factors were more often unemployment or fear of redundancy, and internal motives. Littunen and Virtanen (2005) discovered that the most of those factors that differentiate growing ventures from non-growth companies could be taught and learned. But most of them depend on strategic and operative choices by the entrepreneur. Thus, effective policy response to these issues should be indirect, e.g. dissemination of information, education and training.

Fischer and Reuber (2003) concluded that high-growth firms preferred advice from their peers compared to external resource providers. They studied how firm owners, external resource providers, and public policy advisers evaluate the role of management, external resource providers, and governments in supporting rapid growth (Fischer and Reuber, 2003). Moreover, firm owners preferred controlled growth compared with rapid growth because of the management challenges connected with high growth. According to their results, they propose a networking approach based on the active participation by high-growth firm owners as a solution to support these businesses. The network *Innovators Alliance* will be presented as one of the best practice solutions in this chapter.

Internationalisation is one part of growth strategy, and thus the growth process will be a dynamic one where we may identify similar internal decision-making characteristics and situational factors. However, in the internationalisation process, we will probably not be able to lean on resources from the firm's headquarters, and instead have to rely on external agents as distributors, subcontractors etc. SMEs (and entrepreneurs) have to invest in networking activities to ensure that the appropriate resources, knowledge and learning are accumulated to provide a positive platform for internationalisation (Wright, Westhead and Ucbasaran, 2007). Thus internationalisation demands a widening of the resource base through building social capital. In the internationalisation process, networking, which belongs to the structural dimension of social capital, is important, but relational and cognitive dimensions, are significant as well, because of the mixture of different cultures and normative environments (Nahapiet and Ghoshal, 1998).

Wright, M., Westhead, P. and Ucbasaran, D. (2007) encourage policy-makers to provide more balanced and refined policy support if they are seek to facilitate private SME internationalisation. In some branches of industry, businesses should be born to be global (Virtanen and Pellikka 2004) but in traditional and tradable branches, the majority of the firms follow a process of internationalisation by stages. In that case, policy support may include aid in accessing information, advice on market analysis, and other measures.

Education, training and counselling

Modernisation and diversification of SMEs creates demand for management and business skills in order to reorganise existing businesses, and to develop and implement new business models. Manager training and education to raise the level of intellectual capital of existing SMEs could be a cost-effective way to promote local economic growth and welfare (Heinonen 2006). Heinonen (2006) suggests the following areas which could be addressed by training: surviving in the first critical years

(death valley), developing new opportunities (growth), widening understanding and knowledge of markets (growth, internationalisation) and business transfer (succession). The increased importance of such cognitive knowledge and the skills needed for its acquisition are placing education and lifelong learning at the centre of governmental policy initiatives in modern economies (Lloyd-Reason, Muller, and Wall, 2002). Radical innovation means that the knowledge required to exploit innovation is competence-destroying. The substitution of different memory devices is a good example of competence-destroying innovations. Magnetic tapes and discs were replaced by mini discs and diskettes and later on, diskettes where replaced by memory sticks. In all these cases,capacity has increased tremendously compared with the size and usability of new devices.

Lussier and Corman (1995) found out that successful firms used more professional advisors and their owners' parents owned businesses, whereas the owners of failed businesses had higher education and did not have problems in acquiring workforce. This could be interpreted to mean that owners of failed ventures seize riskier opportunities and are not cautious enough in recruiting personnel.

Areas for policy intervention

Why will local and regional policy will be needed?

What are the problems which demand that local and regional policy foster modernisation and diversification of SMEs? Market pull is the main driver of regional economic development. Because of powerful market dynamics, public policy intervention have only a limited influence on regional economies. Public intervention is usually not needed as an instrument of economic policy in a competitive, well-functioning market (Wright, Westhead and Ucbasaran, 2007).

Public support could be seen as reducing the level of welfare through distortions in competition from the effects on relative prices and the costs of products and services. In those markets where market deficiencies, i.e. negative externalities, will be observable it may be possible to decrease market failure and to foster economic development. The improvement of market functionality and the elimination of market failures should be the basis for sound economic policy. The European Union has emphasised the importance of reducing and redirecting the general level of state aid. However, there will always be some market deficiencies, and thus some public support will be needed. In order to avoid market disturbances, support measures should be more focused on support given to the firm against payment. Promotion of positive externalities produces fewer market disturbances, and thus it will be more appropriate in fostering innovations and knowledge-intensive businesses.

Market failures may be caused by deficiencies and asymmetries of information, business location or previous economic development. Information deficiencies will be typical characteristics, especially in start-ups. They do not have an established history, and thus they will not be able to get external financing from the market with normal funding terms. In the case of modernisation or diversification, typical start-up problems do not exist. Market failures caused by business location may be alleviated through regional policy and support systems. Business may be driven to crisis because of overall poor economic development, and then economic policy will demand special reengineering measures. An example of this kind of crisis is the banking crisis in Finland in the early 1990s. Adverse effects of the crises could be – and in this case also were – mitigated by granting public support for businesses in crisis. Market failures relating to imperfect and asymmetric information, externalities and incomplete property rights, imperfect market structures and poor regulation can constrain SME development (Wright, Westhead and Ucbasaran, 2007).

The tools for local and regional business development which have been used worldwide include both measures that have a direct impact on stimulating business as well as instruments which

indirectly affect local development. The overall purpose of these tools can be summarised as the improvement of entrepreneurial climate and culture in the focus area (Blakely and Bradshaw, 2002). Encouraging the creation of new ventures, innovations and start-ups has raised the most interest. The most widely used measures include making financial instruments and support funding available, e.g. venture capital, R&D funding support, and start-up grants. Small business development centres, incubators, technology villages, and science parks are examples of organised environments to support business development. These environments use synchronised programmes in strategic emphasis areas to promote strategic clusters (Blakely and Bradshaw, 2002; Adamek, 2007).

To summarise, local and regional policies are needed to support the changes in SMEs, since there exist market failures (negative externalities). The objectives of local and regional policy are to improve overall economic development by fostering entrepreneurial behaviour, innovations, growth and internationalisation in area businesses.

The role of government and effective policy

The demand for SME policy as a part of industrial policy and especially interest in competitiveness has arisen from the rapid growth of newly industrialised countries (Wren, 2001). In the short run, policy should focus on information, skill development and opportunity recognition which facilitate entrepreneurs' actions (Acs and Szerb, 2006). Wren (2001) concludes that the change of UK industrial policy from sectoral to horizontal had led to much more complex policy which is focused on smaller established firms with growth potential. He considers that the boundaries between science and technology, small firm and regional components have diminished, leading to a narrower set of policy instruments.

Smallbone and Welter (2001b) point out that government legislation has a different impact on firms of different sizes. Legislation which demands the preparation and delivery of documents where expert assistance will be needed creates compliance costs which will probably pose a greater burden for SMEs, since they do not usually have such resources on their payroll. On the other hand, for example, the costs of social security contributions may vary according to firm size, and this can be an advantage for small businesses.

Hofer (2006) concludes that regional diversities make the local tailoring of policies and programmes designed at Land level a prerequisite for their effectiveness. It will be important in terms of integrating policies that programmes and initiatives have undertaken, e.g. in the fields of modernising existing SMEs, general workforce development, strengthening the local and regional science industry base, and supporting entrepreneurship amongst groups with limited business ownership representation, that are clearly linked to each other and are also part of an overall strategy (Hofer, 2006).

What can be learned from localities elsewhere?

What kind of measures should be introduced to generate modernisation and diversification of SMEs in East Germany? Case studies of discussion papers have been used to introduce some applicable learning examples and recommendations for specific areas and specific circumstances. However, it should be noted that the diversity of different areas within a country requires careful analysis of situational factors and tailoring of policies according to these particular characteristics. Agglomerations of knowledge and technology-intensive businesses need different policy measures compared, for example, with rural areas with abundant natural resources. However, both areas may benefit from new ways of doing business in new markets, i.e. modernisation and diversification.

Creating "transformation agents", *Celemi Sweden* is an excellent international learning model that can be applied to modernise and diversify SMEs. The purpose of this model is to help organisations implement large-scale change and create teams of transformation agents who deliver results (Kuhle, 2007).

An international learning model from the Czech Republic suggests that public support is not necessarily concentrated on branches of industry that are "in fashion" but encourages the identification of and concentration on areas where relative competitive advantage and chances for success are highest (Adamek, 2007). This implies that chances for success could be identified in traditional branches of industry, too. But this most probably presupposes modernisation and/or diversification of the activities to gain a sustainable competitive advantage.

Del Castillo (2006) describes a project called *Barneekintzaile* in Catalonia, Spain, which is designed to stimulate and favour the promotion of entrepreneurial activity in existing businesses (intrapreneurship). This programme encourages the development of ideas leading to new product lines or the creation of spin-offs to produce new products in existing companies. *Barneekintzaile* combines the performances of different programmes and institutions in a single project with successive phases (Del Castillo, 2006).

The importance of market forces and dynamics on public policy intervention should be recognised. The development of local and regional economies is driven by markets which operate quite independently of public policy (Walburn 2007). As Walburn (2007) states, incentives to increase an already beneficial pattern of commercial activity are much more likely to produce results than those incentives which seek to change market fundamentals, ignoring existing patterns of supply and demand.

One challenge in the transformation stage is the transfer of resources from the old regime to the new one. In order to have effective policy, there will be a need for effective exchange of information and the transfer of resources, including experience, from the obsolete organisation to the emerging venture (Lussier and Corman, 1995). Smallbone, Baldock and North (2003) report that two thirds of Business Link respondents would prioritise raising awareness among small rural firms of the services offered, such as better access and use of ICT facilities. The first item could reflect a need to be more proactive in adapting to future development.

Taking into account the diversity of characteristics of different regions, clear visions of development of different Länder and regions, as well as development strategies for these areas should be formulated (c.f. Hofer, 2006). Careful analysis of local assets as well as "magnets of attraction" (Murphy, 2006) should be conducted in areas where policy measures will be allocated. This analysis could be done through in-depth case studies selecting key sectors of development.

Recommendations given in case studies could be classified in three main categories including a) education, training and counselling, b) innovations, and c) financing and investments. Moreover, networking activities, access to external markets and a pilot high-growth programme can be presented separately. The measures suggested in the recommendations include training, counselling, and coaching services at different stages of business development. These services should increase business know-how, management and marketing skills, and exploitation of growth opportunities.

Propositions to foster innovation consist of measures to support technology development, promote business-to-business mentoring, encourage innovation in agricultural and food industries, basic industries and services and in smaller, less capital-intensive companies. Collaboration between other SMEs as well as with larger companies, higher education institutions and neighbouring districts

were recommended. One purpose of such collaboration would be the creation of innovation support infrastructures and the encouragement of SME innovation and export activity. Financing and investment measures included recommendations to assess the firm's own investment readiness and seek the involvement and advice from business angels. Improving the level of knowledge about their own growth and return potentials and financing methods was also suggested. Other proposed vehicles to foster development were suggestions to increase penetration of external markets and piloting a high-growth programme.

Training courses, seminars, workshops, role-playing exercises, mentoring and advice, and assistance with raising private investment were suggested as measures to seize the above propositions. Matching firms and angel investors could be one way to increase access to capital and to advice from peers and experts.

Networking could be used to widen the information and resource base of businesses. For example, Moreno and Casillas (2007) point out the importance of external resources in widening of the resource base through networking to generate growth. Dandridge and Johannisson (1996) propose that in order to make policy successful, effective exchange of information and the transfer of resources, including experience, from the obsolete venture to the emerging one should be introduced. They consider that government's role should be making information available to existing networks, or facilitating the inclusion of new entrepreneurs in existing networks. Fischer and Reuber (2003) note that effective policy programs must be customised to segments within the population of all firms. Depending on the purpose of program, various tailored measures could be used to spur local businesses to improve their performance in all levels (Fischer and Reuber, 2003).

An excellent case of successful networking where public authority has been a facilitator is Innovators Alliance, in Ontario, Canada. Ontario, Canada, was presented in Pike's (2006) article as an international learning example. Innovators Alliance initiative is the more focused approach to this case area, originally seeded and supported by the Ontario government. It began in the late 1990s with the establishment of the Ministry of Economic Development and Trade's one-day forum, The Wisdom Exchange. Innovators Alliance was designed to facilitate the exchange of business knowledge and experience among CEOs of Ontario's fastest-growing companies. It has expanded its activities from organising one annual event to running a full-time service organisation which operates throughout the year. Launched in 1999, the IA currently has more than 100 members.

According to different research results, peer-to-peer advices are highly valued. As Smallbone and Welter (2001a) state, in an unstable and weakly structured environment, informal networks often play an important role in mobilising resources. Even if the environment in Eastern Germany is currently more stable, role models and benchmarking of activities with peers will probably be highly appreciated. In the recommendations given in discussion papers, training and counselling delivered by peers and experts were raised as one example, and the proposed form of networking would contribute to peer-to-peer advice and mentoring.

"Small Business Charter" is an example exercised in UK (Walburn, 2007). Walburn (2007) states that including a reference to the existence of such a Charter in international marketing efforts might increase the attractiveness of the borough as a business location by highlighting the local administration's commitment to working effectively with small business. This means inward internationalisation, i.e. attracting of foreign direct investment. From the perspective of indigenous growth, it is important to develop such business, as it may bring access to international markets.

Anaika Group Oy Ltd and UPM-Kymmene PLC in Finland is an excellent example of the co-operation between large global business and creative SME. UPM Timber is a division in UPM-

Kymmene PLC with a turnover of 530 Mill. EUR and a staff of 1450. Anaika Group Oy Ltd. is an SME currently employing 50 people, with a turnover of about 2 Million euros. Anaika Group refines lambeams for Japanese market. Lambeams will be sold using the Wisa brand of UPM-Kymmene. UPM-Kymmene produces sawmill products that will be refined by Anaika Group which has acquired the quality certificates for Japanese market. Anaika Group has been supported by government organisations in R&D activities as well as the public financing institution Finnvera with an equity loan. This kind of SME – large business collaboration in an international market – could be recommended since large businesses have the distribution channels and networks, whereas small businesses may be superior in development of niche production systems.

New Zealand Trade and Enterprise (NZTE) is a good example in both growth business support and internationalisation efforts. NZTE's objective is to encourage a positive attitude toward business success, encourage risk-taking and embrace creativity. The purpose is to foster the culture that supports entrepreneurial activity and business growth, since they play a vital role in a country's economic development. The organisation works in partnership with business, higher education institutions, and the private sector to develop attitudes that support and honour entrepreneurship. The activities include Business Development, Export Services, Sector Development, Regional Development, and NZ Success sections. All these sections include several items, so NZ Success includes the Enterprise Culture & Skills Activities Fund, Export Awards, New Zealand New Thinking, World Class New Zealand, and Event Support.

The approach is very well applicable to East Germany since the activities listed above cover almost all the areas presented in the recommendations of case studies. Sectoral development items focus on both new technologies and traditional branches of industry. Regional development initiatives and export promotion are included, and different funding schemes have been considered.

The recommended activities proposed in case studies include workshops, role-playing exercises, information and advice about intellectual property rights, value chain analysis and scenario planning, market research activities, mentoring and advice, and assistance with raising private investment, promotion of small firm-large firm partnerships, external help in business know-how, and training courses and counselling. The most concrete recommendation for policy makers is establishing or supporting a specialised agency with in-depth technology and business awareness to scan latent intellectual property in large businesses. Small business-large business co-operation was referred to in several answers. Activity which could support business angel involvement is the so-called matching services.

Other themes include collaboration between businesses and higher education institutions. This is extremely important in developing business embryos (Virtanen and Laukkkanen, 2002), but it also aids existing businesses since new business know-how should be available for all businesses. Currently, the so-called Triple Helix cooperation (private – public – HEI) is the prevailing situation in many regions in OECD countries.

One recommendation is to further emphasise the generation of indigenous growth. However, the most important suggestion would be to identify measures that generate growth. It should be recognised that growth and success are not surrogates. All growth businesses are not successful firms if we do not use the same definition as Smallbone, Leigh, and North (1995), who used a sample where high-growth firms were associated with good performance. Moreover, local development often depends crucially on stable local businesses (retailers, bakeries, restaurants etc.) which offer jobs and whose workers generate taxable income (Stark and Brown, 1997).

In the case study in Mittweida and Altenburg, it was suggested that more concentrated support should be provided for growth enterprises but without abandoning other SMEs (Murphy, 2006). Murphy (2006) proposed that strong, tailored measures to support a small number of growth enterprises whilst simultaneously providing lower cost or more standardised support to other SMEs. Murphy (2006) suggests also the establishment of a special Task Force to develop service sector strategy. This should be considered as a first step in developing a district and local strategy. This Task Force should ideally have representatives of responsible ministries, agencies and especially expert representatives from service business companies (both domestic and international) (Murphy, 2006). All these suggestions are worthwhile and could support modernisation and diversification very well in a wider context in any region. However, authorities should be careful when establishing new institutions (Task Force) in order to avoid too heavy governance mechanisms and a waste of scarce resources.

From the perspective of modernising and diversifying SMEs, a good recommendation is fostering grass-roots innovations. Recommendation proposes the encouragement of innovation in agricultural and food industries, basic industries and services and in smaller, less capital-intensive companies. This argumentation will be supported by Dabson's (2006) demand for focusing and identifying local and regional assets and converting them into entrepreneurial activity. Policy should support the access to R&D and market information and to help in creating contacts with enthusiastic agents and distribution channels in international markets. This kind of policy support for open-minded producers helps develop opportunities and create access to international markets. A good example is Just The Berries Ltd.[25] which produces functional products using black currant as its raw material. The research and testing of the characteristics of black currant were carried out by the respected New Zealand government-owned research laboratories, Crop and Food Research. Cooperation with a large Japanese company has opened the wide Asian market and the prospects are very good for future growth.

In this article, transformation economies and specific case studies have been referred in several contexts. It should be noted that SMEs in East Germany develop in a totally different environment than in other transformation countries because of the support of West Germany. However, there exist similarities with respect to entrepreneurial culture and the attitudes towards entrepreneurship and business development. Case studies and recommendations which are referred should be evaluated in the context where they are proposed to be applied. There probably does not appear such an SME policy initiative which could be generalised to cover the whole country because of the wide diversity of both SMEs and the regions within the country. But the recommendation to take advantage of opportunities arising from modernisation and diversification could be included in different SME policy measures.

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FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES

OECD

The local case studies stressed the need for more opportunity entrepreneurship across the whole population of entrepreneurs. Independent of their size, companies must constantly develop their skills base. This is critical not only to their survival, but the availability of the right skills is also one of the main drivers for modernising and diversifying existing companies. Business survival and growth depend not only upon SME leadership and management, but also upon the skills and motivation of their staff. In the local case study areas a great variety of training offers exist for SMEs provided by public and private-sector institutions. Selecting the best suitable option, however, can be time-intensive and difficult for the user. Public subsidised offers are often free or with limited charges; attendance is sometimes obligatory to qualify for certain support programmes. The discrepancy between offer and demand increases at a later stage of business development as cost and time factors become more relevant. On the demand side, the prevalent belief of entrepreneurs and small business managers that training costs time and money, accompanied by a lack of awareness of, and access to, training offers, as well as a lack of incentives and financial support structures, all need to be addressed as barriers to enhanced skills development for SMEs.

Existing SMEs in the local case study areas will need to focus more on skills development and business performance if they are to survive and grow in an environment characterised by increasing domestic and international competition. Developing tailored skills-development schemes can help increase interest in attending training programmes. It is important to identify topics of particular relevance for local businesses, such as accessing external markets, increasing innovation in production and service delivery, and managing and financing growth. The "e-Learning Marketplace" initiative of the German Chamber of Industry and Commerce is a good practice example of introducing multi-media in learning processes. It also helps overcome the barrier of separate training and work places. Professional re-orientation, widespread in East Germany, needs to be adapted to the needs of local labour markets in order to help supply local business with appropriately skilled workers. In some local case study areas, out-migration and the changing career wishes of young people makes it difficult for companies to recruit appropriate personnel locally. The existence of individualised training schemes and a close co-operation between training providers, as seen in most of the local case study areas, can be considered good practice.

With their geographic advantage of a central European location, and the substantial investment that has been made in infrastructure, all local case study areas are well-positioned to be competitive centres for traded goods and services. It seems, however, that in most local case study areas, many local companies with traditional products do not have adequate access to export markets. The Chambers play an important role in supporting SME internationalisation activity. The services provided are that of standard support in facilitating the internationalisation of business activities. In addition, in some of the local case study areas, locally designed projects exist with the aim of increasing local traditional company responsiveness in international markets. Overall, however, there seem to be only little horizontal focus, and systematic approach in fostering the internationalisation of locally invented knowledge.

It is important for public and private business support organisations to foster close relationships with potential growth companies when devising and implementing their support strategy towards these companies. OECD good practice shows that providing SMEs with a tool that enables them to understand and assess their training needs and their growth potential helps companies identify and address the factors with the greatest impact on company survival and growth. Simple-to-use approaches, with on-line interfaces, help support agencies identify where they can best direct interventions to assist in the growth of firms.

Young technology-oriented companies often have difficulties with diagnosing and reacting to end-users' needs profiles. They also tend to underestimate the costs and time requirements for market entry and survival. In order to help young companies survive and to grow, public support schemes for coaching and training activities during the post start-up phase should also be reconsidered for the local case study areas. Although young companies tend to be less interested in such schemes, as their daily work in running the business often does not leave enough time, these kinds of services provide valuable support. Experience with post start-up coaching programmes in other OECD countries shows that the relationship between entrepreneur and coach, built up during the pre-start-up and start-up phases, has the potential, if carried on to the post-start-up phase, to provide helpful assistance that allows new entrepreneurs to recognise upcoming difficulties at an early stage. Tailored services at the local level could be used for maintaining direct interaction with previous clients in the post start-up phase by continuing the initial one-to-one interactions established during the pre-start and start-up phases.

Experiences from other OECD countries and regions reveal that programmes designed to help firms assess their own investment readiness have raised the level of deal flows. Such programmes enable firms to assess their own investment readiness, obtain feedback on their strengths and weaknesses, their ability to access equity finance, and increase investor interfaces with underinvested sectors. Key programme features include intensive work with each company; highly interactive workshops based on role-play exercises and delivered by experienced industry experts like accountants, lawyers, business angels, clearing banks, venture capital firms and corporate finance firms; and a free diagnostic investment-readiness tool. Across the local case study areas, in addition to public and private business support organisations, local SME associations are also organising mutual advice and counselling in the form of "Help for Self-Help" on issues of company growth and survival amongst its members. Apart from these offers, it seems that the limited equity and liquidity of many companies reduces interest in using cost-liable coaching and consulting services.

OECD research shows that on average, SMEs are less likely to conduct research and development than larger firms. The average enterprise size in most of the local case study areas makes it difficult to foster internal business research and development activities. One area where most of these places have been strong is in their technology foundation, and in the variety of efforts to promote and support new innovation. There has been some successful utilisation of federal programmes to enhance the innovation capacity at regional level. Yet the challenge is to further develop those innovative activities that could serve as a support for modernising the productive fabric. Creating, exploiting and managing network relations is important to achieving economies of scale and rationalisation of costs and time as well as accessing new knowledge, in particular knowledge related to access to resources and markets, exchange of technology and know-how, and exchange of information regarding technology development processes. In all the local case study areas, projects to develop networking and clustering are being implemented. In those local case study areas with the presence of a university in the wider region, the innovation system seems to be stronger. Here, the university is central to the knowledge generation subsystem and also plays an important role in knowledge exploitation, benefiting from long-term strategic core competences in both basic and applied research. For all firm sizes, the presence of a university can stimulate growth intentions, and

be a source of innovation. Universities and research institutes are, however, not the usual interlocutors of firms. Even high-technology and growth companies direct, in the first place, a request for support or interaction to the Chambers and business associations. Within the existing innovation infrastructure, an increased co-operation between universities, research institutes and the Chambers is therefore needed to reduce distance and barriers and to facilitate the exploitation of knowledge and technology through a wider group of firms, both within and outside the local economy.

Infrastructure for innovation is a complex system of physical, human and financial resources, including competences, capacities, capabilities and networks that support innovative firms in processes of knowledge commercialisation. The regional innovation infrastructure must include facilities and associated support services tailored to the different strategic needs of companies throughout firm formation and growth processes. The local case studies revealed a risk of over-dependence on public funding for continuation of the current technology-based entrepreneurship initiatives. In some places, massive public investment has contributed to the establishment of top-class physical infrastructure for technology-oriented firm creation and development. Further, public funding is available for start-up operations and incubator firms. A number of technology parks and business incubation facilities exist within the local case study areas or in their geographic proximity. These are mostly for technology-oriented companies, but not exclusively. They seem to be well established and connected with key local economic sectors, such as electronics and electrical engineering, laser technology and specialised machinery. International linkages exist and are expanded. Strong co-ordination is evident amongst local agencies to ensure tenant firms will stay local after incubation and relocate within the district's territory. However, an ongoing challenge in the future will be to maintain the flow of new company tenants. Here, more could be done, using existing federal and land initiatives to stimulate inter-district and inter-municipal co-operation in establishing and running technology parks and business incubation facilities. This would also support the development of economic regions and cluster building across jurisdictions.

For the majority of local case study areas, abundant supply of available industrial sites and a mix of business facilities with attractive rent rates and adequate infrastructure can be considered strengths. In urban areas, where demand for land and buildings for new and expanded economic activities needs to be met initially from an existing stock of space, characteristics like aggregated quantity, quality and relevance and flexibility to diversify according to changing needs, are relevant for location questions. There is a large amount of high-quality office, commercial, and industrial space available at far lower costs than similar space in most Western German localities. Subsidised rent is also available for start-ups and existing SMEs. However, in some places, property market imperfections, caused by regulations and a preponderance of public sector led site development and insufficient demand, has resulted in vacant public subsidised business facilities and a reduced engagement of private developers. In places with low occupancy rates, image problems are listed as causes, amongst others. In all local case study areas, a number of policies aiming to stimulate entrepreneurship development and attract job-creating investment have been initiated. Urban regeneration projects and the creation of modern and vibrant shopping and leisure centres seek to improve the image of places – both internally for inhabitants and existing firms, and externally for visitors and potential investors. In addition, e-government mechanisms are being used, and positive results in reducing bureaucratic burdens in land use issues have been achieved.

The local case studies in East Germany brought to light a number of policy recommendations that can be taken up by national and local governments and organisations active in developing and strengthening entrepreneurship and local economic development, operating locally and across different levels of government. Despite their local provenance, the policy recommendations reveal a certain relevance for other localities in East Germany and elsewhere. Hence, the following list of recommendations should be considered and consulted as checklist for policy makers and local

organisations when innovating entrepreneurship policy and developing new local activities that aim at increasing the motivation for and actual activities of modernising and diversifying existing SMEs.

	Policy recommendations to enhance modernisation and diversification in SMEs
☑	*Run public campaigns to strengthen interest in and demand for SME training and counselling services.* Business survival and growth depend not only upon leadership and management in SMEs, but also upon the skills and motivation of their staff. The prevalent belief of entrepreneurs that training costs time and money, accompanied by a lack of awareness of, and access to, training offers, as well as a lack of incentives and financial support structures, need to be addressed as barriers to enhanced skills development approach for SMEs. The use of successful training schemes for marketing and participating companies as role models could be a way to increase the interest of SMEs in making use of training and counselling services. Such initiatives may also help to enhance co-ordination between training providers, chambers, business associations and the labour office and could offer additional incentives for quality increase. Business networks could be used to support and to run campaigns to increase awareness of such programmes.
☑	*Enhance co-ordination, transparency and quality checks of counselling, training and coaching services.* Existing offers and services should be subject to strong evaluation, quality control and benchmarking exercises. Information should be transparent and easily accessible. This information should be used to support SMEs and public agencies in selection of the most appropriate training providers.
☑	*Include training for enterprise development in business start-up programmes.* More emphasis should be placed on developing business management and development skills within start-up support programmes. Existing training should be expanded to cover identification of wider markets, business sustainability issues and the identification and exploitation of future growth opportunities.
☑	*Support training for existing SME managers.* Promote high-quality training programmes for SME managers to support their business development skills, especially opportunity recognition, marketing skills and knowledge of markets. These may be publicly or privately delivered and in the form of in-house training or outside courses. Activities should offer opportunities for exchange of experiences and co-operation with the aim of helping entrepreneurs to identify changing needs of their businesses and ways to meet these needs. Such activities should target in particular growth oriented entrepreneurs.
☑	*Intensify business network initiatives.* Networking can be stimulated by undertaking value chain analysis and scenario planning with the appropriate stakeholders of these industries. A key to initiating such networks is to pose and attempt to answer a central question: By co-operating how can we move this local industry from being a price-taker to being a price-maker?
☑	*Continue support during post-start-up phase.* In order to help young companies to survive and to grow, public support schemes for coaching and training activities during the post start-up phase should also be reconsidered. Very often young companies do not realise that their current business capabilities and know-how are insufficient and that external help would be an advantage. Experience with post start-up coaching programmes in other OECD countries show that the relationship between entrepreneur and coach, built up during the pre-start-up and start-up phases, has the potential, if carried on to the post-start-up phase, to provide helpful assistance that allows new entrepreneurs to recognise upcoming difficulties at an early stage. Tailored services at the local level could be used for maintaining direct interaction with previous clients in the post start-up phase by continuing the initial one-to-one interactions established during the pre-start and start-up phases.
☑	*Access external markets.* It is important to increase penetration of external markets in order to create demand for local goods and services. Market research activities help to understand and forecast potential demand and allow for tailored responses.
☑	*Promote business-to-business mentoring.* Larger companies can play an important role in encouraging SME innovation and exporting by making available expert managers to SMEs for short advisory sessions. This can be very effective and valuable to many companies at the early stages of their development.
☑	*Seek the involvement and advice of knowledge and business angels.* A developed venture capital system needs individual investors as well as venture capital funds. 'Angels', that is people who are prepared to invest in individual companies and frequently bring knowledge of the sector or other strategic advice to companies, are common in most OECD countries. They may be people who successfully started a company in the past and may have a series of companies in which they have invested. Often this type of investment is

	accompanied by mentoring where the individual investor or another nominated person acts as a counsellor to the entrepreneur and business. This is particularly important to business that are seeking to tackle international markets or where they have ambitious growth plans and could benefit from business advice and networking to other potential financiers, market contacts or expert advisors.
☑	*Expand technology support and activities.* Given cost structures, SMEs in OECD countries increasingly need to compete on technology or other added value features that give them competitive edge on international markets. The establishment and further development of external R&D services could help local SMEs to innovate. It might be that the Districts perceive themselves as too small to create by themselves the innovation support infrastructures necessary for SMEs. In this case, collaboration with neighbouring Districts or thematically related higher education institutions should be sought.
☑	*Pilot a high-growth programme.* A high-growth programme could be piloted at local level. Such a programme would identify young and existing companies with a minimum growth potential (based on employee numbers and/or turn-over), co-ordinate public support, provide bespoke mentoring and advice, and assist with the raising of private investment. Such a programme would only focus on a small cohort of start-ups over a two year period (given the size of the economies, perhaps only twenty companies a year would be recruited). This could be particularly valuable in regions where the entrepreneurial climate is close to national average but quality issues are evident.
☑	*Promote high level innovation*. Existing good practice initiatives should be sustained and lessons applied to other industries. Brokering relationships between larger regional companies with latent intellectual property and SMEs with the capacities to use it should be seen as another potential route for stimulating higher level innovation. The smaller company could buy, licence or pay a commission for the intellectual property. The approach requires a specialised agency with in-depth technology and business awareness to scan for such brokering opportunities and to initiate and facilitate dialogue.
☑	*Foster grass roots innovation*. More should be done to encourage innovation in agricultural and food industries, basic industries and services and in smaller, less capital-intensive companies.
☑	*Exploit innovation through a wider group of firms*. The existing innovation infrastructure should be used more intensively to foster collaboration between HEIs and local companies of all sizes as well as with large companies located elsewhere but with relevance for the local value-chain. Multinational companies located locally or elsewhere represent an opportunity for local economies to accelerate and scale-up commercialisation processes because of their strong access to markets. Such links could help to test innovative products and services in market-like conditions and positively influence time-to-market relations. However, attention must be paid to the protection of intellectual property when building value release strategies.
☑	*Help firms to assess their own investment readiness.* Programmes should be designed to address a perceived lack of investment readiness in certain sectors by improving the level of knowledge in firms about their own growth and return potentials and methods of financing. Such programmes have proved to raise the level of deal flows elsewhere. Key features would include intensive working with each company; highly interactive workshops based on role play exercises and delivered by experienced industry experts like accountants, lawyers, business angels, clearing banks, venture capital firms and corporate finance firms; and a free diagnostic investment-readiness tool. Such programmes enable firms to assess their own investment readiness, obtain feedback on their strengths and weaknesses, their ability to access equity finance, and increase investor interfaces with underinvested sectors.

Box 8. Being inspired from good practice in growing existing SME

SuccessPotential check (SPOTcheck) programme – Ireland: Providing SMEs with a tool that enables them to understand and assess their training needs and their growth potential.

Growth Firms Network Programme – United Kingdom: A survey tool to identify potential growth companies locally, combined with intense and tailored public support for product and market development.

Sustaining Profitable Growth (SPG) – United Kingdom: A 15-month strategic leadership development programme for SMEs.

Ready for Growth Programme – United Kingdom, Spain, and Greece: Addressing a perceived lack of investment readiness in digital content SMEs across Europe.

Knowledge Transfer Partnerships (KTPs) – United Kingdom: Introducing suitably qualified graduates in local companies with the aim of improving turnover and gaining market share, intellectual property and a competitive edge.

Enhancing opportunity entrepreneurship: GO initiative in Mecklenburg Western Pomerania – Germany: Providing tailored expert assistance for growth oriented companies.

Business networking in industrial districts – Marco-lotto No. 1 – Italy: Providing a tailored joint service as a strategic advantage that attracts companies to settle in a developed industrial area.

Modernising existing SMEs: INNTex and InnoSachs Networks in Saxony – Germany: Pooling local SME potential and improving international competitiveness through joint marketing and innovation.

LUCHS – a network for skills development in Brandenburg – Germany: Contributing to local firm development by extending knowledge resources and facilitating access for SME managers and their employees.

Local approaches in stimulating a culture of innovation in small enterprises in Mecklenburg Western Pomerania – Germany: A local innovation and change award recognises that cultural barriers to innovation were just as important as financial barriers to innovation.

Incubation and technology support at local level – PITZ and NUKLEUS initiatives in Mecklenburg Western Pomerania – Germany: Networking in a high profile physical, focal point local companies with wider regional, national and international knowledge and innovation opportunities.

CHAPTER 3

FINANCING ENTREPRENEURSHIP

POLICY ISSUES IN FINANCING ENTREPRENEURSHIP

Dietmar Grichnik, Germany

Introduction

More than 15 years after the German re-unification, economic development in most regions of eastern Germany is still lagging behind other OECD countries, as reflected in poor figures for important economic indicators like high unemployment rates, increasing migration of human capital, and minor purchase power (e.g. Federal Statistical Office, 2006). Recent research studies have shown that entrepreneurship is a critical component of local economic development with regard to the harmonisation of living standards in Germany (OECD, 2003). Hence, fostering entrepreneurship via promotional schemes for small and medium-sized enterprises (SMEs) and start-ups is now an important objective for policy makers and governments around the world. A major impediment that affects the foundation, growth and survival of a business is the problem of acquiring sufficient financial resources, which may arise due to supply-side and/or demand-side behaviour. Consequently, reasonable policy recommendations ensuring and advancing the availability of external finance for entrepreneurs as well as influencing SME financial behaviour are a topic of great importance for policy makers. Given the definition of entrepreneurship as the pursuit of opportunity beyond the resources you currently control (Stevenson, 1999), the central role of obtaining financial resources becomes evident also from a theoretical and empirical research perspective.[26] Unlike the assumptions of standard neoclassical market models, capital markets are usually not perfect. Capital rationing as an outcome of capital markets is influenced by the actions of capital suppliers, e.g. banks, venture capitalists, government, and the companies demanding funds. Thus, the underlying theoretical framework is based on different demand-driven and supply-side theories. It is widely accepted that the existence of informational asymmetries, agency costs and associated risk between SMEs and providers of finance is a key issue for the occurrence of market imperfections and policy interventions. Therefore, this chapter mainly utilises microeconomic models of financial behaviour concerning asymmetric information and risk.

