

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

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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 'Treuhändanstalt' (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'.

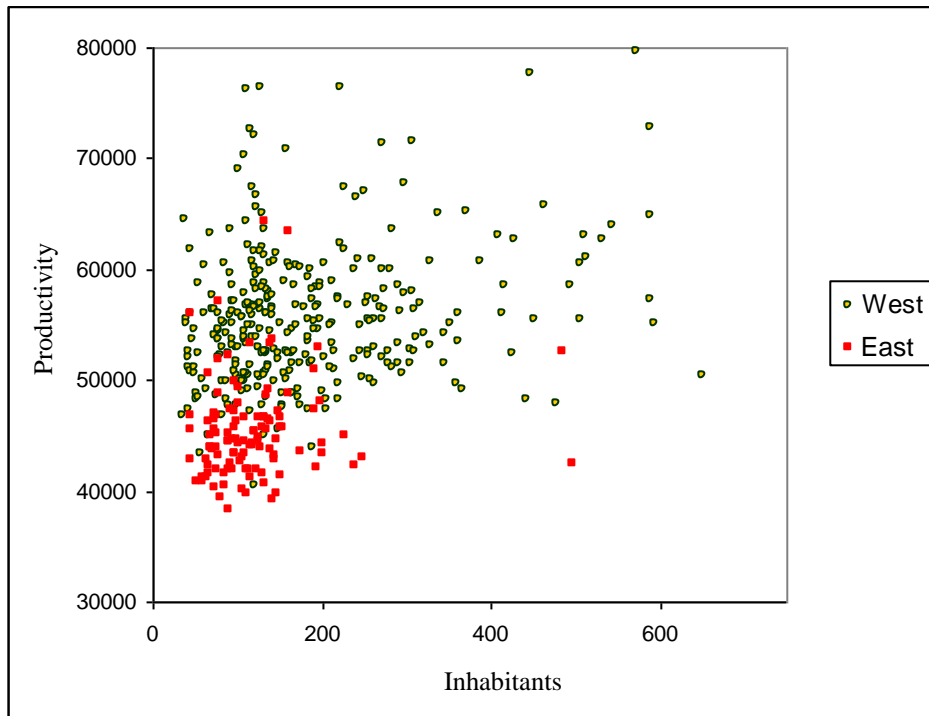
Regional differences in the Eastern German federal states

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

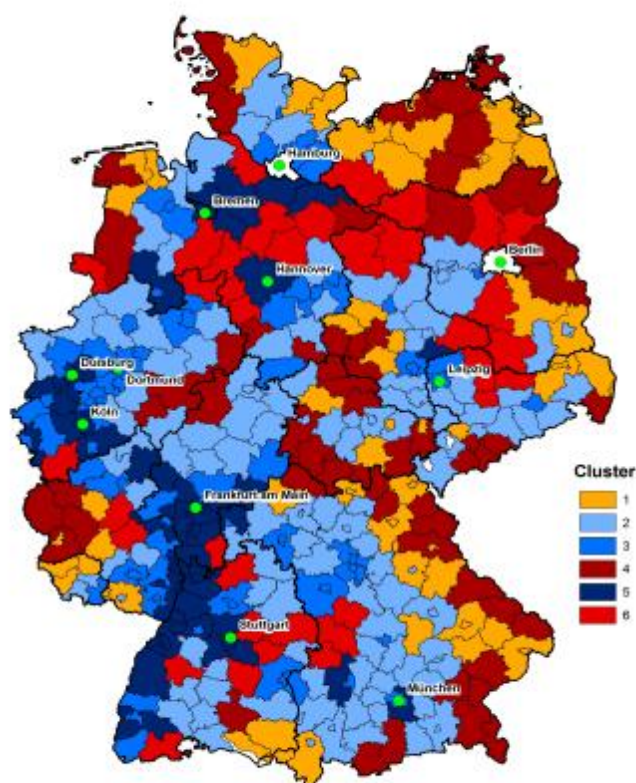
¹ See DIW/IAB/IfW/IWH/ZEW (2002).

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.

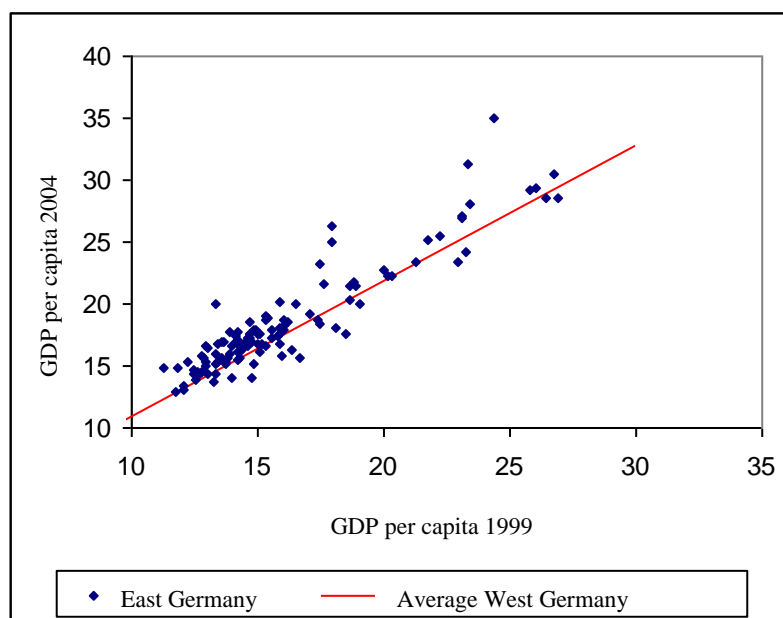
- Following unification, eastern Germany's industries shrank drastically. Though these industries have meanwhile embarked upon a dynamic path of growth, their share in the country's net domestic product generation is markedly smaller (19%) than in western Germany (24%). Furthermore, manufacturing industries 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.

