

Industrial and Corporate Change, forthcoming.

Entrepreneurship: A Weak Link in the Welfare State?

by

Magnus Henrekson*

March 11, 2005

Abstract: Entrepreneurship is largely ignored or treated in a highly simplified way in endogenous growth theory. Still, it is now widely recognized that the supply of entrepreneurial talent is likely to be important for economic growth, innovation and job creation. This study consists of an in-depth examination of how the supply of productive entrepreneurship is likely to be affected by the kind of tax and welfare arrangements that may prevail in a mature welfare state. Sweden, allegedly the most extensive of all welfare states, is the object of the empirical analysis. It is shown how key welfare state institutions tend to reduce economic incentives both for opportunity-based and necessity entrepreneurship. Both aggregate economic performance and data on firm growth and direct measures of entrepreneurial activity are broadly consistent with the identified structure of payoffs. A number of measures can be implemented to strengthen entrepreneurial incentives within extensive welfare states, but the fact still remains that an entrepreneurial culture and a welfare state are very remotely related. As a result, the respective cultures are unlikely to be promoted by a similar set of institutions.

JEL Classification: M13; J20; H30; O12.

Keywords: Economic growth; Entrepreneurship; Innovation; Swedish model; Welfare state.

Department of Economics
Stockholm School of Economics
Box 6501
SE-113 83 Stockholm
SWEDEN
Phone: +46-8-736 92 02
Fax: +46-8-31 32 07
e-mail: Magnus.Henrekson@hhs.se
Homepage: www.hhs.se/personal/henrekson

* The author gratefully acknowledges financial support from the Jan Wallander and Tom Hedelius Research Foundation. The paper has also benefited from useful comments and suggestions from Niclas Berggren, Fredrik Bergström, Dan Johansson, Jesper Roine and Johan Stennek, and from value input by participants at the 7th annual conference of the International Society for New Institutional Economics in Budapest, September 2003, and from participants at seminars at the Research Institute of Industrial Economics, the Stockholm School of Economics and Uppsala University.

1. Introduction

In general, studies of the impact on economic performance of a large welfare state find that the overall effect of public programs is to give rise to harmful economic disincentive effects (Agell 1996). Still, the conventional wisdom, based on the traditional Solow model, has been that such studies cannot be used to draw conclusions about consequences for economic growth. In contrast, the rapidly expanding literature on endogenous growth highlights the fact that if productivity is to increase year after year, the economy must continuously provide the workforce with more “tools“, i.e., reproducible capital including physical capital, human capital and knowledge capital (technology) – see, e.g., Lucas (1988) or Romer (1990). Thus, growth is driven by accumulation, but accumulation is the result of *deliberate* investment by private, profit-motivated firms and individuals. Public expenditures and taxation that deter such investments by creating marginal tax and benefit wedges, or that reduce incentives to save and accumulate capital in other ways, reduce growth in these models.¹

At the same time it is well known that there has been little room for the entrepreneurial element in theoretical mainstream economics (Baumol 1993a; Kirchoff 1994; Kirzner 1997). A major reason for this disregard of the entrepreneur is that he or she largely eludes analytical tractability – although there have been several attempts in recent years to include entrepreneurship in growth models, see, e.g., Segerstrom, Anant and Dinopoulos (1990), Aghion and Howitt (1992), Helpman (1992) and Acemoglu, Aghion and Zilibotti (2003).² However, entrepreneurship is invariably defined narrowly and it cannot be said to capture the wide-ranging and complex functions suggested outside mainstream economics (see, e.g., Glancey and McQuaid 2000 and Swedberg 2000).

The purpose of this paper is to examine, in an exploratory fashion, how the supply of entrepreneurship – and to a lesser extent its distribution across activities – is likely to be affected by the kind of tax and welfare arrangements that prevail in a typical mature welfare state. The focus is on the incentive structure in a broad sense and throughout the paper the conditions in Sweden will be analyzed. Given that Sweden probably has the most extensive welfare state of all countries (Lindbeck 1997), the country offers a “laboratory” or testing

¹ There is now a small literature trying to assess whether any negative growth effect from a large public sector can be detected in the data. This issue cannot be said to be settled in the literature; for instance, Fölster and Henrekson (2001) find strong negative effects, while Agell, Lindh and Ohlsson (1997) and Slemrod (1995) are more skeptical in their reviews of the evidence.

ground for such an examination. The analysis is greatly inspired by Baumol's (1990) study, but since "the structure of payoffs" for entrepreneurship is examined for a modern welfare state, both the institutional analysis and the relative performance measures are much more precise than in Baumol's broad historical comparisons. The current paper focuses on a single country. Hence, similar studies are needed for other national settings in order to find out the degree to which the findings in this paper have general validity.

The paper is organized as follows. In section 2 entrepreneurship is defined more precisely and some useful distinctions are made. I also discuss why entrepreneurship is likely to be important for economic development in a modern economy. In section 3 the modern welfare state is characterized in general, and more specifically its implementation in Sweden is outlined as regards those aspects that are relevant from an entrepreneurial perspective. Section 4 analyzes at some length the various welfare state institutions that influence the incentives for entrepreneurial effort. But is the empirical evidence regarding entrepreneurial activity in Sweden consistent with what may be predicted from the incentive structure? Some empirical evidence on this issue is presented in section 5. Section 6 concludes.

2. Entrepreneurship and Economic Growth: Can They Be Linked Together?

The entrepreneur and entrepreneurship are elusive entities. In the literature one can find at least 13 distinct themes developed around these concepts (Hébert and Link 1989). The most influential view is probably the one proposed by Schumpeter (1934, 1942), who saw the entrepreneur as somebody who caused disequilibrium by introducing new technologies ("creative destruction"). Kirzner (1973), on the other hand, emphasizes the role of pushing the economy back towards equilibrium by exploiting previously unperceived opportunities to reach the production possibility frontier. A third influential view was originally proposed by Knight (1921), who sees entrepreneurs as agents who receive a rate of return for bearing genuine uncertainty, i.e., noncalculable risk.

In the context of this paper these subtleties are of less importance, and to capture the most important mechanisms I use the following definition (see Wennekers and Thurik 1999):
Entrepreneurship is the ability and willingness of individuals, both on their own and within

² Bianchi and Henrekson (2005) provide a systematic overview and evaluation of these modelling attempts.

organizations to: (i) perceive and create new economic opportunities; (ii) introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions; and (iii) compete with others for a share of that market.

Thus, in order for an activity to be defined as entrepreneurial it needs to be novel at least in some sense, but whether it is novel because it applies new knowledge or uses existing knowledge in new ways does not matter. But there must also be an ambition to grow. As a result, one cannot define entrepreneurship as self-employment or firm formation *per se*. A person may be entrepreneurial both in his/her role as business owner/self-employed or as an employee (intrapreneur).

But what empirical evidence is there supporting the hypothesis that entrepreneurship is important for economic development? It is easy to point out several institutional studies that broadly deal with the grand issue of why some countries, such as the UK of the late 18th century, had the requisite institutional set-up to allow a long-term growth process to start. Or analogously: why other technologically advanced countries, such as China under the Ming Dynasty, did not embark on a similar growth path. Three of the most influential studies in this tradition are North and Thomas (1973), Rosenberg and Birdzell (1986) and Mokyr (1990). The most important proposition in these studies is that a necessary condition for a long-term take-off is that property rights are well defined *ex ante*.

Baumol (1990) and Murphy, Shleifer and Vishny (1991) specifically deal with the effect of institutions/the social payoff structure on the distribution of entrepreneurship between productive and unproductive/destructive activities. Baumol assumes that the supply of entrepreneurship, i.e., the application of entrepreneurial talent, is roughly a constant, while its distribution between productive and unproductive activities is affected by the social payoff structure. This assumption is unnecessarily restrictive; there are *a priori* reasons to assume that the incentive structure will affect both the total supply of entrepreneurial talent and its distribution across activities that are more or less socially productive.

Baumol's broad historical analysis makes clear that the factors that "forge the structure of payoffs" for entrepreneurship are many-faceted, but it is also obvious that the incentive

structure cannot be characterized in much detail using this historical method. This is of course easier if one chooses to study contemporary institutional contexts.

By the 1930s the idea that economic development from then on would be possible without the entrepreneurial function had gained strength. In particular, Schumpeter argued forcibly in favor of this view in his 1942 classic *Capitalism, Socialism and Democracy*, where he claimed that by means of modern techniques and modern modes of organization, the innovation process would become increasingly automated. Innovations would no longer be associated with the efforts and brilliance of an individual.

The notion that large-scale production and a social order with strong collectivist elements would promote economic development had many advocates at the time. In particular, Galbraith (1956, 1967) provided an important rationale for economic policy oriented towards large corporations. He argued that in a modern industrial society, innovative activity as well as improvements in current products and production processes could be carried out most efficiently within the realm of the large industrial corporation. Individual efforts, and hence individual incentives, would dwindle in importance, and small firms and entrepreneurs came to be seen as marginal elements in the process of economic development.

