1 The role of new businesses in regional development: introduction and overview

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FORMATION OF NEW BUSINESSES, POLICY, AND REGIONAL GROWTH

Politicians expend a great deal of effort on attempting to reduce unemployment and stimulate economic growth. Policy programs specifically intended to create additional employment can be found at the regional, national, and supranational levels. Historically, such measures focused on the performance of large incumbent firms and more or less ignored the role that new businesses play in economic development. It was not until the late 1970s that policymakers became conscious of the important contributions that new businesses make to employment and growth. The last few decades have witnessed a considerable amount of empirical research on entrepreneurship, particularly on the formation and effects of new businesses, leading to substantial progress in this important field.

One important result of recent research is that the factors that influence entrepreneurship vary considerably between nations and, particularly, between regions. Entrepreneurship is a regional event. Region-specific characteristics influence not only the level of new business formation, but also the type of new business that is created, for example innovative, knowledge-intensive, or high-growth start-ups. Moreover, the effects of entrepreneurship on development can also vary between nations and regions. In fact, in some countries or regions, new business formation is accompanied by significant employment growth, while the effect on employment may be negligible or even negative in other countries or regions. Currently, this variation in the effect of certain types of entrepreneurship on economic development and the role of the spatial environment are not well understood.

OVERVIEW OF THE CONTRIBUTIONS

The contributions found in this book provide an overview of the current state of research into the role new business formation plays
in regional development. They survey the state of knowledge, present own results, provide interpretations, and suggest important avenues for further research. This chapter provides an overview of the contributions and their main results.

In Chapter 2, David B. Audretsch, Isabel Grilo, and A. Roy Thurik analyze the impact of ongoing globalization on the role of entrepreneurship and, in turn, entrepreneurship's role in regional development. Globalization has resulted in massive changes in the comparative advantages of countries and regions, one important result of which is the shift experienced by high-wage countries toward knowledge-intensive activity. In analyzing the reasons behind ongoing globalization, Audretsch et al. emphasize two developments. First, technological advancements in the field of information technology made many types of information ubiquitous and allowed high-quality telecommunication over long distances at decreasing costs. The second development the authors find important involves the political arena. In particular, the end of the Cold War and increased political stability of many countries made the spread of technological improvements feasible, resulting in a massive readjustment of the global division of labor.

Audretsch et al. particularly stress the increasing role of entrepreneurship in these developments, and see the process of global adjustment as a shift from a ‘managed economy’ to an ‘entrepreneurial economy’, a shift that is especially evident in many highly developed countries. The emergence of a more entrepreneurial society was supported, possibly in some cases even induced, by the development of small-scale technologies such as computer numerical controlled (CNC) machinery and the micro-computer, which led to a serious erosion of the cost advantages of large-scale production and allowed small firms to compete ever more successfully. The result was considerable corporate downsizing resulting in a shift in firm-size distribution toward small firms and the growing importance of new businesses. These developments had important consequences for the regional distribution of production and, especially, innovation activity. In particular, the importance of region-specific factors to the location and performance of economic activity has increased considerably, a trend often termed ‘glocalization’. While spatial proximity became largely unimportant for certain activities, it became of increasing importance to others. Audretsch et al. point out that in a knowledge economy, entrepreneurship can play a key role in regional competitiveness, particularly at the local level.

Rolf Sternberg deals with new business formation and its determinants at the regional level (Chapter 3). In the first part of his contribution, Sternberg surveys a number of regional factors that may explain
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Differences in start-up levels, with a particular focus on the role of new ventures in regional innovation systems. This pursuit leads him to look specifically at knowledge-based start-ups in technologically advanced and creative industries. In the second half of his contribution, Sternberg reports empirical evidence on how region-specific factors may influence the success of new businesses.

A key observation underscoring the importance of region-specific factors for new business formation is that start-up rates vary greatly across regions. That the level of new business formation and the respective interregional differences tend to be quite stable over time also demonstrates the importance of region-specific factors to entrepreneurship. Moreover, regional factors have a pronounced effect on an individual’s propensity to become a ‘nascent’ entrepreneur, that is, someone who is planning to found a new business. One particularly interesting finding in this respect is that regional entrepreneurship seems to be self-energizing: the probability of becoming a nascent entrepreneur is heavily influenced by the availability of role models, that is, the presence of other (nascent) entrepreneurs in the same region. Other important factors that have a significantly positive impact on the regional level of new business formation are a high education level of the regional workforce, a high proportion of small business employment, and high population density. Thus, relatively high start-up rates in agglomerations can be explained by these regions’ endowment with a high level of knowledge spillover which results from the amount and density of economic activity that takes place within them. The regional level of R&D also seems to have a positive impact on new business formation, especially in the case of innovative and knowledge-intensive start-ups.