The chapter is structured as follows: Chapter 2 reflects the relevant theoretical models of financial market behaviour and their empirical relevance. Since capital constraints can result from demand-side and supply-side behaviour, both sides are taken into account. Chapter 3 analyses the existing financial market inefficiencies in Eastern Germany for entrepreneurial firms by investigating the financial behaviour of entrepreneurs as well as financial sources in terms of promoting programmes, equity and debt financing. Concurrently, initial policy recommendations which could mitigate the analysed market inefficiencies are identified. Chapter 4 concludes with deeper insights into the policy recommendations by reflecting recent OECD policies and international learning models with regard to the Eastern German context shown in chapter 3.

[26] Within this paper the terms ‘entrepreneurship’ and ‘entrepreneur’ are equally applied to start-up firms and self-employed as well as traditional and high-tech SMEs.

Models of SME financial behaviour

Pecking order model of capital structure choice

The financing choices of a company are reflected in its capital structure. Since Modigliani and Miller's (1958) seminal work, a vast amount of theoretical and empirical literature in the field of capital structure research has emerged. Nonetheless, recent research found indications for the superiority of the pecking order model (e.g. Shyam-Sunders and Myers, 1999; Fama and French, 2002). The existence of a pecking order among the available financial sources was observed first by Donaldson (1961) and later re-introduced as a theoretical framework by Myers (1984) and Myers and Majluf (1984). According to this model, due to information asymmetry between insiders (management or entrepreneurs) and outside financiers, firms use financial sources in the following order: initially internal funds (retained earnings or equity supply by insiders), afterwards long-term and short-term debt, and finally, if all other sources are exhausted, outside equity. The extent of asymmetric information between a company and possible capital suppliers directly affects the inherent cost of capital that increases in line with the pecking order (Pettit and Singer, 1985) due to monitoring cost and investment risk for outside capital suppliers. In addition, entrepreneurs tend to be especially reluctant to increase business transparency, as that is often accompanied by a loss of control of the business (Hamilton and Fox, 1998).

Although the pecking order model was not been developed with SMEs in mind (Ang, 1991), several empirical studies indicate financial behaviour consistent with pecking order predictions for mature SMEs (Jordan et al., 1998; Zoppa and McMahon, 2002; Börner and Grichnik, 2003; Sogorb-Mira and Lopez-Gracia, 2003). Since Eastern German SMEs are mainly small and smallest companies, which tend to be virtually opaque, the occurrence of a financial behaviour is consistent with the predictions of pecking order model. For start-ups and high-growth ventures, empirical findings imply a slightly different behaviour: According to Paul et al. (2007), start-up firms are likely to follow a bridged pecking order in financing behaviour: internal funds, equity, and debt. For high-growth ventures, recent research found indications for the same partly reversed pecking order (e.g. Grichnik et al., 2007). The particularities of Eastern German entrepreneurial activity also presumably lead to modified financial behaviour in the shape of a truncated pecking order (see also Börner et al., 2007). The high proportion of necessity entrepreneurs among the start-ups with its typically low financial demand is not of interest for venture capitalists. For such entrepreneurs, internal funding is usually insufficient due to a shortage of private savings. The available financial resources for high-tech ventures in Eastern Germany are often limited to the largely nonexistent informal investor capital, e.g. business angels, and/or governmental promotion schemes because of the previously discussed lack of personal savings and capital gains, as well as the existing informational asymmetries which hinder the debt supply.

Life-cycle model of financial sources

Life-cycle models subdivide a company's lifetime into a number of stages, usually representing inception, growth, and maturity. Since early discussions in financial theory (e.g. Walker, 1989), the traditional view of the financial life-cycle of a company has not changed significantly. The financial life-cycle model presents the movement of an outcome dimension (revenue or cash flow) subject to the firm's development, thereby investigating a company's financial demand and the financial sources being available to the company.

The traditional model of financial life-cycle predicts that young and small firms, in the early stage of their life-cycle (start-up firms), are facing a situation of having neither a track record nor collateral assets, cash flows/revenues which are usually negative, and sales markets which are sometimes not

established, especially for innovative high-tech start-ups. The company is mainly made up of the business idea; ideally exposed in a proper business plan. Asymmetric information and risk involved in the business are consequently higher than in mature SMEs. Due to a limited self-financing and debt capacity, start-up firms rely heavily on personal savings, loans from family and/or friends, subsidies like public credits and/or outside equity provided by business angels (e.g. Mueller, 1972; Hutchinson, 1995; Kimhi, 1997). Therefore, young SMEs in particular and start-ups in the early stage should be supported by business angels. Beside financial supply, business angels provide substantial managerial knowledge and access to their personal network. In addition, a business angel's investment promulgates a positive signal of the SMEs quality mitigating informational asymmetries. However, the available financial sources for start-ups are not homogeneous, due to differences in personal collateral of the entrepreneur, growth opportunities of the firm and investment risk (Berger and Udell, 1998).

In contrast, when a company grows and matures, it generally develops a reputation (Diamond, 1991) and hence, creditworthiness which facilitates access to (long-term) debt financing. The existence of a track record and collateral assets usually supports the reduction of investment risk. Beside debt financing, successful and growing companies are of interest for venture capitalists. Most Eastern German SMEs were founded after the accession of the GDR into the Federal Republic of Germany and are thus usually in the early stages of their life-cycles because they generally could not develop a reputation and establish creditworthiness. Therefore, business angel capital, governmental loan schemes, short-term credits (e.g. overdrafts or trade credits), micro loans, or internal funds are more suitable financial sources.

Models of supply-side behaviour

Market imperfections in capital markets also occur due to supply-side behaviour. Despite the variety of potential financial sources, this chapter only includes supply-side theories focused on explaining the behaviour of creditors, especially banks, since bank debt is of particular relevance for entrepreneurship in Eastern Germany. As will be later detailed, Eastern German entrepreneurs need to rely on external debt finance due to limited self-financing capacities and the absence of a widespread informal investor network. Moreover, a recent KfW study of SME financing behaviour indicates that Eastern German SMEs consider long-term and short-term debt as the most important external financial sources and external equity as relatively unimportant for their businesses.(KfW, 2006).

Model of credit rationing

The existing theoretical literature on credit rationing is based on the well-known model by Stiglitz and Weiss (1981). In contrast to the traditional macroeconomic model, Sitglitz and Weiss (1981) could demonstrate that credit rationing may appear even in a credit market equilibrium due to informational asymmetries. Hereby, credit rationing is defined as the situation in which lenders reject certain loan applicants even if they offer to pay higher interest rates; hence, demand exceeds supply of credit. The model assumes that banks seek to maximise the expected return of their credit portfolio, which is influenced by the interest rate and the risk of the issued loans. Taking into account the existence of asymmetric information between the creditor and SMEs, the limitation of credit availability instead of increasing interest rates or collateral requirements can be advisable for the lender in order to maximise his expected profit. Increased interest rates or collateral requirements can augment the loan portfolio's inherent risk due to (i) moral hazard (borrowers are induced to invest in riskier projects in order to meet their profit expectations), and/or (ii) adverse selection (borrowers with projects of good quality will leave the market).

SMEs in Eastern Germany are mainly small businesses with a relatively short market history. SME owners traditionally try to keep as much business information as possible inside the business,

e.g. by choosing a legal status with a low level of disclosure requirements. Thus, SMEs and in particular start-ups usually face higher informational asymmetries than large public corporations, and consequently these businesses are theoretically more likely to suffer from capital rationing. It is worth mentioning that the existence of personal or corporate collaterals can mitigate credit rationing (Bester and Hellwig, 1987). But most Eastern German entrepreneurs, especially within widely spread smaller and smallest or younger firms usually cannot provide sufficient collateral and therefore presumably experience more credit constraints. Credit constraints can produce a misallocation of financial resources (Evans and Jovanovic, 1989; Greenwald and Stiglitz, 1993) and moreover, might hinder the further development of a substantial SME sector by leading to underinvestment. To reduce these misallocations and imminent underinvestment in the long run, information asymmetries must be reduced, e.g. by providing knowledge about the credit rating process to entrepreneurs or by facilitating the *hausbank* principle. In the short run, offering substitute financing products, e.g. leasing or sale-and-lease-back, and collateral substitutes, e.g. credit guarantees, can bypass the existing information asymmetries.

Market power approach

The impact of financial institution structure on credit availability for entrepreneurs and its consequent impact on economic growth has been the subject of recent research interest (e.g. Berger and Udell, 2006; Boot and Thakor, 2000). The competitiveness of the banking industry seems to be an especially important dimension of a bank's behaviour in the credit markets.

The traditional market power hypothesis suggests that the competitiveness level in the banking market is positively correlated with credit availability and negatively correlated with credit interest rates for SMEs. High competitiveness usually results in higher investments in relationship lending technologies which are a main component of the German *hausbank principle*. In contrast to transactions lending technologies, e.g. financial statement lending or credit scoring (Berger and Udell, 2002), relationship lending does not solely rely on hard quantitative data like balance-sheet information or collaterals. Using relationship lending technology means that a bank's credit decision is mainly based on soft qualitative information about the company and its entrepreneur(s) which is accumulated through continual contact over time (Berger and Udell, 2002, 2006). This proprietary information has substantial value since it has the potential to transcend strong informational asymmetries between lender and borrower (Boot and Thakor, 2000). Empirical findings indicate that small, locally dominant financial institutions like savings banks and cooperative banks have comparative advantages in relationship lending to smaller and informational opaque SMEs (Berger et al., 2005). As indicated above, Eastern German SMEs are typically facing information asymmetries and/or a lack of credit collaterals. In addition, the banking sector in Eastern Germany is concentrated and hence less competitive, which makes credit unavailability more likely. Facilitating competitiveness within the banking sector in Eastern Germany and strengthening the *hausbank* principle might ease SME's access to debt.

Financial market inefficiencies in Eastern Germany

On the existence of a financing gap

The existence of a financing gap usually refers to an insufficient supply of capital particularly by banks and capital markets to meet the demand of certain companies, first and foremost SMEs (OECD, 2004; Cressy, 2002). Consequently, the financing gap is closely linked to the concepts of capital constraints. Since the seminal work of Stiglitz and Weiss (1981) on credit rationing and its advancement to equity markets (Hellmann, 1995; Hellmann and Stiglitz, 2000), the scientific discussion on the existence of a financing gap, especially for SMEs, is still going on with strikingly

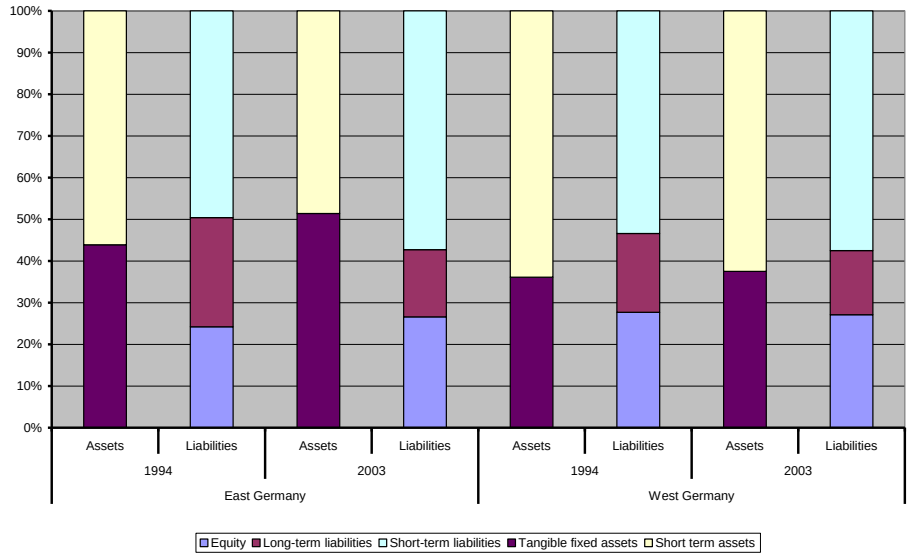
mixed results. From a theoretical point of view, considering informational asymmetries and agency problems, the rationing of small and medium-sized companies in the market of external finance can be easily testified (e.g. Berger and Udell, 1998). In contrast, direct empirical evidence on the existence of financial constraints is hard to obtain, due to data unavailability (Bonnet et al., 2005; Egeln et al., 1997). Nonetheless, there are various attempts to document the existence of an at least partial financing gap for SMEs by presenting empirical findings (e.g. Evans and Jovanovic, 1989; Audretsch and Elston, 1997) or anecdotal reports (e.g. Blanchflower et al., 2001; OECD, 2006a). In order to assess the existence of market inefficiencies leading to funding gaps, this chapter evaluates the financial behaviour of East German entrepreneurs as well as the financial sources currently available to them.

Financial behaviour of East German entrepreneurs

Traditional SME financing in Eastern Germany

A firm's financial behaviour is ex post reflected by its balance sheet structure that also signals the firm's risk ex nunc. According to figure 1, the financial behaviour of East German SMEs has recently led to a disadvantageous horizontal financial structure:Tangible fixed assets are partly financed by short-term liabilities, which means serious financial risks. Furthermore, the high proportion of tangible fixed assets causes high depreciation, cutting profits and thus, resulting in a lower return on equity. Regarding the debt-equity ratio, Eastern German SMEs caught up and there seems to be no significant differences compared to Western Germany (East 2.8 and West 2.7).

Figure 7. Financial structures of Eastern and Western German SMEs



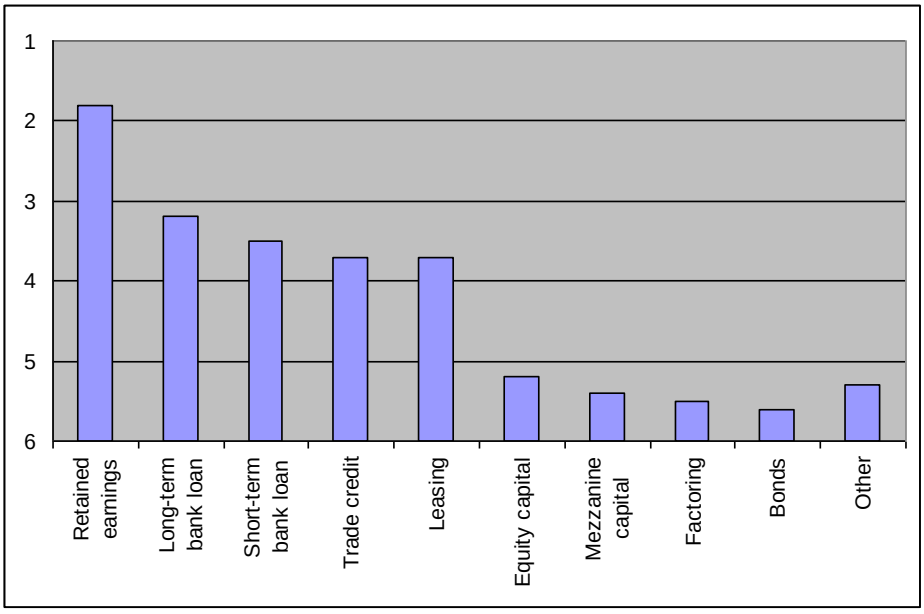
Source : KfW (2005)

However, most Eastern German SMEs do not correspond to the traditional Western German view of a medium-sized firm which leads to a specific structure of the SMEs sector in terms of company size and industry: An overwhelming fraction of regional dispersed small and smallest companies with very low equity rates (mainly operating in traditional industries) are opposed by only a few large SMEs, primarily clustered in lighthouse regions like Berlin, Leipzig or Dresden, with adequate or high equity ratios (KfW, 2005). Consequently, the horizontal financial structure (relation of long-term

assets and long-term capital) as well as vertical financial structure (relation of debt and equity) are presumably worse for most Eastern German SMEs than indicated by figure 1.

Recent financial behaviour facilitates the appearance of capital rationing for those SMEs, as stated by the model of Stiglitz and Weiss. Therefore, enhancing the existing financial structures of SMEs should be a mayor concern for policy makers. The asset side of the balance sheet could be optimised by reducing the amount of fixed assets using credit substitutes like leasing or sale-and-lease back. Smaller and smallest companies are especially hesitant to use those instruments (KfW, 2006). On the other hand, rational capital structure decision-making should be backed by policy recommendations directed to financiers and entrepreneurs. Figure 2 indicates that Eastern German SMEs obviously intend to follow the traditional German financing paradigm by eliding the existing variety of financial sources and preferring the use of retained earnings and debt over equity, which is rational in terms of minimising capital costs according to the pecking order model. But furthermore, a firm's financial behaviour is influenced by the financial environment.

Figure 8. Relevance of finacial sources for Eastern Germany SMEs



Note: '1' means very important, '6' very unimportant.

Source : KfW (2006)

Eastern German SMEs often operate solely in local markets and therefore suffer from the negative economic situation in most local regions in Eastern Germany. Stagnating or declining revenues (OECD, 2006a, 2006b) are thus limiting SMEs' internal financing capacity. The majority of SMEs in Eastern Germany is therefore highly dependent on external finance. But the access to bank loans for established Eastern German SMEs is still more challenging than in Western Germany (KfW, 2006), particularly at the regional level (OECD, 2006a) and for smaller and smallest SMEs (Engel et al., 2006) since the range of banks' financial products is geared to the traditional characteristics of Western German SMEs. Within the existing structural environment of high unemployment, minor equity ratios, low rates of return, and insufficient or valueless collaterals (KfW, 2006), capital rationing is likely to occur. Credit applications – especially for capital and bridge loans – are therefore often refused (OECD, 2006a). Appropriate policy recommendations should promote the use of equity

financing. But entrepreneurs traditionally are reluctant to relinquish control (Kuratko et al., 1997), and equity capital is widely unavailable for small and smallest companies operating in less dynamic regions (Nolan, 2003; OECD, 2006a). In terms of minimising capital cost and informational asymmetries, policy recommendations to emend the availability and acceptance of mezzanine capital products can be used.[27]

Promotional programmes also play a well-established role in the financial behaviour of SMEs: nearly 40 % of Eastern German SMEs apply annually for a loan scheme (KfW, 2006). Most applicants belong to the group of larger SMEs which indicates informational deficiencies on side of small and smallest companies in Eastern Germany. Moreover, most SMEs in Eastern Germany use governmental benefits extensively, which do not contribute to equity creation (OECD, 2006a). Therefore, policy recommendation aiming at an advanced supply with appropriate information on the variety of promotional schemes to entrepreneurs can be used to support rational financial behaviour by SMEs.

Start-up financing in Eastern Germany

The availability of sufficient and appropriate financial resources is a major precondition for the foundation and long-term sustainability of new ventures (Brettel, 2003). Unfortunately, the Global Entrepreneurship Monitor (GEM) for Germany (Sternberg et al., 2007) recently reported a worsening of capital supply for German start-ups: the financial conditions for new ventures are rated by the interviewed experts with a substandard index value of 2.75 (‘1’ lowest and ‘5’ highest possible index value). This means a decline of the index value by 0.36 in the last four years. Compared to other industrialised countries, the financial conditions are ranked on the 12th place out of 15, losing four places in the last four years.

According to the predications of the financial life-cycle model and the concept of a truncated pecking order (Howorth, 2001; Börner et al., 2007), start-up financing is typically limited to the private capital of founder, family and friends (‘3 Fs’), business angel capital and/or governmental loans. But the particular structure of the Eastern German start-up sector is resulting in financial behaviour that is partly differing from theoretical predictions.

First, the GEM reports significantly lower entrepreneurial activity in Eastern Germany than in Western Germany (Sternberg et al., 2007): In the middle of 2006, 2.9% of the people between 18 and 64 years of age in Germany tried to start a business. The percentage for Eastern Germany was 1.7%, which is only slightly more than half as much as in Western Germany. Furthermore, the reasons for starting a business seem to be different: more than half of all business foundations in Eastern Germany (54 % in 2006) are induced by unemployment compared to 24 % in Western Germany (KfW, 2007d). These necessity entrepreneurs are most likely less qualified and their business ideas are usually imitative and non-innovative (Sternberg et al., 2007). Therefore, their financial needs are presumably low; most founders’ financial needs are less than EUR 10 000 (KfW, 2007d). Nonetheless, the ‘3 Fs’ are not suitable sources of capital due to the lack of financial savings in Eastern Germany, whereby founders are largely dependent on external finance. But debt financing is usually not available simply because low credit amounts are inefficient for most banks due to high fixed costs, especially for monitoring and handling. In addition, business angels are not interested in investing in these generally low growth start-ups (Brettel, 2003). Consequently Eastern German business founders often need to rely on governmental support programmes. The institutional and regulatory infrastructure of start-up supporting programmes in Germany is world-leading, and in particular, the broad variety and quality

[27] Mezzanine capital is a collective term for hybrid financial instruments that combine certain characteristics of debt and equity products (Sinnenberg, 2005), which implies a wide latitude of financial structuring opportunities like silent partnership, subordinated loans, profit-sharing rights or convertible bonds.

of the public programmes is unique (Sternberg et al., 2007). However, the existing programmes are seen as non-transparent, especially for less qualified founders, and even less effective compared to other industrialised countries, as reflected in the fact that Eastern German founders mainly apply for benefits provided by the Federal Employment Office, e.g. the former *Überbrückungsgeld* or *Ich-AG Zuschüsse*, which provide only limited financial margin. Therefore, the existing promotional schemes have to be reorganised in terms of transparency, and appropriate information supply guidelines need to be established (e.g. the newly established *Gründungszuschuss* [founding subsidies]). In addition, existing credit constraints need to be addressed by implementing micro lending[28] supporting schemes area-wide in Eastern Germany.

Start-up firms which require higher levels of capital tend to finance their growth with outside equity and governmental grant schemes (KfW, 2007d). The appropriate source of capital for these highly return volatile companies seems to be equity capital provided by business angels or venture capitalists (Brettel, 2003). Although the GEM 2006 Financing Report (Bygrave, 2007) notes the sufficient availability of informal investment capital in Germany, contrary recent case studies by OECD (OECD, 2006a, 2007b) report that private informal equity capital is nonexistent in several regions in Eastern Germany. Most equity supply is granted by governmental programmes (OECD, 2007b), that are usually only temporary available. Therefore, promotional programmes should focus on developing private informal investor networks.

Besides supply-side constraints, studies also indicate possible sources of market imperfections in entrepreneurs' behavior. Several capital suppliers recently complained about the poor quality of business plans, which are seen as insufficient for the purpose of a project's due diligence (OECD, 2006a, 2007b). In addition, the GEM 2006 Financing Report (Bygrave, 2007) indicates that most nascent entrepreneurs expect their start-up to be funded primarily by bank loans. This kind of overestimation can cause severe danger for a successful business foundation, since debt is often not suitable for start-ups as explained above. Therefore and due to cost efficiency, regional government schemes on Land level are needed, with regard to business-knowledge training for potential entrepreneurs.

High-tech SME financing in Eastern Germany

Although innovative entrepreneurial firms only account for a small share of all SMEs, they are the cornerstone of the economic growth and structural change which lead to an improvement of a country's macroeconomic situation (Czarnitzki and Hussinger, 2004). At the same time, small high-tech start-ups as well as existing entities are most likely to suffer from capital market imperfections due to their risk-fortifying characteristics (Colombo and Grilli, 2007).

The founders of innovative high-tech ventures are often engineers and scientists, who tend to lack relevant business skills (Gottschalk et al., 2007). Furthermore, there usually exists no prior market history of comparable cases and the products or services of high-tech firms are normally new to the market and technically complex (Backes-Gellner and Werner, 2007); hence, market success and the creation of adequate revenues are highly uncertain. In addition, their assets are usually knowledge-based and thus intangible. Those characteristics imply the existence of high informational asymmetries between the firms and capital suppliers which, according to the model of Stiglitz and Weiss (1981), leads to capital constraints, especially on credit markets. Although literature on entrepreneurial finance (e.g. Denis, 2004) argues that debt is an unsuitable source of high-tech financing due to limited interest-payment capacities, recent studies indicate that high-tech ventures in Germany are very likely

[28] Microlending describes the extension of small (micro) loans to entrepreneurs with minor external financial needs which are usually not fundable by traditional banks.

using debt as financial source, if available (e.g. Gottschalk et al., 2007). Referring to this, OECD (2007b) reports banks reducing finance schemes and more restrictive conditions for the access to promotional schemes in parts of Eastern Germany. Since most high-tech firms in Eastern Germany are not able to show a past success record of their R&D activities in the form of patents (Czarnitzki and Hussinger, 2004; Czarnitzki and Licht, 2004), creditors need other instruments, e.g. educational history of the founder (Beckes-Gellner and Werner, 2006), to bypass informational asymmetries.

Nevertheless, most innovative firms rely or have to rely on sources other than senior debt as predicted by the financial life-cycle model (Gotschalk et al., 2007). Since personal savings are relatively low in Eastern Germany, financing through private resources ('3 F') is largely impossible. The founder's financing decisions are thus limited to equity financing and/or governmental promotion schemes. Informal equity sources, particularly business angels, are assumed to play a key role for bridging the financial gap of high-tech firms (OECD, 2006c; Nolan, 2003) because they usually provide essential 'knowledge capital' beside risk capital (de Bettignies and Brander, 2007). But despite recent SME capital market developments (e.g. launch of stock market segments for SMEs), private business angels and venture capitalists networks are non-existent in several regions of Eastern Germany (OECD, 2007b; BAND, 2007a). In order to overcome the information and search costs barriers existing on both market sides, policy recommendation facilitating a further development of business angel networks (Mason and Harrison, 1997) can be used.

Most innovative firms in Eastern Germany are consequently using governmental schemes providing loans and/or equity (Czarnitzki and Licht, 2004; OECD, 2007b), especially with EU financial support. This financial behaviour causes concern, as public subsidisation is temporary and limited in amount. In addition, several authors question the appropriateness of the widely dispersed governmental financing (e.g. Legler et al., 2004), since the innovation efficiency of Eastern German firms is significantly lower than in other OECD countries (Aschhoff et al., 2006; KfW, 2005). Consequently, the dependence of high-tech SME's on governmental financing need to be reduced, ideally by facilitating access to equity capital. Therefore, policy recommendations aimed at a build-up and support of regional venture capital and business angel networks in Eastern Germany are recommended.

Financial sources for Eastern German entrepreneurs

Financial promotion programmes

There are more than 300 promotional programmes for each Land in Eastern Germany including federal, regional and supranational programmes. The majority of all promotion programmes is offered by the KfW *Bankengruppe* which is owned by the federal German government (80 %) and the *Länder* (20 %). Therefore, the KfW *Mittelstandsbank* (KfW SME bank) offers loans, mezzanine financing and equity capital accompanied with consulting services as important indirect help to SMEs, start-ups and self-employed. Specifically long-term loans such as classic financing modules play a central role. Mezzanine financing and other innovative instruments pursue the goal of eliminating financing barriers and strengthening the financing structures of entrepreneurial firms. The existing programmes can be divided into (i) programmes addressing start-ups in early stage, (ii) programmes for specific industries and (iii) promoting programmes of the respective Land.

One of the most important programmes addressing start-ups and supporting entrepreneurship is the KfW micro loan programme offering loans up to EUR 25 000 to enter into self-employment (figure A-1 provides a brief overview of existing KfW programmes). A larger financial demand can be satisfied with start-up funds enabling business founders to finance projects up to EUR 50 000. Concerning start-up funds, the accommodating conditions (e.g. 80 % release from liability; fixed

commission for regular bank, enabling it to finance smaller projects) should be mentioned. These programmes with a total sum of EUR 107,6 million in 2006 and an increasing tendency (KfW, 2007b) are well applied to support low-cost start-ups in Eastern Germany due to a smaller amount of savings and could consequently support necessity entrepreneurs (see figure A-2 for an overview of KfW's business figures). In addition, several public banks of the *Länder* offer, beside the procurement of KfW programmes, their own promotion programmes focusing on start-ups, e.g. start-up and growth financing in Saxony (figure A-3 offers an overview of the most important and most common regional programmes provided by the public banks of the respective Land). Facing the intensity of firm-founding in Eastern Germany and the associated demand on financial resources, the summation of start-up financing programmes tends to be insufficient and consequently implies a recommendable increasing supply.

Supporting special industries is another important aim of promotional programmes. Start-ups in the high-tech sector are especially important economically. Therefore, KfW offers the *High-Tech Gründerfonds*, a combination of loans and equity capital, as a consortium of the federal German government, the KfW itself, and some industrial enterprises. The support of high-tech start-ups began with a total amount of EUR 262 million and has actually promoted about 300 technology-based companies. This support contains (i) management coaching as expedient addition, e.g. at preparing the obligatory business plan, and (ii) the mentioned risk capital. In a subsequent financing round, this sum can be enlarged by additionally EUR 500 000. Therefore, *High-Tech Gründerfonds* cooperates with diverse investors, e.g. venture capital companies, seed funds, business angels and corporate venture capital companies. Concerning Eastern Germany, the founder requires only 10 % equity capital (in contrast to 20 % in Western Germany). Half this sum can be represented through seed investors (High-Tech Gründerfonds, 2007). In addition, the ERP innovation programme[29] by the KfW offers low-interest loan financing for innovative enterprises; the public bank of Brandenburg, as another example, provides special loans for film production, agriculture and technology oriented SMEs. The introduced programmes illustrate excellent possibilities to support specific industries. Nonetheless, the effectiveness and efficiency of those programmes has not been evaluated due to data unavailability. Consequently, the implementation of continuous evaluation systems for each programme seems to be useful and is recommended.

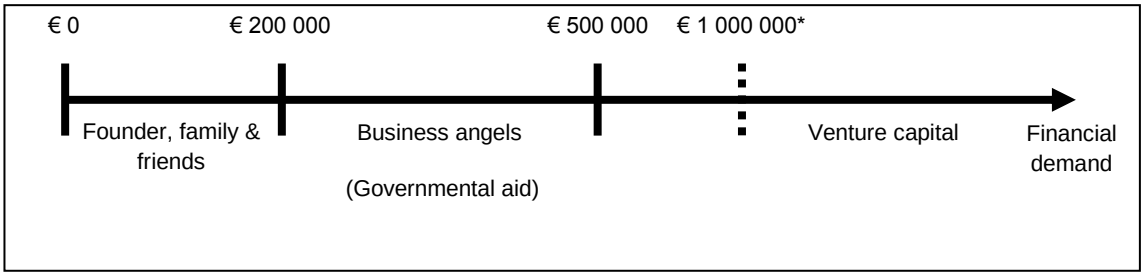
Already the regional programmes with a specific focus, either on start-ups or industries, provided by the federal bank of the respective Land have shown the need for regional structural promotional programmes as well as a corresponding demand. In addition, KfW's ERP regional promotion programme offers favourable and long-term financing for investments to SMEs in structurally weak areas (especially in Eastern Germany). Consequently, (i) all programmes need to be evaluated continuously, (ii) in particular the efficiency of each programme must be ensured, and facing the amount of promotional programmes (iii) a guidance agency overcoming information inefficiencies and (iv) an optimisation of the amount by an expedient merging of allied programmes seems to be recommendable. The required implementation of a today's missing benchmark institution to control the programmes' efficiency should be on the respective responsible level: Federal programmes need to be evaluated on federal level, regional ones on Land level. Due to efficiency the guidance agency could be installed on federal level. As an example, the supply of entrepreneurial information by the Federal Ministry of Economics and Technology could be enlarged and concentrated. For an optimal amount of promotional programmes, all institutions should cooperate to create a plain and clear system of these programmes, helping potential entrepreneurs to identify all fitting financial opportunities.

[29] ERP stands for European Recovery Programme.

Private equity financing

Focussing the financial demand of SMEs in general and of (high-tech) start-ups in particular, the need for business angels' activities is apparent. Figure 3 illustrates SME's financial demand by providing evidence of the financial sources.

Figure 9. Private capital sources to cover SME's financial demand



The '3 Fs' are, in general, able and willing to spend up to approx. EUR 200 000. Due to the wealth situation in Eastern Germany, this amount seems to be over-assessed. Venture capital is available for investments starting with approx. EUR 500 000, or in case of high-tech start-ups starting with approx. EUR 1 million. The resulting financing gap should be closed in particular by business angel investments and by government aid in terms of promoting programmes or subsidies (Ehrhart and Müller, 2007). BAND (German organisation for business angels) calculates that a maximum of 5,000 to 10,000 active business angels altogether invest between EUR 250 and EUR 1 000 million (BAND, 2007b). A single business angel's investment ranges between EUR 10 000 and EUR 500 000; hence entrepreneurial firms often need more than one business angel to satisfy their financial needs. Consequently, the number of business angels' investments needs to be higher than the amount of start-ups needing the business angel's capital. The potential East German market volume for business-angel financing could be appraised approximately with EUR 2 300 million[30]. Comparing this estimate with the existing total amount of at most EUR 1 000 million for Eastern and Western Germany implies an urgent need for action to strengthen and encourage business angels in (Eastern) Germany. In addition, recent studies (Niefert et al., 2006) show that business angels are the second most important funding source, especially for the important high-tech start-ups in Germany with a percentage of 21 % surrounded by promotional programmes (31 %) and venture capital funding (5,5 %). Subsequently the encouragement of (i) promotional programmes as seen in 3.3.1, (ii) business angels' activities, and (iii) venture capitalists is recommended in order to amplify Eastern Germany's start-ups' capital sources.

Debt and mezzanine financing in Eastern Germany

The financial system in Eastern and Western Germany can be described as traditionally bank-oriented (e.g. Audretsch and Elston, 1997): the majority of external SMEs' finance in terms of debt and mezzanine capital is supplied by banks. At the end of 2005, the 2 344 different banks in Germany lent a total amount of EUR 792 000 million to German companies (Bundesbank, 2007) with the locally operating saving banks as the most important financiers for German SMEs (DSGV, 2006). According to the market power approach of credit availability, the given structure of the German banking sector should lead to sufficient credit availability, due to the competitive market environment. But the banking sectors in Eastern and Western Germany are still not equal. First, banking markets in

[30] BAND estimates a potential sum of EUR 5 000 million for the whole of Germany. Considering the start-up intensity in Eastern and Western Germany – 43.9 to 49.6 (Mittelstandsmonitor, 2007) – leads to an estimated market volume of EUR 2 300 million for Eastern Germany.

