This chapter is part of:

The Dynamics of Industrial Location: The Factory, the Firm and the Production System by Roger Hayter, Department of Geography, Simon Fraser University, Burnaby, 2004 (http://www.sfu.ca/geography/people/faculty/Faculty_sites/RogerHayter/books.htm)

NOTES:

This book was originally published by John Wiley, Chichester in 1997. In 2003 John Wiley kindly transferred copyright to me (Roger Hayter).

As the copyright holder, you have my permission to copy this book in part or in whole without charge. If you refer to the book in teaching or in research please make the proper citation (as appropriate):

Roger Hayter 2004: <u>The Dynamics of Industrial Location: The Factory, the Firm and the Production System</u>. Department of Geography, Simon Fraser University, Burnaby, 2004 (http://www.sfu.ca/geography/people/faculty/Faculty_sites/RogerHayter/books.htm)

Or Roger Hayter 1997: The Dynamics of Industrial Location: The Factory, the Firm and

Chapter 9

Formation and Function of New (and Small) Firms

Some time ago, Marshall (1922: 315) likened business enterprises to "the young trees of the forest" - they start as seedlings, grow slowly, then decay and die. Some firms, to be sure, have demonstrated remarkable resilience over decades, even centuries and appear more as long established members of an old growth forest. Stora Kopparberg, for example, has been in continuous existence as a manufacturing company for over 400 years. Large corporations in any event can reproduce themselves in various ways, expand, rationalize and mutate without apparent reference to age. Indeed, the very invention of the modern corporation was designed to remove powerful limitations to growth, size and vulnerability associated with the individual entrepreneur. The vast majority of manufacturing firms, however, are small and will remain so. For these firms, Marshall's life cycle analogy has more immediacy, even if particular paths of evolution are highly variable.

This chapter examines various aspects of the formation and function of new and

invereins to hip

1981; Curran and Blackburn 1991 and 1994; Storey 1982 and 1994; Karlsson, Johannisson and Storey 1993). The reasons for this interest relate to the extent of the downsizing among large firms, the rapid growth of new business formation and an ideological shift celebrating the role of initiative and entrepreneurialism in international competition (Stevenson and Sahlman 1989: 96). Within geography, there has been a growing focus on the contributions of new firms and SFs in local development, itself stimulated by the demise of the traditional form of industrial location policy with its emphasis on large branch plants and its replacement, or at least modification, by policies which have tried to stimulate local entrepreneurship.

This chapter focuses particularly on the characteristics of new firms, formation of new firms, especially why new firms locate where they do, regional variations in new firm formation rates, the challenge of survival of new firms, the characteristics of different types of new firms (and SFs), and some of the associated policy implications. These themes are introduced by a discussion of new (and small) firms as entrepreneurs

example, likens attempts to define entrepreneurship with "hunting the hefflelump" which although (supposedly) a large, important animal, hunters are never sure they have caught it! Yet, the hunting goes on and there have been numerous attempts to define the personality characteristics of entrepreneurs and the behavioural features of entrepreneurial firms (McLelland 1961; Birley 1989; Dewhurst 1989; Stevenson and Sahlman 1989). It is also often said that the societal 'hero' of neoclassical theory is the individual entrepreneur and that the entrepreneurial firm is the practical expression of firms as black boxes (Table II-1). This model provides an appropriate point of departure for thinking about entrepreneurship.

In a neoclassical landscape of perfect competition, firms have some clear characteristics. In particular, neoclassical black boxes qua entrepreneurs have no market or social power, they are independent, decision making and risk taking are conflated and personalized, and they pursue economic self interest on the basis of perfect information and perfect rationality. Even if in the real world, entrepreneurs do not have perfect information or rationality a neoclassical landscape is a highly competitive one in which market forces eliminate the misinformed and irrational. Indeed, models of the dual economy such as that outlined by Taylor and Thrift (1983; Figure 8. 3), also emphasize that small firms, and by implication entrepreneurial firms, must necessarily be highly responsive to market forces, so that the 'power' of the small firm is limited to the effectiveness of these responses.