Region-specific factors are important not only for the emergence of new businesses, but also to their success, as indicated, for example, by how long they survive. One finding common to the relevant empirical studies is that survival rates in high-density areas tend to be lower than in regions with lower population density, which may be due to higher intensity of intraregional competition. Sternberg’s survey shows that the empirical results for regional determinants of start-ups’ success are less clear than the empirical evidence for the regional determinants of their initiation. In summarizing the work in this field, Sternberg points to some important research gaps, especially the extent deficits in analyzing and understanding the effect of regional entrepreneurship policy.

Michael Fritsch reviews the results of empirical research on the effect of new business formation on regional employment, provides interpretations, draws some policy implications, and proposes a variety of avenues for further research (Chapter 4). Recent studies in this field have clearly
shown that the employment effects of new businesses are rather a minor part of their overall effect on economic development: the indirect effects that arise via newcomers’ competition with incumbent firms are far more important. Fritsch stresses that it is the interaction between the competitive challenge posed by the newcomers and the innovative response to it by incumbent firms that may lead to improved competitiveness and increasing regional employment. The range of such indirect effects varies considerably between regions, however. As a general trend, the effects of new business formation tend to be relatively pronounced in high-density areas and relatively weak in sparsely populated regions. Such interregional differences could be due to the intensity of competition on input and output markets and to the competitive pressure entries exert on incumbents. In this process, the quality of the new businesses plays a considerable role: the greater the competitive challenge, the stronger the reaction to it. There is some indication that large agglomerations have a relatively large share of high-quality start-ups, such as highly innovative or knowledge-intensive new businesses. This could to some degree explain the greater effects of new business formation in these regions.

The substantial role that the quality of entries plays in the competitive process with the incumbents implies that not all new businesses are of equal importance for job generation. Hence, simply maximizing the number of start-ups will not be an effective political strategy; rather, policy should be aimed at enhancing the quality of new businesses and ensuring that the market is working according to survival of the fittest. Fritsch concludes that if it turns out that more detailed studies confirm the supposition that only a small fraction of start-ups have a considerable effect on regional development, then analyses based on the overall start-up rate may be misleading because the share of new businesses that have a strong impact may vary considerably between regions. Therefore, it would be desirable to identify those characteristics of new businesses that induce a pronounced innovative response by incumbents, and then develop indicators for the formation of these types of start-ups. Such indicators would be valuable guidelines in designing regional entrepreneurship policy. Further avenues of research that Fritsch suggests concern investigating how market characteristics, regional conditions, and the institutional environment affect interaction between newcomers and incumbents. Research on these topics could result in substantial improvements to entrepreneurship policy aimed at stimulating regional growth.

In Chapter 5, Niels Bosma investigates the effect of different types of start-ups on labor productivity in regions of 17 European countries. He uses indicators for regional entrepreneurship that are based on information collected by the Global Entrepreneurship Monitor (GEM), an
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international project that inquires about entrepreneurial attitudes and activities in many countries of the world (for a description, see Reynolds et al., 2005). A main focus of his analysis is the role of urbanization economies in regional productivity, as previously investigated by Ciccone and Hall (1996) and Ciccone (2002). Based on a regional production function approach, Bosma asks what types of entrepreneurship, together with the spatial density of production activities, contribute to explaining regional productivity levels. Bosma shows high interregional variation in the levels of innovation-oriented entrepreneurial activity, as well as for high- and low-growth-oriented entrepreneurship. The levels of innovative and high-growth-oriented entrepreneurship are particularly high in regions with high labor productivity and a large share of the workforce with a tertiary degree. Interestingly, the rates for innovative and high-growth-oriented regional entrepreneurial activity are not significantly correlated with the measure for the overall level of regional new business formation. This underscores the necessity of developing indicators that are more focused on different types of entrepreneurship, particularly for those types of new businesses that have a significant impact on growth.