The long period during which large firms had predominated and small firms had been increasingly marginalized came to an end in the 1970s. Entrepreneurship and small firms experienced a global resurgence (Brock and Evans 1986; Loveman and Sengenberger 1991). Several reasons why this occurred have been suggested:

- (i) Technological change in recent decades has resulted in large reductions in transaction costs in the market, fostering to increased specialization across firms and sharper focus on each firm's core activity. Outsourcing and corporate downsizing are concrete manifestations of this change (Carlsson 1999; Piore and Sabel 1984). Hence, the Coasian demarcation line between hierarchy and market (Coase 1937) has shifted towards a greater use of markets.
- (ii) Since the 1960s, there has been a sizeable shift away from industries characterized by large firms (manufacturing, extraction, construction) towards service industries where firms and establishments tend to be smaller (see, e.g., Davis, Haltiwanger and Schuh 1996).
- (iii) In tandem with increased incomes, consumers have come to demand more differentiated products rather than standardized products suitable for large-scale production and distribution (Piore and Sabel 1984; Carree and Thurik 1999).

- (iv) In many cases, large, mature firms cannot introduce genuinely new products and production methods efficiently. In the long run, radically new technology is required to sustain a high growth rate, since firms in other countries at lower income levels will sooner or later imitate current technologies. Large firms often excel in increasing productivity in the manufacture of existing products, while totally new products are often produced more efficiently in newly established firms, which have been started with the purpose of producing these very products (Baldwin and Johnson 1999; Audretsch 1995).
- (v) Small entrepreneurial firms can often act as crucial *agents of change*. Such firms are motivated to grow and, hence, they are likely to play a particularly important role in the growth process (Audretsch 1995).
- (vi) The small-business sector can function as an inexpensive mechanism for identifying and developing entrepreneurial and managerial talent (Lucas 1978).

The first three mechanisms contribute to an increased tendency for more goods and services to be produced more efficiently in smaller firms and establishments – for structural as well as technological reasons. The last three mechanisms are more dynamic.

3. The Mature Welfare State

In line with Lindbeck (1988) the term "welfare state" is reserved for the array of publicly financed provision or subsidization of personal services, notably for health, education, child care and care of the elderly, and for social-security systems, transfers and subsidies. The welfare state may of course be defined more broadly by including a number of nonbudget or regulatory measures such as price and rent controls and regulations of labor and capital markets, where these measures are intended to benefit particular groups or activities that are considered to be in need of extra support or protection.

The expansion of the welfare state was a salient feature of almost all industrialized countries, in particular during the 1960s and 1970s (Castles 1998; Beck 1981). This tendency was most pronounced in Sweden. In 1960 Sweden was not an exceptional case; the relative size of the public sector was only marginally above the OECD average.³ But over the following quarter of a century this situation changed dramatically, and since the late 1960s Sweden has had the largest public sector measured as a share of GDP in the OECD, in particular government consumption as a share of GDP became very high by the 1980s (close to 30 percent of GDP),

³ Going back to 1950 the ratio of total public expenditure to GDP was among the lowest of all industrial countries at roughly 26 percent, the same level as Switzerland and the United States.

which resulted in a very large share of public employment; public sector employment has constituted approximately one third of total employment since about 1980. Total government expenditures as a share of GDP were almost 25 percentage points above the OECD average by the early 1980s. During the latter half of the 1980s the difference diminished somewhat on the expenditure side, but measured from the income side, the public sector remained at a level that was more than 20 percentage points larger as a share of GDP than the OECD average. In the early 1990s the expenditure ratio exploded, largely reflecting the abysmal downturn of the economy. During the latter half of the 1990s the government spending share decreased substantially as a combined effect of austerity measures and the rebound after the crisis of the early 1990s. Still, in the first years of the 21st century, the public sector was almost 50 percent larger than the OECD average.

The Swedish welfare state is so large because ambitions are high both regarding social insurance and public service production. The welfare state cares for its citizens from “cradle to grave” through a large number of schemes (parental leave, child care, medical and dental care, sickness cash benefits, disability pensions, unemployment benefits and public pensions). Income-related, as opposed to flat rate, programs are the rule, which makes the programs costly, and furthermore a number of measures have been introduced over the years that have raised the lower threshold for disposable income. See Forslund (1997) and Aronsson and Walker (1997) for an overview of the programs. The consensus view is that the Swedish welfare state has been successful in a number of ways, notably in eliminating poverty and equalizing income, wealth, hours of work and consumption in virtually every respect (over the life cycle, across individuals, across households) (Freeman *et al.* 1997; Forslund 1997; Lindbeck 1997).

Increasingly, economists recognized the disincentive effects created by a welfare state as extensive as the Swedish one, and these effects were found to be multidimensional, affecting both the choice of work, quantity of market work, intensity of work, investment in human and physical capital, and a host of other dimensions. By the 1990s there were also studies that showed that the overall effect of the welfare systems made it unprofitable to work at all for substantial groups in society – see, e.g., Ds 1994:81 and Ds 1997:73.⁴ It is impossible to give a short summary of the numerous studies, but it is fair to say that overall, economists have

⁴ According to one influential welfare state scholar, Gøsta Esping-Andersen (1990), this is in line with the ultimate aim of the Nordic welfare state model, namely, to achieve “the decommodification of labor”.

emphasized the accumulated disincentive effects of regulations in the capital, product and labor markets and how these have interacted with the disincentive effects emanating from high marginal effects caused by the tax and transfer systems (Agell 1996; Lindbeck 1997). However, surprisingly little attention has been given to the incentive effects of welfare state arrangements on the supply of entrepreneurial effort and its distribution across activities.

4. Welfare State Institutions and Entrepreneurial Incentives

The architects behind the build-up of the welfare state scarcely considered that it would have detrimental effects on the entrepreneurial function. And even if it did, that would give little cause for concern since, as noted in section 2, the dominant view at the time was that the entrepreneur was waning in importance. Thus, the notion that large-scale production and a social order with strong collectivist elements were conducive to economic development had considerable appeal at the time. Key elements of the Swedish model are in line with this vision: The large corporations and the public sector as engines of economic development, the perceived unimportance of individual incentives for entrepreneurship, effort and human capital investment, and the claim that not just large-scale production but also innovative activity and renewal could be subordinated to Fordist organizational principles.

By the late 1960s it was clear that the ruling party, the Social Democrats, considered small firms and individual entrepreneurs as marginal elements in the process of economic development, and in due course such phenomena were expected to be totally anachronistic (Henrekson and Jakobsson 2001). Johansson and Magnusson (1998) describe how a vision of "capitalism without capitalists" developed. They claim that this vision is crucial, because it constitutes

...the link uniting collectivism and market dynamics. As a result, capitalism can be salvaged – without requiring powerful owners or capitalists. Redistribution of income can co-exist with high profits in the most dynamic firms (p. 121).

In the remainder of this section I will explore how a number of institutions of the Swedish welfare state affect incentives for entrepreneurship.

4.1 Taxation of entrepreneurial income

Income emanating from successful entrepreneurial activity is often capitalized in the form of ownership of equity that appreciates in value. However, over time the Swedish tax code evolved in a way that was highly congruent with a vision of a market economy without individual capitalists and entrepreneurs. This is clear from *Table 1* where effective marginal tax rates for different combinations of owners and sources of finance are presented for selected years from 1980 until 2001. Three categories of owners and sources of finance are identified, and the effective marginal tax rate is calculated assuming a pre-tax real rate of return of 10 percent. A negative number means that the real rate of return is greater after tax than before tax.⁵

The table highlights three important aspects of the Swedish tax system (for further details and additional years, see Davis and Henrekson 1997). First, by 1980 debt financing consistently received an extremely favorable tax treatment relative to new share issues. Second, the taxation of households as owners is much higher than for other categories, and their rate of taxation started to increase sharply in the 1960s, whereas the reverse occurred for insurance companies and tax-exempt institutions.⁶ From some point in the 1960s until the 1991 tax reform, more than 100 percent of the real rate of return was taxed away for a household buying a newly issued share. Third, tax-exempt institutions benefit from a large tax advantage relative to the other two categories of owners, and this advantage increased strongly during the 1960s and 1970s.

Households owning a successful business typically faced an even higher tax rate because of the combined effect of wealth and income taxation. Until 1992, wealth tax was levied on 30 percent of the net worth of a family-owned company. As of the mid-1980s, the maximum wealth tax rate was 3 percent. Since the wealth tax was not deductible at the company level, funds required to pay the wealth tax were first subject to the personal income tax and the mandatory payroll tax. From around the mid 1960s until the late 1980s the taxation of

⁵ The effective real tax rates presented in *Table 2* result from a complex interaction of a vast array of different tax rates, accounting and valuation rates, asymmetric effects of inflation etc. This is described in depth in Södersten (1984, 1993).

⁶ Tax-exempt institutions by definition pay no tax on interest receipts, dividends or capital gains. This category includes charities, scientific and cultural foundations, foundations for employee recreation set up by companies, pension funds for supplementary occupational pension schemes, and the National Pension Fund (now seven funds). In terms of industry ownership and control, tax-exempt institutions have a dominant position in Sweden.

individually owned firms that could not work with extreme debt-equity ratios was so high that it could be seen as confiscatory in real terms (see Södersten 1984). This spurred the formation of a number of so-called bank-connected investment companies that acquired a large share of the medium-sized family-owned businesses (Petersson 2001).

This makes clear the extraordinary extent to which the Swedish tax system favored, and still favors, institutional ownership and discouraged direct household ownership of firms, which is a prerequisite for entrepreneurial firms, at least in the early phase of their life cycle.

Table 1 Effective Marginal Tax Rates for Different Combinations of Owners and Sources of Finance, 1980, 1991 and 2001 (10% real pre-tax rate of return at actual inflation rates).