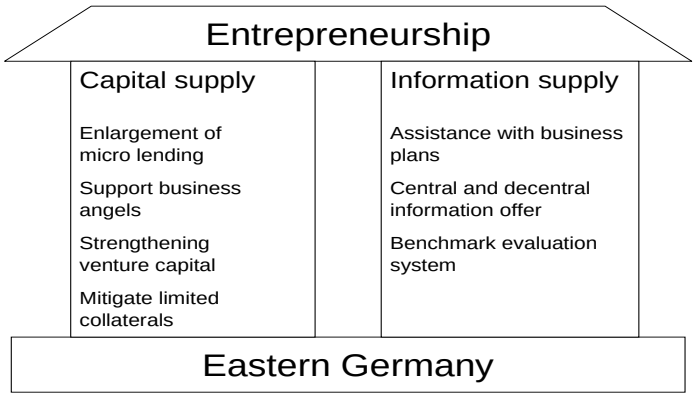
Eastern Germany are significantly more concentrated (Fischer, 2005), which is presumably the result of a thinning out of the branch network, especially of commercial banks, in minor efficient areas. With a lower level of regional competition, banks will invest less in relationship lending with disadvantageous effects for smaller and smallest firms seeking credit. Second, the banking sector has not yet adjusted their portfolio of financial products to the specific (size and industry) structure of Eastern German SMEs (OECD, 2006a). Both circumstances are facilitating an East-West-gap in lending towards SMEs in Germany: Eastern German SMEs pay higher interest rates, pledge more collateral and suffer more from credit unavailability (Lehmann et al., 2004). Therefore, policies are needed which, in the short run, provide assistance for SMEs to get loans from the banking sector, e.g. strengthening relationship lending and the *hausbank principle*, or providing guarantees, including long-term policies that strengthen the development of financial products that are well-adapted to the characteristics of SMEs (e.g. mezzanine capital, angel investments).

Since mezzanine capital products combine the characteristics of debt and equity products, a wide range of financial structuring opportunities (e.g. especially silent partnership, subordinated loans, profit-sharing rights or convertible bonds) is available. Nonetheless, there are some common features of mezzanine capital products: they are usually subordinated high-yield liabilities requiring less or no collateral with longer terms (5 to 15 years) than traditional senior debt and minimal amortisation during the first years. Thus, mezzanine products are appropriate instruments to remedy the financial problems of Eastern German traditional and high-tech SMEs stated above. Since mezzanine capital is economically treated as equity and legally treated as debt in general (Plankensteiner and Rehbock, 2005), funding with mezzanine should enhance Eastern German SMEs' capital structures and ease the access to traditional financial sources. But the German market of mezzanine products is currently marginal compared to the debt market. In 2006, the total volume of the mezzanine market in Germany has been approximately EUR 7 000 million, which is about 1% of the volume of the debt market (Plankensteiner and Rehbock, 2005). Hence, encouraging financial institutions to advance or to issue mezzanine programmes seems to be an important task for policy makers.

Areas for policy intervention

The preceding chapters have shown the prevalent demand for a subsequent improvement of existing policies. Figure 4 recapitulates and summarises these proposals which will be interpreted and enlarged during the following paragraphs.

Figure 10. Policy recommendations to strengthen Eastern German entrepreneurs



Source: Author

Enlargement of micro lending

As indicated in chapter 3.2, the financial demands of SMEs and start-ups in Eastern Germany tend to be lower than those in Western Germany. Hence, micro lending is a useful instrument to support the '3 Fs' by allocating loans – in case of KfW up to EUR 25 000. Because more than 90 % of all German start-ups need less than EUR 50 000 (KfW, 2007d), an extension of the total sum of these micro lending programmes is recommended. In fact, KfW reported merging their micro loan programmes and increasing their total amount starting with EUR 22 million in 2006 (KfW, 2007c; figure A-2; see also Kuhle. 2007). This can be seen as a positive signal to entrepreneurs and as an indication of increasing demand for small and smallest loans. As an example, the support of micro enterprise by ADIE (Association Pour le Droit a l'Initiative Economic, the association for the right for economic initiative) in France can be highlighted. ADIE, probably the biggest and most experienced supplier of micro lending in Europe, offers micro loans up to EUR 5 000, and a full spectrum of services. The fact that the costs of subsidising an entrepreneur are extremely low (between EUR 1 800 and EUR 3 000 compared to around EUR 18 000 costs for one unemployed person) combined with a repayment rate of 93 % and an average survival rate of 75 % after two years, underscores the specific amicability for necessity entrepreneurs. The high repayment rate in particular, can be traced back to the included mentoring services of ADIE's 'district loans agents'. These agents are familiar with the local context and the traditional structures which enable potential entrepreneurs to stay in the neighbourhoods they are accustomed to. Because of the region it covers, ADIE seems to be a useful example for Eastern Germany in general, and Brandenburg in particular, to support (necessity) entrepreneurs with a lower financial demand (OECD, 2006a).

Support business angels

As illustrated above, higher financial demands can be satisfied by business angels with a special focus on Eastern Germany. The integration of business angels, in the form of silent partnerships, increases the SME's mezzanine capital leading to a reduction of the dependence on debt. In addition, business angels enhance financial independence from federal promoting programmes (OECD, 2007b). To encouage their involvement, a change in the German taxation system could be a key factor. BAND proposes that the exemption of capital gains tax should be re-introduced, linked with specific key data to strengthen business angels in Germany (BAND, 2007). Additionally, the role of business angels can be strengthened by supporting a business angels' network. Due to the lack of financial power in Eastern Germany, the integration of Western German business angels in regional subnetworks should be increased. Western German business angels offer (i) larger experience in supporting start-ups and (ii) larger amounts of capital: Western German inhabitants, potential business angels, owned EUR 141 000 in comparison to Eastern German inhabitants with only EUR 104 000 (BMWi, 2007). In addition, generally business angels have a high household income (Brettel, 2002) which suggests the conclusion of dominant Western German business angels. OECD expects a highly positive return on this investment because of a relatively small amount of money required and proposes widespread marketing campaigns to increase the awareness of and interest in business angels' activities (OECD, 2007a). These marketing campaigns should focus on potential business angels that are in general male, age of 45 to 65, wealthy (2/3 of German business angels have an income higher than EUR 250 000 and more than EUR 2.5 million fortune), and successful entrepreneurs with management experience (Ehrhart and Müller, 2007). From a theoretical point of view, local business angel networks are especially recommended for firms in early stages. In addition, an evaluation system that continuously registers effectiveness and efficiency of these activities must be implemented.

Strengthening venture capital

In the later stages of SMEs' life-cycle, venture capital starts to play an increasing role. Therefore, OECD proposes reviewing existing venture capital schemes and proving their relevance and effectiveness. Furthermore, the access to equity capital markets needs to be enhanced, e.g. by setting up a network for venture capitalists and capital searching high-tech firms (OECD, 2007a). As mentioned above, only a small percentage of Eastern German SMEs are using venture capital financing because of their lower sum of investment. Consequently, (i) evaluating venture capital schemes and, in addition, (ii) strengthening venture capital as source of entrepreneurial finance seems to be recommendable. Therefore, corporate venture capitalists in particular could benefit from modified incentive structures like tax advantages for venture capital investments. But this venture capital could also be acquired in Western Germany since venture capital's mobility is unlimited.

Mitigate limited collaterals

In addition, the problem of limited collaterals (especially in Eastern Germany) must be solved (OECD, 2007a). As another example, the Estonian Credit and Export Guarantee Fund (Kredex) shows that especially higher risk start-ups (such as high-tech start-ups) and established SMEs in general need the capability to safeguard their loans with guarantees for successful loan application. Due to insufficient collaterals, limited equity, and limited solvency, it is often nearly impossible for these firms to obtain credit. As illustrated above, Eastern German start-ups and SMEs suffer from comparable factors. Therefore, Kredex offers equity loans, which are considered as equity leading to an increasing willingness to lend a loan, and loan guarantees. In progress, Kredex encouraged about 2 000 jobs (OECD, 2006a); again implying the necessity for an evaluation system for Eastern Germany guarantees offering programmes. In addition, employee involvement for smaller established companies could cause increasing equity. As a positive secondary effect, employees are more connected to their firm, which could result in increasing productivity. In general, the support of equity development, as well as simplification of capital market access for SMEs, and encouraging the use of credit substitutes, leasing and factoring, is recommendable.

Assistance with business plans and 'point of entrepreneurial interest'

A convincing business plan is one of the most indispensable elements of a successful application for loans and/or promotional programmes. Consequently, the entrepreneur's knowledge of managerial skills regarding business planning, management systems and innovation management are important: Conquering existing weaknesses in business plan preparation and business development is required. Specifically, in some regions of Eastern Germany, OECD discovered that up to 90 % of business plans presented to banks are not fundable (e.g. OECD, 2006b). This implies that there is a specific necessity for education in this field (see also Grichnik and Hisrich, 2005). Therefore, innovation centres, as in Kentucky in the US, are a good possibility for entrepreneurship education, training and mentoring. Furthermore, an up-to-here implicit assumed fact could be verified: There are (potential) entrepreneurs in rural regions, which are comparable to some regions of Eastern Germany. Moreover, Enterprise Estonia, another OECD learning model, showed that support of entrepreneurial education (e.g. grants for consultancy advice, trainings, planning and implementing export projects) can be very effective. The concept of 'One-Stop-Shops' and 'First-Stop-Shops' is one example: One single agency integrates, co-ordinates and tailors entrepreneurship policies. (OECD, 2006a) For Eastern Germany with its small population density in some regions, central information and schooling centres like those in Estonia, in addition to decentralised points of reference (e.g. as 'entrepreneurial information buses') are recommended. These central information agencies need to be located in highly frequented places. Focussing on necessity entrepreneurs, they could be stationed at the *Arbeitsagentur* (employment centre). Thinking of established (high-tech) SMEs, another location (e.g. universities) should be

preferable for psychological reasons. But due to cost efficiency, creating one single 'point of entrepreneurial interest' for both types of entrepreneurs is recommended. Mobile information centres could complement this offer and provide introduction to educational and promoting programmes. In particular, figures A-1 and A-3 illustrate that the spectrum of promotion programmes for start-ups and SMEs is nearly unmanageable. Therefore, it is recommended to examine how existing administrative procedures might be simplified and streamlined which is supported by OECD (OECD, 2007a). Considering the amount of promotion programmes, easier access to these programmes is needed. Entrepreneurs currently face a latent hazard of information overload from all these programmes.

The database of the Federal Ministry of Economics and Technology (containing all federal, regional and supranational promotional programmes) represents a good first step but it must be continuously extended. In addition, offline databases should complete online ones for two reasons: First, the percentage of Internet users in Eastern Germany is still below Western Germany. Second, people with lower incomes, who can be interpreted as necessity entrepreneurs, also use the Internet at lower rates (IW, 2007). Due to economies of scale, these offline databases should be implemented within other services to create one single 'point of entrepreneurial interest'. In addition, the *hausbanks* play an important role for (potential) entrepreneurs and SMEs in Eastern Germany. In contrast, OECD proposes the independence of SMEs relating to their *hausbanks* (OECD, 2007a). As stated above, the *hausbank*, as a personalised consulting agency, needs to be strengthened to mitigate information asymmetries. The *hausbank* principle with its relationship lending helps Eastern German SMEs to take out a loan by focussing on qualitative data. Naturally, all these activities must be continuously evaluated.

Benchmark evaluation system

The financial instruments offered by private institutions are largely not co-ordinated with Eastern German SMEs' financial behaviour, resulting in partial funding gaps. In order to sustain the positive development of economic figures, promotional programmes solving these gaps are recommendable. In addition, all programmes and all presented recommendations need to be continuously evaluated and proofed for their effectiveness and efficiency, especially in the case of a missing evaluation today. Therefore, a continual benchmark programme is needed to avoid erroneous allocations of (federal) financing subsidies. These benchmarks should evaluate as well as ex post as ex interim, and additionally ex ante in the case of new established programmes. It is obviously that the respective responsible institutions need to acquire and appraise all corresponding data to create the possibility to rearrange a programme's issues in the event of missing effectiveness and/or economic inefficiency. Therefore, reliable data for (i) each promoting programme, (ii) all activities to support business angels, (iii) the strengthening of venture capital, (iv) programmes offering dept guarantees, and (v) all information offers are needed. All of this data could not be researched within this chapter, leading to the conclusion that there are no existing evaluation systems implemented today. In the case of cooperating institutions, the implementation of a system that guarantees an operating data exchange is recommended. As a positive example the integrated programme "Regional Growth" (see Box 2.3) has shown that within 2006 by subsidising EUR 8 000 for each stabilised or newly-set-up workplace, 214 new jobs had been created and 650 ones secured. In conclusion, these data enable a comparison of the in- and outputs and admit an integral benchmark of this programme.

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ANNEX

Table A-1: Overview of existing KfW programmes for start-ups and SMEs (composed of KfW, 2007a)

	Loans	Equity finance
Target group	Self-employed professionals, established businesses	Start-ups, tech companies and established SMEs
Financial aim	Cover operating expenses	Strengthen the equity base
Programmes	Micro Loan Programme (micro loans for up to EUR 25 000 to enter into self-employment) Start-up Funds (loans for business founders, small entrepreneurs and self-employed professionals whose project does not cost more than EUR 50 000; 80 % release from liability; fixed commission for regular bank, enabling it to finance smaller projects) Entrepreneur Capital (products for business start-ups, young and also established enterprises) Entrepreneur Loan (provides universal loans for investments and working capital; established SMEs (>2 years) are 50 % release from liability) Entrepreneur Loan – Outside Germany (financing for investments in other countries) ERP Regional Promotion Programme (ERP funds at favourable terms and conditions for investments in structurally weak areas) ERP Innovation Programme (low-interest loan financing for innovative enterprises)	Early Stage: ERP Start Fund (provides equity finance for the start-up phase of young technological companies) Later Stage: ERP Participation Programme (supplies 'smaller' SMEs up to EUR 1 million) Equity for the SME sector at large (provides between EUR 1 to 5 millions for participations) ERP Innovation Programme (equity for young SMEs) KfW Venture Capital Programme (guarantees investments by equity investment firms on a pro-rata basis)
Conditions (depends on specific programme)	Repayment-free start-up period Fixed interest rates offer a secure basis for calculation Up to 100 % disbursement Possible combination with other promotional funds	Application necessary Special conditions for Eastern Germany

Table A-2: Detailed business figures of KfW SME bank concerning financing programmes

	2005	2006	2006 (31 March)	2007 (31 March)
			EUR billion	
KfW SME bank	15.5	22.8	5.5	2.8
of which: loans	11.6	13.4	3.0	2.8
of which: securisations	4.0	9.5	2.6	-
Loan financing	**10.7**	**10.2**	**2.4**	**2.3**
of which			EUR million	
Entrepreneur Loan	4 769.4	6 096.2	1 563.3	2 029.1
Start-up Fund	100.0	85.6	23.8	28.3
Micro Loan Programme	24.0	22.0	6.9	9.8
ERPInnovation Programme*	127.3	6.9	1.9	-
Global loans	5 353.1	3 643.1	737.9	154.8
Mezzanine financing	**0.6**	**2.1**	**0.5**	**0.3**
of which			EUR million	
Entrepreneur Capital	511.6	506.2	119.4	117.9
ERP Innovation Programme*	71.5	1 633.5	386.3	197.9

* The ERP Innovation Programme was modified as of 1 December 2005 and has since been offered as a mezzanine programme.

Table A-3: Overview of regional programmes

Public bank of	Saxony	Brandenburg	Thuringia (incl. Hesse)	Saxony-Anhalt and Mecklenburg -Western Pomerania (incl. Lower Saxony)
Programmes	Start-up and growth financing Saxony Investment incentive (Joint Agreement for the Improvement of Regional Economic Structures) Investment incentive (regional growth) Investment bonus (Investitionszulagengesetz) SAB liquidity loans programme	Loans: focuses on SMEs, film production, start-ups and 2nd stage, agriculture, technology-oriented SMEs Partial payment: consulting, agriculture, technology-oriented SMEs, 2nd stage financing, networking, innovations Equity financing: Capital Venture financing (2nd stage financing, technology-oriented SMEs, innovation)	Thüringer Aufbaubank: debt guarantees, loans and subventions for all branches and all stages Bürgschaftsbank Thüringen: debt guarantees for start-ups and SMEs	Loans for start-ups, agriculture, SMEs Consulting Mezzanine financing for SMEs Investitionsbank Sachsen-Anhalt: consulting, Mezzanine financing, loans, agriculture financing

FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES

OECD

In East Germany, there is an abundant supply of public financing, which is used by a large number of companies. There is a policy change towards the financing of innovation, away from investment allowances. If the latter are still granted, then they are assessed against the number of jobs created and secured. Across all local case study areas, a wide range of public financing programmes for start-ups and existing companies and high-tech firms can be found. The availability of financing from private sources varies between age, size and type of company. Start-up firms that have limited capacities for self-financing and debts, rely especially heavily on personal savings, loans from family and/or friends, or public financing. Ideally, over time a company should gain increased creditworthiness based on its track record and collateral assets that help to overcome eventually existing information asymmetries between demand and offer. In East Germany, where the majority of companies have been established 18 years ago, for most of these companies this was not sufficient to become creditworthy. Hence, even by mature companies, governmental loan schemes, micro loans, or internal funds are considered more suitable to meet financial needs.

It has been reported that existing SMEs suffer from limited private equity and relatively high levels of dependency on external credit and finance under interest rates on loans taken on in the early 1990s. The lack of equity capital and collaterals is considered by firms an insurmountable barrier in terms of accessing favourable credit schemes. The availability of external financing is constrained by credit rationing by private lending institutions and dependence on fixed-asset collaterals. Furthermore, in most of the local case study areas property is not always considered by banks as sufficient collateral because of the lack of demand, low prices in the property market and the burden of mortgages. Interviews held revealed that business plans are often not viable, too naïve and lacking security. There is a gap in providing feasibility of the project concept and in undertaking market research on the product/service prospects. As the majority of government financing schemes is delivered through local branches of private banks (*Hausbanken*), access to these schemes is partly restricted. Existing information asymmetries between banking institutions and borrowers make it hard for banks to determine the real value of a project, which leads to credit rationing. These framework conditions might impair the survival chances of new, young and existing SMEs, and might also negatively impact the growth tendencies of companies.

All banks and especially savings banks have a clear fiduciary duty to protect the savings and assets of their clients, but they are equally a vital part of the local ‘enterprise infrastructure’ in a region and they have the potential for influencing, or not influencing, strategic change. In the local case study areas, banks, mainly savings banks and co-operative banks, are often amongst founding members of technology centres and business incubation facilities. They are members of *Land*-wide entrepreneurship and SME support partnerships and support SME innovation and technology oriented business start-up competitions and awards. While local banks are active in funding established SMEs and in combining with regional banks on venture capital initiatives, their role in directly advising and funding start-ups and early-stage SMEs is relatively limited.

The majority of new start-ups are mainly micro or small-scale activities with relatively strong dependence on finance from public support programmes. These programmes seem, however, to be limited in their adaptability to the needs of supported companies, in particular with respect to the tendency of small-sized companies for a step-by-step build up with low investment but high operating resources needs. Financing gaps exist in the financing of operating costs, in supplementary financing in difficult liquidity situations, and in the start-up financing of particular target groups (founders of micro enterprises, side-line enterprises, mini start-ups, part-time start-ups, phased start-ups). Considerable efforts have been undertaken by the Chambers of Commerce, Chambers of Crafts and the *Länder* to increase opportunities for advice and financial support for start-ups and existing companies. However, there is still a significant unmet need for financial consulting covering all forms and phases of entrepreneurship, including advice on project and business plans and counselling on creditworthiness. In particular, the high numbers of micro enterprises that have been established with the support of public programmes, like "*Ich-AG*", have little access to additional capital that would allow them to consider opportunities for business expansion. The local case studies gave the impression that financing for start-ups by unemployed people through the local branches of the Public Employment Service lacks the flexibility required to fully support the prior financing of projects and exploitation of their growth potential. Some *Land* offer a supplementary micro lending programme, which adds to the start-up support programmes provided by the Public Employment Service, covering bridging financing [*Fehlbedarfsfinanzierung*]. This initiative can be seen as a good practice example for other regions.

The following financial problems affecting high-growth SMEs were signalled by some local stakeholders: larger banks have cut back their programmes to help small firms, conditions attached to state-based small firm funding (*e.g.* procurement requirements) are too onerous, and there is a gap in funding in the pre-trading phase of company development. High-tech firms face particular problems associated with very high risks in the early stages, but there is also a real prospect of very high returns for the few successful projects. Investors backing a successful venture, however, may have difficulty in securing their returns when large investment is needed later on. The East German Länder appear to be successfully addressing this issue with a two-phase system differentiating between pre-seed and seed financing. As *Hausbanken* often lack the necessary technical understanding for fully judging the creditworthiness of a high-technology-oriented business idea, the support of certain university professors, as reported for one local case study area, has assisted a number of small firms to obtain funding from financial institutions. However, this practice operates on the basis of individual goodwill and has not yet been institutionalised.

High-tech firms, in particular, need external financing over an extended period (typically 3-5 years) and commercial banks alone can not fill this role. In contrast to other countries and other regions, the level of real venture capital available in some of local case study areas seems to be low or nearly non-existent. Some commentators suggested that legal restrictions prevent banks from entering this area. Even where venture capital has been invested it is through ‘silent participation’ (*Stille Beteiligung*) and does not bring therefore the active involvement of the funding institution in the business strategy and business development of the company, which is a common feature of venture capital in many other OECD countries. On the one hand, entrepreneurs seem to be reluctant to access formal sources of outside equity capital as they fear a dilution of their control over the firm. On the other hand, these schemes are focused on technology-oriented companies, which are considered to have greater market potential and potential for profit increases than SMEs from other sectors. Thus, the latter suffer from a lack of development oriented venture capital. Some of the venture capital and the activities of business angels seem to be heavily subsidised. Whilst the commitment of public funding to address market failures in economic development is always going to be required, its scale, however, will not be sustainable in the medium term as European funding finds other priorities. Venture capital schemes with public funding appear to be well-managed and to be performing well,

especially in terms of the scale of private financing being attracted into investee companies alongside its own cash. However, in order to become commercial viable, the company will have to attract investment funds from commercial sources and it will have to finance its overhead from fees paid by investors. This will mean a reduction in the level of funds raised and some pressure on overhead.

Overcoming the financing gap by creating a sufficiently robust business environment and interacting with confidence on an "arm's length" basis is what a recent OECD report describes as a way of overcoming and avoiding a financing gap for SMEs (OECD 2006). In OECD countries, governments have sought to increase the availability of financing for SMEs by encouraging private financing resources to undertake investments and loans they otherwise would not make. The issue of equity financing is an important one, especially for growth and high-tech enterprises. For all kinds of companies, but especially for young firms, traditional small and medium-sized companies credit guaranty programmes are relevant for company survival and growth. In these cases, government programmes aim to increase the potential return or reduce the risk of loss to private investors and lending institutions which, in turn, will invest and finance in sectors of the economy that government aims to develop and support.

The particular structure of the East Germany SME business sector shows that credit constraints can produce a misallocation of financial resources. Existing and upcoming information asymmetries need to be reduced in order to minimise misallocations and imminent underinvestment in the long run. The policy approach to be taken should address both the demand and the offer side. Regarding the latter, the provision of information and the development of profound knowledge about credit-rating processes and investment readiness programmes proved successful in other OECD countries. For the demand side, the obvious concentration in the East German banking sector reduces competition, which increases the likelihood for credit restrictions. Hence, a facilitation of the competitiveness and a revisiting of the *Hausbank* principle should be considered by policy in order to ease SMEs access to financing from private sources. One of the characteristics of the East German SME sector is that a great share of it has a low financial demand; especially start-ups in traditional sectors need less than EUR 50 000 (KfW, 2007). This suggests that existing micro lending schemes should be expanded and introduced where hitherto nonexistent. For businesses with higher financial demands, business angels and venture capital schemes could offer potential ways of financing. To make greater use of business angels, the integration of their financing, in form of silent partnerships, should be thought of. This would increase mezzanine capital leading for SMEs and would, in turn, reduce their debt dependence. At the local level, only a small number of SMEs is using venture capital financing. An evaluation of existing venture capital schemes should be considered in light of an advisable potential strengthening of demand for venture capital as a source of entrepreneurial finance. Here, tax incentives, which would however, not be for East Germany only, should raise the interest for venture capital investments.

A number of policy recommendations resulted from the local case studies. These can be taken up by national and local governments, public and private financing institutions and business support organisations, operating locally and across different levels of government. Despite their local provenance, the policy recommendations have some relevance for other localities in East Germany and elsewhere. However, the following list of recommendations is not meant to be exhaustive, but should be considered and consulted as checklist when reviewing the local framework conditions for financing entrepreneurship, taking into consideration offer and demand sides.

	Policy recommendations to improve access and usage of public and private financing for entrepreneurship
☑	*Simplify and streamline regulations and procedures in existing support programmes*. Regulations and conditions for existing and new enterprise support programmes need to be more transparent and procedures simplified. Bureaucracy should be reduced, decision making accelerated and information made

	more accessible with respect to enterprise access to funding. An evaluation of the impact of regulations and procedures should be conducted on an annual basis based on feedback from client companies.
☑	*Instigate discussion on the role of banks for local entrepreneurship development.* Local agencies should instigate discussion with regional and local management of all banks and financial institutions on how these bodies can play a stronger and more active role in promoting and providing funding to start-ups and existing SMEs.
☑	*Address weaknesses in business plan preparation and business development.* As a contribution to resolving the problem, the banks might consider producing a guide to business applicants or undertaking some work on establishing 'mentor' panels and 'patron' panels that will guide entrepreneurs while making formal application to banks.
☑	*Help firms to assess their own investment readiness.* Programmes should be designed to address a perceived lack of investment readiness in certain sectors by improving the level of knowledge in firms about their own growth and return potentials and methods of financing. Key features would include intensive working with each company; highly interactive workshops based on role play exercises, and delivered by experienced industry experts like accountants, lawyers, business angels, clearing banks, venture capital firms and corporate finance firms and a free diagnostic investment readiness tool. Such programmes enable firms to asses their own investment readiness, obtain feedback on their strengths and weaknesses, their ability to access equity finance, and increase investor interfaces with underinvested sectors.
☑	*Increase investment readiness and firm access to finance*. Programmes that assist small and medium firms in increasing their investment readiness and facilitate access to finance should be primarily concerned to help firms to better access existing sources of funding, rather than creating new funds.
☑	*Review existing venture capital schemes.* The existing schemes of venture capital provision should be reviewed as to their relevance and effectiveness in generating and supporting new companies and growing SMEs. Local agencies should examine, in co-operation with financial institutions, how joint funding initiatives might enable more venture capital to be introduced.
☑	*Increase development-oriented financing.* Development-oriented financing initiatives should be extended from venture capital to other financial instruments, e.g. guarantees, and should be offered to all kinds of entrepreneurs, rather than just technology businesses. Extending existing institutions and instruments should be preferred to developing new ones.
☑	*Extend micro lending.* Develop micro lending facilities and instruments at a lever which is attractive to private banks. Accompanying this should be appropriate coaching and skills development.
☑	*Seek the involvement and advice of business angels.* A developed venture capital system needs individual investors as well as venture capital funds. 'Angels', that is people who are prepared to invest in individual companies and frequently bring knowledge of the sector or other strategic advice to companies, are common in most OECD countries. They may be people who successfully started a company in the past and may have a series of companies in which they have invested. Often this type of investment is accompanied by mentoring where the individual investor or another nominated person acts as a counsellor to the entrepreneur and business. This is particularly important to businesses that are seeking to penetrate international markets or to firms that have ambitious growth plans.
☑	*Develop programmes to boost the numbers of business angels*. The objective of such programmes is to increase the pool of business angel investors and thus boost the supply of equity to small firms. This means recruiting high net worth individuals with relevant business experience and an interest in helping to build, support, mentor and invest in early stage companies with growth potential. Often potential angels are reluctant to get involved partly due to a lack of knowledge about what is entailed and a lack of relationships with existing angel investors. The attraction of "knowledge angels" to pass on relevant processional and business experience to investee companies, without necessarily investing themselves has proved a successful ingredient of such programmes elsewhere. Widespread marketing campaigns can be helpful in increasing a general *awareness of and interest for business angels activities.*
☑	*Continue the financing of business angel networks overhead costs on a minimal level*. It is important to ensure that angel networks receive only just the level of subsidy needed to maintain their operation. For the relatively small amount of money required to run an angel network, the public sector can expect to achieve a very high level of leverage on the investment finance raised. The development of incentives to seek commercial sponsorship from firms engaged in the investment process should be discussed. This could include banks, accountants and lawyers, whose involvement will also strengthen the network, helping to introduce deals and new angel investors.

Box 9. Being inspired from good practice in financing entrepreneurship

Business Angel Development/Ready2Invest Programme in London – United Kingdom: Recruiting high net worth individuals with relevant business experience and an interest in helping to build, support, mentor and invest in early stage companies with growth potential.

Venture Capital schemes for SMEs at local level: FILTRAN – France: Offering access to development-oriented financing in form of guarantee funding.

Estonian Credit and Export Guarantee Fund (Kredex) – Estonia: Addressing the gap in the financial market for higher risk start-ups and SMEs through a self-financed mechanism.

A mutual guarantee scheme: Artigianfidi Ferrara – Italy: Developing and delivering local guarantee schemes that makes accessing capital easier and helps local companies to lobby their needs towards banking institutions.

Support for micro enterprises: A.D.I.E. – France: Financing the start and development of micro businesses through the delivery and monitoring of micro credits.

Small-scale financing for SMEs in Mecklenburg Western Pomerania – Germany: Micro-lending facilities and accompanying instruments that include appropriate coaching and skills development.

CHAPTER 4

UNIVERSITY ENTREPRENEURSHIP AND TECHNOLOGY TRANSFER

FOSTERING UNIVERSITY-INDUSTRY LINKS

Rebecca Harding, UK

Introduction

Aims in context

This chapter outlines the issues in developing strong university-industry links in eastern Germany. The commercialisation of university research is argued in the literature to be a driver of productivity and international competitive advantage. It stands to reason, therefore, that this has been a priority not only across OECD countries but also in emerging economies (Potter, 2008 forthcoming, Mitra, 2008 forthcoming).

To some extent, the debate on the best mechanisms for developing good Higher Education (HE)-industry links is a well-rehearsed one (Lissenburgh and Harding, 2000). In its simplest terms, transferring the knowledge that exists in the research base into commercial applications, creates new market opportunities which fuel job and wealth creation in the economy as a whole and maintain or enhance a country's competitive position in terms of innovation. Similarly, the education and training role (including professional development) that the higher education (HE) sector provides a route for transferring knowledge (know-how and know-why) into commercial and public sector settings.

As with everything, however, the issues are more complicated than this simple summary would suggest and there are generic challenges for policy makers in ensuring that the knowledge transfer process does, indeed, lead to successful commercialisation. These are discussed in more detail below in the form of an international literature search, but in summary are:

1. *Appropriate forms of university (HEI)-industry link:* commonly HEI-industry links are seen as falling into two categories, both of which transfer knowledge – education and training and commercialisation/spin outs. Increasingly as well it is important to see links in terms of consultancy, joint-ventures, partnerships and even informal networking. To some extent, there is a tendency to regard HEI and business links as necessarily a good thing in the literature as a new model of collaboration that yields economic, social and increasingly environmental returns. However, this is only the case if appropriate forms of collaboration are developed – otherwise the links can equally just be seen as "socially inefficient privatisation of research and therefore a threat to science itself" (Sampat, 2006).

2. *Measurement of policy impact:* since the mechanisms for knowledge transfer are not always clear cut, this presents measurement problems. The innovation literature has relied historically on citations and patents as proxies for innovative activity and the effectiveness of innovation systems (of which university-industry links are a key part). However, as the process of interaction starts to include licensing, informal networking, consultancy and joint research ventures as well as formal commercialisation, spin-out activity and private sector investments, the issue of measurement becomes more difficult.

3. *Definitions and intellectual property*: the scientist, the innovator and the entrepreneur are not necessarily the same thing and this leads to confusion over where the rewards from the commercialisation activity should lie.

4. *Closing the finance gap*: much has been done to provide structures for seed-finance and early-stage growth finance in OECD countries to address the imperfections in the market for innovative projects. Two challenges still remain, however: to close the "knowledge" gap – i.e. the language difficulties between the scientist or innovator and the investor that appear both as information asymmetries and lack of management experience and second, to provide a funding escalator that itself ensures that there is continuation and access to growth finance as the project progresses (Wright et al 2006).

5. *Globalisation and the speed of "catch-up":* in many OECD countries, government policy is focused on the need to compete at the high "value added" end of the market in order to address the challenges of rapid catch-up in some of the emerging economies.

There are, however, immense policy and economic opportunities from generating increasingly close relationships between HE institutions and industry. Specifically these are:

1. *The potential for creating innovation "clusters"*: these are agglomerations of actors around a shared technology such as nano-technology or biotechnology. The benefit of clustering activity is the scope for synergies between groups of experts from the scientists in HEIs through to the structures that support commercialisation, including large business, venture capital and specialist legal support (Porter, 1998).

2. *The potential for creating regional growth*: the literature is agreed on the fact that HEIs transfer knowledge locally and regionally rather than nationally and that the measurable benefits of knowledge transfer are strongest in the immediate region around a university (Fritsch and Slavtchev, 2007; Davenport, 2005). The policy implication is that by generating a strong knowledge base regionally with robust links to the industrial base, there will be positive effects for regional development.

3. *Globalisastion and regional development*: HEI-industry links are a critical part of the regional "innovation system" (Braczyk et al 1998, Cooke and Schall, 1997; Cooke, 1998; Cooke, 2001). Increasingly regions compete against other global regions for a share of the research and skills investments of big and small companies alike.

Overall, HEI-industry links are a positive way of creating social and economic wealth. As will be made clear in the subsequent sections, these detailed policy issues and challenges have been met to a greater or lesser extent by specific initiatives on the ground in eastern Germany. To this end, eastern German growth, particularly in innovation sectors, is now faster than that in western Germany (IWH 2007). There are, however, some remaining challenges which reflect the new German states (neue Länder) status as transition economies. In particular, the issue of "global growth but local unemployment" is one that continues to demotivate and to hamper the rapid growth potential that is undoubtedly present in the eastern German economy (Harding et al 2002; Harding 2007a).

Definitional issues

What is intriguing about all the interest in "innovation" and "entrepreneurship" generally and HEI-industry links in particular however, is that, in recent literature and policy discussions at least, they are rarely defined and even more rarely combined in the same unit of analysis (Folkerington et

al). Policies aimed at entrepreneurship typically focus on the small business sector and, in the case of EU policy, on encouraging it to be more innovative. Alongside this, more people are encouraged to set up businesses. Similarly, innovation is viewed in terms of Science, Engineering and Technology (SET) and its commercialisation rather than in terms of the *entrepreneurial processes* driving that commercialisation. Increasing amounts spent on R&D or increasing the number of knowledge workers in the economy is seen as intrinsically a "good thing".

This has little recourse to the broader definition of innovation as "change" and entrepreneurs as "the agency that generates changes in the rules and implements those changes" (Metcalfe, 2006). Instead, innovation policy focuses on increasing the science base in HE and putting mechanisms in place to enhance technology transfer (through funding and collaborative research) while enterprise policy focuses on increasing the numbers of businesses that are established. Both in the end are looking at "enterprises" as business entities, rather than the process of "enterprise" which is an activity associated with experimentation that changes the rules within which decisions are made and introduces "novelty" (new ways of thinking and new ways of doing) to the economy (Metcalfe, 2006 op cit).

The result is confusion in the literature and arguably in policy and practice in the UK and beyond. "Entrepreneurship" and "Innovation" are used in several ways:

1. Synonymously: entrepreneurs are necessarily bringing something new to the market and therefore are innovating (Casson et al 2006).

2. Interdependently: entrepreneurs are active in technology sectors and the small businesses they establish make a direct contribution to job creation and productivity (Armington and Acs 2004)

3. Independently: entrepreneurs are defined by their decision-making and risk-taking capacity and not by the novelty of what they do. Innovators are defined by their novelty. It is therefore possible to be entrepreneurial without being innovative and vice versa (Hayek, 1937, Kirzner, 1973).