In his empirical analysis, Bosma first replicates Ciccone’s (2002) analysis, showing the significantly positive effect of population density and of the share of population with a tertiary degree on regional labor productivity. In a next step, he includes indicators for the different types of entrepreneurship. According to the estimated coefficients, high-growth-oriented entrepreneurial activity has the strongest positive effect on regional levels of labor productivity, followed by innovative, medium-growth, and low-growth entrepreneurship. Including high-growth entrepreneurship in the model leads to the effect of employment density becoming insignificant. Bosma concludes that ‘employment density alone may not give a sufficient picture of economic advantages to urbanization; regions also require entrepreneurs who can create employment opportunities’ (original italics). He shows that the impact of innovative and high-growth-oriented entrepreneurship on labor productivity is quite homogeneous across countries. However, there are also country-specific effects that may have an influence on these relationships.

Zoltan J. Acs presents evidence on fast-growing high-impact firms, often called ‘gazelles’, in the USA (Chapter 6). He defines high-impact firms as those that at least doubled their revenues over a four-year period and experience comparatively high employment growth. These high-impact firms comprised between 5.2 and 6.5 percent of all private sector firms in the United States during the 1994–2006 period. His investigation into the characteristics of high-impact firms reveals that such firms are a rather heterogeneous group. Surprisingly, and in contradiction of
a widespread prejudice, high-impact firms in the United States are not particularly young: only about 5.5 percent of the high-impact firms are four years old or younger. However, they are, on average, somewhat younger than the rest of the firm population. Moreover, there are both large and small high-impact firms: that is, size does not appear to be a limiting factor, in either direction. Acs shows that high-impact firms tend to have considerably higher labor productivity than the rest of the firm population. High-impact firms can be found in all industries, and are not especially concentrated in high-tech or knowledge-intensive industries. Although high-impact firms can be found in all types of regions, they tend to be located in or near city centers, but the difference between them and low-growth firms in this respect is small.

Most of the high-impact firms experienced a single period of extraordinary growth: the vast majority of the high-growth firms did not have exceptional growth rates in the years before the high-growth phase. However, a considerable number of the high-impact firms continued to enjoy substantial growth in the years subsequent to the high-growth phase. The analysis makes it clear that a high share of overall employment growth is generated by only a small number of firms. Since we cannot, and probably never will be able to, identify a high-impact firm as such before it enters its phase of extraordinary growth, it is not possible to predict the occurrence of such firms \textit{ex ante}.

The contribution by Magnus Henrekson and Dan Johansson (Chapter 7) is an investigation of the effect of certain regulations on the emergence and performance of new businesses. The authors take a comprehensive perspective of ‘structural transformation’, taking into consideration the fact that growth entails considerable churning and restructuring. In particular, fast-growing firms need to attract factors of production from other firms, causing contraction and exit. Hence, fast-growing firms are only one part of the process that is initiated by entrepreneurship, which Joseph Schumpeter (1934, 1942) called ‘creative destruction’. Henrekson and Johansson investigate how public provision, tax laws, social security regulation, and labor market regulation affect this process. In general, their findings lead them to argue for a lean government that leaves a great deal of room for private initiative and entrepreneurship. They argue that extensive labor market regulation will particularly hamper experimentation, reallocation of labor, and the emergence of high-growth firms that, by their very nature, need a large number of qualified workers. Labor market regulation, together with the social insurance system, may have a particularly negative impact on the decision to become an entrepreneur, thereby reducing the number of start-ups. After reviewing the effects of taxes on different types of firms, Henrekson and Johansson conclude that
many tax regulations put a higher burden on small and young businesses than on large and long-established firms. Since many of these effects are currently only partly understood, the authors call for more research into these issues, with the hoped-for end result being better-designed tax systems that do not unduly hinder the emergence and development of high-growth firms.

The contribution by Maryann P. Feldman, Lauren Lanahan, and Jennifer M. Miller (Chapter 8) deals with the inadvertent consequences for entrepreneurship of certain public regulations. The effects on innovative firms are given special attention, although, unlike Henrekson and Johansson, Feldman et al. do not focus on only one type of start-up. The regulations they cover are covenants to compete, health insurance, size-based employment regulation, and antitrust regulation in the context of R&D joint ventures. Based on a number of empirical studies on the effects of covenants to compete, they conclude that this type of regulation has a negative effect on entrepreneurship that is particularly pronounced when it comes to the development of innovative clusters and industries. Investigation of the inadvertent consequences of health insurance regulation, size-based exemptions from certain legislation, and antitrust regulations does not lead to comparably clear-cut results and recommendations; obviously, much depends on the specific details of these types of regulation. A great deal of research in this important field will be necessary before the effects of these regulations can be properly understood.

