CAPÍTULO 1

THE ENTREPRENEUR AND STARTING UP NEW R&D&I BUSINESSES: INTRODUCTION

David B. Audretsch
Indiana University and Max Planck Institute (U.S.A.)
daudrets@indiana.edu

The role of entrepreneurship in society and has changed drastically over the last half century. During the post-war period the importance of entrepreneurship and business seemed to be fading away. While alarm was expressed that small business needed to be preserved and protected for the good of society, few made the case on the grounds of economic development. This position was drastically reversed in recent years. Entrepreneurship has become the engine of economic and social development throughout the world.

The widespread fear vis-à-vis the Soviet Union pervasive throughout the west at the end of the 1950s and early 1960s was not just that the Soviets might bury the West because they were the first into space with the launching of the Sputnik, but that the superior organization of industry facilitated by centralized planning was generating greater rates of growth in the Soviet Union. After all, the nations of Eastern Europe, and the Soviet Union in particular, had a "luxury" inherent in their systems of centralized planning – a concentration of economic assets on a scale beyond anything imaginable in the West, where the commitment to democracy seemingly imposed a concomitant commitment to economic decentralization.

Although there may have been considerable debate about what to do about the perceived Soviet threat some three decades ago, there was little doubt at that time that firm size mattered. And even more striking, when one reviews the literature of the day, there seemed to be near unanimity about the way in which industrial organization mattered. It is no doubt an irony of history that a remarkably similar version of the giantism embedded in Soviet doctrine, fueled by the writings of Marx and ultimately implemented by the iron fist of Stalin, was also prevalent throughout the West. This was the era of mass production when economies of scale seemed to be the decisive factor in dictating efficiency. This was the world the world so colorfully described by John Kenneth Galbraith in his theory of counterveiling power, in which the power of big business was held in check by big labor and by big government. This was the era of the man in the gray flannel suit and the organization man, when virtually every major social and economic

institution acted to reinforce the stability and predictability needed for mass production.

It became the task of a generation of scholars spanning a broad spectrum of academic fields and disciplines to sort out the issues involving this perceived trade-off between economic efficiency on the one hand and political and economic decentralization on the other. Scholars responded by producing a massive literature focusing on essentially three issues: (i)What are the gains to size and large-scale production? (ii) What are the economic welfare implications of having an oligopolistic market structure, i.e. is economic performance promoted or reduced in an industry with just a handful of large-scale firms? and (iii) Given the overwhelming evidence that large-scale production resulting in economic concentration is associated with increased efficiency, what are the public policy implications?

Not only was the large corporation thought to have superior productive efficiency, but it was also believed to be the engine of technological change and innovative activity. Schumpeter wrote in , "What we have got to accept is that the large-scale enterprise has come to be the most powerful engine of progress."

A fundamental characteristic of this literature was not only that it was obsessed with the oligopoly question but that it was essentially static in nature. There was considerable concern about what to do about the existing firms and industrial structure, but little attention was paid to where they came from and where they were going. Oliver Williamson's classic 1968 article "Economies as an Antitrust Defense: The Welfare Tradeoffs," became something of a final statement demonstrating what appeared to be an inevitable trade-off between the gains in productive efficiency that could be obtained through increased concentration and gains in terms of competition, and implicitly democracy, that could be achieved through decentralizing policies. But it did not seem possible to have both, certainly not in Williamson's completely static model.

The fundamental issue confronting western societies at that time was how to live with this apparent trade-off between concentration and efficiency on the one hand, and decentralization and democracy on the other. The public policy question of the day was, How can society reap the benefits of the large corporation in an oligopolistic setting while avoiding or at least minimizing the costs imposed by a concentration of economic power? The policy response was to constrain the freedom of firms to contract. Such policy restraints typically took the form of public ownership, regulation and competition policy or antitrust. At the time, considerable attention was devoted to what seemed like glaring differences in policy approaches to this apparent trade-off by different countries. France and Sweden resorted to government ownership of private business. Other countries, such as the Netherlands and Germany, tended to emphasize regulation. Still other countries, such as the Untied States, had a greater emphasis on antitrust. In fact, most countries relied upon elements of all three policy instruments. While the particular instrument may have varied across countries, they were, in fact, manifestations of a singular policy approach – how to restrict and restrain the

power of the large corporation. What may have been perceived as a disparate set of policies at the time appears in retrospect to comprise a remarkably singular policy approach – a managed economy.

Thus, in the traditional, managed economies of the post-war era, small firms and entrepreneurship were viewed as a luxury, perhaps needed by the west to ensure a decentralization of decision making, but in any case obtained only at a cost to efficiency.