There is a tendency to use "entrepreneurship" and "innovation" interchangeably, but the two are quite distinct phenomena. The "entrepreneur" perceives opportunities and makes judgement calls as to the market viability (i.e. the risks) of those opportunities (Casson 1982). The innovator is the source of those ideas and opportunities and is the conduit of knowledge between the knowledge-base and its future commercialisation, effectively converting uncertainty, which cannot be calculated into risk, which can. While the literature from 50 years ago or more was clear on this distinction, the boundaries between the two have become blurred in recent writing and thinking. A workable definition of the "innovative entrepreneur" as a person who identifies an opportunity from an innovation, whether social or commercial, evaluates its market potential based on their own knowledge networks and social, financial or educational capital, and establishes an organisational structure, either within an existing entity or by creating a new one, that allows that innovation to be developed (Harding 2007a).

This is a vital distinction for policy towards HEI industry links and particularly university spin-outs. The researcher in university may generate the scientific knowledge with commercial potential. However, it is the innovator who recognises and articulates that potential and the entrepreneur who calculates and takes the risk in realising its market potential. This is important for four reasons which are discussed in some depth below:

1. Appropriate forms of HE-business links which allow knowledge to transfer appropriately from the science base into the local and regional economy are a cornerstone of regional/cluster policy. Arguably this rests on the effective policy integration of innovation and entrepreneurship measures.

2. Intellectual property (IP) is one of the stumbling blocs to effective commercialisation of scientific research in many OECD countries; arguably a clear definition of the collaborative yet distinct roles of researcher, innovator and entrepreneur help to assign IP and therefore allocate returns appropriately.

3. Measures to support other HE-industry links, such as consultancy, education, training and professional development and support for entrepreneurship training in schools should be encouraged and focused on developing an effective and efficient innovation *system* which improves gross value added of the regional and local economies.

4. Policy makers need effective vehicles to measure the performance of the innovation thus developed through policy which includes both measures of innovation and measures of entrepreneurship as well as proxies for the informal networks, skills base and partnership arrangements that exist between the HE sector and industry (Katz, 2006, Corley et al 2006).

Scope of the chapter

The rest of the chapter is constructed as follows. The next section looks at four key policy issues and challenges in more detail: regional and cluster policy, intellectual property and financing barriers in stimulating spin-outs, other policy measures to increase informal links, for example through training and consultancy and finally, policy impact measurement.

Policy issues and challenges

Innovation policy generally and HEI-industry links policy in particular has increasingly been informed by two important theoretical developments in the literature. The first, broadly termed endogenous growth theory (Schumpter 2006, Romer 2000, Keilbach and Audretsch 2004, Viale and Ghiglione, 2000; Audretsch and Lehman 2005, Audretsch et al 2006), argues that innovation and knowledge transfer from within the economic system is a key driver of economic growth. The number of knowledge workers and how much innovation is generated (measured through patenting and innovation based start up activity) is a determining factor in generating productivity growth amongst small firms, albeit in a random and unpredictable way (MacPherson, A and Holt, R. 2007).

The second, broadly termed the "Triple Helix" approach (Etkovitz 1994, Leydesdorff, and Etzkowitz, (1997, 2000), Leydesdorff, 2005a 2005b) sees knowledge transfer as a function of the complex set of formal and informal linkages between research institutions, finance and commercial businesses and the government (Berg-Jensen, B et al 2007). The interactions between the three strands of the "helix" creates the unique and distinctive characteristics of an innovation system – the "symbiotic tension" that reflects the simultaneous interdependency and competition between actors (Harding, 2000,2001) – at either a national or regional level.

Regional policy

Within the triple helix literature there is a distinct group of authors who regard national competitive innovation advantage as generated at the regional rather than at the national level (Cooke 1998, Braczyk et al 1998, Edquist 2001, Cantwell and Iamarrino 2000, Saxenian 2006, Harding 1999,

Harding et al 2002). This is because the region is a focus for sectoral specialisation and, hence, related know-how accumulation. This in turn allows symbiotic learning relationships between institutions to develop (Harding 2000, 2001) making regions important as drivers of innovation and competitiveness (Azagra-Caro, 2006; Hussler and Rondé, 2007, Heidenreich, 2006), Fritsch and Slavtchev, 2007).

Learning and adapting to changing market and technological conditions is more likely to be effective and sustainable at a regional level since tacit knowledge transfers more easily between actors in close spatial proximity with clear links to the cumulative skills and attributes of the regional labour market (Todtling and Kaufmann, 2001, Dodgson, 2001, Bracsyk et al 1998, Porter 1998, Vickers and North 2001). As expertise starts to build, specialist financiers, accountants and lawyers are established to support the base in knowledge production and, accordingly, any start-up businesses are provided with appropriate and readily accessible advice and consultancy. The evolution of this type of regional "industrial system" is argued to go some way to explaining the development of Silicon Valley and Route 128 in the US (Saxenian, 2006).

This is taken further by Porter who develops the concept of regional "clusters" or agglomerations around specific technologies or industrial sectors. The attractiveness of this, "cluster" approach (Porter 1998, 2002) to policy makers is clear, especially in the area of innovation policy. Innovators are dependent on scientific, innovation, commercial and financial networks both for ideas and for markets. For example, universities or the research function of large corporations are known to act as pulls for entrepreneurial activity (Czarnitzki and Kraft 2001) insofar as entrepreneurs will tend to locate close to research and commercial hubs. If this set of inter-relationships can be systematised, then regionally generated knowledge will add value through the cumulative learning process to create the specialisation that is so important to international competitive advantage, particularly in research-led sectors such as information and communications technology or biotechnology (Cooke 2001, 2002; De la Mothe & Paquet, 1998). The assumption tends to be that the institutional base (venture capital and business angel networks, universities and inward investment, for example) will generate entrepreneurial activity and that knowledge will transfer between knowledge generators and knowledge users automatically.

It is this concept of clustering and regional development that has dominated policy in OECD countries and particularly in Germany over the last ten years. Large as well as small firms compete as much on innovation as they do on productivity and clustering of expertise means that there are innovation synergies between actors in the form of intellectual, technological and social spill-overs (Dohse, 2007). Regions compete globally for the location of Direct Foreign Investment, innovation, skills and, specifically in the context of this chapter, enterprise (Gardiner, B. et al 2004, Kitson et al 2004, Maleki, 2004). The critical success factor for any region in generating this competitiveness is the extent to which it can create learning “networks” or “social capital” to ensure that knowledge transfers between actors in a way that creates competitive advantage in global markets (Saxenian, 1997; Cooke 2007). However, in the context of this chapter, neither innovation in itself nor university-industry links by themselves are sufficient to create market opportunities and therefore increased university spin out activity. For this, entrepreneurs are necessary as well (Harding 2007a, Levie et al 2007).

Intellectual property and finance

Technology-based firms from the university science base are potentially both more suited to venture capital investment *and* more likely to seek venture capital investment. They require significant amounts of capital but, because their business is based on an innovation rather than a proven business concept, investments in them are inherently more risky. In theory, at least, this ought to be the domain

of risk-takers and, hence, also the domain of venture capitalists. Yet an equity gap in the financing of university spin-outs is evident in many OECD countries. This is a clear challenge for policy.

Linking venture capital with technology-based university spin-outs is, at best, complicated:

- *Returns to technology investments are high but inherently risky*: The Bank of England estimates average returns on technology investments to be around 23% (Bank of England, 2000). But one technology investor claimed return rates of 45% in the UK and rates in the US are certainly higher at 33.7% (www.nvca.com). This return rate is evidence of the high growth and wealth creation potential of technology-based firms as much as evidence of their suitability for venture capital funding. Yet venture capitalists themselves will not be able to take advantage of these potential returns unless they can be encouraged into riskier, technology-based investments.

- The growth potential that these companies have is embedded in the value that they add to their initial concept. This value is as much a function of people and networks and therefore particularly high for university spin-outs yet time scales to realise returns are too long for orthodox VCs at the early stages. All technology-based companies start with a commercially unproven innovative idea at the seed stage – this is the risk. The growth process is the cumulative 'proof' of the idea or concept's commercial viability. The value at the end is the return. But, especially in science-based industries like biotechnology, this growth process requires substantial development funding. This funding can be necessary over a long period of time – as long as ten years. This is significantly longer than most venture capitalists will invest without a clearly defined exit route, thus there is a clear role for government support at the seed stage and even at the start-up stage to leverage in informal and formal venture capital.

- The acquisition of substantial capital investments allows technology-based firms to attract key scientists and innovators into their business and this is easier in a university-led venture. It is important that such companies can easily access the high-net-worth individuals that add value to an innovative concept. This is primarily a function of the supply of such people from universities, colleges and industry and, as Fritsch and Slavtchev (2007) argues, this is easier where universities work in close proximity to finance and commercial structures. The role for policy here is in creating an infrastructure that creates such high value 'human capital' in which venture capital can invest.

- Finally, in order that the rate of return is fully realised and venture capitalists continue to invest in technology projects, there has to be a good supply of investment opportunities for venture capitalists. This deal flow stems from universities and colleges through academic entrepreneurs and from indigenous and overseas hi-tech companies with research capacity. Governments can do much to stimulate a culture of science and technology-based entrepreneurship through funding for basic science, significant funding for university-business partnerships, science parks, incubators and programmes to stimulate high technology investments. Yet there is evidence that there is a weakness in the commercialisation of science from the research base across Europe but in the UK in particular (Bank of England 2001).

The other key issue in generating viable university spin-outs is that of intellectual property. Much is made of the importance of robust intellectual property regimes to protect ownership and to generate returns proportionate to the risk taken. The Bayh-Dohl act in the US provided a clear delineation between university research and commercialisation and incentivised not-for-profit and research

organisations (in particular HEIs) to patent. This act has been mimicked around OECD countries to stimulate patenting from the University base including in Germany. The result is growing university/HEI patenting across Europe, for example (Geuna and Nesta 2006).

However, ownership issues have become more complex as David and Hall (2006) point out. For example, where a clear delineation has existed in the past, the frequency of personnel exchange between public and private sector research domains, the increasing returns to individual public sector research from the commercialisation of their innovations and the fact that technology moves quickly and therefore the patenting process slows the process of commercialisation have meant that intellectual property arrangements are no longer easy to define. Allocation of risk and return has become blurred and complex rendering legislative frameworks at best slow and at worst downright inhibitive of innovative effort. The implication for policy, therefore, is that systems must be flexible and lithe as well as robust.

Education, training and consultancy: the growing framework of informal university-industry links

There are other areas where knowledge transfers between universities and the regional economy are more informal. They include education, training, professional development and consultancy as well increasingly, informal contacts and networking enabled through proximity and information and communications technologies (ICT). The effects of these more informal knowledge transfer mechanisms are twofold:

1. Through education, training, consultancy and professional development, research *expertise* (know-how and know-why) is imparted to individuals who then carry it into their place of work. The result can be higher levels of business-related skills that directly improve performance in the workplace as well as higher levels of knowledge and research expertise – in other words, tools that can be used in the workplace (Mitra, 2008 forthcoming).

2. Through support measures to support university entrepreneurs as well as entrepreneurship training to enhance directly the knowledge transfer from the science base to eventual commercialisation (Mitra, op cit).

The first aspect of this knowledge transfer has little to do with generating university spin-outs or with educating the next generation of scientists to be entrepreneurial. Policy, as a result, has focused on the latter providing resources for entrepreneurship courses, student entrepreneurs' networks and business planning competitions to expose students to the realities of venture capital and commercialisation. There are, however, a number of issues in ensuring that such programmes are truly reflective of local business needs as summarised below:

1. New venture creation, business planning and team building are necessary but not by themselves sufficient conditions of effective commercialisation of university research. These programmes often work in isolation from the research base within universities and, hence, do not fulfil their role "translating" and "developing" between the research base and potential business partners or financiers.

2. The rapid process of change in the economy does not render teaching programmes, with substantial lead times to approval and delivery, efficient or effective in delivering dynamic, entrepreneurial responses to business requirements (Luczkiw 2008).

3. Small and medium-sized enterprises (SMEs) are often unaware of or unable to afford the programmes that might generate appropriate forms of knowledge transfer. Use of student

dissertations and projects as well as industrial placements and reciprocal staff exchanges are some policy mechanisms used by OECD countries to ameliorate this situation but these are nevertheless fragmented and patchy in their effectiveness and there is evidence to suggest that some of the most effective mechanisms are informal and proximity-based (Malecki 2004).

Measurement of policy effectiveness

Traditionally the outcomes of university-industry links have been measured through citations of refereed papers and joint patenting activity. Increasingly, policy makers also look to levels of venture capital investment, numbers of spin-outs from university research, numbers of collaborative research ventures, education, training and development and licensing/franchising activity to proxy for "knowledge links" and knowledge transfer activity. All of these measurements are essentially static and presume that knowledge can be codified in terms of specific outcomes.

However, there are two reasons why these quantitative measures may no longer be sufficient to understand the complexities of knowledge transfer: first, HEI-industry links must be seen in the context of regional and national innovation *systems* where many of the interactions are tacit and uncodified. Second, ICT-enabled interactions have become commonplace as vehicles for informal communications. Any attempt to use proxy variables, therefore will not capture fully the breadth and depth of knowledge transfer either in terms of the tacit transfer or in terms of any spill-over effects (Harding 2003; Geuna and Martin, 2001).

More than this, we know relatively little about *how* knowledge transfers (Fritsch and Slavtchev, 2007). We can know a substantial amount about the mechanisms for stimulating transfer: for example private sector grants are more likely to encourage researchers into collaborative projects than public ones (Bozeman and Gaughan 2007) and industry-science links facilitated through technology transfer offices with clear incentives will similarly encourage researchers to collaborate (Debackere and Veugelers 2005).

Yet in a world where public sector resources for expenditure are tight, the evidence base is critical as a justification for expenditure by governments on specific initiatives. Since the process of wealth creation through university-industry links is not obvious to the general public, it stands to reason that policy makers require robust and reliable data, not just to evaluate policy effectiveness but also to identify gaps in provision and market imperfections as they arise.

Approaches to university-industry links in OECD countries

Policy across OECD countries towards university-industry links reflects the definitional ambiguity that was highlighted at the start of this chapter:

- On the one hand, there is substantial activity to stimulate university spin-outs through provision of seed capital, "partnering" activity through technology transfer offices on university campuses, incubator support, support for business angel activity and so on. Much of this is focused on the "innovator" who takes the research and turns it into a commercial opportunity by utilising the infrastructures that exist in the national or regional innovation systems. These innovation systems are locally, regionally or nationally specific and, hence, develop in a unique way depending on their local industrial histories and innovation strengths (Lundvall et al 1992).

- On the other hand, there is equal policy emphasis on the importance of enterprise education from schools through HEIs and into business support structures. Academics stress how important this is in generating enterprise cultures that will enable innovations to be turned into real market opportunties (Sahra and Welter, 2008 forthcoming). The benchmark is often taken to be the United States (Wilson, 2008 forthcoming) but there is increasing awareness amongst policy makers as well of the need to ensure that local conditions, cultures and norms are also taken into account.

In generating effective policies towards HEI-industry links, however, a note of caution should be sounded. Both innovation and entrepreneurship are necessary but not of themselves sufficient conditions to effective knowledge transfer. Understanding innovation and entrepreneurship as mutually interdependent, effectively two sides of the same coin, is critical to developing effective policies towards this critical area (Harding 2007a).

Policy summary

What is clear, then, is that policy has to be:

- Strategic, and integrating entrepreneurship and innovation in order to maximise the knowledge transfer and learning potential of any attempts to foster greater links.

- Have clear clustering priorities that reflect the fact that knowledge transfers best in close proximity to the science base.

- Look at ways of generating cultural change to encourage more informal links between universities and industry (hence over-coming the knowledge gaps)

- Have obvious financing routes.

Each of these is discussed in terms of policy experience across the OECD below.

Entrepreneurial culture and perceptions, motivations and skills

Cultures take a long time to change but through the education and training process, through role models and through appropriate incentivisation, it is possible to make people more positive towards entrepreneurship.

Access to finance

Clearly finance represents the major obstacle to growth and is a function both of limited access to growth funds and of the "knowledge gap" referred to above. The knowledge gap, in turn, is created because potential investee companies from universities are not familiar with articulating their business propositions in a way that makes sense to investors. Similarly access to growth finance becomes critical. Across OECD countries, the availability of seed finance has been enabled through programmes like the Higher Education Innovation Fund (HEIF) in the UK that supports very early stage entrepreneurs from the science base both in terms of coaching and mentoring and in terms of access to small-scale finance.

As companies get through the proof-of-concept stage, however, access to growth finance become an issue. The risks for investors are still high, yet the scope for public policy is limited since "soft money" (i.e. public sector co-investment) just to ensure that growth finance can be accessed

undermined the development the growth finance sector in Germany initially. The resolution is a system of guarantees alongside effective public procurement:

Areas for policy intervention

Since German re-unification, there are a number of areas that have affected eastern German regions in particular in formulating effective policies towards university-industry links. These are discussed in detail by Harding et al (2002) and Harding, (2007b). To summarise:

- The closure of the majority of eastern German businesses by the *Treuhand* in the immediate aftermath of re-unification. The result was unemployment and productivity problems on a scale unimaginable before the fall of the Berlin Wall. By 2002, the overall level of unemployment in eastern Germany was 18% and was little changed in 2007.

- High levels of outward migration of highly qualified workers and young people in particular to western German states.

- Negative economic growth during the late 1990's. Immediately after re-unification, large amounts of money were put into construction programmes and the building industry grew exponentially. However, this growth was relatively short-lived and was followed by slow-down and then recession triggered both by the decline in construction expenditure and by the downturn in the German economy generally.

- High wage costs relative to western German states that prevented large-scale inward investment by global firms and, hence, restricted collaborative partnership.

- Lack of confidence amongst the people of the East German regions in the process of change.

However, there is evidence to suggest that the macroeconomic conditions in Germany are improving and that much of the growth in the economy as a whole is coming from eastern States.

- The German economy experienced a strong recovery in 2006, largely as the result of increased exports but also because of improved investments in machinery and equipment (Economic Forecasts of Joint Research Institutes, 2006). By mid-year 2007, GDP growth eastern Germany was 3% and largely fuelled by innovation-based exports.

- The SME sector (*Mittelstand*) is demonstrating strong competitive performance and is increasingly a vehicle for private-equity investments in Germany. Funds raised for private equity and venture capital have increased (BDK, 2006).

- There is evidence that although the collapse of the Neuer Markt presented Germany and the Germans with a real crisis of confidence in the New Economy, entrepreneurial activity is beginning to increase and confidence is improving[31]. The new economy in Germany is strong, with downward pressure on real wage growth, openness to trade nearly twice as high

[31] Minniti, M. (2006): "Global Entrepreneurship Monitor, 2005 Executive Report" GEM, London Business School and Babson College.

as other industrialised nations, increased investment overall and improved productivity, especially in manufacturing (Deutsche Bank, 2006)[32] .

- Spill-over effects from the rapid "New Economy" growth in areas around technology hubs such as Jena have gathered momentum after a shaky start to the 21st Century (Buehnstorf and Fornhal, 2006). Similarly there is evidence that the initiatives to create regional innovation hubs and networks have been successful and started to generate real growth effects (Eickelpasch and Fritsch, 2005, Harding 2003, Audretsch and Lehman 2006).

- The Eastern German innovation base is being fuelled by public R&D grants to a greater extent than in Western Germany: more R&D tends to be conducted per "R&D Euro" spent in public sector grants than in the West, and there are greater innovative outputs (for example in products and services) although fewer patents. (Czarnitzki and Licht 2006).

Much of this has been fuelled by effective policy at State and Federal level towards regional clustering and innovation and particularly university industry links. The *Innoregio and Bioregio* programmes were both cluster strategy programmes to foster university-industry links and knowledge transfer, the former purely for the east German regions and the latter for all regions (although only Jena and Dresden successfully achieved bioregion status). The policy focus for *Innoregio* was to direct "dynamic development through structures and support systems to promote regional and local level innovation. Behind the idea was a belief that it was the regions themselves who had a knowledge of their local labour markets and industrial conditions and could therefore self-organise in order to strengthen them. Critical to success was a clear regional strategy on how knowledge and know-how was to transfer and generate revenue (Harding 2000, Dohse 2007). The *Innoregio and Bioregio* programmes have now been superceded but nevertheless represented prototypes of cluster-policy.

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FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES

OECD

Whilst across the local case study areas there appear to be several short and medium-term opportunities to strengthen the contribution of the existing science and technology base to entrepreneurship in the local and regional economy by adjusting the current policy approach, a large part of the policy effort should focus on achieving several longer-term shifts. These include changing the attitudes of staff and students to enterprise and their ability to undertake entrepreneurship activity, increasing the scale and breadth of research activity, attracting academics from the rest of Germany and the rest of the world, and strengthening university-industry linkages around higher education institution's (HEI) research specialisation, not just in the region, but also over a much wider area based more on research topic than geographical proximity. The reliance on extra-curricular workshops and networking events could also mean that the full potential of university entrepreneurship is not being reached. The goal should be to promote attitudes and motivation for entrepreneurship beyond self-employment and fostering a culture of high risk and aspirations for high-potential entrepreneurship as part of a university's mission. The local case studies provoked an impression that entrepreneurship programmes focus on quantity rather than on quality. This fulfills the objective of mobilising the high-skilled for entrepreneurial activity, however, in the long term, the mission should be to create growth-oriented businesses that will generate jobs in the region. Hence, in order to better direct, support and tailor initiatives, processes should be designed and implemented to better monitor and evaluate the economic and social impacts of entrepreneurship programmes at HEIs.

Whereas in many other OECD regions most entrepreneurship programmes are centred in business schools and a few institutions target entrepreneurship education toward technical students, the approach in the local case study areas is to provide access to entrepreneurship education to all students throughout all faculties. Furthermore, interdisciplinary project teams include students of economics as well as students of natural sciences. Programmes use experiential learning (engaging in real-world projects to launch businesses) and engage external business experts to mentor student teams. This is a very effective method of teaching entrepreneurship, as it also promotes entrepreneurship by spotlighting the accomplishments of successful entrepreneurs and thereby providing role models for students. Even if some businesses fail, the learning mission will be accomplished. However, most of the learning is done *ad hoc* outside the classroom and programmes are driven by relatively few high-energy professors. In addition, teaching and research obligations and other leave not enough time or motivation to assist students with business start-ups. Professors are rewarded for research and teaching. They are not rewarded for economic accomplishments.

Just as internationalisation and wider networking is vital for fast-growing small businesses, so it is for a research-based university. Current efforts in the local case study areas underline that making a greater national and international impact requires investment to attract academics and create attractive facilities, as well as a promotional strategy to make universities in East Germany and their work much more widely known internationally. The same applies for the co-operation with multinational companies, which can help to accelerate and scale-up commercialisation processes because of their strong access to global markets. Creating, exploiting and managing wider network relations is important to achieve economies of scale as well as accessing and exchanging information about new

knowledge, resources and markets. Towards reaching its objectives of promoting university entrepreneurship, a greater outreach would help to gather and disseminate information about the advantages of internationalisation, such as access to know-how and technology, ways to overcome high production costs on the domestic market, access to new and larger markets for products and services, additional production capacity, access to capital and labour. To this end also a strategy to increase contacts, with and exchanges between University alumni should be enforced; the involvement of alumni that have become successful entrepreneurs could be a valuable contribution to entrepreneurship programmes. Some of the HEIs in the local case study areas aim with their networking activities to follow two directions. Firstly, they link up with other HEIs in the region and connect with other networks in Germany, including some early-stage international outreach. In one local case study area, the spirit of co-operation amongst the partnering HEIs is exemplified by the fact that each university refers student entrepreneurs to the most appropriate resources for their needs, even when those resources are at one of the other institutions. Secondly, one university in the case study university aimed to become the main interface between key local industries and the local science base in facilitating technology transfer from laboratory to industry and from company to company. The approach is meant to help channel public support and private funding into business ideas with high growth potential and small firms with growth intentions, and further, to foster networking between these firms. These two types of networking activities allow universities to develop both individual and collaborative strengths and help establish and spread local linkages between spin-off firms and local companies. Extending the target group, from the initial core group of university students, graduates and academic staff, to local business clusters, financing institutions and venture capitalists can be seen as a promising approach to make full use of the network's potential to contribute to a wider economic development in the region.

Although it might be possible to have vibrant entrepreneurial activities within the HEIs, technology and knowledge transfer into the local SME community require receptive environments on both sides. These prepare for communication and interaction between these two communities, which often develop quite independently. Cultural barriers between local SMEs and the HEIs and research communities often lead to a lack of social networks that are prerequisites for building more formal partnerships. OECD research shows that only inter-personal relationships will bridge the two worlds when they are profoundly separated. In the local case study areas, the efforts initiated by HEIs seem to be fully embedded in the partnership work with business support institutions at both local and *Land* levels, which allow for knowledge and technology spill-overs to non-HEI entrepreneurs. The existing network structures provide the ground for public policy and local entrepreneurship support programmes to further promote interaction between the research community and the local business sector.

HEIs should recognise the value of intellectual property created as a result of their research. For the local case study areas, capitalising on underexploited means of commercialisation will require a maximal reduction of barriers to professors in starting businesses. Universities should, in the long run, provide incentives for professors to start businesses. This includes ways to audit the intellectual property (IP) capacity, also with regard to potential technology and knowledge transfer. Technology-based businesses being spun out of universities primarily commercialise the inventions of students (including graduate students doing research directly with professors). There has been less effort to commercialise technologies invented by professors. As a result, some of the best technologies may not be transferred and the universities where the technologies were invented do not realise all the potential financial benefits of commercialisation in those technologies. Technology transfer is also accomplished by placing students as interns in technology-based businesses. In one of the local case study area which had no HEI within its nearer region, local governments, the Chambers and a University of Applied Science have established a partneship that allows local companies to benefit from technological research by taking in graduate students for their Master theses. There are first

initiatives in the local case study areas where HEIs lease expensive scientific equipment to SMEs on an as-needed basis. This facilitates the interaction of HEIs with technology oriented SMEs and allows SMEs to have access to the most current technology, keep skills up-to-date and reduces their relative disadvantage of size.

It is important to recognise the scale of public and European funding in maintaining the current infrastructure of enterprise support in the local case study areas. The existing policy initiatives themselves are impressive, but they might not be sustainable without continued public funding. The current extent and utilisation of public funding would need to be reviewed in terms of its transition to self-sufficiency and away from kick-start activities. All stakeholders of business and innovation support should be involved in devising a strategy for developing a more commercial approach to their work. Ways should be found to increase private involvement in infrastructure development. For future viability of these facilities, the real estate component of innovation support should be considered an asset capable of producing commercial return, against which also further public and private investment could be secured. Hence, the already started gradual reduction of public kick-off funding in the case study areas and the growing attempts to increase private sector involvement can be mentioned here as examples of good practice policy, which should be pursued. Further action to this end could include equity stake taking in spin-off companies, and increased financial sponsorships from local businesses.

The local case studies in East Germany brought to light a number of policy recommendations that can be taken up by local governments and local organisations active in developing and strengthening entrepreneurship. Despite their local provenance, the policy recommendations seem to be relevant, to a greater or lesser extent, to other localities in East Germany and elsewhere. Hence, the following list of recommendations could be consulted as checklist for policy makers and local organisations when innovating entrepreneurship policy for maximising the contribution of the higher education sector to local entrepreneurship development, with a particular emphasis on the development of innovative and growth enterprises through the exploitation of science and technology assets.

	Policy recommendations to foster university entrepreneurship and science industry linkages
☑	*Establish rigorous academic programmes in entrepreneurship.* When resources allow it, universities should capitalise on the interest of large numbers of students from across the faculties to establish rigorous academic programmes in entrepreneurship that go beyond the relatively haphazard current approach using mainly informal workshops and seminars. Appropriate curriculum additions will help students be better prepared to seek capital and operate businesses in the real world. To progress further, the institutions should proactively develop an entrepreneurial mindset and skill set amongst professors and administrators.
☑	*Introduce methods to monitor and evaluate programme impacts*. Processes should be designed and implemented to better monitor the economic and social impacts of educational and extracurricular entrepreneurship programmes at HEI. A systematic evaluation of such programmes would allow for measuring, assessing and steering the university's role and influence in a local or regional innovation system. Widening the target audience of university entrepreneurship education might enhance entrepreneurial attitudes and motivations of non-university entrepreneurs.
☑	*Reduce barriers for professors and university staff to start businesses.* To capitalise on underexploited means of commercialisation universities should work to reduce university internal barriers to professors and researchers starting businesses and should, in the long run, provide incentives for professors to start businesses. Incentives might include reduced teaching requirements, equity in start-ups, and royalties from licenses to those start-ups.
☑	*Increase attention on intellectual property issues*. HEIs should recognise the value of the intellectual property created as a result of their research, more aggressively protect that intellectual property, and pursue all possible means of realising the commercial value of that intellectual property.

☑	*Promote high level innovation*. Existing good practice initiatives should be sustained and lessons applied to other industries. Brokering relationships between larger regional companies with latent intellectual property and SMEs with the capacities to use it should be seen as another potential route for stimulating higher level innovation. The smaller company could buy, licence or pay a commission for the intellectual property. The approach requires a specialised agency with in-depth technology and business awareness to scan for such brokering opportunities and to initiate and facilitate dialogue.
☑	*Increase the focus on high-growth businesses and internationalisation*. Entrepreneurship education at universities should focus more on high-growth businesses and internationalisation. The goal should be to help reinforce a culture for entrepreneurship beyond self-employment. University educated entrepreneurs should be inspired to think more ambitiously about the potential of businesses they launch.
☑	*Encourage university-industry linkages.* In general, local co-operation between HEIs and firms tends to be limited. Networking, however, can be facilitated by the existence of a co-ordinating organisation, which is considered by local companies as being impartial or at least enabling knowledge and know-how spill-overs. Universities are not usual interlocutors for local firms. Even high-technology and growth companies direct, in first place, a request for support or interaction to the Chambers. A closer co-operation, perhaps even on a formalised level, between the HEIs and the Chambers could therefore be useful to reducing the distance and barriers between the University and local enterprises.
☑	*Exploit innovation through a wider group of firms*. The existing innovation infrastructure should be used more intensively to foster collaboration between HEIs and local companies of all sizes as well as with large companies located elsewhere but with relevance for the local value-chain. Multinational companies located locally or elsewhere represent an opportunity for local economies to accelerate and scale-up commercialisation processes because of their strong access to markets. Such links could help to test innovative products and services in market-like conditions and positively influence time-to-market relations. Attention should be paid to the protection of intellectual property when building value release strategies.
☑	*Consider the establishment of business incubators*. Incubation centres can facilitate through the provision of appropriate premises and services the launch and development of new and small businesses. Incubators which include also pre- and post-incubation support are able to address the needs encountered at different stages of company development. The provision of post-incubation support might facilitate contacts and networking activities between previous and current incubator firms that are in different development phases. To ensure that the range of services provided matches with OECD best practice the opportunity for 'twinning' and regular experience sharing with successful and innovative incubators in other countries should be explored. It could be recommendable to conduct a study on the need and possible utilisation of such business incubators or technology centres. In case of insufficient local demand, possibilities to co-operate with existing facilities in the wider region should be considered.
☑	*Increase international networking efforts*. Active involvement in international networks would help to contribute to the internationalisation of the local economy. It is important to expose leading university managers and policy makers to colleagues working in other jurisdictions and to establish working networks with the people involved. This could be tackled through active involvement in international networks of economic development practitioners such as the European Association of Development Agencies (EURADA), which is currently planning to launch a European network of universities and regions, the International Economic Development Council (IEDC) in the US, the European Business Angels Network, and the National Business Incubation Association as well as the activities of the OECD LEED Programme.
☑	*Further develop Alumni networks*. University Alumni networks should be made use of for university entrepreneurship activities. Access to regular information in the form of newsletters and mailing lists and the organisation of regular meetings on specific themes may help to maintain contact. The involvement of those Alumni that have become successful entrepreneurs could be a valuable contribution to entrepreneurship programmes in the university network.

Box 10. Being inspired from good practice in fostering university entrepreneurship and developing local science industry linkages

Centre for Innovation and Entrepreneurship (CIE), University of Linköping – Sweden: Promoting graduate entrepreneurship and allowing local technology firms to tap into the HEI knowledge base.

San Diego CONNECT – United States of America: Making use of necessities and understanding innovation as a social process that relies on interaction, serendipity, trust, and the exchange of tacit knowledge.

Centre for Intellectual Property Strategies (CIPS) – Japan: Designing and managing intellectual property strategies through a one-stop-shop.

Technology Venture Programme (TVP) – a response to the 1980 US Bayh-Dole Act – United States of America: Launching businesses to commercialise university owned intellectual property.

Enterprise Champions (ECs) in Wales – United Kingdom: Linking entrepreneurship to the mission of a university.

Business Incubator Jyväskylä – Finland: 360º-support for high technology start-up companies and young firms.

The Weinberg Campus network in Halle - an international point for science and industry – Germany: Raising the technological level of the region by encouraging intense co-operation between private firms, R&D organisations and universities.

CellTech BioReaktor - an interregional network of SMEs and research institutions – Germany: Exploiting the innovation through a wider group of firms.

GWT-TUD GmbH in Chemnitz (Gesellschaft für Wissens- und Technologietransfer) – Germany: Stimulating networking, through a local, impartial organisation, which enables knowledge and know-how spillovers.

Innovation assistants to stimulate technology transfer in Brandenburg – Germany.

Alumni Networks at the Rochester Institute of Technology – United States of America: Enriching and expanding the pool of knowledge and financial university resources.

CHAPTER 5

RURAL ENTREPRENEURSHIP

FOSTERING ENTREPRENEURSHIP IN RURAL AREAS

David Smallbone, UK

Introduction

Aims in context

This chapter is concerned with the distinctive challenges and opportunities of developing entrepreneurship in rural locations, in order to contribute to the development of policies to regenerate rural areas in East Germany. The chapter is based on a review of international literature and good policy practice in OECD countries.

A recent OECD report (2005) identified three specific *challenges* currently affecting rural areas, which have implications for entrepreneurship, namely:

- Declining employment opportunities in primary industries (mainly agriculture), as a result of structural change, intensified by changes in policy resulting from reviews of the EU's CAP and the GATT. This emphasises the need to take steps to stimulate economic activity with employment-generating potential in rural areas;

- An aging population, associated with an outmigration of young people and an in-migration of retired people, in some cases, which in combination affects the supply of potential entrepreneurs;

- Difficulties in maintaining a critical mass of facilities to support economic development, including a range of business services.

New *opportunities* identified in the same report (OECD, op cit) included:

- Increased demand for rural amenities on the part of urban residents;

- Sources of economic success, such as dynamic SME clusters; and

- Development of diversified agro-industries and rural tourism.

In addition, developments in communications technology offer potential opportunities to businesses in peripheral rural areas, in particular, to overcome some of the barrier effects of distance. Other positive attributes include evidence that shows the adaptive capability of some small firms in rural localities to overcome external environmental constraints (Smallbone et al, 1999; Vaessen and Keeble, 1995); and opportunities related to products that project traditions of quality and craftsmanship, connectedness with nature and a sense of place and culture (Dabson, 2001).

The heterogeneity of rural environments

In identifying policy issues and challenges facing rural areas, it is important to recognise the heterogeneity of such areas, both internationally and within the same country. Some of this heterogeneity reflects variations in the locational characteristics of rural regions within their national economies (e.g. central or peripheral), while others are related to national and regional differences and the implications for rural development paths. Peripheral rural areas are characterised by remoteness from major markets; depopulation; infrastructural deficiencies; and high dependence on land-based activities. Accessible or more central rural areas, by contrast, typically have higher population densities; closer proximity to markets; less dependency on agriculture; and a more diversified economic base. (Meccheri and Pelloni, 2006).