There is therefore agreement in the neoclassical and dual economy models that entrepreneurial firms operate in markets that are strongly regulated by competition. In addition, the neoclassical model indicates entrepreneurial firms have several other features. First, such firms have little or no power to change market forces; that is, they are 'small' in two senses. Thus, they are 'relatively' small in terms of market share so that by themselves each firm cannot determine prices or output levels and, they are 'absolutely' small in an absolute sense of 'few' employees or sales so that the opening and

closure of each firm has virtually no measurable social impacts. Second, entrepreneurial firms are independent in the sense that input and output transactions are at 'arms length' and closely regulated by market (external) forces. Third, in entrepreneurial firms ownership and management is combined and personalized: decision-making is of the direct, 'hands-on' or personal contact variety. In this view, decision makers are also risk takers who have strong personal incentives to improve efficiency or market performance, that is, to be innovative in some sense. Indeed, some observers place particular stress on the criterion of innovativeness as the heart of 'entrepreneurialism.'

Broadly speaking, small (absolute and market) size, independence, owner-management and risk taking provide the defining characteristics of the entrepreneurial firm. Simultaneously, these defining characteristics of the entrepreneurial firm reflect its ambiguity. Thus, the meanings of small size (qualack of power), independence and owner-management are themselves problematical and inevitably involve some kind of

Between these two cases, which represent but realistic polar situations, when does independence become dependence? With respect to the criterion of owner-management, even among new and small firms owners have the option of appointing professional managers and can make choices as to how close and regularly the managers are managed. These options in turn raise questions as to how owner-management is to be defined. Finally, while there is inevitably some risk in creating and operating a small firm, it cannot be assumed that all small firms are innovative.

Given the judgments that have to made regarding the interpretation of size, independence and owner-management (or innovativeness for that matter), it should be noted that some new (small) firms are strongly entrepreneurial in some but not necessarily all of these characteristics. Indeed, this observation underlies Taylor and Thrift's (1983) disaggregation of the small firm segment (Figure 8. 3). Thus, the (market) independence of 'loyal opposition firms' which have established their own customer base in competition with large corporations is substantially different from 'satellite subcontractors' which service large firms. In turn, the independence and autonomy of the 'satellite franchise' is likely to be less in many respects than the satellite subcontractor. Similarly, small firm 'laggards' differ from small firm 'leaders' in their pursuit of efficiency and product improvements, or innovativeness.

In practice, the absolute size of firms, particularly with respect to employment, is used to define the SF sector and countries make different judgments as to the upper limits of what constitutes SFs (or small and medium sized firms) in this context (Table 8.1). Whatever limits are chosen, such a definition uses absolute size as a surrogate for a range of entrepreneurial characteristics. Such an assumption is practical since information on employee size is often available while information on other entrepreneurial features is rarely systematically collected. Moreover, measures of absolute size probably correlate to some extent with other characteristics associated with entrepreneurial firms. At the same time, this correlation is by no means perfect as some larger firms are owner managed and

behave in an entrepreneurial manner while some SFs have bureaucratic structures and characteristics such as risk taking and innovativeness seem scarcely present.

Over time, the members and perhaps even the overall size of the entrepreneurial pool of firms changes. On the one hand, some firms are lost to this pool as a result of as a result of failure or internal growth and change or acquisition by large corporations. On the other hand, new firms are constantly added to the entrepreneurial pool. Indeed, for some observers, the rate of formation of new firms, considered as a supply of entrepreneurship, provides a vital measure of the health of a local economy (Firn and Swales 1978; George 1974).

THE FORMATION AND CHARACTERISTICS OF NEW FIRMS

Stories of new firm formation and entrepreneurship are incredibly varied and individual case studies can never hope to fully represent the range of behaviours and processes. With this important caveat in mind, case studies provide concrete illustrations of new firm formation which help to understand and link the previous relatively abstract discussion of new firms as entrepreneurs and subsequent summaries of empirical surveys of new firm populations (Exhibits 9.1 and 9.2).