	Debt	New share issues	Retained earnings
<i>1980</i>			
Households	58.2	136.6	51.9
Tax exempt institutions	-83.4	-11.6	11.2
Insurance companies	-54.9	38.4	28.7
<i>1991</i>			
Households	31.3	62.0	54.6
Tax exempt institutions	-10.0	7.3	20.4
Insurance companies	14.0	33.5	32.0
<i>2001</i>			
Households	29.7/24.7†	61.0/51.0†	44.1/34.1†
Tax exempt institutions	-1.4	23.6	23.6
Insurance companies	19.6	47.2	44.7

†Excluding wealth tax; the wealth tax on unlisted shares was abolished in 1992.

Notes: All calculations are based on the actual asset composition in manufacturing. The following inflation rates were used: 1980: 9.4%, 1991: 5%, 1994: 3%, 2001: 3%. These calculations conform to the general framework developed in King and Fullerton (1984). The average holding period is assumed to be 10 years.

Source: Calculations provided by Jan Södersten; see Södersten (1984, 1993).

In order to analyze how the tax system impacts on entrepreneurial behavior it is not sufficient to focus on the taxation of owners of firms. To a large extent the return on entrepreneurial effort is taxed as wage income. First, a large part of income accruing from closely held companies has to be paid out as wage income, since there are severe restrictions on the room for dividends even if the firm is profitable, and the capital gains tax is normally 43 percent for small closely held firms instead of the regular 30 percent, since half of the capital gain is

taxed as wage income. Second, a great deal of the entrepreneurial function is carried out by employees without an ownership stake in the firm, and the total marginal tax wedge for high income earners has been high in Sweden throughout the postwar period. Defining the total marginal tax wedge as all taxes paid as a percentage of total labor compensation paid by the employer, the marginal tax wedge for an average wage of an executive (just below the CEO level) went from 50 percent in 1952 to a peak of 91 percent in 1979, while the marginal tax wedge for the average white-collar worker peaked at 85 percent. The comprehensive tax reform in 1991 simplified and lowered the income tax schedule, but as a result of increased local and consumption taxes the total tax wedge was still 75 percent in the late 1990s for executives and the average white-collar worker alike (Du Rietz 1994; Nordling and Damsgaard 1998). In the early 2000s local taxes have continued to increase while some consumption taxes and property taxes have been lowered. In 2005 the overall tax wedge is still on the order of 75 percent for these groups.

Furthermore, the use of stock options to encourage and reward entrepreneurial behavior among employees is highly penalized by the tax system, since gains on options are taxed as wage income when the stock options are tied to employment in the firm. Thus, they are subjected both to mandatory social security (33 percent) and the marginal tax rate. Since the marginal tax rate is roughly 57 percent this entails a total tax rate of roughly 68 percent (2002).⁷ In practice, stock options can therefore not be used as a means to reward entrepreneurial behavior among wealth-constrained individuals.

Finally, it is now widely recognized that venture capital firms can play a crucial role in the development of a small entrepreneurial venture by converting high-risk opportunities to a more acceptable risk level through portfolio diversification, and adding key competencies that the firm may be lacking. This is achieved by means of developing arrangements that align the incentives of the three agents – investors, venture capitalists and entrepreneurial startups (Zider 1998; Gompers and Lerner 2001). However, the above-described tax schedules apply

⁷ This stands in stark contrast to the US where an employee who accepts stock options can defer the tax liability to the time when the stocks were sold rather than when the options were exercised. In general, there are (i) no tax consequences to the employee upon the grant or the exercise of the option; (ii) the employee is taxed at capital gains rates when the stock acquired upon the exercise of the option is sold after a specified holding period; and (iii) there is no deduction available to the employer. This change in the law shifted the tax risk in the options back to the government, and thus accomplished two things: it increased the potential profit from the stock options and it allowed budget-constrained individuals to sell stocks whenever they chose to do so (Misher, 1984).

to this industry as well, which means that a highly competent venture capital industry where high-powered incentives can be used to reward investment managers cannot develop in Sweden.⁸

4.2 Incentives for savings and individual wealth formation

Welfare state provisions remove a number of savings motives for the individual. As long as unemployment insurance, income-dependent pensions and sick-leave benefits, higher education and highly subsidized health and care services are provided by the government, most of the essential savings motives for the average person disappear. Means-tested schemes such as social assistance may exacerbate this effect at the lower end since it is conditional on the individual not having any assets (Hubbard, Skinner and Zeldes 1995). Moreover, pay-as-you-go pension systems tend to lower national savings and investment compared to funded systems (Feldstein 1996). Thus, in an extensive welfare state system, total savings motives are much reduced. Individual savings rates and average holdings of readily available assets are also very low in Sweden by international comparison – see *Table 2* and Pålsson (1998).

Table 2 Household Net Saving as a Share of Disposable Income in Sweden, OECD and OECD Europe, 1960–97 (percent).

	1960–69	1970–79	1980–89	1990–97
<i>Sweden</i>	6.1	4.0	1.1	5.4
OECD	9.7	12.1	11.2	9.8†
OECD Europe	12.0	13.6	11.6	10.9‡

†1990–95. ‡1990–96.

Sources: OECD, *Historical Statistics 1960–1980 and 1960–1995*; OECD, *Economic Outlook*, Vol. 65, 1999.

There are numerous research results suggesting that such disincentives to savings and individual wealth accumulation are likely to lower the propensity to entrepreneurship. The availability of equity financing is a critical factor for both startups and the expansion of existing firms. In general, the riskier the business, the greater is the reliance on equity relative to debt financing. The smaller and newer the firm, the more difficult for outside financiers to assess the viability and profitability of the proposed investment project. Thus, *ceteris paribus*, small and newly established firms are more dependent on equity financing than large, well-

⁸ See Henrekson and Rosenberg (2001) for a fuller exposition of this issue.

established firms. Low private savings also exacerbate the inherent problem caused by asymmetric information, since wealth-constrained would-be entrepreneurs are unable to signal forcibly to outside investors by means of making sizeable equity infusions of their own.

There is substantial scientific evidence supporting the idea that the individual wealth position has important effects for the probability of becoming an entrepreneur and for the propensity to expand. For example, Lindh and Ohlsson (1996, 1998) find that the likelihood of starting a business in Sweden increases significantly among those who receive an inheritance or a lottery gain. They also find that a more unequal wealth distribution covaries positively with the share of self-employed. Similar evidence is found for the US by Holtz-Eakin, Joulfaian and Rosen (1994). This is probably the most well-established finding in the small business economics literature, and there are a host of further studies pointing to the importance of personal assets for the degree to which entrepreneurial talent is exploited, see e.g. Blanchflower and Oswald (1998) and Taylor (2001).

In addition to the welfare state reducing the need for savings for precautionary as well as life-cycle reasons, taxation has created additional disincentives. The real rate of taxation on financial savings was extremely high in Sweden for individuals before the 1990/91 tax reform. On interest income it typically exceeded 100 percent by a wide margin during the 1970s and 80s. The rate of taxation on saving and wealth accumulation remains high. First, the high tax rates on wage income makes it hard to save a substantial portion of income that can subsequently be used for equity financing. Second, total taxation on accumulated wealth is high (2005): 30 percent on the nominal current return, 30 percent nominal capital gains tax and 1.5 percent wealth tax on real estate, interest-bearing instruments and prime listed stock.

The combination of low private savings and an extremely even distribution (Lindh and Ohlsson 1998) of these low savings implies that few people either themselves or from their associates, friends or relatives are able to raise the requisite equity to realize their business projects.

In recent decades private saving has been encouraged through favorable tax treatment. This concerns both fully tax-deductible pension plans paid individually and supplementary occupational schemes. Through these schemes a person may accumulate substantial wealth. However, following the welfare state logic this is primarily seen as a complement to the

income security provided by the government, and hence these funds are by law channeled to traditional financial institutions and the wealth is locked in, at least until age 55, and it cannot be lifted in large chunks. This is likely to reduce the supply of equity financing for potential entrepreneurs and extant small businesses, since pension funds are less suitable for channeling funds to entrepreneurs compared to business angels or venture capital firms. Hence, if the system is designed so that ordinary people are in effect obligated to carry out most of their savings through large collective systems, small business financing will suffer relative to alternative policies and institutional arrangements that allow for greater choice by individuals regarding their savings and investments.

4.3 Government production of income-elastic services

No doubt, Schumpeter and Galbraith almost exclusively dealt with the industrial, mostly goods-producing, sector of the economy. However, in Sweden the large-scale production in the manufacturing sector came to be seen as a role model also for central parts of the production of highly income-elastic services such as health care, child care, elderly care and education (Rojas 2001). In these cases it was seen as natural that the public sector substituted for the large corporations, and as a result Fordist principles of planning, standardization and large-scale production came to characterize society as a whole – Rojas (2001) speaks of “social Fordism”. This strategy had a profound effect on employment growth across sectors; from 1960 until the late 1990s all net employment growth in Sweden took place in the local government sector (Rosen 1997).

These publicly produced private services are in many cases highly suitable for production in private and often also small firms. The political decision to produce these services primarily through a public sector monopoly has largely barred this area from both startup activity and the emergence of high-growth firms. *Table 3* summarizes the share of private production for the major services that are fully or primarily tax-financed. The private production share is very low in activities like child care, care of the elderly and after-school care, despite the fact that these activities are highly amenable to private, small firm production. The potential market is huge. The operating costs incurred by local governments for schooling, child care and care of the elderly exceeded 10 percent of GDP per year in the mid 1990s, and the health care sector is almost as large.

Table 3 Private Sector Production Share for Major Services that are Primarily Publicly Funded, 1996 and 2000 (percent).