When the Berlin Wall fell in 1989 many people expected even greater levels of economic well-being resulting from the dramatic reduction of the economic burden in the West that had been imposed by four decades of Cold War. Thus, the substantial unemployment and general economic stagnation during the subsequent eight years has come as a shock. Unemployment and stagnant growth are the twin economic problems confronting Europe and much of the OECD. The traditional comparative advantage in mature, technologically moderate industries such as metalworking, machine tools and automobile production had provided an engine for growth, high employment and economic stability throughout Western Europe for most of the Post-War economic period. This traditional comparative advantage has been lost in the high-cost countries of Europe and North America in the last decade for two reasons. The first has to do with globalisation, or the advent of competition from not just the emerging economies in Southeast Asia but also from the transforming economies of Central and Eastern Europe. The second factor has been the computer and telecommunications revolution. The new communications technologies have triggered a virtual spatial revolution in terms of the geography of production

Globalization has triggered a virtual spatial revolution in terms of the geography of production. The (marginal) cost of transforming information across geographic space has been rendered to virtually nothing. Many of the European and American firms that have successfully restructured resorted to the last two alternatives. Substituting capital and technology for labor, along with shifting production to lower-cost locations has resulted in waves of Corporate Downsizing throughout Europe and North America. At the same time, it has generally preserved the viability of many of the large corporations.

Globalisation has rendered the comparative advantage in traditional moderate technology industries incompatible with high wage levels. At the same time, the emerging comparative advantage that is compatible with high wage levels is based on innovative activity. The global demand for innovative products in knowledge-based industries is high and growing rapidly; yet the number of workers who can contribute to producing and commercializing new knowledge is limited to just a few areas in the world. Economic activity based on new knowledge generates higher wages and greater employment opportunities reflecting the exploding demand for new and improved products and services. There are many indicators reflecting the shift in the comparative advantage of the high-wage countries towards an increased importance of innovative activity.

There are two fundamental characteristics of knowledge that differentiate from the traditional factors of production in the traditional economy. The first is that

knowledge has increased the importance of geographic proximity. The second, is that the greater degree of uncertainty, asymmetries and transactions cost lead to an increased role of entrepreneurial activity. Systematic empirical evidence point to a marked shift across OECD countries towards a greater role played by small entrepreneurial firms.

As illustrated by the title page of The Economist proclaiming The Death of Distance, the claim that geographic location is important to the process linking knowledge spillovers to innovative activity in a world of E-mail, fax machines and cyberspace may seem surprising and even paradoxical. The resolution to the paradox posed by the localisation of knowledge spillovers in an era where the telecommunications revolution has drastically reduced the cost of communication lies in a distinction between knowledge and information. Information, such as the price of gold on the New York Stock Exchange, or the value of the Yen in London, can be easily codified and has a singular meaning and interpretation. By contrast, knowledge is vague, difficult to codify and often only serendipitously recognised. While the marginal cost of transmitting information across geographic space has been rendered invariant by the telecommunications revolution, the marginal cost of transmitting knowledge, and especially tacit knowledge, rises with distance. Geographic proximity matters in transmitting knowledge, because as Kenneth Arrow pointed out some three decades ago, such tacit knowledge is inherently non-rival in nature, and knowledge developed for any particular application can easily spill over and have economic value in very different applications.

The consistent empirical evidence that supports the notion knowledge spills over for third-party use from university research laboratories as well as industry R&D laboratories. This empirical evidence suggests that location and proximity clearly matter in exploiting knowledge spillovers. Systematic research has found that the propensity of innovative activity to cluster geographically tends to be greater in industries where new economic knowledge plays a more important role.

Globalization is shifting the comparative advantage in the OECD countries away from being based on traditional inputs of production, such as land, labor and capital, towards knowledge. As the comparative advantage has become increasingly based on new knowledge, public policy has responded in two fundamental ways. The first has been to shift the policy focus away from the traditional triad of policy instruments essentially constraining the freedom of firms to contract – regulation, competition policy in Europe or antitrust in the U.S., and public ownership of business. The policy approach of constraint was sensible as long as the major issue was how to restrain large corporations in possession of considerable market power. That this policy is less relevant in a global economy is reflected by the waves of deregulation and privatisation throughout the OECD. Instead, a new policy approach is emerging which focuses on enabling the creation and commercialisation of knowledge. Examples of such policies include encouraging R&D, venture capital and new-firm startups.

Probably the greatest and most salient shift in SME policy over the last fifteen years has been a shift from trying to preserve SMEs that are confronted with a cost disadvantage due to size inherent scale disadvantages, towards promoting the

startup and viability of small entrepreneurial firms involved in the commercialization of knowledge, or knowledge-based SMEs. While traditional theories suggest that entrepreneurship will retard economic growth, new theories suggest exactly the opposite – that entrepreneurship will stimulate and generate growth. The reason for these theoretical discrepancies lies in the context of the underlying theory. In the traditional theory, new knowledge plays no role; rather, static efficiency, determined largely by the ability to exhaust scale economies dictates growth. By contrast, the new theories are dynamic in nature and emphasize the role that knowledge plays. Because knowledge is inherently uncertain, asymmetric and associated with high costs of transactions, divergences emerge concerning the expected value of new ideas. Economic agents therefore have an incentive to leave an incumbent firm and start a new firm in an attempt to commercialize the perceived value of their knowledge. Entrepreneurship is the vehicle by which (the most radical) new ideas are sometimes implemented.

While this policy emphasis on small and new firms as engines of growth and competitiveness may seem startling after decades at looking to the corporate giants to bestow efficiency, it is anything but new. Before the United States was even half a century old, Alexis de Tocqueville, in 1835, reported, "What astonishes me in the United States is not so much the marvellous grandeur of some undertakings as the innumerable multitude of small ones."