In the book’s final chapter (Chapter 9), Thomas Åstebro and Navid Bazzazian provide an extensive review of the role universities play in local economic development. They begin with the history of university-based entrepreneurship, review university patenting, and investigate the number of new businesses that are directly spun off from universities. Generally, the number of new businesses founded by university employees or by recent post-graduates is relatively small. These few businesses, however, are only a small fraction of the businesses founded by persons with tertiary education, because many of these founders accumulate some experience in dependent employment before starting a business of their own. Due to there being more students than faculty, more academic new ventures are founded by former students. Åstebro and Bazzazian investigate the reasons behind the wide variation between universities in spin-off rates and students’ propensity to start a firm later in the life course, with a specific focus on answering the question: what makes a university ‘entrepreneurial’? They find that a university’s (or that of one of its departments) ‘commercialization culture’ plays a prominent role. In their quest to discover the elements that make up such a culture and find out how entrepreneurship can be encouraged in both students and faculty, Åstebro and
Bazzazian focus on several universities (for example, the Massachusetts Institute of Technology in the United States; Halmstadt University and Chalmers University in Sweden) that have explicit strategies in this regard.

The empirical evidence reveals that many of the spin-offs founded by a university’s students or faculty are located near to their alma mater, even if the local environment lacks important resources. Academic institutions can be an extremely important source of innovative entrepreneurship that may, particularly in the longer run, boost economic growth in their home regions. The strength of this effect, however, varies considerably between universities and regions. Much can be done to enhance the effect that universities have on regional development. We know some ingredients of a recipe for success in this respect, but a number of others and how to process them still need to be discovered. Among the known ‘ingredients’, a university’s offer of entrepreneurship education is probably one of the most important. Technology transfer offices (TTOs) and incubators (science parks) may also make an important contribution, but much depends on how they are operated and what they offer.

CONCLUSIONS FOR POLICY

To summarize all the contributions this book makes to the field of entrepreneurship and economic growth, one can say that entrepreneurship in general and certain types of new businesses in particular may have a strong effect on regional development. The larger part of this effect is, however, rather indirect in nature and will take a relatively long time to manifest. Real-world examples, of which Silicon Valley is the most prominent, show that it may take several decades until the contribution of start-ups to regional development becomes fully evident. This process is characterized by a high degree of path-dependency: regional conditions have a considerable impact on the number and type of start-ups, as well as on their impact on growth. Although recent empirical research into the effects of new business formation on regional growth has made considerable progress, much remains to be discovered.

A number of recommendations for a growth-oriented entrepreneurship policy can be drawn from the current state of research. One general recommendation is to create favorable conditions for entrepreneurship, especially for innovative new businesses. Creating such an environment will involve at least three specific tasks. The first is to develop a knowledge base, which can be regarded as a necessary precondition for the emergence of innovative new firms. Since knowledge does not diffuse easily across space, knowledge bases are highly region specific. The second task is to
build framework conditions that are conducive to start-ups or at least do not work to their disadvantage. This includes all types of regulations, such as, among others, labor market and health regulation, and competition policy. It also means securing the availability of adequate finance for innovative new businesses, for example, through a sufficiently well-working venture capital (VC) market. The third of these tasks, which may be the most difficult to accomplish, is to create an entrepreneurial culture. Since entrepreneurial culture is to a large degree place specific, just like the relevant knowledge base, policy measures need to take these specific characteristics into account and operate, to a considerable degree, at a regional level.

Another general policy recommendation is not to interfere with the market selection process, for example, by subsidizing particular firms, be they new or incumbent businesses. The main reason behind this recommendation is that many of the effects of new businesses on regional development, indeed, probably the most important of these effects, require that the market work according to survival of the fittest and any disturbance of this process has the potential to inhibit, if not destroy, the growth-enhancing effects of entry. This caveat particularly pertains to a ‘pick the winner’ strategy of providing special assistance to high-growth firms. Clearly, our current knowledge does not allow us to distinguish \textit{ex ante} between those businesses that will make an important contribution to growth and those that will not. Although there is clear indication that such a contribution is more likely from innovative new businesses, even these innovative start-ups are a rather heterogeneous group and only a fraction of them will end up performing extraordinarily well (see particularly the contribution of Zoltan Acs to this book; Chapter 6). Hence, any attempt to ‘pick winners’ runs a high risk not only of wasting public resources but also of distorting market selection processes, thus reducing if not eliminating the positive effects of new business formation on growth.

The contributions to this book contain many suggestions for future research that have the potential to improve our knowledge about this very important field. This research may aid policymakers in designing appropriate and effective strategies.

REFERENCES

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