<i>Service</i>	<i>1996</i>	<i>2000</i>
Institutional child care (pre-school)	12.5	11.8
Child care in the home (of the professional)	2.2	8.6
After-school care	4.5	
Compulsory schooling	2.4	3.9
High school	1.9	4.4
Care of the elderly at nursing homes	8.3	10.0
Care of the elderly in special apartments	5.1	
Care of the elderly in their own home	2.6	
Hospital care	4.3	
Medical consultations	28	
Share of doctors privately employed	10	
Psychiatric wards	24	
Children's dental care	5	

Source: Werenfels Röttorp (1998) for 1996 and Jordahl (2002) for 2000.

Hence, due to the *de facto* monopolization by the public sector of the production of many income-elastic services vast areas of the economy have remained unexploited as sources of commercial growth. In particular in the health sector, it is easy to imagine how a different organizational mode could have provided a basis for the emergence of new high-growth firms.⁹

4.4 Household-related services out of reach for entrepreneurial exploitation

A large percentage of all work, most notably household work, is performed outside the market. Cross-country comparisons of industry-level employment also point to considerable scope for substitution of certain economic activities between the market and nonmarket sectors (Davis and Henrekson 2005). For Sweden, studies indicate that more time is spent on production in the household than in the market. According to the 1997 Service Sector Taxation Report (SOU 1997:17), 7 billion hours were devoted to household work in 1993, while production of goods and public and private services accounted for only 5.9 billion hours. Furthermore, paid work not reported to the tax authorities was estimated to represent approximately 10 percent of the hours worked in the marketplace. The same report also

presents evidence that the private service sector is exceptionally small in Sweden compared to other OECD countries. This is particularly the case for wholesale and retail trade, hotels and restaurants and miscellaneous services. In a detailed industry level comparison of Sweden and the US, Davis and Henrekson (2005) demonstrate that relative employment in the US is considerably greater in household-related services, such as repair of durable goods, hotel and restaurant, retail sales, laundry and household work.¹⁰

In a well-functioning, decentralized market economy, entrepreneurs can be expected to detect and act upon the potential for starting new operations or expand existing ones, thereby creating job opportunities. US trends in recent decades indicate that new jobs net primarily arise through the rapid growth of an increasingly differentiated service sector.

So why does not Sweden display a similar trend? A fundamental reason emanates from high rates of personal taxation. Personal taxes raise the full price of goods and services. For many goods (e.g., high-tech products like computers), a high price may cause the consumer to forego a purchase, or to buy a lower quality version of the good. This need not be the case with services – high labor taxes often induce the consumer to produce the service himself. This basic insight constitutes an important point of departure in recent work in the theory of optimal taxation. The theoretical results of Jacobsen, Richter and Sørensen (2000) and Piggott and Whalley (1998) strongly suggest that the optimal tax structure involves a relatively low tax rate on those market-produced services that could alternatively be produced in the household sector.¹¹ High rates of taxation of labor tend to make it more profitable to shift a large share of the service production to the informal economy, in particular into the “do-it-yourself” sector. In the case where the cost of the service consists of labor cost only, one can show that it is profitable to produce the service in the market when (Pålsson 1997; Davis and Henrekson 2005):

⁹ Cf. the development in the US health sector during the 1990s, where strong competition between health care organizations have led to large cost reductions and efficiency gains, not least because modern information technology is systematically applied (Cutler *et al.* 2000; Litan and Rivlin 2002).

¹⁰ This finding is also consistent with time-use studies reported in Juster and Stafford (1991). There were marked differences between Swedish and US men. US men worked more in the market, while Swedish men performed substantially more household work. In particular, Swedish men were the clear international leaders in home improvement time, averaging 4 hours per week, compared to 2.8 hours for US men and less than 1 hour for Japanese men. Total work time for Swedish and US men were virtually identical (57.9 vs. 57.8 hours). The amount of leisure time was approximately 3 hours longer per week in the US compared to Sweden for both men and women. Thus, “Swedish men, compared to US men, have less market work time, more home production time, and less leisure time“ (Juster and Stafford, 1991, p. 498).

¹¹ This result can apply even if these services are complementary to leisure.

$$\frac{\text{Buyer's hourly wage before tax}}{\text{Seller's hourly wage before tax}} \cdot \frac{\text{Seller's productivity}}{\text{"do - it - yourself" productivity}} > \frac{(1 + \text{the VAT rate})(1 + \text{social security rate})}{1 - \text{buyer's marginal tax rate}}$$

Let us call the right-hand side of this expression the tax factor.¹² The expression describes a fundamental economic relation, which, given wage and productivity differentials, is a crucial determinant of the demarcation line between taxed and untaxed work. Low rates of taxation on labor require smaller wage differentials before tax and/or productivity differences in order to avoid that unpaid work crowds out professional work in cases where unpaid (or black market) work is feasible.

The tax factor in Sweden is in the interval 2.7–4.1 (1997 tax code). In the US the tax factor is generally in the 1.4–1.9 interval. Comparisons between Sweden and the US (California) show that in order for a professional service producer to be competitive vis-à-vis unpaid household production, the professional must have a productivity edge of 170–310 percent in Sweden, whereas 40–90 percent is sufficient in the US (in the case of equal market wage). Alternatively, in the case of equal productivity (e.g., child care) the hourly wage of the buyer must exceed that of the seller by a factor 2.7–4.1 in Sweden, whereas a factor 1.4–1.9 is sufficient in the US.

As a result, the emergence of a large, efficient service sector competing successfully with unpaid work is less likely in a large welfare state than in countries with lower rates of labor taxation (and higher wage dispersion). As a corollary, an important arena for commercial exploitation and entrepreneurial business development becomes less accessible. Given that more than half of the total volume of work remains commercially unexploited in Sweden this is likely to be of great economic significance, particularly in the long run. When services are provided by professionals, incentives emerge to invest in new knowledge, to develop more effective tools, to develop superior contractual arrangements, to create more flexible organizational structures and so forth. Thus, there is reason to suspect that the growth of service productivity will be more rapid when in the hands of a professional than when an individual chooses to produce the service himself. Put simply, higher rates of personal

¹² The marginal tax rate includes the employee's mandatory contributions to social security.

taxation discourage the market provision of goods and services that substitute closely for home-produced services. As a consequence, higher rates of personal taxation reduce the scope for entrepreneurial expansion into new market activities that economize on time use or that supply close substitutes for home-produced services.

4.5 *Incentives for necessity entrepreneurship*

In the empirical literature on the determinants of the supply of entrepreneurship a distinction is often made between pull and push factors (Storey 1994). An individual can either be pulled into entrepreneurship in order to pursue a business opportunity (rather than having a regular job) or he/she can be pushed into it because there is no better choice for work or for making a living. Reynolds *et al.* (2001, 2002) explicitly distinguish between "opportunity-based" and "necessity" entrepreneurship in their multi-country effort to measure the rate of entrepreneurial activity.¹³

The effects of the welfare state discussed so far – taxation of entrepreneurial income and institutional impediments to commercial exploitation in large parts of the service sector – has primarily, at least implicitly, been concerned with the problem that a comprehensive welfare state curbs opportunities for entrepreneurs. But the welfare state also provides ample opportunities for receiving income from the public budget, either as a government employee or as a transfer recipient. Aggregate figures clearly show that these opportunities have increased sharply in Sweden during the postwar period. According to *Table 4* there were more than 1.6 persons getting most of their income from the public budget for each person employed in the market sector in 2002. The corresponding figure in 1960 was 0.38.

¹³ Strictly speaking, necessity entrepreneurship is not consistent with the definition of entrepreneurship given in section 2. However, what was initially necessity entrepreneurship may in many cases at a later stage become opportunity-based entrepreneurship, when the entrepreneur discovers a growth opportunity in his/her business idea.

Table 4 Number of Tax-Financed and Market-Financed Individuals in Sweden 1960, 1990 and 2002 (millions)

	1960	1990	2002
1. Tax-financed individuals [†]	1,143	3,887	4,021
2. Employed in market-sector [‡]	2,989	2,569	2,490
Ratio (1/2)	0.38	1.51	1.63

[†]The sum of public sector employees, old age pensioners, people on early retirement, paid sick leave, paid parental leave, refugee applicants and people receiving unemployment benefits or participating in labor market programs.

[‡]Including the self-employed and those working in public utilities and government owned corporations but excluding those on paid sick leave and parental leave.

Source: Lindbeck (1997) for 1960 and 1990, and author's own corresponding calculation for 2002.

For the most part, the ambition of the welfare state to equalize outcomes is formally focused on individuals and households. However, there are enormous differences across regions in labor market opportunities, and as a result large interregional differences in employment levels may persist indefinitely, as large sums are transferred from high-employment to low-employment regions in the form of unemployment benefits, disability pensions, compensation through labor market programs and so forth. *Table 5* reports the share of household income consisting of labor income paid by private employers in Swedish municipalities. This share varies from roughly 23 percent up to two thirds. The country average is slightly below 50 percent. Thus, these data clearly indicate that the push towards necessity entrepreneurship in low-employment regions or in a region suffering from a negative shock is very weak.

The high tax on labor creates difficulties from another standpoint – a decent net wage presupposes high pre-tax earnings. This problem is particularly acute in Sweden, which places a heavy tax burden on the lowest wage earners. For someone who earns 75 percent of the average wage of an industrial worker, 61 percent of the total labor cost consists of taxes and mandatory social security contributions. This is the highest rate among industrialized countries (Norrman 1997).

Table 5 Market Income as a Share of Total Household Income in Swedish Municipalities, 1995 and 1998 (percent).