As a consequence, urban-rural contrasts do not always show rural areas to be disadvantaged in comparison with their urban counterparts, as far as entrepreneurship is concerned. Indeed, there are wide differences in economic performance between rural areas, since in more than a third of OECD countries, it is reported that the region with the highest rate of employment creation is a rural area (OECD, 2006a). Easier commuting over longer distances and a growth in home-based working has enabled people to combine living in rural regions with gainful employment. This, together with an increase in demand for rural assets, including natural heritage, has attracted workers and investment into some rural areas. Such factors have contributed to a reversal of the outmigration trend from rural areas in countries, such as France, England and the Netherlands.

Definitional issues: entrepreneurship and rurality

These variations between rural areas raise the definitional issue of what constitutes 'rurality'. Indeed, in Europe, some authors have questioned whether it continues to make sense to speak of distinctly 'rural' societies, in view of the changes that have occurred in recent decades (e.g. Perrier-Cornet and Hervieu, 2002). At the same time, other authors have emphasised the remaining shared characteristics of Europe's rural areas, in terms of low population density and the economic, social and symbolic significance of natural resources (Ferrao and Lopes, 2004). Whilst recognising the arguments behind the first view, this chapter is premised on the second, although there are still variations in definitions of what constitutes a 'rural' area.

Referring to the USA, Shields (2005) defined rural areas as 'non metropolitan areas, exhibiting low population density' and low densities are commonly incorporated into most statistical definitions of rural areas. Nevertheless, the size thresholds for excluding settlements vary widely between countries, ranging in Europe from less than 5,000 in Slovakia to less than 30,000 inhabitants in Bulgaria (Mandl et al, 2007).

The OECD itself has developed a typology of urban and rural areas based on three criteria: population density; percentage of people living in rural communities; and the size of urban centres, which are used to identify three regional types:

- *Predominantly rural regions*, in which more than 50% of the population live in communities with a density below 150 inhabitants per sq. km.

- *Significantly rural/intermediate regions*, in which between 15-50% of the population live in communities with a density below 150 inhabitants per sq. km., or the existence of an urban centre of 200,000 or more, representing 25% or more of the population is found in an otherwise predominantly rural region.

- *Predominantly urban regions*, in which less than 15% of the population live in communities with less than 150 inhabitants per sq km.

Numerous definitions of "entrepreneurship" can also be found in the literature. In this chapter, the broad definition used in the Global Entrepreneurship Monitor is used, namely "any attempt to create a new business enterprise or to expand an existing business by an individual, a team of individuals, or an established business" (Zacharis et al, 2000). Narrower definitions tend to focus on the creation of newness (e.g. Wennekers and Thurik, 1999), epitomised in high growth potential entrepreneurs that have a particularly strong potential contribution to make to economic development. However, as some authors have previously emphasised, in many rural and disadvantaged areas, "small businesses of all types are needed-those with high growth potential and also those formed for life style purposes, or self sufficiency that primarily serves local needs" (Dabson, 2001, p. 36). This chapter shares the latter view, since the sustainability of rural communities requires such a mix.

The rest of the chapter is divided into three main sections: The first identifies the main policy issues and challenges to entrepreneurship development in rural areas; the second describes the various approaches to rural enterprise policy in OECD countries; and the third section considers the implications for entrepreneurship policy in the rural regions of East Germany.

Policy issues and challenges facing entrepreneurship development in rural areas

Rural distinctiveness

A key question running through the chapter is the extent to which rural locations are distinctive from urban locations, from an entrepreneurship perspective. Referring to the US, for example, it has been suggested that rural settings have characteristics which present a unique context for small businesses. For example, the results of a study of 76 rural enterprises in a rural county in the mid-Atlantic region of the US strongly supported the hypothesis that rural small business owners manage their businesses in ways that are consistent with rural socio-cultural values, demonstrating the considerable influence of rurality on small business activities (Shields, 2005, p. 59). Examples include the importance that rural small business owners place on word of mouth reputation and on the primacy of relations with family, friends and neighbours to the successful operation of their businesses. Shields suggests these results indicate that formal sources of business advice take a backseat to family, friends and neighbours, thereby illustrating the role of embeddedness (i.e. where an individual is integrated with and helps to maintain the community structure) in the entrepreneurial process (Jack and Anderson, 2002).

Other studies undertaken in the USA point to low population density (Drabenstott, 1999), consumer income and educational levels below those found in metropolitan areas (Economic Research Service of the US Department of Agriculture 2003) and socio-cultural values (Allen and Dillman, 1994), as distinctive issues faced by small businesses located in rural areas.

Policy initiatives aimed at encouraging the formation and growth of enterprises in rural areas need to take into account of the distinctive challenges facing these areas, which are associated with three main aspects: characteristics of the business environment; characteristics of rural populations; and aspects of the existing economic structure.

Characteristics of the business environment in rural areas

Distinctive characteristics of the rural environment include: the small size of local markets; characteristics of rural labour markets; the availability of business premises; transport and

communications infrastructure; access to information, advice and business services; access to finance; and the institutional environment. The evidence base in relation to each of these is reviewed below:

Small size of local markets

Clearly, one of the potential disadvantages faced by rural firms in comparison with their urban-based counterparts is the small size of the local market that is typical, associated with low population densities, together with low per capita and household incomes, in some cases (Economic Research Service of the US Department of Agriculture, 2003). At the same time, the extent to which rural SMEs depend on local markets typically varies between sectors (North and Smallbone, 1996). As a consequence, differences have been identified between manufacturing and service/retail businesses in the extent of their dependence on the rural setting. Manufacturing enterprises typically make substantially fewer sales to permanent residents and as a result, show less concern than other rural business owners towards duplicating other local products (which some authors describe as an implicit co-operation strategy) (Shields, 2005, p. 60). Clearly, policy interventions need to be sensitive to the different implications of rurality on manufacturing and service enterprises.

One of the consequences of small local markets is that growth-oriented enterprises, located in peripheral rural areas particularly; typically have to penetrate non-local markets at an earlier stage of their development than comparable urban-based enterprises. This has implications for the external support they are likely to need (Smallbone et al, 1993a ; 2003), which in the case of high growth firms, this is likely to be from their inception. At the same time, the falling cost of transport (and improved communications technology) has contributed to a substantial expansion of potential market areas for rural businesses over time (Freshwater, 2000), although small enterprises often need help to take full advantage of this potential.

One of the ways that small firms have been shown to adapt to peripheral rural locations is by focusing on specialised niche markets, reflected in a lower average number of competitors being reported than by firms in other types of location (Keeble 1993; Cosh and Hughes, 1998). Indeed, as far as geographic market scope is concerned, research evidence from both sides of the Atlantic shows that rural firms appear to be able to access export markets at similar rates to metropolitan firms (Gale 1998). This is supported by evidence from a longitudinal study in the UK, which investigated the export behaviour and methods of 621 rural and urban-based firms, showing that a larger proportion of rural firms reported exporting goods and services, compared with their urban counterparts. At the same time, rural firms were reported to be markedly more likely to have entered foreign markets by reacting to unsolicited enquiries from foreign clients than urban firms, who tended to have been more proactive in their export marketing. One of the policy-related conclusions drawn by the authors is the need for improved access to market information by rural firms that can be used to increase their competitiveness (Westhead et al, 2001), although their results suggest there is a need to provide help in developing a more strategic approach to foreign markets (Wyer and Smallbone, 1999).

Rural labour market characteristics

The limited scope of local product markets is often paralleled by the small size and narrow occupational composition of rural labour markets, which can impose constraints on rapidly growing SMEs. Evidence from a survey of innovative small enterprises in rural locations in Devon and Cornwall in the UK, for example, found ‘access to skilled labour’ to be one of the most frequently mentioned constraints on rural enterprises, reflecting the small size and scope of rural labour markets (Smallbone et al, 2003).

Freshwater (2000) characterised the rural labour force in terms of lower levels of educational attainment and formal skills than those found in urban areas. However, he suggests that historically this has not been a major impediment to rural development, because the activities located in rural areas enabled lower formal skills to be offset, by either location or occupation specific experience and/or from informal training provided within the family or community. High rates of occupational succession reinforced this process, as did a more limited set of occupational choices. However, as traditional employment opportunities are becoming increasingly scarce, and employment opportunities created in emerging sectors, such as business services and IT, typically require more formal approaches to training than traditional activities. In this context, the skills base of the rural workforce may act as more of a constraint on rural enterprise development. In addition, in areas where business and population densities are low, access to training can be more costly.

Availability of business premises

Whereas urban areas are generally characterised by a wide range of business property of different sizes, this is invariably not the case in rural areas. Evidence suggests that whilst the cost of premises in rural locations may be less than in urban areas (e.g. Welsh Assembly Government, 2002), growing businesses may face space constraints resulting from larger premises not being available within a short distance of their existing location (Keeble et al, 1992). In some rural areas, the supply of business premises can also be affected by planning controls, designed to protect an area's environmental quality. However, enterprise policy responses to increase the supply of business premises without the potentially negative environmental effects associated with new buildings have included Redundant Buildings Grants Schemes to convert existing buildings to business use. More generally, a limited supply of business premises may reflect poor economic returns for private sector developers in localities where low levels of entrepreneurial activity depress the level of demand for business property. In such circumstances, there is a case for public policy intervention to stimulate the market for business premises.

Transport and communications infrastructure

The remoteness of many rural places presents transportation challenges to small businesses; because the population is widely scattered (Barkema and Drabescott, 2000) and distances to large national markets may be considerable. In some countries, distances between nodes in sparsely populated regions, or between rural and urban areas, exacerbates the effect of terrain and harsh climatic conditions. Infrastructure is particularly important in this context, as it affects the ability of a region to retain and attract people as well as businesses (OECD, 2006a).

At the same time, the effective use of ICT potentially offers a means for rural and peripherally located enterprises to overcome some of the barrier effects of distance, provided that the infrastructure is available. However, peripheral rural areas are often disadvantaged in terms of investment in the telecommunications infrastructure, because of the relatively low and dispersed nature of the demand (Warren, 2000). As a result, it is reported that in the USA for example, rural communities have lagged behind urban areas in terms of investment in infrastructure and bandwidth capacity (Leatherman, 2000), which has been attributed to a combination of distance and low population density. At the same time, there is some evidence that broadband providers are not deterred from investing in remote rural regions by dispersed demand and relatively high costs, nor that prices charged to consumers are necessarily higher (OECD, 2003). Perhaps the issue varies, to some extent, between countries reflecting differences in market and regulatory conditions.

Another communications infrastructure issue concerns Cellnet telephone coverage, since in the UK for example, none of the license holders have so far managed to provide universal coverage across

the country (Cabinet Office, 1999). This can be a particular problem for self-employed people and micro business owners in some peripheral rural areas, particularly those engaged in service activities that involve spending long periods away from the office, in situations where the businesses are too small to justify full-time office staff. For them, reliable Cellnet access is essential in enabling contact from potential customers.

Access to information, advice and business services

Another potential disadvantage faced by businesses located in rural areas is a greater average distance from business advice and support services provided through the market, such as from banks, accountants and consultants, compared with urban-based enterprises. In addition, some evidence suggests that rural businesses may be disadvantaged as a result of the poor quality of the business services provided through market mechanisms, since where they do exist such services may be more attuned to the needs of farmers than those of other types of entrepreneur within rural areas (Hitchens, 1997). In such situations, the provision of public sector forms of support to rural businesses becomes particularly important to overcome the various gaps and limitations in the market for business support.

Results from a survey of small businesses drawn from 5 representative locations in Britain, emphasise the influence of distance on the propensity of small firms to access business advice (Bennett et al, 2000). The study showed that the dominant factors were search and information costs on the demand side and constraints emerging from the locational structure of businesses on the supply side. Both sets of factors favour large agglomeration centres rather than smaller ones, thereby emphasising the disadvantages of businesses in rural (and particularly peripheral rural) areas in this respect (Bennett and Smith, 2002). It was suggested that the results provided strong support for public sector interventions to be focused on locations where SMEs have difficulty in accessing major sources of advisory support by virtue of their location i.e. on rural, and particularly, the more peripheral rural areas (Bennett and Smith, op cit).

Access to finance

Although finance is a commonly reported constraint on small businesses, wherever they are located, it has been suggested that historically at least, in the USA, rural businesses have lacked sufficient access to finance because the types of enterprise that investors tend to seek out (e.g. those with high growth potential, larger firms) are thin on the ground in rural areas (Drabenshott and Meeker, 1999). As a result, Drabenstott and Henderson (2006) refer to the need to increase the availability of equity finance in rural areas, pointing to innovative examples, such as the Nebrasksa Community Foundation and other community development funds, which channel charitable foundations into equity funds, measuring performance in terms of local economic benefits as well as financial performance. Whilst access to equity finance is only important for a small minority of potential high growth enterprises, the small percentage of firms that seek, or will accept, equity, means it is not a dominant issue in practice.

At the same time, relatively few studies have explicitly focused on access to finance by rural firms. An exception was a study undertaken in the UK by Mason and Harrison (1993), which was also focused on access to external equity by small rural firms; in this case, those located in Rural Development Areas, compared with other assisted and non-assisted areas. Although the main finding was to confirm the small proportion of SMEs (in all areas) that had sought external equity, there was no evidence that firms in remote rural areas were disadvantaged in comparison with other firms. Similarly, in a matched pair's comparison of new owner-managed businesses, Westhead (1995) found rural firms to have similar financial bases to their urban counterparts, with no evidence that they were disadvantaged with respect to equity. At the same time, there was some evidence of a need to improve

the dissemination of information about access to finance in rural areas, since Westhead found that business founders in urban areas perceived a wider availability of capital to be available from financial institutions than their matched rural counterparts.

Institutional environment

One of the key external factors influencing the nature and extent of entrepreneurship is the behaviour and orientation of local institutions. Moreover, it can be argued that such factors are particularly important in post-socialist economies (e.g. Smallbone and Welter, 2006), including the former East German *Länder* [states]. This is supported by evidence from neighbouring rural regions in Poland, where Piasecki and Rogut (2004) refer to the need to pay special attention to education and training provision; market institutions; and the banking system. Based on the Polish study, it was also argued that such developments need to go hand in hand with greater local self governance, in order to encourage greater innovation by local authorities and communities, which is a theme developed later in the chapter with respect to the East German *Länder*. The creation of an appropriate education and training infrastructure to support entrepreneurship has also been identified as a key policy priority in rural regions of Portugal, where a lack of an enterprise culture has been identified (North and Smallbone, 2006).

Characteristics of rural populations

The second group of factors influencing the propensity of an area to generate entrepreneurship refers to the characteristics of its population, in terms of the implications of their attributes for firstly, the development of an enterprise culture; secondly, the nature and extent of social capital, which can be an important potential resource for enterprise development; and thirdly, the role of in-migration.

Entrepreneurial culture and attitudes

Enterprise culture is widely recognised as an important influence on entrepreneurship development, yet it is a concept that is notoriously difficult to define and to measure. Morgan (1997) has defined culture as ‘an ongoing process of reality construction that leads people to see actions and situations in a distinctive way’. In this regard, some authors have referred to an identifiable culture associated with rural locations in the US that may influence business practice and entrepreneurship (Westhead and Wright, 1998). However, Shields (2005) emphasises that this is based more on assumption than evidence, referring to the lack of quantitative empirical research on the relationship between the prevailing socio-cultural features of everyday life in rural areas and business operations.

At the time, Shields (2005, op cit) recognises, on the basis of literature, that rural settings are characterised by distinctive socio-cultural values and preferences that can affect small business development, through its influence on gender roles, co-operation, communications and network composition. Gender attitudes, for example, are said to be less egalitarian than in urban areas and traditional notions about gender roles may act as barriers to women as business owners (Tigges and Green, 1994). At the same time, Shields finds no evidence that gender stereotypes have significantly affected women entrepreneurs in rural areas.

The local case studies undertaken in East Germany emphasise the effect of ‘path dependency’ on attitudes towards enterprise and the propensity to start businesses, which is a feature of enterprise development in post-socialist economies in general, rather than being exclusively confined to rural areas. This limits the capacity of rural places to generate dynamic entrepreneurs able to create new entrepreneurial ventures. In these circumstances, rurality combines with the effects of transition from

central planning, thereby demonstrating how rural development issues interact with place specific factors.

Social capital

In terms of social capital, close or strong ties are said to be characteristics of rural communities where people rely on long-term, smaller, denser kinship and neighbour-centred relationships than their counterparts in urban areas (Beggs et al, 1996), which may represent a resource for entrepreneurship. More specifically, social capital in rural areas is based on the interaction between individuals in formal and informal networks. It involves social trust and sometimes a cultural dimension, reflected in higher levels of engagement in voluntary activities by people in rural than in urban areas (Mandl et al, 2007).

In terms of new member states of the EU specifically, Valentinov (2003) finds that social capital is a critical determinant of socio-economic welfare of rural communities going through the transition to a market-oriented economy. At the same time, it has been suggested that social capital seems to be less employed for economic purposes in rural than in urban areas, representing a specific challenge for rural policy makers. Another factor influencing the extent to which personal networks are a real resource for business development purposes is their composition. In situations where entrepreneurship is underdeveloped, there is less chance of a potential entrepreneur's personal networks containing individuals with knowledge, skills and/or contacts that can offer practical inputs for the entrepreneur.

Local development partnerships that include representatives of government, local authorities, development agencies, businesses, professional associations and voluntary and community organisations would seem to represent one way of capitalising on the underlying social capital that exists in rural communities for economic benefit (OECD, 1990). In practical terms, the EU's Leader and Leader+ programmes aims to establish local action groups, raising awareness for rural development action and initiating a long term learning process, representing a strong 'bottom-up' community-based approach to rural development (Shucksmith et al, 2006).

Although various studies refer to social capital as one of the potential assets for rural enterprises, the empirical evidence available to support this is limited. Meccheri and Pelloni (2006) have suggested that since rural businesses show a strong preference for local access to business support, this suggests that mobilising any resources (e.g. venture capital) that are potentially available for entrepreneurship development in the local community should be important targets for institutional policies. Rural support networks sponsored by local institutions represent one possible response to linking rural entrepreneurs to new sources of capital, employees, partnerships and business services (Dabson, 2001). Such networks can take different forms, including angel investor networks; non-traditional venture capital funds; and incubator networks, reflecting local needs and conditions.

The role of in-migrants

In some countries, the quality of life and environmental appeal of many rural communities is attracting in-migration into rural areas, which includes some people with entrepreneurial or business experience (Dabson, 2001). Where such a trend is occurring, inmigration can contribute to increasing the entrepreneurial capacity of a rural region; directly if immigrants start up new ventures themselves; but also indirectly, if they make their experience available to other entrepreneurs (and/or social enterprises), acting as mentors or advisers.

Some survey evidence from the UK has shown in-migrants to a rural region to be concentrated in the more externally orientated sectors, whereas those born locally are more likely to be concentrated in local service activities. The same study also showed in-migrant entrepreneurs to display a greater level

of informal business contacts outside the region, as well as a greater proportion of sales (Centre for Rural Economy, 2000). At the same time, caution must be used when interpreting the policy implications from this finding, since many in-migrants move in to rural areas at or near retirement. Whilst some of this group may engage in entrepreneurial activity, this may not be on a full-time basis, and/or with any intention of growing their business to employ others.

In a similar vein, some US studies have identified behavioural differences between small businesses owned by short-term residents compared with their longer established counterparts, in terms of their customer base and affinity for strong ties, with diminishing importance placed by them on relations with family, friends and neighbours. However, whether this reflects difficulties in becoming accepted by the community or a more positive use of wider networks by newcomers has not been clearly demonstrated. Anderson and McAuley (1999) suggest this reflects differences in the types of business founded by members of the two groups.

Characteristics of rural enterprises and the economic structure of rural areas

The entrepreneurial performance of a region and its capacity to change is also affected by the structure and performance of its existing enterprises. In this section, the evidence base is reviewed with regards to the size composition, sector mix, and innovation and growth performance of rural enterprise.

Size

Businesses in rural areas tend to be smaller than their urban counterparts, with a higher proportion of micro and one-person businesses, which suggests that they may be able to meet their needs from their own internal resources. Not only are micro businesses predominant numerically, but in some regions they mostly consist of solo owner/managers i.e. without formal labour (Centre for Rural Economy, 2000). The small average firm size, combined with their sparse distribution and remoteness, makes the delivery of business support services to rural firms more difficult and potentially more costly than in urban areas. In addition, micro enterprises are a notoriously "difficult to reach" group by external agencies, because of the limited management time available within the firms for seeking and making use of external help, as well as attitudinal barriers on the part of business owners, with regard to the value of external assistance.

Sectoral mix

Traditionally, sectoral differences have existed in the economic structure of urban and rural areas that have potential implications for entrepreneurship development. However, this is an aspect of the rural environment that has been changing in mature market economies in recent years and continues to evolve. In the USA, for example, the traditional agriculture-based rural economy now depends on a diverse mix of manufacturing services, recreation and non-farm activities (Whitener and McGranahan, 2003). Traditional industries such as farming and mining are no longer the major sources of employment, because new economic activity has moved in to rural areas, so that manufacturing and particularly services have increasingly provided more jobs. At the same time, in some rural areas, a lack of economic diversification may involve dependence on a single manufacturing plant, with most local institutions geared to serving that enterprise and its employees (Dabson, 2001). The negative effects of large plant dominance on levels of entrepreneurship in a local economy is long established in the entrepreneurship literature, because of the so-called 'upas tree' effect (e.g. Fothergill and Gudgin, 1982).

Despite these structural changes, agriculture remains a key sector in many rural economies. Even where there has been a dramatic decline in the percentage of the rural workforce employed in agriculture, agriculture continues to have an important influence on the rural economy. A productive agricultural base can be a major purchaser of local inputs, including business services; and agriculture also provides outputs for local processing. At the same time, reductions in agricultural support, combined with changing market trends have increased the pressure on farmers to adapt by diversifying their activities. As farmers face greater levels of market competition and agricultural support is reduced, one of the policy challenges is to encourage farmers to look for new business opportunities.

Farm diversification can take a number of forms, including retailing (e.g. farm shops, craft centres, 'pick your own', direct sales, and food processing); sports and recreation (e.g. indoor, outdoor, informal, water-based, and equestrian activities); services (e.g. agricultural, non-agricultural, and industrial workspace; and tourism (e.g. leisure centres and accommodation). Diversification offers considerable scope for improving the economic viability of businesses related to agriculture, as well as contributing to the local rural economy as a whole (MAFF, 2000). At the same time, diversification is not a universal panacea and farmers often need good advice if they are to succeed. In addition, the opportunities for profitable diversification are affected by location; with access to large urban centres a key factor.

Innovation performance

Innovation is at the heart of a region's ability to compete internationally. Entrepreneurs have a key role to play in contributing to a region's competitiveness by creating new products and services and bringing them to market and keeping one step ahead of their competitors. As a consequence, the performance of (rural) regions with regards to both innovation and entrepreneurship becomes critical to their future development. Referring to the US, it has been suggested that the dilemma for rural regions is that they appear to be lagging in terms of innovation and entrepreneurship (Drabenstott and Henderson, 2006).

Several studies in the UK in the 1980s and early 1990s suggested that rural SMEs were more innovative than their urban counterparts (University of Cambridge, 1992). At the same time, high levels of product innovation were often not reflected in process innovation, particularly in manufacturing SMEs in remote rural areas (Keeble et al, 1992; Smallbone et al, 1993), where both the adoption of and intensity of use of computer technology was relatively low (North et al, 1997). Keeble et al (op cit) found firms located in accessible rural areas stood out as exceptionally innovative. However, by the mid- to late 1990s, the urban-rural contrast with respect to innovation had disappeared from the Cambridge studies (Cosh and Hughes, 2003), which were consistent in the methodology employed over time and also repeated at regular intervals.

One of the indicators of process technology relates to the adoption of and use of ICT. Although the effective use of ICT is potentially one of the ways that rural businesses can overcome some of the disadvantages with respect to distance from major markets and sources of supply, research evidence has suggested that rural businesses typically lag behind their urban counterparts in the use of ICT. For example, in a European cross-national study of ICT use, it was shown that the main barriers to the further use of ICT was a lack of time for training and direct use of ICT, a lack of appropriate personal skills and the cost of the equipment (Gray and Juhler, 2000). Although rapid communication through the Internet and other forms of telecommunications may represent a new 'Industrial Revolution', it has been suggested that changes brought by the Internet provide mixed blessings for rural areas. In this regard, Freshwater (2000) has suggested that many of the changes in the new information based economy are not likely to benefit rural areas in practice, because the labour force lacks many of the basic skills necessary to take advantage of them.

Approaches to rural enterprise policy in OECD countries

A variety of types of policy response to the promotion of rural enterprise may be identified , some of which are territorially specific; some targeted at economic sectors that are prominent in rural areas; whilst others involve adapting national or regional policies to make them more appropriate to the needs of rural enterprises. However, a shift has been taking place in most OECD countries over time, away from traditional sectoral policies (focused particularly on agricultural subsidies) to place-based policies, which is evident in policies addressing economic development in rural areas (OECD, 2005). Three factors have been identified as having particular influences on recent changes in rural policy making across OECD countries:

- An increased focus on amenities, such as antiquities, historical sites and other recreational amenities;

- Pressures to reform agricultural policy, to reduce distortions to international trade, as well as for budgetary reasons; and,

- And decentralisation trends in regional policy, with the aim of mobilising local assets, involving a more 'bottom-up' approach to policy and negotiated forms of governance (OECD, 2006a).

Referring specifically to policies related to entrepreneurship and enterprise development in rural areas, North and Smallbone (2006) have previously distinguished between policies to encourage and support venture creation, including policies to promote an enterprise culture; entrepreneurship education and policies to help individuals through the nascent and initial stages of starting a business; and 'more traditional enterprise support policies' concerned with the growth, survival and competitiveness of existing SMEs. Essentially, entrepreneurship policies are directly concerned with building the capacity of rural regions to generate new entrepreneurial businesses, while enterprise support policies aim to promote and support the modernisation and upgrading of existing firms through some combination of financial assistance, advice and consultancy, training and infrastructural improvements.

Referring specifically to high growth potential entrepreneurs, Henderson (2002) identifies three types of entrepreneurship policy intervention in the US. While not specifically designed for rural areas, Henderson suggests they address the challenges that rural areas face in delivering support to high-growth entrepreneurs.

- Those that aim to improve the skills of individual entrepreneurs, such as through management or technical skills programmes. In the US, these are typically delivered through the SBDCs, often working in collaboration with universities and colleges.

- Those that seek to strengthen community resources for entrepreneurs, especially mobilising potential sources of venture capital and measures designed to contribute to building an enterprise culture.

- Those that seek to create support networks to help entrepreneurs capture the resources they need, which often include some form of incubator programme.

Many of the programmes that provide funding for entrepreneurship and enterprise development in rural areas are not solely focused on rural enterprise, but include other aspects of economic and social development in rural areas as well. Territorial or area based policies, such as the EU Leader

programme, come into this category, characterised by a holistic approach to rural development. They typically include investment in infrastructure, but frequently also measures to promote new venture creation and small business development.

In this context, an analysis of existing policies for rural enterprise in a diverse set of 10 European regions, led to the identification of five programme types: territorial or area-based; sectoral; economic development; business support and employment/labour market focused interventions (North and Smallbone, 2006). Four key policy lessons with respect to either policy processes or policy priorities were also identified in the same study. These were: the need to make policies appropriate to local circumstances, which can influence the nature and extent of policy transfer; the need to improve the internal and external coherence of policy interventions; the need to encourage diversification in agriculture and land-based sectors; and the importance of overcoming barriers to the adoption of new technologies in rural areas.

Despite the heterogeneity of the 10 case study areas and their emphasis on ensuring that policies are appropriate to the needs of local rural economies, North and Smallbone (1996) highlighted two main policy priorities. On the demand side, they refer to a need to develop potential sources of entrepreneurship in Europe's peripheral rural areas, targeting young people; immigrants; and key existing entrepreneurs who can act as animators and role models. On the supply side, they point to the need to develop the infrastructure to support entrepreneurship, emphasising education and training; as well as the physical and social infrastructure; and measures aimed at overcoming barriers to innovation and enterprise development. Institutional development is central to the successful implementation of all these suggestions.

An alternative typology of rural enterprise policy interventions was presented by Smallbone et al (2003c), based on an analysis of rural policy practice in the UK:

- *Farm and land-based initiatives*, such as farm diversification schemes, local sustainable development programmes; and the activities of Farm Business Advisers, in seeking to integrate business support for farmers into mainstream programmes;

- *Other rural sector initiatives, focusing on non-land based activities*, such as a Village Shop Scheme and tourism initiatives;

- *General business advice/training programmes targeted at small firms*, such as rural outreach for start-ups;

- *Initiatives targeted at minority or disadvantaged groups in rural areas*, such as the long-term unemployed or women; and,

- *Strategic initiatives for rural regeneration,* in which enterprise support was part of a wider economic regeneration programme.

Whilst emphasising the varied nature of the 24 case study projects, the authors identified a number of recurrent and interrelated *good practice* features, based on the appropriateness of the interventions to the distinctive needs of rural enterprises and/or rural areas. These were:

- An integrated approach, in which enterprise support is, integrated into a wider rural development strategy, such as for inward investment, housing, transport and social issues, emphasising the interdependencies within the rural economy;

- Partnership, which can help to mobilise scarce resources, avoid duplication and increase the utilisation of the existing rural infrastructure;

- Contribution to capacity building, which helps to ensure there are long-term benefits from the intervention and increased social capital to act as a future resource for development;

- A bottom-up approach, involving some initial 'research' on the part of the community, which helps to encourage community ownership and a grounded approach to rural development, with benefits in terms of adding to social capital;

- A proactive approach to delivery, since experience over a number of years in the UK has emphasised the need for outreach activity and peripatetic advisors to deliver business support in rural areas, particularly since many rural enterprises (e.g. farms and micro enterprises) have been outside the target groups of mainstream business support agencies in the recent past;

- Effective co-ordination of sector specific support with generic business support services;

- Encouraging co-operation and networking between enterprises, which can reduce purchasing costs, involve joint marketing to boost sales and share knowledge; and,

- 'One stop shops', involving a common entry point through which all initial enquiries for assistance from entrepreneurs are channelled. This reduces fragmentation and facilitates more effective service delivery.

These features provide a potentially transferable set of policy principles that may be used to guide rural policy development elsewhere with two provisos. The first is that in regions where there is little or no culture of enterprise, a more explicit emphasis needs to be given to links with educational institutions, which are essential if attitudes and behaviour towards entrepreneurship are to change. The second is that a more explicit emphasis on institutional capacity building is likely to be essential, to encourage more entrepreneurial behaviour from institutions serving rural regions.

Areas for policy intervention

This final section of the chapter focuses particularly on the challenges and opportunities facing entrepreneurship development in rural regions in East Germany and the implications for public policy intervention. Rural regions in East Germany share many of the characteristics of, and challenges facing, rural regions in other countries, as well as features that reflect their transition from a socialist planned to a market-based economy. Although varying in detail, all the East German rural case study regions retain a high level of dependence on employment in land-based industries; high levels of outmigration, particularly of young people; and depressed local market conditions for goods and services.

Significantly, federal public policy interventions with respect to entrepreneurship hitherto, which have been applied in these rural areas amongst others, have tended to fuel the pre-existing perception amongst the population that entrepreneurship is essentially an alternative to unemployment. The three-year living allowance offered to unemployed people who start up businesses is an example of this. It is also reported that the better-educated and highly skilled sections of the population that remain in the regions rarely favour entrepreneurship, if employment opportunities are available.

The dominant culture appears to be one of a dependency on state funds and intervention, which may be viewed as the antithesis of an entrepreneurial culture. Moreover, entrepreneurship that is primarily driven by a lack of employment opportunities, rather than pulled by the identification of business opportunities tends to encourage people to set up businesses in activities where entry barriers are low, leading over time to increasingly crowded markets and low returns for business owners. Clearly, in such a context, a major shift in attitudes and behaviour is required, on the part of policy makers and local institutions as well as by the local population, if entrepreneurship is to become a driving force behind future economic development.

Detailed analysis of the East German case study regions (Dabson, 2006) leads to the identification of a number of priorities for entrepreneurship development policy, which may be generalised to other rural regions in East Germany. In the rest of this section, potentially relevant rural policy initiatives drawn from OECD countries are presented in relation to each of these priorities, together with the implications for policies to promote entrepreneurship in rural East Germany.

Promoting an enterprise culture in rural areas where previously it has been low

Changing the culture of rural regions in undoubtedly the biggest challenge facing policy makers in East Germany and one which requires a number of co-ordinated policy actions, if it is to be achieved. At the same time, a fundamental change in attitudes towards entrepreneurship may take at least a generation, suggesting that a successful strategy needs to have both long and short-term objectives and outputs. Educational programmes are an example of the first; targeted support for new business support an example of the second.

The aim is to raise awareness of the entrepreneurship option and demonstrate what can be achieved through the active dissemination of the experiences of entrepreneurial role models. Policy actions designed to achieve this need to engage with different target groups, including young people of secondary school age, as well as those in higher education. The policy initiatives described below illustrate how this might be achieved. The case of REAL (Rural Entrepreneurship through Action Learning) in the US is a potentially relevant example, providing entrepreneurial learning through experience for students, through school-based community development corporations.[33]

Within Europe, North and Smallbone (2004) describe an innovative attempt to develop entrepreneurial awareness amongst children of school age in Waldshut in Germany within the School for Commercial Education. It is a junior enterprise scheme involving students from the School, acting as an incorporated enterprise, with marketable products and services on real markets. Participants learn to think entrepreneurially and how to come to a managerial decision, thereby sensitising them to entrepreneurial concerns and opportunities.

Other authors have emphasised the need for an emphasis on programmes which support 'on-the-job' training and 'learning-by-doing' in the rural workforce, as well as skill acquisition through placements in existing enterprises (e.g. Meccheri and Pelloni, 2006). At the same time, a 'learning by doing' approach is difficult in areas where the level of entrepreneurship is low and few dynamic enterprises exist. In such conditions, the introduction of entrepreneurship into primary, secondary and tertiary curricula is a key element in a longer term strategy. However, to achieve this requires a strong commitment to 'training the trainers' in the short term to ensure the quality of the student experience is high. Programmes such as the new Masters in International Entrepreneurship Education and Training (IMEET), led by the University of Aarhus, is an example of a programme that can help train

[33] See overview of international learning models and good practice examples in East Germany in the Annex.

staff to lead such an initiative. An example of a potentially relevant start-up initiative is the Leader+ project in the Kellerswald-Dersee region of Germany.[34]

Active promotion of role models of successful rural entrepreneurs is a key element in raising awareness in the local population of what is achievable, particularly among younger people. In this regard, a recent publication by the Australian government represents a particularly relevant initiative (Kenyon, 2005). The report contains the stories of 20 dynamic rural enterprises, including six that are community-owned. Whilst they are very heterogeneous group, a number of common themes were identified:

- Passion and persistence, without which success in business is impossible;
- Core values and vision, which go beyond the maximisation of profits;
- Community connectedness and involvement, which community and privately owned businesses alike stressed needed to be nurtured;
- Quality customer service, which in all cases involved customer feedback mechanisms;
- Idea obsession, innovation and continuous improvement, stressing the need to stay ahead;
- Leadership and skilled management practices, including knowing when to seek outside expertise;
- Staff pride and involvement, which is typically linked to a strong commitment to staff training and keeping staff fully informed;
- Product differentiation and quality, which in some cases was focused on aspects of the rural environment;
- Collaboration, networking and strategic partnerships, including key players in the community; and innovative marketing.