New firm case studies

Pacific Emergency - Pacific Emergency Inc (and a subsequent company, Pacific Body Armour Inc) was started by Bradley and Lori Field in Kelowna in the Okanagan Valley region of British Columbia, Canada, a resource rich peripheral region which is growing rapidly (Exhibit 9.1). This firm manufactures custom made backpacks containing emergency medical equipment and bullet proof vests and several summary points can be usefully drawn at the outset from this example of a 'successful' new firm.

health sector). At the same time, there are features about the Fields' story which are more typical of new firm formation. Bradley Field, for example, was already a manager and his idea for a new firm stemmed directly from his work experience. Moreover, the process of creating and developing Pacific Emergency reveals some other themes that are consistently highlighted in the new firm literature. First, in this case as in many others, the owners, a husband-wife team, did virtually 'everything' in the early years including manufacturing, designing, financing, purchasing and marketing. Second, the two owners had little or no prior knowledge of these activities and their learning of appropriate skills primarily occurred 'on the job' on a trial and error basis. Third, both owners kept their previous full-time jobs while developing their new firm and the associated skills. Fourth, they had no money of their own for investment Basically, as do many new firms, they relied on personal credit and a relative and on the income from their existing jobs (and fortunately, they were able to generate cash flows to cover costs as they expanded). Fifth, 'location' is not an explicit part of the story. As is typical for many new firms, the Fields did not make a location decision in an explicit sense; they simply started working in their home. Subsequently, their re-location to rented premises and then to a factory occurred within Kelowna where they lived. Sixth, in developing Pacific Armour, the Fields obviously faced significant uncertainty both in the sense of true uncertainty and of knowledge gaps (see chapter five). Thus, they could not know the market potential of

incorporated their firm, when they established the business on a full time basis and/or when they established production in a separate location? The answers to these questions probably involve different dates, a not uncommon problem when identifying the origins of new firms. There is also the question of whether Pacific Body Armour should be regarded as a new firm. While it is small and owner managed it is also affiliated to an 'established'

alliance with a leading US medium sized firm (see Table 10. 1). Madge Networks, like Pacific Emergency, is distinguished not simply by its grow and internationalization but by its survival. Many new firms fail within a year or two after formation and many that survive do not grow much and never participate in the international economy.

New firm characteristics: survey evidence from Japan

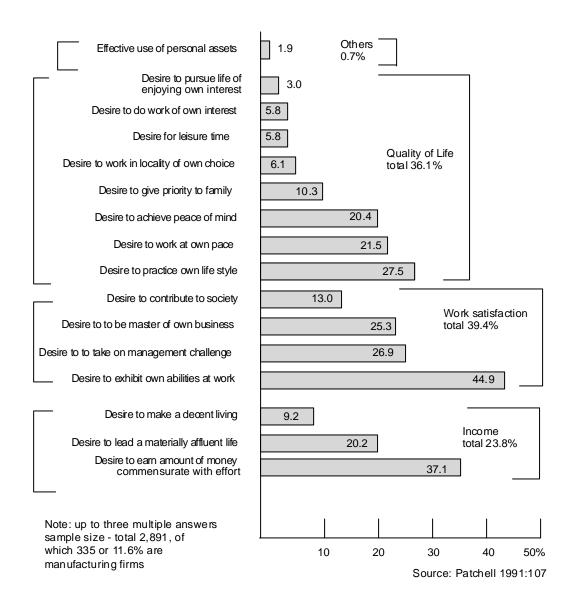
With a few notable exceptions, such as Japan, national data, pertaining to date of start-up, location, employee size or product mix, on the formation of new manufacturing firms are not systematically collected. Occasional data that are available are soon dated and limited in content. Consequently, basic statistical information on new firms has depended on field work and while this work has been extremely valuable, it is selective in focus while research designs vary considerably, for example, in terms of time period, spatial scale, size of sample, knowledge of underlying populations (of new firms) and definition of new firms. In Japan, however, organizations such as the Ministry of Trade and Investment (MITI) and the Kokumin Kinya Koko (People's Finance Corporation) regularly publish information on the characteristics of new and small firms. Several of these surveys are reported by Patchell (1992) and his summary provides the basis for the present discussion. While the distinctive nature of the Japanesse economy has to be considered, including with respect to the unusually significant role played by small firms (Patchell 1993), these data provide a comprehensive framework for assessing trends and a frame of reference for other studies (for example, Cross 1981).