Top 5 municipalities	1995	1998	Bottom 5 municipalities	1995	1998
Gnosjö	64.8	68.1	Pajala	22.8	23.5
Håbo	61.1	63.9	Boden	24.7	25.4
Täby	60.2	63.9	Haparanda	25.7	26.7
Gislaved	60.1	62.8	Övertorneå	27.5	27.4
Sollentuna	58.4	62.5	Sollefteå	29.3	29.3
Country Average	45.7	48.9			

Note: Market income as a share of total income is defined as the share of total household income emanating from labor income paid by private employers. Income from capital is excluded.

Source: SAF (2000).

It seems reasonable to assume that there is a connection between the net wage the individual demands and the minimum income she is guaranteed by the social security system. The net wage demanded corresponds to a certain gross pre-tax wage, the reservation wage. The ingredients that determine the reservation wage are complex and dependent upon a number of circumstances. The social safety nets play an important role in the determination of the reservation wage. Ultimately an individual is entitled to social welfare, which guarantees the household a politically defined minimum standard of living.¹⁴

Thus, the social safety nets provide a yardstick for measuring an appropriate reservation wage. Although other types of compensation, such as unemployment benefits for the uninsured and housing allowances, may provide less coverage, supplementary assistance can often be obtained up to the level guaranteed by the Social Security Act. A 1994 Swedish Government study (Ds 1994:81) demonstrated that a significant percentage of those who are active or potentially active in the work force, and who live in typical family constellations, fell below this basic level. The study concluded that “jobs offering wages below or near what the ultimate social safety net provides are likely to disappear over the long run” (p. 201).

The social safety nets affect what is considered a reasonable wage, the unions’ wage claims, and the kinds of businesses that entrepreneurs are willing to start. To the extent that social safety nets in welfare states push up reservation wages, they affect both types of entrepreneurship. They discourage necessity-based entrepreneurship by providing an alternative source of income at a reasonable level and they curb opportunity-based

entrepreneurship by pushing up reservation wages so that many activities that are (initially) low-productivity activities are largely barred from entrepreneurial exploitation, since entrepreneurs have low incentives to start businesses that presuppose wages below the level guaranteed by the ultimate safety net.

4.6 *Miscellaneous aspects*

In this subsection a few additional aspects that are likely to impede productive entrepreneurship are dealt with. Although important, they are deemed to be of lesser importance than the factors elaborated upon in subsections 4.1–4.5.

- (i) Firms may be eligible for subsidies if they locate in low-income regions or if existing firms expand in those regions. A host of measures including both direct subsidies and tax breaks have been used to this effect. But as shown by Bergström (2000) it appears that in the long-run firms that have received support perform worse than other comparable firms. This kind of support increases the risk that entrepreneurial talent (a scarce resource) is attracted to inherently less productive activities (Murphy *et al.* 1991).¹⁵
- (ii) In order to equalize income across municipalities and regions a municipal tax-equalization scheme was introduced in 1966 and the redistributive stance of this scheme has been strengthened on several occasions, to the extent that there is virtually no correlation between local/regional government net tax receipts and per capita income in the municipality or county (Fölster 1998; Kommunförbundet, 2000). In fact, it is easy to point to cases where a boom in the local economy will worsen the financial situation of the municipality in question. This equalization of outcomes in yet another dimension has made it at best economically indifferent for local government officials to promote entrepreneurial activity.
- (iii) The Swedish Employment Security Act (LAS) from 1974 gives employees extensive protection against unfair dismissal, and it is hence intended as an additional means to enhance economic security for individuals. The only legal grounds for dismissal are gross misconduct and redundancies. In the latter case, LAS stipulates a "last in – first out principle". Strict employment security provisions are likely to be more harmful for smaller

¹⁴ See Siebert (1997) for an interesting discussion of the interplay between the reservation wage and the social safety nets from a broader European perspective.

and potentially fast-growing employers. For many firms – and in particular for firms with a good growth potential in terms of productivity and employment – there is a great need for flexibility both to increase the number of employees in response to rising demand and likewise to be able to rapidly contract when demand falls short of expectations. The road from small to large for a fast-growing firm is far from straight, since the activities of new firms in particular are subject to genuine uncertainty. If, under such circumstances, rules are imposed that reduce the firms' leeway to rapid adjustment, one should expect both a lower willingness to expand in general and that fewer firms, despite a good product or a viable idea, grow from small to large in a short period of time.¹⁶ In addition, a strictly applied "last in – first out" principle in case of redundancies implies that tenure at the present employer becomes relatively more important for labor security than individual skill and productivity. This fact increases the individual's opportunity cost of changing employers or of leaving a secure salaried job to become an entrepreneur.

5. Empirical Evidence

A first, although crude, measure consistent with the described weak incentives for entrepreneurship is the slow aggregate growth of the Swedish economy. Beginning in the mid 1960s the rate of growth began to lag relative to the OECD average, and from 1965 until the mid 1990s, Swedish PPP-adjusted GDP per capita fell by close to 30 percentage points relative to the weighted average of the 23 richest OECD countries (Lindbeck 1997). Although the relative decline stopped, catching up in relative GDP per capita is only some 2 percentage points since the mid 1990s (OECD, *National Accounts*, February 2005).¹⁷ Aggregate private sector employment performance is also very weak. The entire growth in employment after 1950 until the early 2000s took place in the public sector, i.e. no new jobs net were created in the business sector during a fifty-year period despite population growth of more than 20 percent and a rapid growth in female participation rates (Davidsson and Henrekson 2002). Hence, both the aggregate growth and private sector employment performance is consistent with what one would expect if incentives for entrepreneurship are important.

¹⁵ Leonard and Audenrode (1993) find that transfers to ailing industries have negative growth effects.

¹⁶ Davis and Henrekson (1997) discuss these issues more fully.

¹⁷ Given that the real growth rate has been high compared to the EU and OECD averages since 1994 this may seem puzzling. However, in the same period Swedish terms-of-trade has declined rapidly.

In our context it is, however, more relevant to examine data that directly speak to the issue of the supply of entrepreneurship. Although one should not equate entrepreneurship to self-employment, it is still worth noting that from the early 1970s until 1990, Sweden exhibited the lowest ratio of nonagricultural self-employment to civilian employment among all OECD countries (*OECD Employment Outlook*, July, 1992). The European Observatory for SMEs (1995) reports that Sweden had a lower self-employment rate in 1992 than any of the then 12 member countries of the European Community (EC). The number of self-employed has also decreased in recent decades; comparing 2004 with 1980 and 1994, the number of self-employed is down by 7 and 5 percent, respectively (Statistics Sweden, 2005).

More directly comparable estimates of the extent of entrepreneurial activity across countries can be derived from a major collaborative research effort, *viz.* the Global Entrepreneurship Monitor (GEM; see Reynolds *et al.* 2001, 2002). Its main goal is to arrive at internationally comparable estimates of the prevalence of “nascent entrepreneurs”, *i.e.*, people who are in the process of starting a new business at a given point in time, or who have recently started a business that is still running. In *Figure 1* the result of the GEM study for 2000 is displayed. It is clear that the level of nascent entrepreneurs is low in Sweden: roughly two percent of the population is engaged in starting a business or running a business founded within the last 42 months. The expected pattern is also found for the prevalence of necessity-based entrepreneurial activity. The lowest activity in this category is experienced in the most extensive welfare states: Sweden, Norway, Denmark and the Netherlands.¹⁸

Figure 1 Level of Entrepreneurial Activity in Various Countries, 2000.

Enclosed

Source: Reynolds *et al.* (2001).

There are also a number of indicators of a disproportionate importance of large firms in the Swedish economy. The European Observatory for SMEs (1995) reports that among 16 European countries, Sweden showed the largest value for mean enterprise size in 1990. Average enterprise size was 13 employees in Sweden, more than twice the corresponding average value for the 16 countries. Jagrén (1993) found that relative to GDP, Sweden proved

¹⁸ The level of necessity entrepreneurship is also extremely low in Israel and Finland, see Reynolds *et al.* (2002).

to have twice as many *Fortune-500* firms as Japan and the UK, and four times as many as the US and Germany. Even compared to other countries dominated by large firms, such as Finland and South Korea, the number of large firms relative to GDP was substantially greater. Henrekson and Johansson (1999) document that Sweden had the greatest number of large industrial firms (500+ employees) per capita in Europe circa 1990.

Hence, by the late 1980s there were no clear signs of a resurgence of entrepreneurship and small firms, a pattern that began to emerge almost two decades earlier in the US (Loveman and Sengenberger 1991). This picture is also consistent with studies where the growth of firms is examined. Birch and Medoff (1994) maintain that all new jobs net in the US are created in a fairly small number of rapidly growing firms (gazelles). Storey (1994, p. 113) reports that out of 100 small firms in the UK at a certain point in time, the four fastest-growing firms will generate half of the total number of jobs created by these 100 firms. According to OECD (1998) there is now “general agreement” that the share of jobs created by small firms has increased since the early 1970s in most high-income countries. In contrast, little support for the gazelle hypothesis is found in Sweden (Davidsson *et al.* 1994, 1996). Instead they find that the contribution of small and medium-sized enterprises to net job creation is largely the result of many small startups. More specifically, Davidsson and Henrekson (2002) and Davidsson and Delmar (2003) study the employment contribution of the 10 percent fastest-growing firms. Regardless of how they conduct the analysis (unit, period, type of growth) they are unable to find a small group of “elite” firms that collectively account for a substantial share of total job creation.