Whilst many of these are generic entrepreneurial attributes, a number are more specifically tuned to the rural context. One of the main target groups is intermediaries working with young people living in remote rural communities areas in Australia, as part of programmes designed to promote entrepreneurship and the self employment option.

The following policy recommendations can be put forward in light of the OECD findings and key recommendations from the local case studies:

- Actively promote entrepreneurship as ‘a career option’ to young people in secondary schools and in higher education institutions serving rural areas, using a combination of experiential learning through student placements, ‘junior enterprise’ schemes and the active dissemination of entrepreneurial role models;

[34] See overview of international learning models and good practice examples in East Germany in the Annex.

- Provide support to enable teachers and lecturers in secondary schools, further and higher education institutions serving rural areas, to receive specialist training in entrepreneurship education;

- Prioritise the establishment of support programmes in rural areas to facilitate new business start up, that incorporate pre-start up as well as post start-up support;

- Take steps to actively promote successful rural entrepreneurs in the various regional media; and,

- Establish a portfolio of enterprise awards for successful entrepreneurs, and aspiring entrepreneurs from rural regions, including 'Young Entrepreneur of the Year'.

Encouraging farmers to diversify into non-farming activities

The pressure on farmers in mature market economies to diversify is almost universal and many governments have introduced policies to encourage and facilitate this process. It has been necessary for farmers to become more entrepreneurial in diversifying into other land-based activities (e.g. organic production, unconventional livestock production, as well as into the formation of non-farm based enterprises (Carter and Rosa, 1998). Farming is not only a business sector in its own right, but also an integral part of a wider supply chain and a vital contributor to rural tourism through its management of the rural landscape. In this context, it is important that farm-related rural enterprises have access to business support, as well as measures to encourage farmers to become more integrated into the mainstream business community (Rural Affairs Forum for England, 2002). The Land Management Initiatives of the Countryside Agency in England was an attempt to apply these principles.[35]

Research in New Zealand has highlighted the role of farmers' markets as a launching pad for opportunity entrepreneurs who produce value added goods, as well as necessity entrepreneurs, who may have been squeezed out of the food supply chain (Cameron and de Vries, 2006). A farmers' market is a common facility where farmers, growers and producers gather regularly to sell fresh fruit, vegetables and other farm products direct to consumers (Payne, 2002).

Farmers' markets can play an incubator function by allowing new businesses to become established at low cost and minimum risk (Feenstra et al, 2003). They can provide an opportunity for farmers to 'test the water' with an entrepreneurial endeavour that involves selling to the final consumer directly. Moreover the concept can be extended to include local craft and related activities, which has been tried with some success in East Lancashire as part of an attempt of the local Business Link to increase its penetration of rural businesses and nascent entrepreneurs (Smallbone et al, 2005, 49).

The following policy recommendations can be put forward in light of the OECD findings and key recommendations from the local case studies:

- Provide access to high-quality business advice and support for farmers interested in diversifying into non-agricultural activities; and,

- Promote the use of farmers' markets as a means of encouraging farmers to 'market test' new enterprise ideas and activities.

[35] See overview of international learning models and good practice examples in East Germany in the Annex.

Promoting and implementing an integrated approach to rural development

The shift from a managerial to an innovative entrepreneurial economy (Audretsch and Thurik, 2000) presents particular challenges for rural regions. According to Drabenstott and Henderson (2006), it requires rural communities to engage in partnerships across jurisdictional lines, as well as leadership capacity, which is not always present. In the face of the development challenges facing rural regions in the USA, the same authors identify three main priorities for federal policy:

- Helping rural communities craft new competitiveness strategies, following Italy's example of allocating 15% of regional development funds to train regional officials in 'competitiveness skills';

- Linking federal research instruments (that previously were narrowly focused on agriculture) to rural strategies for innovation in the new economy; and,

- Building a more effective support system for rural entrepreneurs, focused particularly on rural start-ups develop into high-growth businesses.

It has been suggested that in the US, one of the more focused public sector efforts to stimulate and support rural entrepreneurship has been made by the Appalachian Regional Commission (ARC), which highlights the importance of institutional capacity building.[36]

A similar emphasis on capacity building and leadership can be found in the Rural Leadership Programme 2007 of Scottish Enterprise (http://www.scottish-enterprise.com/sedotcom_home/services-to-the-community/rural), which seeks to enhance the leadership skills of agricultural and rural leaders to explain, motivate, influence, promote and defend their sector to ensure its future in the Scottish economy. The aim is to draw participants from the rural sector as part of a countrywide recruitment campaign and the operation of the scheme is designed to build up the necessary awareness of rural policy issues among participants, as well as the network of contacts to maximise their future impact.

An emphasis on an integrated approach to rural development, involving capacity building is central to the EU's Leader programme, which also has the merit of being very adaptable to local conditions. Leader II (1994-99) and Leader+ (2000-6) are concerned with encouraging rural development in local communities, via local action groups, providing funds for a wide range of projects, which involve community-based entrepreneurial actions (North and Smallbone, 2004). Various evaluations have found Leader programmes to be tailored to specific localities, with a high degree of local ownership (e.g. Midmore, 1998). The programme has contributed to the diversification of rural economies, facilitated local capacity building and actively promoted good practice. An emphasis on the dissemination of good practice includes a Website of Leader+ 'good practice' initiatives, drawn from the 25 pre-enlargement members states (http://intranet.leaderplus.org). The identification of 'good practice' was linked to the seven Leader+ characteristics, namely area-based; bottom-up; partnership and local Action Group structure; innovation; integrated approach; networking and co-operation between areas; and local financing and management; to which transferability and sustainability were added. Examples of Leader+ initiatives that are particularly relevant to case study regions are described in the Annex.[37]

The following policy recommendations can be put forward in light of the OECD findings and key recommendations from the local case studies:

[36] See overview of international learning models and good practice examples in East Germany in the Annex.

[37] See overview of international learning models and good practice examples in East Germany in the Annex.

- Actively promote the EU's LEADER programme throughout the rural regions and offer workshops to help interested parties to prepare proposals;

- Consider establishing an additional fund to support integrated rural development projects based on LEADER principles; and,

- Provide support for leadership development programmes, based on the Scottish Enterprise model, to enable community leaders in rural areas to develop the knowledge, skills and contacts to promote and lead entrepreneurship development within their localities.

Promoting networking activities between entrepreneurs, potential entrepreneurs and key institutions in rural areas

Because rural entrepreneurs tend to be more isolated physically and have less immediate access to markets and other resources, various types of networking, resources and risk pooling can be especially helpful to them. It may be argued that the limited resources available for businesses in rural areas (e.g. insufficient local markets, distance from major markets, and limited access to capital) require an approach that is systemic in nature.

In this context, the promotion of entrepreneurial networks is a key element in a strategy to develop the entrepreneurial potential of rural areas, contributing to building social capital for economic purposes. Although the empirical evidence base is limited, Lyons (2002) considers an approach to rural social capital building for enterprise development, based on three case studies drawn from the US: a rural business incubation system in NE Alabama; a business incubation programme serving rural Humboldt County in California; and a community-based economic development programme in the Central Appalachian region. Lyons' analysis of the three cases identifies a number of key characteristics associated with successful rural social capital building, including:

- Multiple linkages between numerous participants to develop a networking culture.

- A process-oriented approach to business incubation linked to networking activities, although the approach is process-oriented rather than focused on the implementation of new physical structures.

- A sector-focused enterprise development strategy e.g. food processing, furniture and computer services.

- Social capital building practices that are closely linked to specific barriers to entrepreneurship presented by the rural environment e.g. links to sources of capital; links to external markets.

- Service providers that are willing and able to behave entrepreneurially.

- A combination of formal and informal linkages.

- A need for long-term commitment to maintaining networks over time.

A focus on developing entrepreneurial business support organisations has been identified as a key ingredient in the creation of an entrepreneurial environment in rural America (Centre for Rural Entrepreneurship, 2003). Attributes of entrepreneurial support organisations that are emphasised include a focus on entrepreneurs rather than on the associated businesses; building entrepreneurial

support systems that nurture entrepreneurs throughout the entrepreneurial process, from the development of business ideas into viable enterprises; building entrepreneurial environments with the support of both private and public sectors; being strategic, comprehensive and customised in meeting the needs of entrepreneurs in the locality.

Entrepreneurial support organisations may be organised as networks, intermediary organisations or sectoral clusters. Specific activities include: identifying, engaging with and supporting local individuals with the motivation and drive to create successful enterprises; facilitating support networks that include access to mentors and role models; helping entrepreneurs to access capital to support different stages of business development; helping entrepreneurs to access distant markets, such as through participation in trade shows; providing access to technical assistance of various types; engaging in some form of entrepreneurial facilitation, which goes beyond point-in-time training and skills development programmes towards developing long-term partnerships with entrepreneurs.

A common focus for co-operation and networking between entrepreneurs takes the form of joint marketing initiatives, which in the case of food-related activities may benefit from joint branding, as well as from external economies of scale. An example is the Clyde Valley Tomato Growers Initiative in Scotland.[38]

At a European level, Mandl et al (2007) describe a number of case studies involving specific activities designed to foster social capital in rural areas for economic purposes. These include the creation and support of traditional business clusters in areas where companies have no history of collaboration, the creation of business networks for joint distribution of products, and strengthening local tourism. A Spanish example of a traditional business cluster is described in the Annex of this report.[39]

An emphasis on social capital leads to a consideration of the role of social enterprises, which the UK government recognises can contribute to the success of rural communities (Defra, 2005). Social enterprises are defined as 'businesses with primarily social objectives, whose surpluses are principally re-invested for that purpose in the business or in the community, rather than being driven by the need to maximise profits for shareholders and owners (www.sbs.gov.uk). Detailed investigation of a group of social enterprises in rural Devon emphasised the contribution of certain types of social enterprise to rural service provision to increased social inclusion and community involvement, whilst operating to environmentally sustainable standards (Smallbone et al, 2003b). In the UK, social enterprises are contributing to providing services from community transport, village shops and post offices to childcare provision, where neither the private nor public sectors find it economic to provide. Certain forms of social enterprise would appear to have a particular contribution to make in building entrepreneurial capacity in rural areas with low entrepreneurial capacity currently.[40]

An example of a social enterprise from rural Dorset in southern England illustrates the contribution that social enterprises can make to a sustainable farming and food industry, particularly through direct sales to the consumer. One way this is being achieved is through farmers' markets, which help farmers reconnect with consumers and also meet the growing demand for local food. Other ways include food co-operatives that aim to bring direct access and greater awareness of the health benefits of fresh fruit and vegetables to those on lower incomes.

[38] See overview of international learning models and good practice examples in East Germany in the Annex.

[39] See overview of international learning models and good practice examples in East Germany in the Annex.

[40] See overview of international learning models and good practice examples in East Germany in the Annex.

The following policy recommendations can be put forward in light of the OECD findings and key recommendations from the local case studies:

- Prioritise support for network development in rural areas, which link nascent and new entrepreneurs to their more experienced counterparts and to relevant institutions;
- Promote and support the development of latent clusters of business activity in rural areas;
- Promote the social enterprise option to rural communities, as a means of generating enterprise activity to improve rural service provision, for businesses and/or rural people;
- Ensure that rural social enterprises have access to high-quality business advice and support; and,
- Prioritise the provision of marketing support for new and small rural firms, such as through joint marketing initiatives and meet-the-buyer events.

Finding innovative ways of increasing access to business services for new and existing entrepreneurs in areas of low population density

One of the key principles in the design of a business support infrastructure to provide advice, training, technical assistance and access to capital for entrepreneurs is client focus, reflected in services being easy to access and tuned in to the needs of clients rather than funders. There is no shortage of examples in North America and Europe, where critics have identified a fragmentation of service provision, a lack of continuity and strategic vision, which is often associated with short-term funding regimes and a lack of embeddedness of delivery agencies. The Entrepreneurship Development Systems in Rural Development project, described by Lichenstein and Lyons (2001) was an attempt to avoid such problems, through a process of competitive bidding for funding by multi-county rural regions, where collaboration and partnership were key criteria used in evaluating competing bids for the funds provided by a private foundation. The principle of competitive bidding for public funds is commonplace in Europe and, as the Leader and Leader+ programmes demonstrate, provides a mechanism for encouraging co-operation between individual and organisations that may have little previous history of co-operation.

Business incubation centres can be particularly appropriate to those rural regions where there is a lack of local advice and business services, although low population and business densities can represent a challenge to their viability. An innovative approach to this problem is the Outreach Incubator, which is an extension of the Greenhouse Incubator established in Inverness, Scotland in 1999.[41]

Easy access to business services, which helps to avoid creating an impression of fragmentation, can be facilitated by some form of single entry point or 'gateway' to the business support system.[42]

The following policy recommendations can be put forward in light with the OECD findings and key recommendations from the local case studies:

[41] See overview of international learning models and good practice examples in East Germany in the Annex.

[42] See overview of international learning models and good practice examples in East Germany in the Annex.

- Create a fund for projects to find innovative ways of delivering support to rural businesses, which business support agencies and other institutions serving rural areas could bid for on a competitive basis, thereby encouraging them to demonstrate entrepreneurial behaviour; and,

- Promote the active involvement of higher education institutions in entrepreneurship development in rural regions, by establishing a higher education rural enterprise fund to support the development of links between HE institutions and entrepreneurs.

Promoting innovation in rural businesses

Universities have a particular role to play in contributing to innovation in a rural economy, working in close partnership with other institutions. The important potential role that higher education institutions can play in local economic development is increasingly recognised in mature market economies, although achieving significant results in practice requires strong institutional commitment and leadership. The case of the Innovation Group in the state of Kentucky illustrates what can be achieved in a rural context in this regard.[43]

Rural Kentucky has scenic beauty but also contains some of the economically depressed counties in the US, as traditional sources of employment are no longer able to sustain the regional economy. Barriers to competitiveness include outmigration, a poorly educated workforce, unemployment and an inadequate infrastructure.

The following policy recommendations can be put forward in light of the OECD findings and key recommendations from the local case studies:

- Provide support for a programme of rural business incubators that emphasises the process of business incubation and the active participation of key actors in rural localities as partners; and,

- Provide funds for universities to establish Innovation and Commercial Centres, focused on increasing their capacity to effectively support new and small rural businesses.

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[43] See overview of international learning models and good practice examples in East Germany in the Annex.

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FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES

OECD

Rural regions tend to be challenging environments for the promotion of entrepreneurship. The seriousness of these challenges obviously varies from region to region, but the main obstacles derive from the small size and low population densities of rural communities, their social and economic composition, and the nature of internal and external linkages. Delivery of public support tends to be more fragmented, and access to banks, suitable premises, high-speed internet access, and specialised technical advice is more difficult. Networking activity between entrepreneurs is limited or has a focus on agricultural activities. The latter often results from the tendency for rural economies to be less diversified than urban ones. Consequently, labour forces tend to suffer from low skill levels, low skill diversity, and a structural mismatch in the local labour market, caused also by outward migration of the young, professionals, and well-educated people.

Experience from other OECD countries demonstrates that a crucial factor for the success of entrepreneurship development programmes lies in convincing farmers, or dependent workers in the agricultural industry, of their ability to become entrepreneurs in terms of seeking to capitalise on new and profitable endeavours by bringing forward new initiatives and not hesitating to take risks. Farmers tend to be an attractive group for entrepreneurial activities because by running their farm, they have already acquired a number of skills necessary for successfully operating a business. However, modernising and diversifying actual entrepreneurial activities is often not amongst the first thoughts of an agricultural entrepreneur. In the districts of Uckermark and Parchim, the former in Brandenburg and the latter in Mecklenburg-Western Pomerania, which composed the local case study area with emphasis on rural entrepreneurship, substantial progress has been made in pursuing this approach. Various initiatives within the framework of LEADER and LEADER+ are aiming to increase partnership building, co-operation and synergies amongst different actors through the establishment of Local Action Groups, as well as to further link different initiatives in diversifying the rural economies in the two districts with wider local economic development strategies that promote entrepreneurship as a motor for job creation and economic growth. The initiatives include group activities that aim to promote the local tourism and health industries, as well as activities that enhance modernising and diversifying existing ventures in commercial agriculture. Both districts are close to the metropolitan centres of Berlin and Hamburg. This offers great opportunities to develop leisure and weekend tourism activities, together with housing for retired city dwellers. The second area of intervention supports entrepreneurs entering alternative business directions, such as organic production of agricultural commodities, producing and marketing for local food systems, and the whole field of biomass and renewable energy. For both groups, policy actions address skill development needs of rural entrepreneurs in professional techniques, as well as business skills, including investment assessment and wider financing issues concerning equity capital and external financing.

The partly rural character of the two districts and their proximity to economic development centres within and outside *Land* [State] borders further underlines a general need for the increased integration of different policy programmes and initiatives and their joining up in local development strategies that can frame entrepreneurship and job creation. Further, the territories regional diversities make the local tailoring of policies and programmes designed at *Land* level a prerequisite for their

effectiveness. In terms of integrating policies, it is important that programmes and initiatives undertaken, e.g. in the fields of modernising existing SMEs, general workforce development, strengthening the local and regional science industry base, and supporting entrepreneurship amongst groups with limited business ownership representation, are clearly linked to each other and are also part of an overall strategy. A number of good practice examples to overcome these barriers to entrepreneurship development in rural areas can be found in the local case study areas. Integrated rural development strategies have been drafted and are implemented. The development of local rural development concepts, so called *Integrierte Ländliche Enwicklungskonzepte*, and the establishment of regional management agencies, *Regionalmanagement*, aim at outlining new economic development perspectives for rural areas. A continued synergy building at *Land* level between the Ministry of Agriculture, leading rural development efforts, and line ministries for entrepreneurship development will also help to further minimise co-ordination problems at local level that may derive from a translation of different priority setting into different strategies implemented by different agencies at local and/or *Land* level. This allows for synergy-building between agricultural production and key economic areas, like renewable energy generation and tourism, and provides a solid local pillar for an effective rural entrepreneurship policy.

A further development of entrepreneurial activity and economic development might be hampered by the demographic challenges posed by an aging population and an ongoing out-migration of young and skilled persons. It is important that new opportunities for rural areas – such as increased demand for rural amenities from urban dwellers, unused resources for economic development through a diversified agricultural industry, the growing interest for rural tourism, and the settlement of firms that select rural areas as new business locations – are recognised by policy and translated into actions. Starting one's own business is, however, only in very few cases an alternative to a migration elsewhere with better job opportunities. Migration can be temporary and policy can influence this. Often, migrants would wish to return after a certain period of time to make use of the newly gained skills and experiences. Providing the right framework conditions for starting one's own business, for business succession, or matchmaking with business's needs for skilled and high-skilled labour are well-piloted approaches developed in OECD regions elsewhere.

What can policy do and what could be activities that foster rural entrepreneurship? The partly rural character of wider parts of East Germany and the proximity of rural areas to economic development centres within and outside *Land* borders further underscores the above-mentioned principle of co-ordinating between and integrating different policies, programmes and initiatives and their joining up at regional and local levels to frame entrepreneurship and job creation. Further, the regional diversity of territories make the local tailoring of policies and programmes designed at *Land* level a prerequisite for their effectiveness. Local actors will be requested to identify local and regional assets and convert them, with the help of government programmes, into entrepreneurial activity. The probability of success in reaching wider markets is often linked to the entrepreneur's or the business's capacity to understand and make use of the opportunities resulting from ICT application in sourcing production means and selling products and services. In peripheral areas especially, a greater usage of e-commerce can help modernise and diversify existing companies by offering ways to overcome the barrier of insufficient local market capacity.

The local case studies in East Germany brought to light several policy recommendations that despite their local provenance, still have certain relevance for other localities in East Germany and elsewhere. Hence, the following list of recommendations should be considered and consulted as check list for policy makers and local organisations when innovating entrepreneurship policy and developing new local initiatives to enhance and strengthen rural entrepreneurship and to diversify rural economies through new and innovative entrepreneurial activities.

	Policy recommendations to enhance rural entrepreneurship
☑	*Make regions attractive.* Initiatives should be developed to attract entrepreneurial people from other areas to set up businesses, using marketing and promotion of the districts to a targeted entrepreneurial audience and taking advantage of the local contacts they may have. Local people currently living outside of the districts but who maintain family linkages should be a particular target group for such measures, because they will find it easier to recognise the quality of life and business opportunities the districts have to offer (e.g. lower living costs, access to grants, natural beauty) and may also have social reasons to return.
☑	*Focus on identifying local and regional assets and converting them into entrepreneurial activity.* There is a tendency in economically challenged communities, including those in rural areas, to emphasise their problems and deficiencies, often as a means of attracting public sector investment and support. As a consequence, it becomes difficult to see opportunities that may translate into economic advantage. An intentional mapping of local and regional assets – even the poorest rural communities have some assets, whether human, social, physical, or financial – can yield possibilities that might attract entrepreneurial interest and help improve economic competitiveness.
☑	*Embed entrepreneurship education into the school and college curricula, and into workforce training programs.* Broadening education and career preparation to increase creating and growing businesses is potentially a powerful way to retain young people in rural communities. It also opens up new possibilities for dependent employees in trades and other professions, as well as those in agriculture and forestry, to consider how they can create their own business, particularly when they are not getting adequate rewards from their current employment and do not want to move away to the cities for better prospects.
☑	*Generate local community support for entrepreneurship to increase the chances that entrepreneurs will be successful in their ventures*. If people trying to start and expand their businesses are treated with suspicion or are not valued in the community, they will either abandon their venture or move elsewhere. Rural entrepreneurship has to be embraced by community leaders as an effective alternative to attracting companies to relocate from other places.
☑	*Organise support services for entrepreneurs into effective networked systems for providing resources such as technical assistance and training, access to capital, land and buildings, and regulatory guidance.* The aim should be to bring in ways that increase efficiency and reduce transaction costs while maintaining or improving quality outreach to dispersed rural entrepreneurs. Relationships and networks will be critical in ensuring that integrated and comprehensive support is available for those entrepreneurs with the motivation to create jobs and wealth in rural communities. Particular attention will have to be paid to regulatory frameworks and the time it takes to obtain regulatory approvals.
☑	*Connect rural entrepreneurs to external markets, regionally, nationally, and internationally so that they are not dependent upon stagnant local markets for their goods and services.* Strategies are likely to include the use of information and communication technologies for e-commerce, collaborative marketing strategies that might be sectoral, geographic, or both, and the fostering of networks and exchanges between entrepreneurs across regional and national boundaries. Technical assistance and training will need to be retooled to emphasise the importance of accessing broader markets for products and services. With the right support, good ideas and people can be nurtured through commercialisation to the point at which they can attract venture capital investment. Using the appropriate networks, rural-based entrepreneurs can be connected to resources and markets outside their own region to create successful businesses.
☑	*Foster grass roots innovation.* More should be done to encourage innovation in agricultural and food industries, basic industries and services and in smaller, less capital-intensive companies.
☑	*Expand technology support and activities.* The establishment and further development of external R&D services could help SMEs in rural areas to innovate. It might be that a district perceives itself as too small to create by themselves the innovation support infrastructures necessary for SMEs. In this case, collaboration with neighbouring Districts or thematically related higher education institutions should be sought.

Box 11. Being inspired from good practice in enhancing rural entrepreneurship

Enterprise Facilitation@ in Rural Kansas – United States of America: Fostering an understanding where rural entrepreneurship is considered an effective alternative to attracting companies to relocate from other places.

Dundalk's integrated development strategy – Ireland: Facilitating access to finance through partnerships with banks and venture capital organisations.

Entrepreneurship Development Systems in Rural America – United States of America: Building a comprehensive entrepreneurship development system that combines financial incentives and technical assistance and joins the efforts of public, private, and non-profit actors.

Talent Attraction – Scotland – United Kingdom: Revitalising a primarily rural, sparsely populated and extremely peripheral area, such as the Highlands and Islands region of Scotland.

Innovation and Entrepreneurship in rural Kentucky – United States of America: Supporting the tapping of external markets through regional cluster development in rural areas.

Energy Cluster Initiative for North East Brandenburg - Germany: Innovative ways in renewable energy generation and usage.

Rural Entrepreneurship through action learning (REAL) in rural North Carolina – United States of America: Fostering entrepreneurial activity amongst school students in rural areas.

Strategies for a sustainable entrepreneurship in Appalachia – United States of America: Building regional markets for rural entrepreneurs.

CHAPTER 6

ENTREPRENEURSHIP POLICY DESIGN AND DELIVERY FRAMEWORK

POLICY DELIVERY: CHALLENGES AND OPPORTUNITIES FOR ENTREPRENEURSHIP AND SME DEVELOPMENT

Frederike Welter, Germany

Introduction

Entrepreneurship, and start-ups in particular, have become a general focus of German governments at federal, state and municipal level since the mid-1990s, seen both as a means to alleviate unemployment and to rejuvenate the economy. In that regard, numerous programmes and policies at all levels aim at supporting new ventures. In this context, the chapter will briefly review the current entrepreneurship development in East Germany, before turning to discuss the policy and institutional environment as well as trends in fostering entrepreneurship. Furthermore, the chapter discusses current socio-economic challenges taking into account adjustments that could be made to the existing policy environment, especially at the municipal level. The local case studies are used to illustrate the policy environment, current challenges and potential policy responses.

Entrepreneurship development in East Germany

With the introduction of legal regulations changing property rights and allowing for private entrepreneurship in 1990, entrepreneurship started to boom in the early 1990s. From 1988 until 1991, the number of East German entrepreneurs more than doubled.[44] In 2005, entrepreneurship amounted to 689,000 (Table 1). However, the rapid growth rate which could be observed during the first years of re-unification has slowed down considerably. In that, entrepreneurship development in East Germany follows the general pattern for former socialist countries, i.e., after an initial upsurge where many opportunities are present and many new ventures are set up, entrepreneurship development slows down as soon as market niches are filled and competition is increasing. The upsurge happened from 1991-1995 while growth rates have been decelerating since the mid-1990s. Overall, the level of entrepreneurship remains only slightly lower compared to West Germany. In 2005, the share of entrepreneurs in the labour force amounted to 10.8% in East Germany and to 11.2% in West Germany. Despite the lower growth rates since the mid-1990s, there has been considerable progress made since the beginning of the transformation process and re-unification.

However, even after more than a decade of re-unification, the nature of entrepreneurship differs between East and West Germany For example, more East German entrepreneurs compared to the West work full-time in entrepreneurship, which might reflect differing labour market situations (Table 1). In 2005 (1991), the respective shares amounted to 90.1% (94.8%) in East and to 83% (88%) in West Germany. Moreover, East Germany still has a higher share of women entrepreneurs[45]: In 2005, nearly one third of all entrepreneurs were women, compared to 29.6% in the West. The 1991 shares

[44] For 1988 see Schrumpf (1990). Data in Table 1 come from the micro census, which is a yearly 1% representative survey of the Federal Statistical Office. It collects data for employment status, distinguishing between paid employment, helping family, and self-employment. The latter can be used as an indicator for entrepreneurship. The category "self-employment" includes persons who (co-)own and manage an enterprise with employees or who work on their own. It also includes home-based entrepreneurs.

[45] See Welter (2006) for a detailed review of women's entrepreneurship in Germany.

amounted to 28.2% in East and 25.6% in West Germany. Both parts of Germany however see a trend towards micro enterprises. While in 1991, 45.9% and 44.7% of the registered businesses in East and West Germany respectively were run as sole proprietorships, these shares have increased to 58% and 55.8% in 2005.

Table 2. Extent and nature of entrepreneurship in East Germany, 1991-2005

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total number of entrepreneurs, in 1.000	348	394	431	463	486	487	512	542	544	553	562	552	583	621	689
Without employees, in %	45.9	43.4	42.9	43.6	43.2	45.5	48.9	46.5	44.9	47.9	48.8	48.7	51.6	54.6	58.1
Full-time entrepreneurship, in %	94.8	94.9	95.8	95.2	94.9	94.0	93.8	94.1	93.8	92.4	92.3	92.2	91.6	92.3	90.1
Women's entrepreneurship, in %	28.2	28.7	30.4	29.8	29.4	29.8	30.7	29.7	30.1	30.6	30.2	31.9	31.6	31.7	32.2

Source: Statistisches Bundesamt (2006) and author's own calculations.

Regionally, the NUI-regional ranking compares entrepreneurship development across all German cities and districts.[46] The NUI indicator illustrates how many enterprises per 10 000 inhabitants in working age have been registered within a year. Data are available for five of the six local case studies (with the exception of Marzahn-Hellersdorf where data for Berlin would be misleading). Table 2 shows that entrepreneurship development, measured by changes in the indicator, remains weak in four of the case study regions, namely the Uckermark (Brandenburg), the Altenburger Land (Saxony), Parchim (Mecklenburg-Western Pomerania) and Halle (Saxony-Anhalt).

Table 3. Entrepreneurship development in the local case study regions

	1998	1999	2000	2001	2002	2003	2004	2005
Mittweida, district	140.9	138.7	130.2	120.8	112.9	138.7	128.8	155.2
Halle (Saale), district free city	150.5	133.9	124.7	125.2	116.3	125.9	148.7	134.0
Parchim, district	137.8	133.4	122.7	110.6	109.8	136.7	174.3	133.0
Altenburger Land, district	127.7	114.9	111.9	109.0	99.5	110.3	143.0	123.4
Uckermark, district	100.2	84.6	83.2	78.2	74.6	78.7	115.8	105.0

Source: IfM Bonn (2007).

In terms of regional ranking, the Uckermark also consistently holds one of the last positions of all German districts and cities, namely 435 out of 439 in 2005 and 434 in 1998. In the Altenburger Land the ranking decreased from 347 in 1998 to 419 in 2005. A similar trend is to be observed in Parchim

[46] The indicator measures the relation between the number of new ventures and moving in of enterprises in one year and the employable population of the preceding year. See IfM Bonn (2007).

(264 in 1998, 390 in 2005) and Halle (385 in 2005; 197 in 1998). Only Mittweida in Thuringia shows a relatively consistent ranking, holding position 265 in 2005, compared to 250 in 1998.

The policy framework for entrepreneurship

The promotion of small and medium-sized businesses is a long tradition in Germany, while entrepreneurship policies are comparatively new, only gaining ground since the 1990s. One of the strongest points in favour of the German system is the broad range of support measures. German SMEs and new entrepreneurs as a rule easily can find a programme to solve problems they might experience in different stages of enterprise development. Another advantage concerns the dense support network involving public and private partners at regional and sub-regional level.

Entrepreneurship support at federal, state and local level

The policy environment for entrepreneurship development in East Germany is characterised by a decentralised approach towards supporting SMEs and new firms, based on the subsidiary principle, which determines the division of tasks between the federal government and the *Länder* as set out in the German constitution. Because of its decentralised and oftentimes complementary nature, it is important to briefly review delivery mechanisms and support areas at federal, state and local level.

Support areas and policy delivery at federal level

The federal government started implementing a new SME initiative in 2006, in order to foster the competitiveness of small enterprises. The eight policy areas include creating adequate framework conditions for SMEs and entrepreneurship, decreasing bureaucratic hurdles, establishing an entrepreneurship initiative, modernising vocational training, improving financing conditions, in particular also venture capital, and promoting internationalisation. This is supported at a regional level by the so-called Joint Tasks of federal and state governments. This refers to the Joint Task 'Improvement of the regional economic structure' (*Gemeinschaftsaufgabe Verbesserung der regionalen Wirtschaftsstruktur*) and the Joint Task 'Improvement of agrarian structure and coast security' (*Gemeinschaftsaufgabe zur Verbesserung der Agrarstruktur und des Küstenschutzes*) for integrated rural development. The Joint Tasks are an instrument by which the German federal and state governments strategically co-ordinate and integrate their regional policies and decide on joint funding. Federal and state governments jointly determine those regions which are to be supported within the policy as well as areas of support.

In order to select support projects, federal ministries have increasingly turned to competitions with an emphasis on public-private partnerships across policy levels and networks as well as using public-private juries to select innovative concepts for funding. One such example is the initiative 'Entrepreneurial Regions', which includes programmes such as InnoRegio, Innovative Regional Growth Cores, Centres for Innovation Competence, Innovation Forums and InnoProfile. This initiative specifically focuses on fostering innovative SME in East Germany's regions, thus contributing to regional entrepreneurship development. The current distribution of projects within these different programmes shows the familiar picture of a North – South and an urban – rural divide, with projects clustering around larger cities and in the South of East Germany.[47] Another example for all of Germany is the programme 'Learning Regions', which concentrates on fostering learning initiatives within or between regions.

[47] http://www.unternehmen-region.de/en/67.php.

These and similar policies are a decentralised, regional approach albeit initiated at federal level. They do not follow the strategy of supporting less-developed regions by building up their infrastructure and subsidising business activities in those regions. Instead, these programmes strongly focus on establishing regional centres of excellence, independent of their location. Some of the local case studies, namely Parchim, Uckermark, Mittweida, have been able to make use of such programmes in order to support local entrepreneurship development, presenting good practice examples of how to engage non-state actors in fostering entrepreneurship.

Entrepreneurship support delivery at state level

At state level, there are different models to institutionalise entrepreneurship and SME policies. These models range from an uncoordinated approach where a number of ministries and departments are involved and co-ordination often is problematic, to more recently the establishment of special state banks or investment agencies, which are responsible for administering (sometimes also for implementing) all state programmes. The idea here is to provide a one-stop-agency which should ideally result in simple procedures and transparent structures for small enterprises. Most East German states have had an advantage in that they could (and had to) build up their promotion structures from scratch after 1989, which allowed them to quickly turn to integrated and comprehensive support approaches and delivery models. This becomes visible in the state initiatives created for supporting entrepreneurship, involving a broad range of public and private actors, bundling entrepreneurship policies and support measures and spanning different levels of government.

Although these approaches have been created top-down, they nevertheless appear to have succeeded in bringing together state and local governments and reaching out beyond administrative level. Examples include '*agil – Aufbruch: Gründen im Land'* in Brandenburg, which was initiated by the State Ministry of Economics in 2000 in order to co-ordinate departments from different ministries and widened to include chambers, local development agencies, financing institutions, universities and others in 2002/03; TIP (transparent – innovative – passgenau), which will replace the campaign '*Einfach Anfangen'* in Mecklenburg-Western Pomerania, shifting its focus on how to improve the survival perspectives of entrepreneurship, or the *ego* in Saxony-Anhalt.

Entrepreneurship support delivery at local level

Local governments, i.e., municipalities and districts, are primarily interested in fostering local economic development through investments in their regions. This might include some support for new and existing small firms, but it is not restricted to this group of businesses. Main actors at the local level are business associations, chambers, economic development departments of administrations and business development agencies, which are often (partly) owned by municipalities[48]. They offer a variety of services such as company-related information and consulting services, advice regarding public support programmes or establishing new ventures, generally acting as an intermediary between local administration and investors. However, although many business development corporations now offer orientation services for new businesses, their main focus remains established firms.[49]

[48] Business development agencies (Wirtschaftsfördergesellschaften) also exist on state level, aiming at attracting foreign investors to the respective state and in opening up foreign markets for local enterprises.

[49] According to a verdict of the district court Trier (25.5. 2000, cf. DST et al. [2001]), business development corporations are not allowed to offer individual consultancy for nascent and young entrepreneurs, assistance in developing a business plan and in finding risk and venture capital.