Motivation to Begin a New Business - While neoclassical theory emphasizes economic rationality and the importance of cost minimizing or profit maximizing behaviour, in practice, individuals begin their own firm for a wide variety of reasons. In this regard, the

Kokumin Kinya Koko publishes the results of a survey every five years of all new firms it has helped financed. In the case of its 1990 survey, 2891 firms responded, 12% are manufacturing firms and each firm was able to make three choices (Figure 9.1). Essentially, the agency asked firms to indicate their motivations according to three main general categories labeled income, work satisfaction and lifestyle gratification reasons. (An 'other' category is also identified). Each of these categories are further sub-divided. Income motivations, for example, are expressed as three related but separate categories.

Figure 9.1

Motivation to begin a New Business in Japan



Clearly, motivations are complex. Thus, income motivations, quality of life and work satisfaction reasons are all important, with the latter two categories more important than the income category. Within these three categories, there are eight sub-categories which received significant response. Further generalizations are difficult. Bearing in mind

to their fullest potential, the ability to balance work and leisure as they see fit and to be financially rewarded in a way that reflects their truth worth. It might also be noted that western based surveys of new firm founders consistently reveal complex motivations, which include non-economic considerations and the high value placed on independence and 'being one's own boss' (Cross 1981; Stevenson and Sahlman 1989: 100-1). Citing US-based data, for example, Stevenson and Sahlman (1989: 100) give particular emphasis on the degree to which self-employment satisfied personal values.

Entrepreneur's Age at Formation of Business - An interesting trend revealed by data collected by MITI on manufacturing firms since the late 1940s, is that new firm founders in Japan are getting older (Table 9.1).

Table 9.1

Entrepreneur's Age in New Firms in Japan

	A ge Cohort					Average
Period	<30 yrs	30-39	40-49	50-59	60+	Age
1946-55	29.1%	41.6%	19.7%	9.4%	0.9%	35.0
1956-65	22.9%	32.8%	28.2%	12.2%	3.8%	38.0
1966-75	21.5%	33.3%	31.2%	11.3%	2.7%	37.9
1976-85	11.8%	34.1%	29.4%	16.5%	8.2%	41.3
1986-	2.7%	18.1%	46.4%	25.6%	7.2%	46.2

Source: Patchell 1991:109

Thus, until 1986, most Japanese new firm founders were in their 30s. Since 1986 over 46% of Japanese entrepreneurs have been in their 40s and since 1986 this age group has been the single most important category. Previously most new firm entrepreneurs had been in their 30s. Moreover, entrepreneurs over 50 accounted for about 10% of new firm starts in the 1946-55 period and over 25% since 1986. Some British studies (Cross 1981:

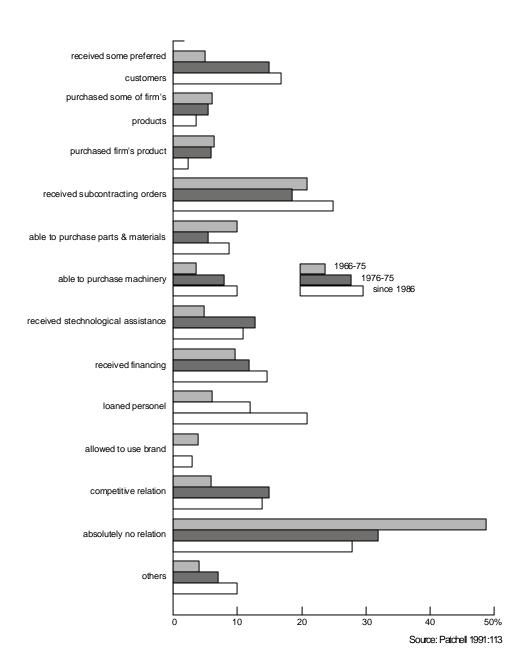
209; Lloyd and Mason 1984: 215) also reported that the majority of new firm founders (in the 1970s) were in the 30-45 year age group and so potentially correspond with Japanese

As a partner of a small (manufacturing) firm, Richard Madge's previous occupation fits this profile and neither he nor the Field's were previously employees of small firms. In terms of comprehensive survey based research there is strong evidence from British regions that by the 1970s the majority of new firm founders previously occupied managerial positions, particularly within the manufacturing sector (Cross 1981: 214; Gould and Keeble 1984: 197; and Fothergill and Gudgin 1982: 120).

Relationship of New Firms with Founder's Previous Workplace - MITI's information also indicates the various ways new firms are related to the founder's previous workplace and the fact that such relationships are becoming more important (Figure 9.2).

Thus, since 1966 the percentage of new firms with no links to their founder's previous workplace declined from around 50% to about 28%. As more ex-managers are becoming new firm founders in Japan perhaps such a trend is to be expected. These relationships are varied. In 1986, for example, the most important forms of 'cooperative' relationships were the receipt of subcontracted orders, loans of personnel, financial help and receipt of some preferred customers. Other types of relationship exist, however, including competitive relations. Bradley and Lori Field's venture is also a good illustration of the process whereby a previous employer becomes a customer, in this case an important one to the development of the firm. In fact, such connections have been documented in other studies.

Figure 9.2



UK report that between 68 and 90% of new firm founders located in their local area (Cross 1981: 228; Gudgin 1978: 109; Johnson and Cathcart 1979: 14; Khan and Hayter 1984: 5; Lloyd and Mason 1984: 214; Taylor 1970). Bradley and Lori Field's 'decision', apparently made without much thought, to locate in their home town is therefore quite typical. And, even if Robert Madge believes his firm to be "global business" (Lynn 1995: 2-4), he also 'automatically' located 'at home.'

The rational efor the tendency of new firm founders to locate in their local or home regions is expressed in terms of the seedbed hypothesis. As Hill (1954: 185) noted some time ago, a new firm:

"on the face of it......is highly mobile. The capital outlay is probably small, labour demands are not difficult to satisfy, raw materials may be generally available throughout the country at fixed prices...such a unit, in fact, more often than not turns out to be completely immobile; if it is not established where the originator wants it, it will not be established anywhere".

The behavioural rationale for such decisions is the fact that new entrepreneurs are thoroughly familiar with their home locales and within these locales they are likewise known. Thus, potential entrepreneurs are aware of possible premises in which to locate, know about possible workers or can assume labour will be provided by their families, and they will at least understand the characteristics of local labour. They may well have contacts with local financial institutions and knowledge of local markets, they may know of available equipment and suppliers. The entrepreneur's home provides a ready made head-office and even manufacturing space for a whole. In other words, local entrepreneurs 'inherit' considerable knowledge about their home environment as part of their birth right. To locate elsewhere would involve all the costs and uncertainties in collecting and understanding information on unfamiliar places. Indeed, for the most part, new founders do not even contemplate moving elsewhere. In this sense, location is not a decision for them. Moreover, new firms face considerable uncertainty in establishing themselves as a business, as was the case with Bradley and Lori Field and Robert Madge.

If the Bradleys and Madge had located their manufacturing plants elsewhere they would have compounded all those uncertainties of starting a new business with the uncertainties of operating in unfamiliar locations.