A final indication that the policy environment is unfavorable for entrepreneurial ventures is given by the experience of new technology-based firms. Sweden has the highest R&D expenditure both in total and in the university sector as a share of GDP in the OECD, and Sweden is second only to Israel in terms of publications of scientific and technical articles relative to the size of the economy (OECD 2001). Utterback and Reitberger (1982) made a comprehensive interview study of 60 firms, based on new technology, which had been founded between 1965 and 1974. The 60 firms constituted roughly half of the total population of such firms founded during that period. By 1980 the studied firms together contributed no more than roughly 0.5 percent of total manufacturing employment. Rickne and Jacobsson (1996) update the Utterback and Reitberger study by following the 53 firms still fulfilling the original selection criteria through 1992. Of the 53 firms only nine had grown to have more

than 200 employees in 1992. Taken jointly, the 53 firms employed no more than 3,400 persons in Sweden in 1992.

Table 6 The Distribution of the Stock of New Technology-Based Firms by Size in 1993 (all firms covered by the definition were founded in 1975–93).

Size	Number of firms in the category	Number of employees in the category	Percentage of employees
3–19	1,022	7,702	39.5
20–49	196	5,886	30.2
50–99	48	3,187	16.4
100–199	15	2,009	10.3
200–	3	704	3.6
Total	1,284	19,488	100.0

Source: Rickne and Jacobsson (1999).

Rickne and Jacobsson (1999) study all new technology-based firms founded between 1975 and 1993 (and still in existence in 1993) in Sweden. The main results from their study are summarized in *Table 6*. The employees of the new technology-based firms accounted for 2.2 percent of employment in the industries they belonged to (either manufacturing or manufacturing-related services). Thus, their share of total employment was very small and not a single one of the firms had more than 300 employees.

Given the overall picture conveyed by these studies, it is hardly surprising that not a single one of the 50 largest firms in Sweden in 2002 was founded after 1969 (*Figure 2*). This may be compared to the very different situation in the US in recent decades, where new and fast-growing firms are generating not just most of the jobs but also the new industries (Audretsch and Thurik 2000). In the 1950s and 1960s it took two decades for one-third of the 500 largest corporations in America to be replaced. This rate dropped dramatically after 1970 and in the 1980s it only took five years to replace one third of the 500 largest corporations (Audretsch 1995).

Figure 2 Sweden's 50 Largest Private Corporations (Turnover) – Period of Establishment.

Enclosed

Source: NUTEK and ALMI (2001).

6. Conclusions

Are mature welfare states at a disadvantage when it comes to economic growth, innovativeness and employment creation? No doubt, high tax and benefit wedges have disincentive effects, but advocates can also point to likely advantageous effects. In the end, this is of course an empirical question, and it is not yet conclusively settled. In this paper I have systematically explored a number of aspects of one factor that has been largely overlooked in the discussion so far, namely, how a wide array of typical welfare state arrangements may influence the incentives for individuals to supply entrepreneurial effort, and, to a lesser extent, how this effort is distributed across productive and unproductive activities.

In the last decade evidence suggesting that entrepreneurship is important for growth and employment creation has accumulated at a rapid rate. Leading scholars of the field speak of “the emergence of the entrepreneurial society” (Acs and Audretsch 2001). But the entrepreneur is largely an alien figure in the welfare state. This is not so surprising given that the main ideas underlying the (Scandinavian) welfare state model were largely developed during a period when it was widely believed that the individual entrepreneur was waning in importance as a source of innovation, renewal, employment creation and growth.

An in-depth examination of how the key welfare state arrangements in Sweden, allegedly the most mature of all welfare states, suggests that the structure of payoffs have a negative effect on the return to entrepreneurial behavior both in relative and absolute terms. A number of channels contributing to this effect were examined: taxation of entrepreneurial income, muted savings incentives and savings encouraged to take forms that withdraw funds from entrepreneurial ventures, comprehensive government service provision and very high tax rates on labor bar large parts of the economy from entrepreneurial exploitation, schemes for redistribution across individuals and regions and a high level of minimum standard of living guaranteed by the government renders necessity entrepreneurship unnecessary, and strict labor security legislation discourages mobility of individuals across firms and industries.

Performance measures for Sweden in recent decades do not contradict the hypothesis that favorable incentives for entrepreneurship are important for economic performance. In particular, the almost complete lack of new high-growth firms in Sweden is striking, despite recent record levels of R&D spending, and with an industry structure well-suited for taking advantage of the boom in the IT and biotech sectors in the 1990s (Elg 2005). As emphasized by Audretsch (2002) it is imperative that the really promising startups act in an environment where they can grow rapidly, because if scale economies are anything other than negligible, then the new firms have to grow in order to survive. Ultimately, they will have to attain the minimum efficient scale level of output, or they will go out of business. According to my analysis the government has a key role in creating an environment fostering the success and viability of firms, so that good ideas have a maximum chance to get translated into successful commercial ventures attaining their full potential.

But can this be achieved with the mature welfare state institutions largely intact? Quite a few things can be done that cost fairly little and give strong incentives to individual entrepreneurs:

- (i) Ownership taxation can be lowered considerably by removing double taxation and giving more room for closely held firms to pay dividends. Furthermore, capital gains taxation on long-term holdings of firms where the individual takes active part could be abolished (long-term capital gains taxation is in fact zero in the majority of the EU-15 countries). Such measures would send strong signals to existing and potential entrepreneurs, while costing very little in terms of taxes forgone.
- (ii) Savings can be “deinstitutionalized” so that large part of the pension wealth becomes available for equity investments in entrepreneurial firms.
- (iii) The public sector can implement a strategy for encouraging entrepreneurs to substitute for tax-financed public sector service production. A further step would be to allow service producers to offer additional services on top of what is granted through a tax-financed voucher system, while monitoring that tax-financed services are distributed solidaristically.
- (iv) Retention rates can be marginally lowered across the board and qualification criteria can be made more stringent for transfer programs. This would not jeopardize the welfare state, but it would contribute to making entrepreneurship more attractive on the margin.
- (v) A more radical measure would be to announce that since the welfare state protects the individual through a number of cushions, the obligations for firms could be eased

substantially: more liberal job security mandates, fewer demands on firms to take responsibility for sick leave, rehabilitation programs etc.¹⁹

(vi) Rights “earned” through tenure with the present employer could be made portable, for instance through a system of severance pay.²⁰ After all, labor market inflexibility is an element inherently inconsistent with the flexibility, nonhierarchical structures, networking and labor mobility across firms distinguishing an entrepreneurial business culture (Saxenian, 1996).

Still, a mature welfare state will almost by definition have a high aggregate tax burden, and this necessarily implies high tax rates on labor and on locally produced services. As a result, it will be difficult to develop the household-related service sector as much as in low-tax countries. Likewise, individual savings incentives will be lower and reservation wages will be pushed up to higher levels by more generous social assistance schemes (relative to average income).

Finally, a continued almost exclusive reliance on taxation for the financing of key services like education, health care, child care and care of the elderly can be expected to become increasingly problematic. These services are highly income-elastic, they suffer from Baumol’s Disease (Baumol 1993b), and technological breakthroughs are likely to increase the supply of services in the health sector in the future. As long as private purchasing power is not allowed into these sectors, they risk turning into a tax-financed “cost problem” rather than potential growth industries attracting talented entrepreneurs.

All in all, there seems to be some room for a mature welfare state to reform itself in ways that promote entrepreneurship, while the core of the welfare model remains intact. However, a vibrant entrepreneurial culture and the set of institutions that underpins such a culture are very remotely related to the welfare state culture and its institutions, perhaps they are even negatively related.

¹⁹ In this respect Denmark differs greatly from Sweden. State provision of income security is at least as generous, while labor security legislation is among the least protective of insiders relative to outsiders in Europe.

²⁰ Severance pay is common in Italy, where large firms set aside a 13th salary every year, which is paid out upon termination of the job, these arrangements are called TFR (*trattamento di fine rapporto*). The tax rate is only 10 percent, and allegedly this institution has made it possible for many redundant workers to start their own business.