New target groups and areas for entrepreneurship support

The late 1990s saw a general concentration on supporting start-ups in an attempt to push new businesses and create new employment possibilities. But, several of these initiatives on state level simply bundle already existing instruments and programmes without developing a coherent or radically new strategy. Most German policies for start-ups concentrate on extending and stabilising the financial base of new ventures whilst consultancy plays a less important role, although more recently there has been a tendency to offer integrated packages combining financial support with consultancy or mentoring. The 1990s also saw the development of new support instruments for entrepreneurship development, in an attempt to reach out to different target groups in order to raise the overall level of entrepreneurship. The following new trends can be distinguished: fostering graduate entrepreneurship and entrepreneurship education in universities and schools, supporting disadvantaged target groups such as unemployed and young persons, women's entrepreneurship and micro financing.

Educating students and pupils for entrepreneurship

Since the mid-1990s, most German governments have started targeting students in order to raise their awareness of entrepreneurship as one employment possibility. At the federal level, the 'EXIST' initiative, launched in December 1997, comprises a number of different projects, all attempting to enhance entrepreneurship among university and universities of applied sciences (*Fachhochschulen*) graduates, and initiate regional support networks. In this context, an evaluation report concluded that many proposed projects were realised despite refused funding.[50] Thus, the mere organising of such an initiative as a competition might have had a significant 'indirect' effect on fostering entrepreneurship in Germany through triggering regional partnerships. At the state level, in 2001 a review identified 13 state programmes in all of Germany, which exclusively focused on students, mainly through supporting a part-time job at the university while realising a business idea.[51] Other programmes concentrate on entrepreneurship education in schools, often by initiating mini-firms. Programmes at the federal level include JUNIOR[52] or *Schüler unternehmen was*. This is complemented by initiatives at state levels, as for example in Mecklenburg-Western Pomerania with separate programmes reaching out to schools or in Saxony-Anhalt within the initiative ego.

Such policies are a good example of institutional and private partnerships across different government levels: Programmes have been designed at the federal or state level, but they are carried out at the local level; frequently foundations and private actors play an important role in starting such initiatives; in terms of funding they are often co-funded by public and private actors. For example, entrepreneurship education in Halle (Salle) benefits from the services and support offered by Univations, which is an innovation and entrepreneurship network for universities in Southern Saxony-Anhalt, linking universities and local economic actors. In Mittweida, the local university of applied sciences is a member of SAXEED, a network of South Saxonian universities involving several local and state partners and supported by the state government. Overall, such networks demonstrate considerable commitment of local private and public actors, thus fostering entrepreneurship beyond the aim of supporting entrepreneurship education at universities through contributing to an entrepreneurial culture within the region. Since the mid-1990s, the federal and state governments increasingly have supported network creation, acknowledging the effects such an approach could have in boosting entrepreneurship development. Programmes to foster regional networks are to be found at

[50] Cf. Stahlecker (2001).

[51] Cf. Papenheim and Görisch (2001).

[52] Saxony and Saxony-Anhalt joined in 1995/96 and 1994/95 respectively, Brandenburg in 2000/01 and Mecklenburg-Western Pomerania and Thuringia in 2004/05.

federal level where EXIST has supported 15 regional networks created around universities since 1998[53], and within most of the state initiatives to support new ventures.

Fostering entrepreneurship of unemployed persons

Since the mid-1990s, federal and state governments started offering entrepreneurship support for disadvantaged groups who have difficulties in accessing mainstream support and mainstream financing, both because existing services are not tailored for their specific needs and the potential entrepreneurs lack information, qualification and/or resources to set up their ventures. Measures include subsidies for starting a business, often coupled with counselling and qualification courses. At the federal level, support includes the *Gründungszuschuss* and the *Gründungsgeld*, subsidies for unemployed who are entitled to unemployment benefits (ALG and ALG II). Initially, most policies were aimed at unemployed entrepreneurs; later the approach at state level often was specifically targeted at the younger unemployed. For example, all East German *Länder* participate in the *Enterprise* project. Enterprise was created in 1999 as a pilot project in Brandenburg, today it spans all East German states with Thuringia the last to join in 2006. This programme is specifically aimed at young unemployed persons, between 18 and 27 years old, who are not able to access other support and bank credits. It offers profiling and coaching, qualification and micro credits up to 6.000 EUR, also aiming at integrating the target group into existing support structures. Some states restrict the programme to particular disadvantaged districts and cities, as for example in Thuringia or Saxony-Anhalt.

The outreach so far appears to be rather small. For example, in Mecklenburg-Western Pomerania since 2001 the programme managers registered 1.150 expressions of interest, 700 youths received some basic consultancy, but only 78 went through the whole process and set up a business, plus another 130 who were consulted but started entrepreneurship without drawing on support from *Enterprise*.[54] However, in light of the persistent call for an entrepreneurial culture in Germany[55], the direct results of such a programme are not the best indicators for measuring its success, as indirect and longer-term effects such as establishing entrepreneurial role models in regions where (youth) unemployment prevails, presumably are much larger. In this regard, supportive policies to foster entrepreneurial attitudes at local level would be of particular importance for the local case regions, in particular the Altenburger Land, Mittweida, Parchim and the Uckermark as well as Marzahn-Hellersdorf, because of an apparently weak entrepreneurial culture.

Women's entrepreneurship

In the late 1990s, the German government also started paying attention to the topic of female entrepreneurship as an important means to raise the overall level of entrepreneurship, although in all of the local case studies women's entrepreneurship does not appear to play an important role, neither in terms of local development strategy nor in terms of targeted support. Selected support measures, which are exclusively directed at female entrepreneurs, are mainly to be found at state level. These include, for example, a programme for career planning in entrepreneurship for female students in

[53] http://www.exist.de

[54] http://www.enterprise-mv.de/_index.php?wo=galerie

[55] The overall call for a new 'culture of entrepreneurship' can be traced back to 1991, to the symposia held by one of Germany's most well-known entrepreneurs and company-owners, Reinhard Mohn of Bertelsmann. The public discourse suggested that this perceived lack of an entrepreneurial culture – or entrepreneurial spirit – in Germany could only be remedied by political actions, however, without specifying the general concept. Analysing this particular discussion in its wider context, Lageman and Welter (1999) illustrated that there was no agreement as to what might constitute a new 'culture of entrepreneurship', what would be 'new' about this culture, or whether there really existed a lack of entrepreneurial spirit in Germany.

Saxony-Anhalt (*FrauenMachtUnternehmen*), running from 2005 to 2007, or small credit lines such as the one operating in Mecklenburg-Western Pomerania from 1996 to 2002. However, such programmes only support a small number of female entrepreneurs. For example, in Mecklenburg-Western Pomerania the *Land* handed out 11 million EUR, supporting 397 enterprises and creating 663 employment possibilities.

State governments sometimes also introduce specific regulations into mass loan programs, especially where these programs are jointly financed by federal and state governments. One such example was to be found in Mecklenburg-Western Pomerania, where the state investment bank handed out loans directly to female entrepreneurs, provided they previously were rejected by banks.[56] Such regulations aim at levelling out the possibly negative effects of the German 'house bank system', where commercial banks take on a gatekeeper function, because all applications for financial support programmes are channelled through them. In general, most German support programmes for women entrepreneurs address their (supposed) support needs in terms of financial or human capital, neglecting the impact of the overall legal and institutional framework.

There also is an ongoing subtle shift in support policies for women entrepreneurs, especially at federal level.[57] Traditionally, support approaches to foster women's entrepreneurship were focused on removing problems at individual level by setting up separate credit lines or training programmes, neglecting the general environment women entrepreneurs operate in and their access to mainstream support. Today, support increasingly concentrates on an organisation-based approach. This is aimed at integrating gender-specific support topics not only into support agencies, but also into organisations such as chambers of commerce and business associations, thus widening access of women entrepreneurs to mainstream support programmes. This approach is seen as the best solution to the debate on whether to introduce specific programmes focused solely on female entrepreneurs, *i.e.*, do female entrepreneurs justify special, targeted support or simply similar access to support and treatment as men. At the local level, this requires administrations to work closely with business organisations and support agencies in order to develop a local strategy of how best to foster women's entrepreneurship.

Micro financing

Micro lending reflects a shift in financial support, acknowledging the fact that specific groups of entrepreneurs need smaller amounts of credit, and, as in the case of many women or unemployed entrepreneurs, who frequently start part-time ventures. In Germany, micro lending is a recent element in entrepreneurship support. Following an initiative of the International Labour Organisation[58], the German government introduced this type of micro credit programme on a broad, nationwide level during the late 1990s. These include the *Startgeld* which offers credits amounting up to 50.000 Euro, and the *Mikrokredit* which offers 25.000 Euro credits for start-ups and new entrepreneurs in up to the first three years of business. Both programmes allow for applications of full-time and (at least initially) part-time start-ups, thus recognising the diverse paths into entrepreneurship.

As of 2003, there existed 24 micro lending programmes in Germany, either on the federal, state or local level, three of which were operating at state level in East Germany, namely in Mecklenburg-Western Pomerania, Saxony and Brandenburg.[59] State programmes often are co-financed by state and

[56] Cf. Kehlbeck and Schneider (1999), p. 29.

[57] Cf. Welter and Lageman (2003).

[58] Namely the 'Action Research Programme on Micro Credit and Business Creation of Unemployed'.

[59] Cf. Habschick, Evers and Jung (2004), pp. 43-67.

European funds, for example in Mecklenburg-Western Pomerania, where new entrepreneurs can apply for a micro credit loan of up to EUR 10 000 in order to finance operating expenses, or the micro credits offered by all East German *Länder* within the Enterprise Programme. However, contrary to the federal programmes, most state programmes do not appear to allow for initial part-time entrepreneurship. Full-time entrepreneurship is commonly recognised as contributing to employment and growth in the long run, while part-time entrepreneurship is equated with necessity-based entrepreneurship, low growth ambitions and low survival rates, although research has demonstrated that for example in North Rhine-Westphalia nearly one quarter of initially part-time entrepreneurs had made the transition to being full-time entrepreneurs.[60] Initial part-time entrepreneurship helps potential entrepreneurs to facilitate their entry into entrepreneurship, as they accumulate resources and know-how.

Local municipalities have been trendsetters for Germany as the first microcredit programmes have been established at local level, often with support from municipalities.[61] For example, GÖBI is one of the earliest examples of a public-private partnership on local level, where banking institutions are involved.[62] This fund was set up in 1997 by the local city administration in Göttingen together with savings banks and the rural district Göttingen, targeting young and previously unemployed business founders. Since its start, GÖBI has financed around 60 business ventures. The savings banks provide the capital, whilst the authorities involved bear 50 percent of the default risk and subsidise the interest rate.

Local programmes often address only one specific target group and frequently restrict their programmes to the unemployed. However, all respective initiatives have to take into account the German banking regulation (*Kreditwesengesetz*), which prevents non-banking institutions from handing out credits, whilst allowing for some participation of non-banking organisations in the microfinance market.[63] This mainly impedes creating special microfinance institutions, but it can also act as a constraint for local programmes: Banking institutions frequently participate in state initiatives, and participate less in local ones. For example, in 2002 they were involved in only three out of eight local initiatives, but in eight out of eleven state programmes.[64] Local initiatives, which do not involve local banks, have often worked around this constraint by registering themselves as societies and providing microfinance as a benefit for their members.

Challenges to entrepreneurship in East Germany

Challenges to entrepreneurship arise from the overall socio-economic landscape in which entrepreneurship in East Germany takes place. This applies to changes in the social context for entrepreneurship or structural changes in, for example, the banking system threatening the financing of new and small ventures. Additionally, high unemployment often forces individuals into entrepreneurship who lack the relevant skills and know-how, thus questioning 'traditional' approaches to entrepreneurship support at the local level which often have been concentrated on providing infrastructure in order to improve the general business environment. Moreover, challenges arise out of different contexts for entrepreneurship, which refers to the role entrepreneurship plays in urban vs. rural; old industrialised vs. knowledge-based and high technology-driven regions; peripheral regions vs. central regions. This has an impact on the availability of resources such as finances, information

[60] Cf. Kay et al. (2001).

[61] Cf. Jung (2002).

[62] Cf. Jung (2002), also http://wrg-goettingen.de/index.php?id=323.

[63] Cf. Evers and Habschick (2001).

[64] Cf. Jung (2002).

and support. In East Germany all this goes hand in hand with massive de-industrialisation as a result of the privatisation process, accompanied by enormous social problems, and demographic changes. The following sections will briefly outline the major challenges arising from the environment for entrepreneurship and the policy context, in order to situate the local case studies.

The local context for entrepreneurship

Entrepreneurship is a local event. The local availability of customers and tradable goods, finance and space as well as the local institutional environment influence the decision to start a business. After start-up, local bonds are essential for firm survival; and for many smaller enterprises, most business contacts tend to be local. Understanding local entrepreneurship processes helps foster local economic development. Thus, local contexts have a major impact on the extent and nature of entrepreneurship development. In East Germany, the main challenges in this regard arise out of industrial, structural and demographic changes as well as different spatial contexts and the need for entrepreneurial attitudes at local level.

De-industrialisation and entrepreneurship

All East German states have had to undergo a tremendous socio-economic transition process since the early 1990s, characterised by a thorough restructuring of the industrial and, as in the case of Mecklenburg-Western Pomerania, agrarian base. Although entrepreneurship rates increased in all *Länder*, new businesses could not make up for the significant job losses in former state-owned companies. Today, one can observe a North-South divide with the Southern *Länder* such as Thuringia and Saxony having achieved better results in restructuring their economies. This is partly due to economic policies; Thuringia, for example, concentrated on sustaining core industrial centres. Where the *Länder* built their transformation strategies around traditional strengths such as strong innovation knowledge and skills, they frequently managed to create a favourable environment for the emergence of growth-oriented ventures, often initiating a successful transformation towards high-tech fields as becomes apparent in the case of Halle (Saale).

However, intra-regional disparities are still large, partly due to the *Länder* focusing on restructuring former growth cores. This points to a common dilemma regional policies face, namely whether to focus on strengths or whether to tackle weaknesses hindering regional development. Due to budget constraints, both federal and state governments prioritise a policy of 'strengthening selected strengths', often regionally concentrating on urban areas.[65] This has consequences for entrepreneurship development in structurally weak regions, as such regions often lack the physical and support infrastructure needed for new firms to emerge. Business opportunities also tend to go hand in hand with favourable economic development. For example, Thuringia concentrated its economic policy on strengthening structurally strong regions instead of developing disadvantaged regions, thus managing to (re-)develop a sound industrial basis, albeit mainly consisting of small and medium-sized enterprises. While such a strategy is understandable in light of tight budgets and the need for rebuilding the industrial base, this resulted in large regional distortions, which for example is reflected in the large scale of de-industrialisation in Altenburger Land and its current economic situation. Similarly, in Mecklenburg-Western Pomerania, ten thousand employees were released from the shipbuilding industry, food industries, large agricultural cooperatives, the military, and even the tourism sector, thus posing problems for a strategy of entrepreneurship development. In June 2007, the state still has the highest unemployment rate in Germany.

[65] Cf. OECD (2007).

All East German states, albeit to different extents, experienced similar developments, which in turn have a large impact on the potential for entrepreneurship. De-industrialisation goes hand in hand with an increase in unemployment. It contributes in the long run to reducing individual skills and qualifications, lowering self-confidence and also results in out-migration of qualified persons who are searching for jobs outside the region and state. In this regard, most of the local cases are illustrative examples of such an adverse economic transformation process. On the other hand, where the transformation process proceeded well and regions could build on their traditional industrial basis and strengths, one might find clusters of often technology-based (small) enterprises which could serve as starting point of a vibrant economic development. In this regard, Halle (Saale) and to some extent also Parchim serve as good examples.

Entrepreneurship in urban and rural neighbourhoods

Urban and rural neighbourhoods pose different socio-economic challenges for entrepreneurship development and support structures. Some inner-city areas are especially adversely affected by economic and social transformation as becomes apparent in the case of Marzahn-Hellersdorf. Economic deterioration in the form of long-term unemployment, declining income and purchasing power, out-migration, and related demographic and socioeconomic changes are among the negative effects of current urban and rural dynamics; they may result in continuous deterioration of location factors in districts, thus further contributing to possible negative dynamics outlined in the previous section. Moreover, rural areas in East Germany face severe demographic problems. In all of East Germany, the demographical structure has changed drastically due to the ongoing emigration of young and well-qualified persons who are in search of job opportunities. This holds especially true for rural and peripheral areas which lose those groups capable of setting up growth-oriented businesses, leaving behind disadvantaged groups, mainly young and unemployed males, as a recent study of the Berlin Institute for Population and Development demonstrates: Since the Berlin wall came down, more than 1.5 million East Germans left; in rural and peripheral areas there exists a surplus of men aged 18-29 years, amounting to 25 percent and more.[66]

The regional case studies conducted in peripheral and rural areas demonstrate that entrepreneurial activities in such regions often are of low value. Moreover, in such a context, local municipalities frequently understand entrepreneurship development as the main solution to unemployment. But, an environment where people might have lost confidence in their own capabilities and lack opportunities to set up businesses requires a different support approach, focusing on both direct individual- or firm-level support and a strategy to foster the overall emergence of a local entrepreneurial culture.

While in both disadvantaged urban and rural areas, supporting local entrepreneurship gains importance, economic renewal through fostering entrepreneurship faces several obstacles. This includes a lack of financing, which needs to be addressed through specific measures, the overall low and declining purchasing power of local consumers which forces enterprises to broaden their search for markets and customers; in the case of urban areas a lack of appropriate working space and an often distant location from the city centre and an unattractive image of the area; an overall strong tendency of small business formation in business fields, where low entry thresholds and low opportunities for growth, but high competition go hand in hand, resulting in less sustainable business models (e.g. household services, retail trade, catering), and finally a lack of willingness and resources to engage beyond one's own business in local development networks as is apparent in the urban area of Marzahn-Hellersdorf. Rural and/or peripheral areas additionally face the problem of small markets and a lack of opportunities for setting up and growing local businesses as illustrated by the examples of Uckermark, Parchim or the Altenburger Land.

[66] Cf. Kröhnert and Klingholz (2007).

The local entrepreneurial culture

Increasingly, local governments have come to realise that 'soft' and societal factors play an important role for entrepreneurship development at local level, thus reflecting the ongoing public discussion regarding a (perceived) lack of entrepreneurial spirit in Germany. Results from the Regional Entrepreneurship Monitor (REM) shed some light on the frequently criticised 'negative' attitude of East Germans towards entrepreneurship by demonstrating a link between entrepreneurial attitudes, the propensity to enter entrepreneurship and overall regional economic development: More individuals in economically prospering regions, which have a higher share of entrepreneurship already, perceive opportunities for setting up a venture compared to those in depressed regions or regions with a deficient business support infrastructure.[67] This is reflected in lower rates of nascent entrepreneurship in regions with slow or stagnant economic development. For example, in 2001, the share of nascent entrepreneurs, i.e., those in the process of starting a business, in the German population amounted to 6.1% in Cologne and 4.2% in Munich, compared to 2.8% in Leipzig and 2.0% in Rostock.[68] Moreover, the fear of failure is higher in regions with a low share of nascent entrepreneurs, which includes both East German regions surveyed in this particular study, pointing to a lack of entrepreneurial role models. With regard to regional entrepreneurship development, a vicious cycle might develop, starting with de-industrialisation and massive unemployment, resulting in worsening economic conditions and ending in individuals losing confidence and finally refuting entrepreneurship as a viable option for themselves. This in turn influences individual attitudes towards entrepreneurship, because there are no local role models of (successful) entrepreneurs. Such attitudinal barriers to entrepreneurship development are apparent in most of the local case study regions reviewed by the OECD.

In this context, the media can play an important role in influencing individual attitudes by presenting role models. However, while the official, political discussion understands entrepreneurship as a major solution for economic problems, this is not necessarily reflected in the public media discussion. Results from an ongoing research study on the representation of entrepreneurship in German national newspapers demonstrate that an increasing coverage of entrepreneurship topics in most newspapers does not go hand in hand with a more positive valuation: For example, in the German *'Tageszeitung'* (TAZ) the valuation of entrepreneurship changes from a rather positive tone to a rather negative and even cynic tone over the decade under investigation (1996-2006).[69] As media discourses influence the activities taken, a predominantly negative discourse stressing the lack of entrepreneurial spirit might set the 'wrong' signals to potential entrepreneurs. Here, local governments face the challenge of not only initiating and supporting economic development, but also of finding ways to motivate individuals and rebuild their confidence, especially if municipalities want to foster entrepreneurship development within their region.

Creating a business-friendly environment at the local Level

Business support by municipalities traditionally focused on providing a business-friendly environment, mainly through decreasing bureaucracy and/or through setting up start-up and technology centres. Today, local municipalities in East Germany face major challenges because they

[67] Cf. Bergmann (2005).

[68] Cf. Wagner and Sternberg (2004), p. 227.

[69] Cf. Achtenhagen and Welter (2006). This particular research project also analyses the representation of women's entrepreneurship in German newspapers. Findings show that the representation of female entrepreneurs in media largely lacks potential as a source of identification and can thereby limit the willingness of women to become entrepreneurs as well as hamper their overall contribution to economic development, cf. for example, Achtenhagen and Welter (2005), Welter and Achtenhagen (2006).

increasingly have to cope with a broad range of support needs at the local level, ranging from the information and training needs of potential entrepreneurs, frequently unemployed persons, to existing small businesses-owners which might require loans to grow or realise innovations. This challenges 'traditional' infrastructural and targeted approaches in creating and sustaining an entrepreneurial environment. While local business development agencies attempt to compete for large and successful investments in their regions, the economic situation might force more and more unemployed persons to consider starting a business. Such necessity entrepreneurs require a different approach to entrepreneurship development. In this context, challenges in creating a business-friendly environment at the local level arise out of diverse financing needs and the overall need for improvements in the local business environment.

Financing a business: between microcredit and venture capital

The adaptation of Basle II regulations has resulted in financing restrictions if enterprises do not fulfil rating criteria – a problem often encountered by new entrepreneurs because they lack legitimacy with the bank; or, in the case of high-technology entrepreneurs, the banker lacks the knowledge to assess the business idea and model. Moreover, re-organisation within the German banking system led to large commercial banks closing branch offices and centralising banking tasks, thus impeding the new entrepreneurs' access to financing, especially in rural and peripheral areas or smaller towns. This surfaced as a problem in most of the local case studies, requiring a more decentralised approach to entrepreneurship financing. In the light of the ongoing re-organisation in the German banking system, such a local approach to financing apparently requires new ways of public-private partnerships. One possible model refers to a recent initiative in micro lending, which can address the need for small credit volumes. Here, the German Microfinance institute has started to accredit regional and local institutions for micro financing.[70] The local microfinance organisation assesses credit applications for local banks, which hand out the credits, while a fund is set up in order to bear the risk of default. Currently, there are eight accredited microfinance organisations, four of them working in Brandenburg, Berlin, Saxony and Thuringia. Moreover, micro financing in all case study regions can be accessed through federal and state programmes, which mainly however depends on banks 'allowing' access to such programmes which are solely channelled through the 'house banks'. In this regard, access sometimes has been reported to be difficult for entrepreneurs as banks have appeared to be more interested in 'selling' their own financial support programmes instead of federal/state programmes. This has been taken into account by the federal programmes such as *Mikrokredit* and *Startgeld* (as well as most state programmes) offering an 80% limitation of liabilities for the bank.

Aside from a lack of offers for microcredits, banks also might lack knowledge and funds to finance innovative enterprises. It is here that especially throughout the 1990s, federal and state governments supported the development of venture capital; for example through a programme focused on supporting venture capital investments in technology-oriented businesses in East Germany. The business angel segment still appears to be relatively weakly developed. The national network of business angels (BAND) currently has 40 network members, coming from all over Germany with one network each in all East German states, the exception being Saxony with two business angel networks. Additionally, in 2005 a total of 80 private business angels were listed in BAND. However, as the financing culture in Germany is traditionally focused on self-financing and bank credits, especially new and small business-owners often are strongly opposed towards any form of equity and venture capital. Entrepreneurs in Germany tend to rely on self-financing and bank credits as their main financing sources, with venture capital ranking last, which also reflects the slow development of the German venture capital market. For 2005, a large-scale study shows that small business owners attribute a high importance to self-financing (2 on a scale of 0=very high importance of financing

[70] http://www.mikrofinanz.net/index.php?page=kreditvergabe&sub=dmi-mikrofinanzierer

source to 6=very low importance of financing source), followed by short-term and longer-term bank credits with 3.5 and 3.6 respectively, while venture capital (5.5) achieved relatively low importance for current business financing.[71]

Catering for 'traditional' support needs

Empirical evidence shows that entrepreneurs highly value factors such as qualified and rapid administration services, and implicitly also less bureaucracy at the local level; this has a relatively significant impact as a 'soft' location consideration, and is also often cited as a major problem. For example, when asked for their main problems in doing business, 20 percent of business founders in a 1995 survey of local business environments, and particularly those, whose venture creation was delayed because of time-consuming procedures to obtain permits, mentioned a lack of understanding on behalf of (local) administrations.[72] However, although this indicates scope for actions, the same study also shows that critical assessment of the business environment also partly results from lack of preparation by business founders, who do not have information which was readily available at local level. In concordance with the European Employment Strategy, German federal and most state governments initiated several projects in order to improve the overall environment for entrepreneurship. Besides the entrepreneurship initiatives at state level outlined above, measures also include reducing red tape for business start-ups, simplifying laws and regulations, introducing tax relief for small enterprises, setting up one-stop-agencies such as the guidance services in Brandenburg (*Lotsendienste*) and creating an internet portal to facilitate succession in established ventures.

Similar good practices are to be found at local level. Here, bureaucratic hurdles for new or expanding entrepreneurs mainly refer to planning and building permissions and permits for industrial plants, both of which involve a multitude of actors, thus often resulting in a lengthy process. In order to improve the business environment, the local approach to be observed in all case studies is one of trying to integrate services and facilitate business entry. This is done by setting up 'virtual' or 'real' one-stop agencies where potential and new entrepreneurs can obtain general information and are redirected to more specific organisations. Examples include the e-government mechanisms used in Marzahn-Hellersdorf, Parchim and Uckermark; the 'Haus der Wirtschaft' as a one-stop location for business services in Uckermark; or the regional managements installed in Altenburger Land or Marzahn-Hellersdorf, although in the case of the latter two such agencies exist indicating a lack of coherence in the strategy for supporting entrepreneurship.

Building a coherent policy and support system at the local level

This section turns to issues of policy delivery and governance and their role in fostering entrepreneurship development at the local level. Local municipalities often tend to solely focus on (infra-) structural and business-support needs as important elements in creating an entrepreneurial environment, neglecting the institutional challenges in building a coherent support system. These consist of developing a local strategy, building networks and targeting support for diverse groups of (potential) entrepreneurs.

[71] Cf. Zimmermann and Schumacher (2005).

[72] For example, in 1995, entrepreneurs in Germany ranked an entrepreneur-friendly local administration seventh out of 22 factors (DST et al., 2001). In 2004, 75% of entrepreneurs surveyed across 25 cities assessed an 'entrepreneur-friendly' administration as very important or important, whilst only 22% claimed their town administration to classify as entrepreneur friendly (Bertelsmann Stiftung et al., 2004). Similarly, 64% and 62% were looking for good advisory and information services in deciding where to set up a business, although only 24% and 16% judged this to be the case in their town.

Designing a local entrepreneurship development strategy

Growing unemployment and ever-increasing budget constraints increasingly force local, state and the federal government to identify new possibilities for financing their SME and entrepreneurship policies, e.g., through public-private or federal-state partnerships. Whilst this is more apparent on the state and federal level, municipalities have also reoriented and restructured their business support policies in recent years. Budget constraints on local levels are but one explanation. Another reason is the mixed results from previous measures for supporting businesses such as the capital-intensive trend in establishing technology and start-up centres, which were the main focus of business-support policies in many municipalities until the early 1990s.[73] In response to budget constraints, mixed experiences with support, and new demands by entrepreneurs, local governments changed their support philosophies during the late 1990s. Supporting physical infrastructure is no longer perceived as the single best way to foster local development. Instead, as shown in the previous section, this has shifted towards a more subtle approach, focusing on improving the general local business environment and business climate, but also attempting to address diverse support needs. In that, entrepreneurship development measures at local levels seldom reflect genuine 'new' approaches of local government, but they are embedded in federal and state programmes and policy approaches. Often, measures at the local level are initiated or triggered by federal and/or state schemes as becomes apparent in most of the local case studies.

Although such 'project-oriented' strategies contribute to entrepreneurship development at the local level, they also could indicate the lack of a clear policy strategy and vision which will hamper the emergence of an entrepreneurial local culture in the long run. However, awareness is but one important requirement for an entrepreneurial culture at local level; individual promoters, commitment and a joint vision are also required. In this regard, problems are visible in several of the local case studies. For example, in the Altenburger Land, Mittweida and in Marzahn-Hellersdorf municipalities are aware of the difficulties in fostering entrepreneurship development locally, but they seem to lack a collective understanding and a common direction.

The challenge here is to link different initiatives aimed at fostering local entrepreneurship into a coherent policy approach at the local level – without spreading out financial resources too thinly or relying to a large extent on external subsidies. For example, in depressed urban areas such as Marzahn-Hellersdorf, measures to foster local small-scale entrepreneurs or community entrepreneurship could play an important role as a means of regenerating neighbourhoods, constituting a first step both towards creating an entrepreneurial area and towards building a basis for more substantial activities in knowledge-based and innovative entrepreneurship.

The lack of a local development strategy instead results in a less-than-comprehensive approach as illustrated by apparently contradictory institutional arrangements such as two regional managements operating in the same economic region. Apparently, the borough also faces difficulties in developing a coherent approach because of a lack of commitment on both municipal and business side as well as a lack of administrative competencies for drafting local policy strategies. This often is aggravated by an absence of regional identity[74] and low images or self-perceptions of regions, as is apparent in many of the local case studies. In such a context, models from other countries or *Länder* such as codes of

[73] Cf. Behrendt (1996), Sternberg et al. (1997); Tamasy (1995) specifically for an evaluation of technology and start-up centres in East Germany.

[74] Wigren (2003) illustrates for an industrial district in Sweden the important role of identity in creating an entrepreneurial culture. In Gnosjö, business and social spheres are heavily intertwined, fostering the development of a particular identity, often referred to as the 'spirit of Gnosjö'.

conduct, SME charters and the like can serve as good practice examples of how to develop a coherent policy approach through facilitating co-operation between different actors.

Working together: building networks and public-private partnerships

At the institutional level, an important starting point for building a coherent approach refers to collaborative network initiatives, which incorporate local authorities, the existing local business community and residents. Such policies can boost local identity, thereby also contributing to an entrepreneurial local culture.[75] In the local context, networks serve as a platform where different actors involved in regional enterprise support can exchange information and pool know-how on good practices in fostering local entrepreneurship development. This further stimulates learning processes, which generate region-specific tacit knowledge, thus creating competitive advantages in supra-regional competition. A broad range of actors is needed to establish an institutional network. This includes government on different levels, universities and other (higher) educational institutions, chambers of commerce and business associations, (local) banks, incubators, and private actors.

In this context, more and more municipalities, towns and/or rural districts have started co-operating over the past years, both to mitigate the effects of ever-tightening budgets and to increase their attractiveness for new investors. This also includes joint initiatives and programmes to foster new-business creation. In Germany, one can distinguish between two typical models with differing degrees of commitment and formalisation, either aiming at initiating and facilitating institutional co-operation across municipalities, at supporting joint services and infrastructure or creating institutionalised networks, all with the ultimate goal of creating an 'entrepreneurial' and attractive region: (i) pooling resources through offering joint services and infrastructure within and across districts and municipalities, and (ii) establishing regional networks.

The first model is one where *rural municipalities and districts pool resources and collaborate in establishing either joint infrastructure or offering joint services*. The underlying idea is to operate infrastructural facilities on a cost-efficient basis and to pool marketing efforts, all in order to attract new businesses and/or retain potential entrepreneurs within the region. Another major trend in smaller (less resourceful) municipalities and districts is offering joint services to entrepreneurs. Not surprisingly, this model works best in smaller communities without long physical distances and strong common interests. It also is a model required in remote, less urbanised areas, where systematic long-term support by regional development agencies is often needed. Some of the local case studies might consider such a model in broadening their support approach. One such example is the Altenburger Land, where no technology centre and no higher education institution exist, and where co-operation with other regions might offer possibilities in creating 'low-cost' solutions in this regard. Another case could be Marzahn-Hellersdorf, where a well-developed infrastructure is available but which lacks potential entrepreneurs. In both cases, co-operating with adjacent municipalities or boroughs might foster local entrepreneurship development.

Co-operation with the aim of *creating a formalised regional institutional network* is the most difficult model of local co-operation, because it involves a major effort in bringing relevant local partners together as well as a long-standing commitment from all participants. Underlying objectives are often influenced by a need to restructure a region's economic base. Co-operation models range from informal to more institutionalised forms and include public-private partnerships such as networks led by science, industry and/or policy makers.[76] In science-led regional networks, universities or research institutions trigger regional development, often with a particular focus on regional R&D. In

[75] Cf. Forrest and Kearns (2005).

[76] Schätzl (1999), p. 103.

industry-led networks larger firms are the innovative hub, while policy-led networks are initiated by local administrations and intermediaries such as business associations.

All these networks are frequently within federal programmes, such as the previously mentioned initiatives 'Entrepreneurial Regions' or 'Learning Regions'. For example, in Parchim, Nukleus represents an example of a science and industry-led network. Nukleus is an InnoRegio network for precision mechanical engineering, aimed at restructuring the Parchim-Wismar-Rostock region as an expanding and internationally recognised location for precision mechanical engineering. Nukleus works across governance levels and district boundaries, bringing together a broad range of private and public actors from economic development agencies, municipalities, enterprises and universities in Mecklenburg-Western Pomerania. Another example refers to 'Luchs', a network created within the learning region programme in the Uckermark. In both cases, the broad range of public and private actors involved, together with key network promoters, appear to have had a major influence on creating a sustainable and successful regional network.

Targeting support at the local level: reaching out to diverse groups

Targeting support is the third and final element in building a coherent local approach. Support for new businesses and specific target groups refers to a variety of different measures, including, for example, information packages, advisory and consultancy for groups such as previously unemployed business founders, women entrepreneurs, inventors or graduate potential entrepreneurs. In this regard, the major challenge for local administration lies in clearly identifying the most pressing support needs and adequate target groups within their regions, as one requirement to design a coherent policy approach.

The complexity involved can be illustrated by the example of Halle, where the local case study presents an integrated support model for mobilising and training *university graduates* in all questions related to business creation. Univations is a network available in all university cities in Southern Saxony-Anhalt offering institutionalised support. As with all similar instruments at the local level, the underlying philosophy is an excellent one; but contrary to some local programmes, Univations has an excellent track record, having helped launch more than 200 student-owned businesses. This particular initiative also helped mobilising industry and other actors outside the university, which constitutes one important step in developing a coherent local approach to foster graduate entrepreneurship at the regional level. Low commitment within the university however might present a problem in the long run, as a sustainable approach to fostering entrepreneurship education needs a broad basis of mentors within all faculties. However, one weakness of the approach to reaching out to university graduates in Halle apparently is its lack of success in fostering growth-oriented or technology-driven businesses. This might come as a surprise because Halle also possesses an impressive infrastructure for exploiting and commercialising research into businesses such as technology parks, research institutions and patent companies. Overall, this obviously indicates weaknesses in the local development strategy which should aim at strengthening links between the university and research institutions.

Another dimension of the targeted approach gains particular importance in regions with a consistently low level of entrepreneurship. Here, municipalities need to consider widening their support approach and reaching out to new groups of potential entrepreneurs. Again, the local case studies serve as an example in illustrating the complexities involved in developing a targeted local approach. For example, both Mittweida and the Altenburger Land focus on technology sectors in promoting entrepreneurship, neglecting other potential groups such as women, young persons or creative entrepreneurs. Other regions such as Parchim and Uckermark concentrate many of their programmes on unemployed entrepreneurs, neglecting the development potential of existing SMEs.