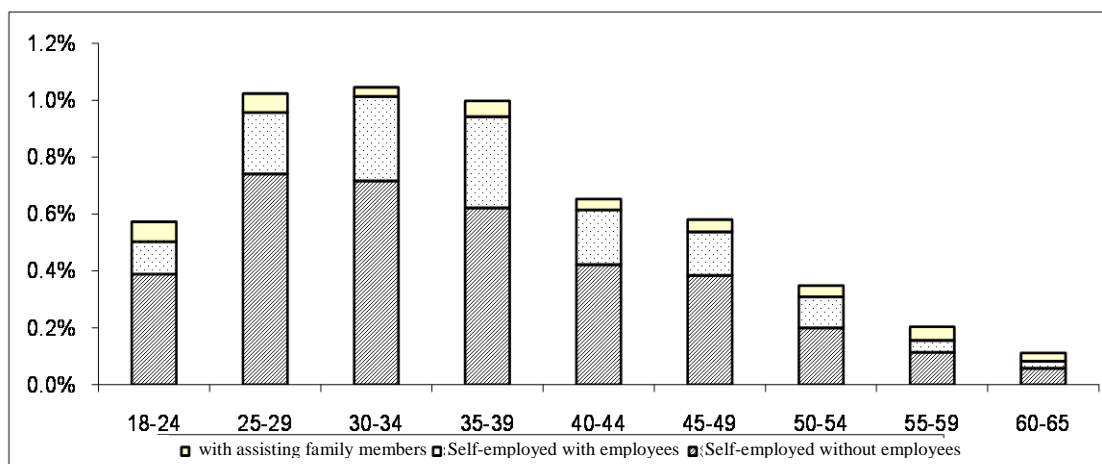
Consequences of demographic development on business start-up activities

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 rates of business foundation - grouped according to kind of self-employment



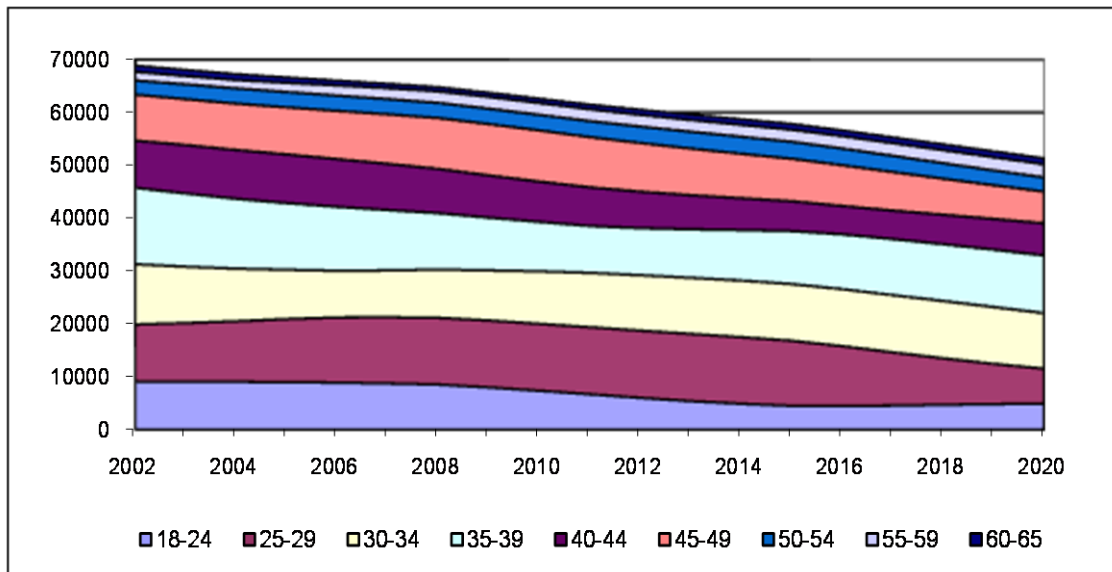
Source: Ragnitz et al. (2007)

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 foundations 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, accompanied 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 study⁸ 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.

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).

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

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,” Walburn 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 Verbesserung der Agrarstruktur 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

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.

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).

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 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.

¹¹ For more information see <http://www.existenzgruender.de/gruendungswerkstatt/index.php>.

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 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 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 (*Landesinvestitionsprogramme –*

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>.

¹³ Ibid.

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 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,

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).

¹⁵ Initiative Neue Soziale Marktwirtschaft.

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 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;

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).

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

- 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;¹⁹and,
- 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 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 *Länder* 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 "*Förderdschungel*" (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.

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

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 III²¹, ENABLE provided a good example of implementing overall EU objectives at the regional level. Four regions participated in the

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).

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 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 Alchemist,” 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 Alchemist” 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 entrepreneurial 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

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.

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-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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²³ Citation taken from http://www.jena.de/sixcms/detail.php?id=45141&_nav_id1=38869&_lang=de.

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