References

- Acemoglu, D. Aghion, P. and Zilibotti, F. (2003), "Vertical Integration and Distance to Frontiers." *Journal of the European Economic Association* **1**(2), 630–38.
- Acs, Z.J. and Audretsch, D.B. (2001), "The Emergence of the Entrepreneurial Society". Prize lecture, *The International Award for Entrepreneurship and Small Business Research*. Stockholm, May.
- Agell, J. (1996), "Why Sweden's Welfare State Needed Reform." *Economic Journal* **106**(459), 1760–1771.
- Agell, J., Lindh, T. and Ohlsson, H. (1997), "Growth and the Public Sector: A Critical Review Essay." *European Journal of Political Economy* **13**(1), 33–52.
- Aghion, P. and Howitt, P. (1992), "A Model of Growth through Creative Destruction." *Econometrica* **60**(2), 323–351.
- Aronsson, T. and Walker, J. (1997), "The Effects of Sweden's Welfare State on Labor Supply Incentives." In Freeman, R.B. Topel, R. and Swedenborg, B., eds., *The Welfare State in Transition*. Chicago: University of Chicago Press.
- Audretsch, D.B. (1995), *Innovation and Industry Evolution*. Cambridge, MA: MIT Press.
- Audretsch, D.B. (2002), "The Dynamic Role of Small Firms: Evidence from the US." *Small Business Economics* **18**(1), 13–40.
- Audretsch, D.B. and Thurik, A.R. (2000), "Capitalism and Democracy in the 21st Century: From the Managed to the Entrepreneurial Economy." *Journal of Evolutionary Economics* **10**(1), 17–34.
- Baldwin, J.R. and Johnson, J. (1999), "Entry, Innovation and Firm Growth." In Acs, Z.J., ed., *Are Small Firms Important? Their Role and Impact*. Dordrecht: Kluwer.
- Baumol, W.J. (1990), "Entrepreneurship: Productive, Unproductive, and Destructive." *Journal of Political Economy* **98**(5), 893–921.
- Baumol, W.J. (1993a), *Entrepreneurship, Management and the Structure of Payoffs*. Cambridge, MA: MIT Press.
- Baumol, W.J. (1993b), "Health Care, Education and the Cost Disease: A Looming Crisis for Public Choice." *Public Choice* **77**(1), 17–28.
- Beck, M. (1981), *Government Spending, Trends and Issues*, New York: Praeger.
- Bergström, F. (2000), "Capital Subsidies and the Performance of Firms." *Small Business Economics* **14**(3), 83–93.
- Bianchi, M. and Henrekson, M. (2005), "Is Neoclassical Economics Still Entrepreneurless?" SSE/EFI Working Paper No. 584, Department of Economics, Stockholm School of Economics.
- Birch, D.L. and Medoff, J. (1994), "Gazelles." In Solmon, L.C. and Levenson, A.R., eds., *Labor Markets, Employment Policy and Job Creation*. Boulder and London: Westview Press.
- Blanchflower, D.G. and Oswald, A.J. (1998), "What Makes an Entrepreneur?" *Journal of Labor Economics*, **16**(1), 26–60.
- Brock, W.A. and Evans, D.S. (1986), *The Economics of Small Firms*. New York: Holmes & Meier.
- Carlsson, B. (1999), "Small Business, Entrepreneurship, and Industrial Dynamics." In Acs, Z.J., ed., *Are Small Firms Important? Their Role and Impact*. Dordrecht: Kluwer.
- Carree, M. and Thurik, A.R. (1999), "Industrial Structure and Economic Growth." In Audretsch, D.B. and Thurik, A.R., eds. *Innovation, Industry Evolution and Employment*. Cambridge, MA: Cambridge University Press.
- Castles, F.G. (1998), *Comparative Public Policy*. Cheltenham: Edward Elgar.
- Coase, R.H. (1937), "The Nature of the Firm." *Economica*, Vol. 4, No. 4, 386–405.
- Cutler, D.M., McClellan, M. and Newhouse, J.P. (2000), "How Does Managed Care Do It?" *Rand Journal of Economics* **31**(3), 526–548.
- Davidsson, P. and Delmar F. (2003). "Hunting for New Employment: The Role of High Growth Firms. In Kirby, D.A. and Watson, A., eds., *Small Firms and Economic Development in Developed and Transition Economies: A Reader*. Aldershot, UK: Ashgate.
- Davidsson, P. and Henrekson, M. (2002), "Institutional Determinants of the Prevalence of Start-ups and High-Growth Firms: Evidence from Sweden." *Small Business Economics* **19**(2), 81–104.
- Davidsson, P., Lindmark, L. and Olofsson, C. (1994), *Dynamiken i svenskt näringsliv*. Stockholm: Almqvist & Wiksell.

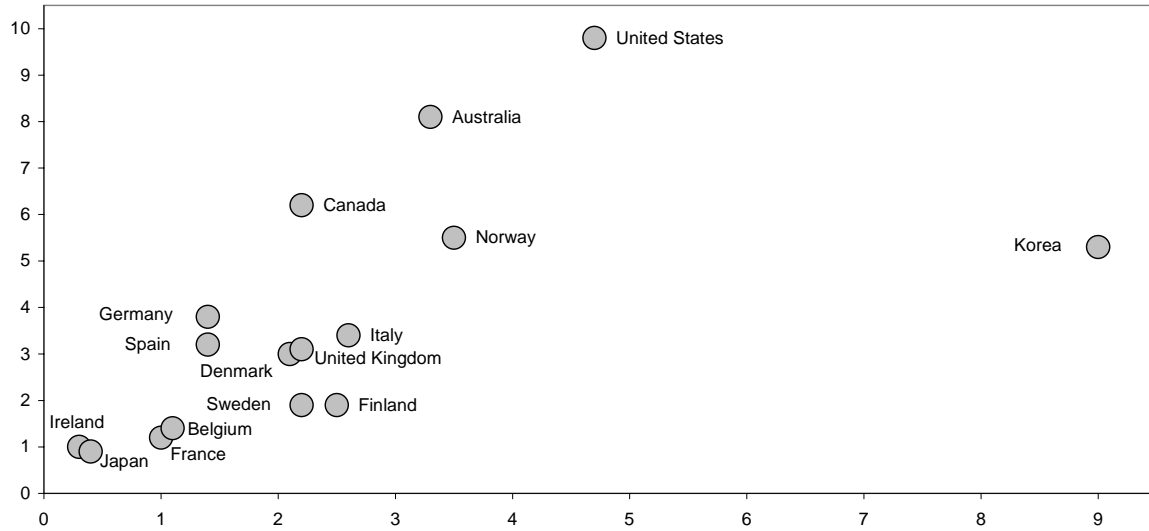
- Davidsson, P., Lindmark, L. and Olofsson, C. (1996), *Näringslivsdynamik under 90-talet*. Stockholm: NUTEK.
- Davis, S.J., Haltiwanger, J. and Schuh, S. (1996), *Job Creation and Destruction*. Cambridge, MA: MIT Press.
- Davis, S.J. and Henrekson, M. (1997), "Industrial Policy, Employer Size and Economic Performance in Sweden." In Freeman, R.B., Topel, R. and Swedenborg, B., eds., *The Welfare State in Transition*. Chicago: University of Chicago Press.
- Davis, S. J. and Henrekson, M. (2005), "Tax Effects on Work Activity, Industry Mix and Shadow Economy Size: Evidence from Rich-Country Comparisons." In Gómez-Salvador, R. Lamo, A., Petrongolo, B., Ward, M. and Wasmer, E., eds., *Labour Supply and Incentives to Work in Europe*. Aldershot, UK: Edward Elgar.
- Ds 1994:81, *En social försäkring*. Report to ESO. Stockholm: Ministry of Finance.
- Ds 1997:73, *Lönar sig arbete?* Report to ESO. Stockholm: Ministry of Finance.
- Du Rietz, G. (1994), *Välfärdsstatens finansiering*. Stockholm: City University Press.
- Elg, L. (2005), "Innovation Policy and Performance in Sweden." In OECD, *Innovation Policy and Performance: A Cross-Country Comparison*. OECD: Paris.
- European Observatory for SMEs (1995), *Third Annual Report 1995*. Zoetermeer, the Netherlands: EIM Small Business Research and Consultancy.
- Esping-Andersen, G. (1990), *The Three Worlds of Welfare Capitalism*. Cambridge: Polity
- Feldstein, M. (1996), "The Missing Piece in Policy Analysis: Social Security Reform." *American Economic Review* **86**(2), 1–14.
- Forslund, A. (1997), "The Swedish Model: Past, Present, and Future." In Giersch, H., ed., *Reforming the Welfare State*. Berlin: Springer Verlag.
- Fölster, S. (1998), *Kommuner kan! Kanske!* Stockholm: Expertgruppen för studier i offentlig ekonomi.
- Fölster, S. and Henrekson, M. (2001), "Growth Effects of Government Expenditure and Taxation in Rich Countries." *European Economic Review* **45**(8), 1501–1520.
- Freeman, R.B., Topel, R. and Swedenborg, B., eds. (1997), *The Welfare State in Transition*. Chicago: University of Chicago Press.
- Galbraith, J.K. (1956), *American Capitalism: The Concept of Countervailing Power*. Boston: Houghton Mifflin.
- Galbraith, J.K. (1967), *The New Industrial State*. London: Hamish Hamilton.
- Gompers, P.A. and Lerner, J. (2001), *The Money of Invention: How Venture Capital Creates New Wealth*. Cambridge, MA: Harvard University Press.
- Glancey, K.S. and McQuaid, R.W. (2000), *Entrepreneurial Economics*. Palgrave: New York.
- Hébert, R. F. and Link, A. N. (1989), "In Search of the Meaning of Entrepreneurship." *Small Business Economics* **1**(1), 39–49.
- Henrekson, M. and Jakobsson, U. (2001), "Where Schumpeter Was Nearly Right – The Swedish Model and Capitalism, Socialism and Democracy." *Journal of Evolutionary Economics* **11**(3), 331–358.
- Henrekson, M. and Johansson, D. (1999), "Institutional Effects on the Size Distribution of Firms." *Small Business Economics* **12**(1), 11–23.
- Henrekson, M. and Rosenberg, N. (2001), "Designing Efficient Institutions for Science-Based Entrepreneurship: Lessons from the US and Sweden". *Journal of Technology Transfer* **26**(3), 207–231.
- Helpman, E. (1992), "Endogenous Macroeconomic Growth Theory." *European Economic Review* **36**(2), 237–267.
- Holtz-Eakin, D., Joulfaian, D. and Rosen, H.S. (1994), "Sticking It out: Entrepreneurial Survival and Liquidity Constraints." *Journal of Political Economy* **102**(1), 53–75.
- Hubbard, R.G., Skinner, J. and Zeldes, S.P. (1995), "Precautionary Savings and Social Insurance." *Journal of Political Economy* **103**(2), 360–399.
- Jacobsen, H., Richter, W.F. and Sørensen, P.B. (2000), "Optimal Taxation with Household Production." *Oxford Economic Papers* **52**(3), 584–594.
- Jagrén, L. (1993), "De dominerande storföretagen." In *Den långa vägen*. Stockholm: IUI.
- Johansson, A. L. and Magnusson, L. (1998), *LO andra halvseklet. Fackföreningsrörelsen och samhället*. Stockholm: Atlas.
- Jordahl, H. (2002), *Vad har hänt med de enskilda alternativen?* Stockholm: Reforminstitutet.
- Juster, F. T. and Stafford, F.P. (1991), "The Allocation of Time: Empirical Findings, Behavioral Models, and Problems of Measurement." *Journal of Economic Literature* **29**(2), 471–522.