Areas for policy intervention

Since re-unification, East Germany has made enormous progress in developing entrepreneurship. The case study reviews of six representative regions in East Germany illustrate a variety of innovative models used at the local level to cope with the challenges discussed above. Nevertheless, there is also room for improvement, especially in exchanging good practices in local entrepreneurship promotion. The following conclusions and recommendations are based on reviewing the case study reports written within the OECD programme on strengthening entrepreneurship and economic development in Eastern Germany in the light of the policy environment and current challenges for entrepreneurship development.

Taking into account the local context for entrepreneurship

The local context for entrepreneurship in East Germany challenges 'traditional' approaches to entrepreneurship development at the local level, in particular those aimed at improving the business environment and providing infrastructure. De-industrialisation and massive unemployment pose a major challenge for any strategy to foster entrepreneurship: Unemployed persons often have low self-confidence and no entrepreneurial qualifications. Qualified individuals leave the regions, as there is a lack of business opportunities and support infrastructure in rural and peripheral regions or in regions having experienced de-industrialisation. Moreover, current urban and rural dynamics might aggravate this, where regions such as some inner-city areas are especially affected adversely by economic and social transformation. Negative effects refer to further economic deterioration in the form of long-term unemployment, declining income and purchasing power, out-migration, and related demographic and socioeconomic changes.

Recommendation: Local municipalities should evaluate their entrepreneurship support policies in order to tailor them to local contexts. For example, municipalities in Mecklenburg-Western Pomerania or in peripheral and de-industrialised regions in Thuringia would need strategies that take into account high levels of unemployment, skills deficits and low motivation as well as a lack of business opportunities.

Despite difficulties experienced throughout the economic and social transformation process, all local case study areas seem to have made (some) progress in developing local entrepreneurship, albeit without realising the full entrepreneurial potential in the region. Where strong network initiatives exist, as is visible in several case study areas, such progress also depends on a sustainable base within the region. Moreover, where the transformation process proceeded well and regions could build on their traditional industrial bases and strengths, clusters of small enterprises emerged as in Halle and Parchim, which could serve as starting points of vibrant economic development. In this regard, federal, state and local governments face a dilemma, namely whether to focus on strengths or whether to tackle weaknesses hindering regional development. Where governments prioritise a policy of 'strengthening selected strengths', this impedes entrepreneurship development in structurally weak regions, because such regions often lack the physical and support infrastructure needed for new firms to emerge.

Recommendation: State governments should reconsider their regional development policy of 'strengthening strengths' as this might additionally impede entrepreneurship development in structurally weak regions, thus counteracting entrepreneurship policy initiatives at the state level. Another policy direction could be to focus on 'solving weaknesses' or a mixture of both approaches, fine-tuned to regional specificities. In this regard, there apparently is room for improving the co-ordination of different policy areas (for example regional policies and the state-wide entrepreneurship initiatives).

Moreover, realising the full entrepreneurial potential within a region also depends on the local entrepreneurial culture. An environment where people might have lost confidence in their own capabilities and lack opportunities to set up businesses requires a strategy to foster the overall emergence of a local entrepreneurial culture. This concerns both individuals living in the region and local municipalities which frequently understand entrepreneurship development as the main solution to unemployment, instead of acknowledging its economic potential. In this regard, the case studies reveal room for improvement. A major shortcoming is a lack of suitable role models and an often negative regional image which might impede the emergence of an entrepreneurial local culture.

Recommendation: There is considerable room in the case study areas for measures addressing 'soft' factors such as awareness of enterpreneurship, which constitutes one element of an entrepreneurial local culture. Local public and private actors should work with local media on how best to provide role models through portraying local entrepreneurs, their business models and ways to solve problems through business development. Promotion campaigns, a prize for the local entrepreneur of the year, and similar measures can help increase local awareness of entrepreneurship as a way to foster regional economic development. In the case of a negative regional image, such specific campaigns need to be accompanied by an overall marketing effort to change the image of the place in order to attract and retain qualified persons within the regions.

Improving the business environment at local level

Business support by municipalities traditionally focused on providing a business-friendly environment, mainly through decreasing bureaucracy and/or through setting up start-up and technology centres. In order to improve the business environment, the local approach to be observed in all case studies is one of trying to integrate services and to facilitate business entry. This is done by setting up 'virtual' or 'real' one-stop agencies where potential and new entrepreneurs can obtain general information and are redirected to more specific organisations. However, local municipalities additionally, must cope with different groups of entrepreneurs at the local level, requiring a different support strategy. Financing a business at the local level poses a particular challenge because of the increasing centralisation of the German banking system.

Recommendation: Local governments should initiate discussions with local banks on how to improve access to financial resources at the local level. Moreover, they should critically review the emerging new models of public-private partnerships for micro financing which appear to offer a workable solution for a more decentralised lending approach. With regard to their financing needs, entrepreneurs should be encouraged to recognise different financing sources available such as business angels or venture capital instead of relying mainly on bank credit. This however also requires support for business angel networks to emerge locally.

Developing a coherent policy and support system at local level

Local governments also face institutional challenges in building a coherent support system. This refers to the development of local policy strategies focused on entrepreneurship. Most entrepreneurship development measures at local levels seldom reflect genuine 'new' approaches of local government, but they are often triggered by federal and/or state schemes as becomes apparent in most of the case studies. Local support measures concentrate on improving the business environment, the financial situation of (potential) entrepreneurs or offering training and qualification for potential entrepreneurs, neglecting 'soft' factors such as the entrepreneurial local culture as mentioned above. Such a 'project-oriented' approach might indicate the lack of a clear policy strategy which will hamper the emergence of an entrepreneurial local culture in the long run, as becomes apparent in several of the local case studies. Problems arise because of a lack of common understanding and local vision, a lack

of commitment and an often blurred division of responsibilities between actors across different government levels and locally.

Recommendation: Local governments should strive to develop a local vision and strategy for entrepreneurship development, taking into account local strengths and the general local context. This involves setting priority policy areas and clarifying responsibilities of different actors. Furthermore, a coherent local strategy needs to address both support needs at individual, firm-level and factors required for creating an entrepreneurial local culture.

Public-private partnerships could help in building a coherent policy strategy at local level. Here, different spatial, structural and demographic contexts for local entrepreneurship create challenges related to governance and delivery mechanisms for entrepreneurship support at local level. In light of tightening budgets, local governments could consider ways to pool resources and collaborate by establishing joint services or infrastructures. In this regard, a particular strength of the East German support system appears to be its strong networks and partnerships, which also span government levels. When they started to establish entrepreneurship and SME promotion, the East German *Länder* and local actors quickly turned to a network approach, which resulted from the overall shift towards public-private partnerships and competition selection procedures. One major requirement for successful networks and public-private partnerships is the need to overcome institutional and personal egotisms and political resentments, indicating a need for commitment of local actors and for the identification of local promoters. Local circumstances dictate whether private actors are involved through public-private-partnerships or even through private sector leadership.

Recommendation: With regard to networks and partnerships, all of the local case studies show examples of considerable commitment of local private and public actors, which also indicates a high level of local awareness required for an entrepreneurial culture to emerge at local level. In this regard, the local case studies contain interesting examples of how to best foster entrepreneurship at local level through public-private partnerships, policy-, industry- or science-led networks. Other regions in East and West Germany might learn from such models, therefore it is recommended to promote such exchanges by making good practices known, for example in the framework of existing networks and organisations.

Different contexts for local entrepreneurship also create challenges at support levels. This refers to adequate measures and programmes for a whole variety of target groups ranging from innovative start-ups, knowledge-based businesses, graduate entrepreneurs, to businesses created by unemployed persons. While the local case studies demonstrate good practice models of reaching out to target groups such as graduate entrepreneurs, main weaknesses are related to the problem of clearly identifying and supporting all relevant local target groups. This is partly explained through the strong supply-side orientation of local support, which to some extent is apparent in all local case studies. However, this might prevent municipalities from developing a coherent strategy for local entrepreneurship and from realising the full entrepreneurial potential within the region.

Recommendation: The districts and boroughs reviewed within the OECD programme should review their target groups with the aim of broadening their support approach to include ‘new’ target groups, for example women entrepreneurs or young entrepreneurs. Such an approach could be implemented where appropriate and needed, and should be based on a thorough evaluation of economic potential within the region.

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FINDINGS AND POLICY RECOMMENDATIONS FROM LOCAL CASE STUDIES

OECD

Entrepreneurship is firstly a local issue. It creates jobs, generates and improves both private and public incomes, and therefore contributes to local development. Ideally, policy design and delivery should be based on the participation of a wide range of stakeholders and tailored to local needs and circumstances. Strengthening entrepreneurship is a cross-policy issue. The effectiveness of public support policy depends upon the integration and co-ordination of policies and measures. The policy framework regards all policy areas relevant to entrepreneurship and enterprise development, as well as all legitimate stakeholders in the design, implementation and evaluation of public support policy. Current policy models in entrepreneurship and innovation strongly emphasise developing knowledge-based and high-tech industries. Recent OECD work reviewing national innovation systems stresses the importance of increased networking and collaboration amongst public agencies in this respect. Greater attention to institutional adaptation in entrepreneurship, science, technology and innovation is needed across ministerial boundaries.[77] This co-ordination needs to involve the local level in identifying the precise policy mix required for local needs and in pulling together appropriate activities from different national, regional and local levels of government.

The local case studies revealed that more could be done to increase integration and co-ordination on entrepreneurship and innovation policy across ministries at *Land* level. Current arrangements at *Land* level seem to constrain the development of stronger integration and co-ordination at district level as the different priority setting is translated into different strategies implemented by different agencies at local and/or *Lände*r level. Local tailoring of policies would require a closer co-operation between local and *Land* levels, and also interregional co-operation with other *Lände*r. In a federal system, economic geography is not necessarily congruent with administrative borders. This is of crucial importance for entrepreneurship support intended to spark wider economic development. The local case studies revealed that especially in economic areas spreading across *Land* borders, limited inter-*Land* co-operation in policy issues related to entrepreneurship development seems to negatively affect collaboration efforts at the local level. Involving the private sector in tailoring policies to business needs is considered important by all *Lände*r for effective policy making. *Land*-wide programmes are bringing forward strategic alliances with the private sector at *Land* level. In some cases, counselling and evaluation boards have been established. Yet, engagement of panel members seems to be not always as sufficient and effective due to time constraints for preparation and follow-up, as well as insufficient distribution of roles and responsibilities.

The local case studies give the impression that at the local level, policy design and delivery arrangements are rather fragmented. While local entrepreneurship problems appear to be well understood, the capacity to design policy locally is limited. Many initiatives are driven 'top-down' from the *Land* level with varying degrees of local discretion and input. Systematic analysis of local needs and policy options is lacking. The involvement of local governments is characterised by limited financial and human resources. Competencies of local governments are restricted to land use, business registration and the provision of information. Often these programmes make use of on-line training

[77] OECD (2005): "Governance of Innovation Systems", volume 2: Case Studies in Innovation Policy, Paris.

facilities as a supplement to face-to-face training. Reducing administrative burdens for entrepreneurs and investors is understood in all local case study areas as a mandatory requirement for district authorities and municipalities in order to turn their work into a real contribution to economic development and growth. In most *Lände*r, competitions and awards for the most entrepreneurial local governments are enhancing initiatives to increase clarity, transparency and communication of business support services for local entrepreneurs and businesses.

Policy design relies upon relatively generic instruments with limited relation to the local context. However, a great number of public and private stakeholders are involved in local economic development. In spite of increased possibilities through successful project co-operation with EFRE and ESF, the absence of a strategic document for entrepreneurship development as part of a wider economic development strategy might be a critical barrier to the advancement of a comprehensive approach that would allow the integration of urban regeneration projects, infrastructure development, property initiatives, skills development and wider strategic economic development activities. Hence, there is a risk that projects are implemented in an *ad hoc* manner and largely based on funding opportunities. Little evidence was found in the local case study areas of systematic evaluation of projects and programmes, so that it is difficult to know which approaches are the most, or least, successful and therefore which policies and programmes should be mainstreamed. It is also difficult to know what should be adopted or adapted to increase their impact. With regard to the range of local development organisations and actors, a participatory evaluation of previous and on-going programmes and projects, involving major local and regional stakeholders, can help create an inventory of experience to date and help align different strategies and action plans.

The obvious question, to which level of governance competences in strategy development and implementation should be devolved, cannot be answered in a general way. Rethinking the scale at which entrepreneurship policy is designed, delivered and evaluated might be required: if the district level is too small, then cross-district integration and joint working possibilities need to be explored. Communication channels need to be established where they do not already exist, and maintained between different levels of government. More formalised involvement of line Land ministries in existing local networks in the case study areas would offer opportunities to further develop and tailor local approaches and would help ensure timely communication on changing eligibility criteria and regulations in public funding.

Differences between the local case study areas became obvious as far as horizontal co-operation between local organisations is concerned. In some places, the review showed significant networking activity amongst economic development organisations, which helped generate a bottom-up process in the development of local strategies. Some of these networks have been formalised into strategic alliances; others are operating in a more informal way and are organised in an *ad hoc* fashion to address current problems. However, there are also cases, where policy design relationships appear to work vertically between *Land* and local levels, rather than horizontally between partners within one district or between different districts. Co-ordination and integration opportunities may be missed as a result. Relationship between the public and private sector differed for the local case study areas. Some places demonstrated limited capacity to maintain sufficiently close and timely linkages with local businesses to replenish understanding of local business needs, whereas for other case study areas, co-operation between the public and private sector is well established, with consultation on a regular basis.

For all local case study areas, the absence of a local entrepreneurship development strategy with clear priorities, based on an assessment of the evidence of local business development needs and policy gaps, prepared through an extensive consultation process and implemented by a local business support network, became obvious. Good practice examples from other OECD regions demonstrate that

the success of entrepreneurship and enterprise policies is closely linked to the existence of a more proactive and comprehensive local approach that aims at increasing co-ordination and local tailoring across different levels of governance. Such an entrepreneurship strategy will enable the local institutional framework to take a systematic approach in identifying key priorities, thus establishing clear views on the prioritisation of sectors, businesses, places and properties, and social groups.

It is also important to develop appropriate links between local and regional strategy-building and implementation arrangements, rather than to consider the needs of districts in isolation from wider regional opportunities and challenges. This approach should be supplemented by efforts to simplify the interface between business support organisations and SMEs through partnerships between the relevant organisations and clearly visible entry points into the system. In some of the local case study areas, main entrepreneurship and business support organisations are represented in one single location. This offers entrepreneurs access to services through a one-stop-shop model and eases access following the motto: "the entrepreneur does not need to know who will help him, but where they can access this help". This is in contrast to the second type of approach that can be found, where economic promotion is an integrated service of the district administration and other business support agencies are located in different locations. This approach might require more time and personnel to maintain communication and partnerships.

Experience from other OECD countries demonstrates positive results from locating advice and counselling services within business incubation facilities and technology and innovation centres. In some of the local case study areas, such facilities have been established with a wider regional outreach. They are able to initiate, develop and support clusters of technology-oriented companies and strengthen the local science industry base through networking amongst companies and research organisations that is not confined to administrative units. Such facilities also provide valuable feedback for policy design at *Land* and federal levels. Networking can be a significant factor contributing to the growth of small companies. For high-technology firms in particular, networking is a means of making up for risks and uncertainties in the development and exploitation of new products and processes. Across the local case study areas, there are good practice initiatives that stimulate networking among companies and research organisations not confined to administrative units. These initiatives are based on regional networks and continuous admittance of new actors, following the principle of trust, reciprocity and mutual advantages amongst partners. Experience from OECD member countries shows that clustering processes have often been initiated through the establishment of forums, platforms and regular meetings of firms and organisations related to a particular network of production in the local value chain. Such activities may be important in helping to develop sectors – such as healthcare and tourism – in which the locality has comparative advantages. Access to strategic information will often be an incentive to meet. Technology foresight studies and strategic cluster studies can be prepared locally, or with local input. Here, the role of *Regionalmanagements* could be revisited with regard to introducing cluster development and management as new objectives for their work.

Small businesses often face difficulties integrating into clusters, and/or production chains of large companies. In most of the local case study areas, business associations along with Chambers are active in establishing contacts and communication channels that local small firms can use to enhance their position in locally, regionally, or internationally based value chains. Often SMEs, and especially small firms, prepare themselves for firm growth through participation in public procurement. In all local case study areas, initiatives are on the way to ensure that public sector practices do not disadvantage small businesses. Local governments are improving their procurement processes to ensure that small businesses are better able to find out about, and bid for, public procurement opportunities. Special training seminars are being organised to address the potential disadvantages for small businesses that can occur due to a lack of awareness of available opportunities.

The local case studies in East Germany brought to light a number of policy recommendations that can be taken up when revising the current policy design and delivery framework of entrepreneurship and SME development policies and when developing a local strategy that allows addressing relevant policy issues in a comprehensive and integrated way. Despite their local provenance, the policy recommendations have a certain relevance for other localities in East Germany and elsewhere. Hence, the following list of recommendations should be considered and consulted as checklist for national and local governments and organisations active in developing and strengthening entrepreneurship and local economic development, operating locally and across different levels of government.

	Policy recommendations to improve the entrepreneurship policy delivery framework
☑	*Design a local entrepreneurship development strategy.* A clear and mutually agreed strategy for entrepreneurship aims to formalise the aspirations and co-operation of key partners locally. Such a strategy should be the product of public debate, deliberation and consensus building amongst relevant local institutions, as well as consultation amongst relevant communities, and seek to develop a comprehensive and integrated approach in enhancing entrepreneurial activity. Translated into an action plan clear priorities and roles for partners, timescales and resources can be defined. It might be also relevant to include a discussion about the role of the place in some wider region with a certain economic relevance, also beyond administrative borders.
☑	*Tailor policies to local and regional contexts.* A more proactive, future-orientated approach to entrepreneurship promotion, ways to increase policy co-ordination and local tailoring of policy and programmes should be fostered. Given the potential this creates for policy divergence and diversity, efforts will be required to maintain co-ordination and integration between different institutions working at different geographical levels.
☑	*Establish clear priorities.* An entrepreneurship development strategy, local institutional framework and a systematic approach to locally-oriented policy provide a means for identifying key priorities. A clear focus can help local institutions to be more discerning about the quality of entrepreneurship, potentially seeking to encourage and support those entrepreneurs and businesses with growth and sustainability potential. Priority policy areas can also be targeted at key needs and/or bottlenecks locally, for example developing micro-finance instruments together with local financial institutions to address the weak capital base of local SMEs, and extending current knowledge transfer activities to encourage innovation in SMEs.
☑	*Adopt and further expand the application of the policy cycle methodology.* Policy and programme development at all governance levels should be thought of as involving four linked stages – problem definition, design, delivery and evaluation. These stages underpin a potentially stronger and more systematic approach to entrepreneurship policy. Linking target and objective setting in different programmes and initiatives is further a key ingredient of building sound local development strategies. The introduction and further expansion of systematic evaluation efforts of programmes and initiatives is a valuable source of information that helps to integrate lessons learned and findings about framework conditions for delivery success in new programme and initiative development. A participatory evaluation of previous and on-going programmes and projects, involving major local and regional stakeholders, can help to create an inventory of experience made and helps to align different strategies and action plans.
☑	*Identify and segment categories of enterprises.* Growth companies can emerge from all sectors. Programmes of advice, support and funding should be tailored to the growth needs and growth prospects of different segments of companies. This process is about recognising new business plans and company features that can form the foundation for business expansion and lead to growth, and then identifying and segmenting the companies that display such features. It is crucial that transparent categorisation procedures and objectives following clear criteria are applied. A well functioning network of business support organisations and industry experts can be used to prepare and regularly update a detailed inventory of local companies, their growth intentions and orientations.
☑	*Expand technology support and activities.* SMEs in OECD countries, given cost structures and others, increasingly need to compete on technology or other added value features that give them competitive edge on international markets. The establishment and further development of external R&D services could help local SMEs to innovate. It might be that the Districts perceive themselves as too small to create by themselves the innovation support infrastructures necessary for SMEs. In this case, collaboration with neighbouring Districts or thematically related higher education institutions should be sought.

☑ *Foster institutional innovation. Institutional arrangements characterised by high levels of integration, co-operation and transparent co-ordination are likely to positively influence entrepreneurial development and firm growth.* It is important to strengthen and increase co-ordination and integration in functional policy areas. Inter-ministerial working groups can contribute to further flag entrepreneurship development as priority and foster integration and co-operation. This process would also contribute to the identification of hindering framework conditions that need to be addressed and to how procedures related to entrepreneurship development could be streamlined. At local level key local partners may benefit from more formalised joint working, for example using partnership and network models, which may also go beyond administrative borders.

☑ *Co-ordination and co-operation mechanisms to bundle local development efforts of existing networks.* Participation in policy and programme design could be increased by bringing together different networks. The establishment of a sounding board has proved to be a useful instrument to receive feedback on effectiveness and impact of entrepreneurship policies and measures. Further, effective co-ordination mechanisms and the existence of social capital can be market as a strong local development asset.

☑ *Keep existing networks open for new members.* The involvement of other actors should be sought in order to address new issues such as provision of apprenticeship places, business succession and rural tourism development. Existing local initiatives should also seek a stronger involvement of local governments and their agencies. This would help to further streamline procedures related to business registration and administrative matters depending from local authorities.

☑ *Increase international networking efforts.* Active involvement in international networks would help to contribute to the internationalisation of the local economy. It is important to expose leading local development actors to their peers in other jurisdictions and to establish working networks with the people involved. This could be tackled through active involvement in international networks of economic development practitioners such as the European Association of Development Agencies (EURADA), which is currently planning to launch a European network of universities and regions, the International Economic Development Council (IEDC) in the US, the European Business Angels Network, and the National Business Incubation Association as well as the activities of the OECD LEED Programme.

☑ *Increase private involvement in infrastructure development.* Whilst public subsidy and support may continue for enterprise promotion in East Germany for a long time to come, it is strongly recommended that private finance is introduced into the real estate component of the enterprise strategy as speedily as possible. In addressing future needs of companies for a greater diversity in quality and size of physical innovation infrastructure, private high-tech facility developers and managers should be consulted, at an increased level of current involvement, and potentially attracted to develop and operate space. For the future viability of these facilities it will be important to see the real estate as an asset capable of producing a commercial return, against which maybe also further funds could be secured. Successful firms will need to develop rapidly in the next years. Places must be ready for this otherwise there might be a risk that successful start-ups and existing firms will seek space and people elsewhere.

☑ *Discuss the establishment of an Enterprise Agency.* The establishment of an enterprise agency, which as a one-stop shop is familiar with the specialisations of local SMEs and that can build on long-standing formal and informal relationships with business support organisations and the local business community can help to increase efficiency and effectiveness of public support programmes, provide potential beneficiaries with information on existing programmes to increase science-industry linkages, and contribute to a further tailoring of policy interventions to local needs and streamline procedures. A successful agency would require the active support of local and regional stakeholders such as the Chambers, the larger private and public sector employers, including the hospital, and financial institutions whose services are key to small business development. Assembling such stakeholder support is likely to be a difficult task without a previous record of co-operative working. Therefore strong leadership from the local authority, with both a political and practical dimension, would be so important. Such an agency could be tasked with the development of the entrepreneurship strategy.

☑ *Adoption of a "Small Business Charter".* The adoption of a "Small Business Charter" seeks to introduce changes to the administration's internal arrangements which would directly support the local small business community. It is not about giving small firms preferential treatment or discriminating against larger enterprises. The process involves all the departments of the local government in evaluating current procedures in order to design a regime conducive to business not by bending the rules but by attempting as far as possible to make their procedures reflect the business needs of their small firm clients. Implementation also requires extensive internal consultation and training within the local authority to achieve commitment and increased understanding of how to meet small businesses needs. Strong political leadership is required to both introduce and maintain the effectiveness of a "Small Business Charter".

☑	*Make the existence of a "Small Business Charter" widely known.* To achieve most effect, the existence of the "Small Business Charter" needs to be made widely known. There may be involvement of representative business organisations in drawing up the terms of the Charter and reviewing its effectiveness periodically. Including a reference to the existence of such a Charter in international marketing efforts might increase the attractiveness of the borough as business location by highlighting the local administration's commitment to working effectively with small business.
☑	*Review procurement policies of the local authority in order to open up the possibility of more small firms tendering to supply goods and services.* The conditions which apply to eligibility to bid for local authority contracts often make it hard for small firms to qualify. Whilst the introduction of restrictions is for risk protection, experience in a number of jurisdictions has shown them to be unduly cautious whilst at the same time denying public policy a valuable tool in boosting the small business sector. Promotional activity is needed to bring the changes and opportunities to the attention of small businesses. Officers need to be trained to ensure that conditions and eligibility criteria allow small businesses to bid. Training can help in making small firms more capable in biding for contracts.

Box 12. Being inspired from good practice in enhancing effectiveness in policy delivery

Adoption of a "Small Business Charta": Examples from United Kingdom: Making local authorities business-friendly.

Enterprise Estonia: Joining efforts in supporting business development – Estonia.

Institutional architecture in delivering enterprise policy in North East England – United Kingdom.

Science and SMEs in North Jutland - Denmark: re-organising regional industrial policy and streamlining delivery.

A regional small business strategy, Ontario – Canada.

Harmonising Planning Instruments in Urban and Rural Development in Saxony – Germany: A single not formalised and flexible regional planning instrument.

Integrated Programme "Regional Growth" in Saxony – Germany: Maximising public support through an integrated approach, including technical and budgetary handling of interrelated programmes.

"Lotsendienste" in Brandenburg – Germany: First-stop shops in Brandenburg.

PART III

CONCLUSION AND OVERALL POLICY RECOMMENDATIONS

Part III concludes this report by summarising the key challenges identified for entrepreneurship and SME development in the East German regions. It gathers key recommendations on what public policy should do to facilitate the creation of more and better jobs and discusses how public policy should intervene, and which level of governance is most appropriate for the design, delivery and evaluation of policies, following the assumption investigated in this report that local tailoring of policies can make a difference in their effectiveness.

CONCLUSIONS AND OVERARCHING POLICY RECOMMENDATIONS

Andrea Hofer and Jonathan Potter, OECD

Two important features of entrepreneurship development in East Germany that have been discussed in this report can be seen through a simple East-West comparison. The first is that East Germany has a significantly lower entrepreneurial activity rate than West Germany whilst East German entrepreneurs are also more likely to start a business for necessity reasons, for example as an alternative to unemployment. The second is a more rapid growth in innovative sectors in East than in West Germany. There is therefore clearly a challenge to increase the rate of entrepreneurship in East Germany and to focus more on opportunity entrepreneurship, but also indications of the strong potential that exists in East Germany to host innovative activities.

However, there are also local variations in the challenges and opportunities for entrepreneurship and SME development across East German regions that cannot be detected in an East-West comparison but are nonetheless of major importance for policy. To pick up these issues, the work for this report started from the very local level by looking closely at local barriers and opportunities for entrepreneurship and SME development and the potential for new avenues of policy development in selected East German districts and cities. For each of the six themes covered in this report, sets of policy recommendations aimed at promoting new and effective policy approaches and initiatives have been developed, based on the evidence from local case studies, reviews of existing local, regional, national and international literature and scientific evidence and examination of good practice approaches in other countries. The format used in the preceding chapters and in the local diagnostic reports to set out these recommendations is that of a check-list that should enable policy makers at federal, land and local level to review current approaches and to devise new actions to strengthen entrepreneurship and SME development. It is here that the more detailed policy messages of this OECD project are to be found.

The question to put forward in concluding this exercise is: What, overall, can and should public policy do to facilitate an increased entrepreneurial activity rate and to stimulate the creation of more and better jobs in East Germany. In other words, here we are looking for the key overarching messages that will have a very wide resonance in the region. Clearly, there should be no either/or approach that directs policy intervention in exclusive directions, for example of either promoting large numbers of new starts or of supporting only high growth potential entrepreneurship. In most cases, what is required is not a choice between opposed alternatives but rather a shift in the balance of policy objectives and methods and it is the major shifts required that are discussed here. In the case of the choice between a focus on the numbers of starts or on their growth, for example, we must recognise the difference between two policy objectives – social and economic – and provide distinct support for each objective, while achieving an appropriate balance. The evidence of this report suggests, however, that rather more emphasis is required on growth than has been the case to date. In examining how policy can better promote entrepreneurship and SME development in East Germany a key subsequent question concerns the level of governance that is the most appropriate for the design, delivery and evaluation of policies. The assumption that has been investigated in this report, and which is

recognisable as a common thread throughout, is that local tailoring of policies can make a difference to their effectiveness but that better co-ordination is required to maximise the potential of this approach.

With this in mind, the following key conclusions can be drawn:

- The co-ordination of entrepreneurship and SME policies is not strong across different levels of government. Policy design and delivery reveal signs of fragmentation, caused mainly by the large number of actors involved and the absence of comprehensive, integrated and long-term regional and local strategies for entrepreneurship and SME development.

- There is a large body of SME support that is focused on the act of business start up and the support of existing SMEs rather than on the encouragement of innovation in these types of operation. There is a large body of micro, small and medium-sized enterprises that that need to modernise and diversify their activities to remain competitive and policy needs to encourage these firms to innovate. Furthermore there is strong potential to generate a core of high growth potential firms from some of the strongest Universities and research institutions in the region, but channels for research commercialisation and knowledge transfer need to be strengthened.

- The recent socio-economic legacy in East Germany has not been favourable to the emergence of an entrepreneurial culture. Whilst there are hotspots of entrepreneurialism in certain sectors and population groups, overall attitudes in society towards entrepreneurship are not conducive towards an entrepreneurial spirit. Certain policy initiatives have led the way but there is still much to be done to improve attitudes to entrepreneurship as a career option and hence to increase the pool of entrepreneurial people from which enterprise growth will emerge.

These three conclusions are translated below into overall policy recommendations.

Address the fragmentation in policy design and delivery

Entrepreneurship and SME development is a horizontal policy area involving several government departments and with an important local dimension. To make policy and government programmes more effective and efficient, a greater attention to institutional adaptation in the policy area of entrepreneurship is needed across ministerial boundaries. Increased policy co-ordination at federal and Land levels will also help to minimise co-ordination difficulties at the local level since different ministries and agencies at a higher level often set different priorities, objectives and targets which are then translated into overlapping strategies, measures and initiatives at the lower tier level. Such fragmentation implies the likelihood of duplication and inefficient use of resources.

The entrepreneurship policy mix should ideally reflect the local contexts and local needs to which policy is applied. Communication channels therefore need to be established, where hitherto inexistent, and strengthened between different levels of government. A greater involvement of Land ministries and agencies in existing local networks would offer opportunities to further tailor policies locally. A potential pitfall could be that greater involvement of higher tier institutions could be perceived by local actors as a limitation to their flexibility and creative thinking. Nevertheless regular communication could also help in ensuring that local actors have access to timely communication on government programmes and changing eligibility criteria and regulations in public funding as well as on approaches that are proving successful elsewhere. Such linkages and relationships could also provide valuable information to government and Land agency partners on what worked and what did not.

Another barrier to effective policy design and delivery is in East Germany is that the majority of initiatives to foster entrepreneurial activity in East Germany are driven 'top-down' from the Land level with varying degrees of local discretion and input, therefore limiting the amount of local tailoring that takes place. It is therefore recommended that systematic analyses of local needs and policy options with regard to entrepreneurship and SME development are introduced. The use of the policy cycle method at the local level should be encouraged, involving the conceptualisation of the policy development process in four linked stages: problem definition, design, delivery and evaluation. This is a forward-looking approach that may foster more proactive and creative policy actions at local level rather than reactions to occurring local economic changes and higher tier level initiatives.

Regional or local strategies for entrepreneurship and enterprise development are successfully used in other OECD regions and cities to support both policy co-ordination and local policy tailoring. Such strategies have a long-term orientation and in best practice cases include monitoring and evaluation arrangements at ex ante, ongoing and final stages, allowing for reorientation of the strategy where necessary. A regional or local strategy should ideally set out common objectives as well as actions to be undertaken by actors at different levels. In some cases, local agencies at district or municipality levels may wish to co-operate with their neighbours to create sufficient scale and integration for a combined local or regional strategy. Local or regional entrepreneurship strategies can also contribute to a greater involvement of private financing sources in economic and entrepreneurship development projects.

Foster business growth

A key choice that needs to be made in entrepreneurship and SME policy concerns the relative weight to place on supporting a large volume of people and enterprises or on supporting a smaller group of high potential enterprises. In East Germany there is very wide support for new start-ups and SMEs, although many of these firms do not export or innovate. As an economic development strategy this has major weaknesses, since it is a relatively small group of innovating and exporting, or 'entrepreneurial', businesses that generate job and income growth for local and regional economies. It is therefore recommended that the emphasis on overcoming barriers to the development of this group of potential growth firms and individuals should be increased in East Germany, including both new entrepreneurs and enterprises and existing firms interested in modernisation and diversification. The role for policy is to identify a small pool of potential innovators and growers and provide special support to this group to help overcome the particular constraints they encounter, for example in terms of management skills development, growth finance, finding partners in external markets, linking into an innovation support infrastructure, and accessing appropriate premises. A greater focus on tradable goods and services and increased internationalisation activity of SMEs should be fostered and supported by policy and the general shift in federal and Land policy towards innovation support and away from investment allowances should be maintained and encouraged.

There is also strong potential to develop innovative entrepreneurship around core science and technology strengths in East German universities and research establishments. There are nonetheless barriers to overcome in the lack of adaptation of existing university and research cultures and regulatory frameworks to the task of stimulating entrepreneurship. The avenues to follow are on the one hand facilitating the establishment of new spin-out ventures and on the other hand stimulating and enhancing technology and knowledge transfer from higher education institutions (HEI) to companies, particularly from the most capable university centres of excellence. A number of entrepreneurship programmes and initiatives to facilitate technology and knowledge transfer have been established in East Germany and participation in knowledge transfer activities and the number of spin-offs are increasing but there is further potential to exploit.

Build an entrepreneurial culture

There is a dominant employee culture in many aspects of East German life that encourages people to seek employment in established companies or the public sector rather than set up and run their own businesses. In addition, there is a low entrepreneurial activity rate, a high proportion of necessity entrepreneurship, negative opinions of East Germany as a place to start and run a business and out-migration of many talented people. Even where people do set up and run their own businesses, their activity is often motivated by a desire to avoid unemployment rather than to exploit perceived market opportunities and tends to be associated with relatively poor prospects for business growth and survival. A number of activities are therefore recommended for promoting entrepreneurial skills and motivations. These include promoting successful entrepreneur role modes, increasing awareness of entrepreneurial opportunities and establishing mentors for new and potential entrepreneurs.

A balance is clearly required between activities to support the emergence of entrepreneurial attitudes and skills in the population as a whole and activities that support start-ups and established small businesses. However, it is easy to focus too much on so-called 'hard' support for small and medium-sized enterprises (SMEs) such as finance, premises and training, and not enough on 'soft' support for encouraging the right skills and motivations. The latter activities should be reinforced. They focus on encouraging people to consider entrepreneurship as a valid career choice for themselves and people they know and to view entrepreneurship not just as running or working in a business but more as the pursuit of opportunities to profit from the development of new products and services, new markets and new ways of organising production.

Through an increase in soft support, policy will increasingly combine a more traditional 'SME policy' approach for new and existing businesses with a newer 'entrepreneurship policy' approach to increase the pool of enterprising people and future entrepreneurs, in line with best practice in other countries.

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