In countries such as Israel, Canada and Australia, where there has been high levels of immigration, and immigrants are an important source of entrepreneurship, questions can be raised about how new firm founders compensate for the costs and uncertainties of not locating in their seed bed. One strategy adopted by immigrant entrepeneurs is to live in their new home for a number of years to acquire the same level of local geographical know-how as native inhabitants before creating a new firm. In the case of Vancouver metro, a random sample of new firms found that new firm founders who were born outside of Canada lived at least 11 years here before investing in a manufacturing enterprise (Khan and Hayter 1984)). Clearly, such behaviour reinforces the rationale underlying the seedbed hypothesis. In Canada, however, current immigration policy is favouring immigrants willing to invest on or soon after arrival which inevitably increases the risks of such investments. In some situations whereby immigrant-entrepreneurs contemplate investment more or less immediately on arrival, some new firm founders can compensate for the strictures of the seedbed hypothesis by joining established, closely linked cultural groups which serves to nurture their new firms as they try to come to grips with unfamiliar surroundings.

The incubator hypothesis

The idea of the incubator hypothesis has been developed in different contexts. Thus, local ethnic groups that help to nurture immigrant entrepreneurs are incubators, business organizations or educational institutions which spin-off entrepreneurial ventures through the initiatives of former employers are incubators while the original rationale for the incubator hypothesis in the geographical and planning literature stressed the importance of long established industrial cores within metropolitan areas as incubators. This latter

rationale is based on the argument that the rate of new firm formation is positively influenced by the supply of agglomeration economies and was developed by Vernon and Hoover (1959) to help explain the location of industrial activities within the New York

extent to which metropolitan centres act as incubators and, whether or not, they are superior incubators compared to other locales, is more debatable. One reason is that old industrial cores are disappearing. Over the past 30 years or so, many cities have undertaken extensive urban renewal schemes which have literally replaced existing industrial land uses with other forms of land use, including retail, transportation and residential land uses. In Vancouver, for example, since the late 1960s the False Creek area, once the city's dominant industrial district, has been 'gentrified' into a residential complex, with associated entertainment, retail and personal services, for professionals (Ley 1981; Ley 1986; Ley and Mills 1988). False Creek's transformation was completed by World Expo 1988 which occurred on a nearby site. Admittedly, in the Vancouver

contain buildings to help incubate new firms. Such plans assume that the decline of inner cities as industrial incubators is at least not absolute.

The incubator functions of technology oriented complexes - The relative decline, and in some cases total eclipse, of the 'natural' incubator functions of the industrial districts of inner cities is paralleled by the emergence of incubator functions elsewhere. In general

Moreover, in the setting up of new firms in Silicon Valley, and Boston 128, venture capital, and local venture capitalists, which function as financial intermediaries providing capital to new firms from such sources as pension funds, corporations, foundations and even families (Florida and Kenney 1988b), have been important. As noted in chapter 4, the San Francisco-San Jose and the Boston-Hartford regions are second only to New York as locations for venture capital offices (Figure 4.3a) and they dominate the distribution of venture capital investments in the US (Figure 4.3b). In both Silicon Valley and Boston 128 local venture capitalists invest most, but not all, of their capital locally while also importing capital from other centres. In these TOCs, local venture capitalists developed gradually to serve the highly specialized and highly uncertain needs of high tech firms. Typically, venture capital is provided on an equity basis and close proximity has allowed locally based venture capitalists to gain an intimate knowledge of industry in the TOCs and "to identify, monitor, supervise, and assist with [highly uncertain] investments (Florida and Smith 1993: 441). In Silicon Valley, in particular, local venture capitalists have become 'embedded' in local technology networks and serve to reduce the uncertainties of investments and to compensate for ambiguous information (Florida and Smith 1993).