- King, M.A. and D. Fullerton, eds., (1984), *The Taxation of Income from Capital. A Comparative Study of the United States, the United Kingdom, Sweden and West Germany*. Chicago: University of Chicago Press.
- Kirchhoff, B.A. (1994), *Entrepreneurship and Dynamic Capitalism*. London: Praeger.
- Kirzner, I.M. (1973), *Competition and Entrepreneurship*. Chicago: University of Chicago Press.
- Kirzner, I. (1997), "Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach". *Journal of Economic Literature* **35**(1), 60–85.
- Knight, F.H. (1921), *Risk, Uncertainty and Profit*. New York: Houghton Mifflin.
- Kommunförbundet (2000), *Utjämning mellan kommunerna – en kort beskrivning av dagens system*. Stockholm.
- Leonard, J.S and Audenrode, M.A. (1993), "Corporatism Run Amok: Job Stability and Industrial Policy in Belgium and the United States." *Economic Policy*, No. 17, 356–400.
- Lindbeck, A. (1988), "Consequences of the Advanced Welfare State." *The World Economy* **11**(March), 19–37.
- Lindbeck, A. (1997), "The Swedish Experiment." *Journal of Economic Literature* **35**(3), 1273–1319.
- Lindh, T. and H. Ohlsson (1996), "Self-Employment and Windfall Gains: Evidence from the Swedish Lottery." *Economic Journal* **106**(439), 1515–1526.
- Lindh, T. and H. Ohlsson (1998), "Self-Employment and Wealth Inequality." *Review of Income and Wealth* **44**(1), 25–42.
- Litan, R.E. and Rivlin, A.M. (2002), *Beyond the dot.coms*. Washington D.C.: Brookings.
- Loveman, G. and Sengenberger, W. (1991), "The Reemergence of Small-Scale Production: An International Comparison." *Small Business Economics*, **31**(1), 1–37.
- Lucas, R.E., Jr. (1978), "On the Size Distribution of Business Firms." *Bell Journal of Economics* Vol. 9, No. 3, 508–523.
- Lucas, R.E., Jr. (1988), "On the Mechanics of Economic Development". *Journal of Monetary Economics* **22**(1), 3–22.
- Misher, N. (1984), "Tax Consequences of Exercising An Incentive Stock Option with Stock of the Granting Corporation." *The Tax Executive*, July, 357–363.
- Mokyr, J. (1990), *The Lever of Riches*. Oxford: Oxford University Press.
- Murphy, K.M., Shleifer, A. and Vishny, R.W. (1991), "The Allocation of Talent: Implications for Growth." *Quarterly Journal of Economics* **106**(2), 503–530.
- Nordling, D. and Damsgaard, N. (1998), "Så höga är skatterna 1998." Report 1998:1. Stockholm: Swedish Taxpayers' Association.
- Norrman, E. (1997), *Skatterna på arbete i Sverige och omvärlden 1996*. Stockholm: Swedish Taxpayers' Association.
- North, C.D. and Thomas, P.R. (1973), *The Rise of the Western World*. Cambridge: Cambridge University Press.
- NUTEK & ALMI (2001), *Tre näringspolitiska utmaningar – Allianser för hållbar tillväxt*. Stockholm: NUTEK Förlag.
- OECD (1998), *Fostering Entrepreneurship*. OECD: Paris.
- OECD (2001), *OECD Science, Technology and Industry Scoreboard 2001*. OECD: Paris.
- Pålsson, A.-M. (1997), "Taxation and the Market for Domestic Services." In Persson, I. and Jonung, C., eds., *Economics of the Family and Family Policies*. London: Routledge.
- Pålsson, A.-M. (1998), "De svenska hushållens sparande och förmögenheter 1986–1996." Mimeo. Department of Economics. Lund University.
- Petersson, T. (2001), "Promoting Entrepreneurship. Bank-Connected Investment Development Companies in Sweden 1962–1990." In Henrekson, M., Larsson, M. and Sjögren, H., eds., *Entrepreneurship in Business and Research. Essays in Honour of Håkan Lindgren*. Stockholm: Probus.
- Piggott, J. and Whalley, J. (1998), "VAT Base Broadening, Self Supply, and the Informal Sector." NBER Working Paper No. 6349.
- Piore, M. and Sabel, C. (1984), *The Second Industrial Divide*. New York: Basic Books.
- Reynolds, P.D. et al. (2001), *Global Entrepreneurship Monitor. 2000 Executive Report*. Wellesley, MA/London/Kansas City: Babson College, London Business School and Kauffman Center for Entrepreneurial Leadership.
- Reynolds, P.D. et al. (2002), *Global Entrepreneurship Monitor. 2001 Executive Report*. Wellesley, MA/London/Kansas City: Babson College, London Business School and Kauffman Center for Entrepreneurial Leadership.

- Rickne, A. and Jacobsson, S. (1996), "New Technology-Based Firms – An Exploratory Study of Technology Exploitation and Industrial Renewal." *International Journal of Technology Management* **11**(3/4), 238–257.
- Rickne, A. and Jacobsson, S. (1999), "New Technology-based Firms in Sweden – A Study of their Direct Impact on Industrial Renewal." *Economics of Innovation and New Technology* **8**(2), 197–223.
- Rojas, M. (2001), *Beyond the Welfare State: Sweden and the Quest for a Post-Industrial Welfare Model*. Stockholm: Timbro.
- Romer, P.M. (1990), "Endogenous Technical Change." *Journal of Political Economy* **98**(5), S71–S102.
- Rosen, S. (1997), "Public Employment and the Welfare State in Sweden." In Freeman, R.B., Topel, R. and Swedenborg, B., eds., *The Welfare State in Transition*. Chicago: University of Chicago Press.
- Rosenberg, N. and Birdzell, L.E. (1986), *How the West Grew Rich*. New York: Basic Books.
- SAF (2000), *Strukturrapport 2000. Ett gyllene tillfälle!* Stockholm: SAF.
- Saxenian, A. (1996), *Regional Advantage. Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
- Schumpeter, J.A. (1934), *The Theory of Economic Development*. Cambridge, MA: Harvard University Press.
- Schumpeter, J.A. (1942), *Capitalism, Socialism and Democracy*. New York: George Allen & Unwin.
- Segerstrom, P.S., Anant, T.C.A. and Dinopoulos, E. (1990), "A Schumpeterian Model of the Product Life Cycle." *American Economic Review* **80**(5), 1077–1091.
- Siebert, H. (1997), "Labor Market Rigidities: At the Root of Unemployment in Europe." *Journal of Economic Perspectives* **11**(4), 37–56.
- Slemrod, J. (1995), "What Do Cross-Country Studies Teach about Government Involvement, Prosperity, and Economic Growth?" *Brookings Papers on Economic Activity* **2**, 373–431.
- SOU 1997:17, *Skatter, Tjänster och Sysselsättning*. Stockholm: Ministry of Finance.
- Storey, D.J. (1994), *Understanding the Small Business Sector*. London: Routledge.
- Swedberg, R. (2000), *Entrepreneurship: The Social Science View*. Oxford: Oxford University Press.
- Södersten, J. (1984), "Sweden." In King, M.A. and Fullerton, D., eds., *The Taxation of Income from Capital. A Comparative Study of the United States, the United Kingdom, Sweden and West Germany*. Chicago: University of Chicago Press.
- Södersten, J. (1993), "Sweden." In Jorgenson, D.W. and Landau, R., eds., *Tax Reform and the Cost of Capital. An International Comparison*. Washington D.C.: Brookings.
- Taylor, M.P. (2001), "Self-Employment and Windfall Gains in Britain: Evidence from Panel Data." *Economica* **68**(272), 539–565.
- Utterback, J.M. and Reitberger, G. (1982), "Technology and Industrial Innovation in Sweden: A Study of New-Technology Based Firms." Center for Policy Alternatives, MIT and STU, Stockholm.
- Wennekers, S. and Thurik, A.R. (1999), "Linking Entrepreneurship and Economic Growth". *Small Business Economics* **13**(1), 27–55.
- Werenfels Röttorp, M. (1998), "Den offentliga sektorns förnyelse – vad har hänt under de senaste 15 åren?" In Lundgren, H., et al., *På svag is*. Stockholm Timbro.
- Zider, B. (1998), "How Venture Capital Works". *Harvard Business Review*, November–December, 131–139.

Figure 1 Level of entrepreneurial activity, 2000.

Start-up activity: Percentage of adults engaged in the process of creating a business in the past 12 months



New firm activity: Percentage of adults owning (solely or partly) and managing an operating business that is less than 42 months old

Note: The Korean situation for new firm activity may be a temporary anomaly due to the recovery following the recession in 1998.

Source: Reynolds *et al.* (2000).

Figure 2 Sweden's 50 Largest Private Corporations (Turnover) – Period of Establishment.