More generally, if there is evidence from the US and the UK that many small high tech firms prefer to use profits as a source of investment capital (Oakey 1993: 229), venture capital markets have expanded considerably and more new firms in new and risky high tech activities are relying on venture capital funds (Kenney 1986; Florida and Kenney 1988a; Malecki 1991: 334-42). In theory, venture capital might be expected to be highly mobile. In practice, the supply of venture capital is both "highly mobile and highly local" (Florida and Smith 1993: 449). On a global scale, the largest and most sophisticated venture capital markets are in the US. This capital is available to non-US firms as the Richard Madge example reveals (Exhibit 9.2). At the same time, for Madge, the implication of his deal was a US-based partner and a US-based location. Within the

US, there are substantial interregional flows of venture capital which compliment the

start-up of new entrepreneurial firms. New York's economy, on the other hand, enjoys a more diversified composition comprising a large population of small firms which Chinitz saw as providing more appropriate conditions to stimulate a supply of new firms. George was more concerned with the effect rather than the cause of regional variations in entrepreneurship; thus he contrasted the economic performance of Ontario (the 'leader') and Nova Scotia (the 'laggard') and explained the difference primarily in terms of the greater entrepreneurial vitality of the former.

Mapping new firm formation rates

In the UK, there is considerable statistical evidence of regional variations in new firm formation rates (see Cross 1981; O' Farrell and Crouchley 1984; Firn and Swales 1975; Gould and Keeble 1984; Pounce 1981; Storey 1981 and 1982). By way of illustration, the results from two of these studies reveal this variation among the UK's major regions for the mid-1960s to the mid-1970s and for 1981 (Table 9.3). In Pounce's (1981) analysis (column 1 in Table 9.3), the manufacturing employment generated in new manufacturing firms (per 1000 total manufacturing employees) in the 1966-75 period is at least three times greater in the highest ranked region (East Anglia) compared to the lowest ranked regions (the North West and the West Midlands). While regional variations are less in Whittington's (1986) calculation of new firm registrations in all

Table 9.3

Regional New Firm Formation Rates in the UK: Three Measures

Region	Employment in New MFg Firms per 1000 in Mfg Employment, 1966-75	Net Registrations per 1000 of Working Population, 1981
		•
North	7-12	3.8
Yorkshire	7-12	4.5
East Midlands	14-19	4.6
East Anglia	>25	5.0
South East	20-25	5.4
South West	7-12	6.2
West Midlands	<7	4.7
North West	<7	4.2
Wales	20-25	5.2
Scotland	14-19	3.4
N. Ireland	20-25	3.9

Sources: Pounce 1981: 59 and Whittingham 1986

Broadly speaking, the patterns revealed by the two surveys are similar in that the rich and fast growing regions of the south and east and weaker in the more peripheral regions. In Pounce's survey, Wales and Northern Ireland depart from this observation. Other studies at more localized geographical scales tend to reinforce the general pattern. For example, Lloyd and Mason's (1984) study reveals the higher birth rates in South Hampshire, part of the rich south, compared to northern metropolitan areas, thus confirming Storey's (1981) earlier results which noted the low rate of new firm formation in Cleveland, part of the poor North. It might be noted that sub-regional variations in new firm formation rates during the 1970s are greater than those revealed at the interregional scale (Gould and Keeble 1984).

A recent study has comparatively analyzed new firm formation rates in the 1980s for all economic sectors, including manufacturing, for several advanced countries (Reynolds, Storey and Westhead 1994). In several European countries and the US, the

difference in the birth rates of manufacturing firms among regions is substantial (Table 9.4). Among the European countries, for example, the regions with the highest birth rates generate from 2.7 (Germany) to 6.5 (Sweden) as many new firms (per 10, 000 population or 10, 000 employees) as the regions with the lowest rates. In the US, the variation is many times larger. While there are differences in time periods and method of calculation, these data also suggest that there are national variations in birth rates. Although any comparisons have to be cautiously stated, the relatively high values for the UK are unexpected, given the relatively lesser role small firms have played in the UK in the past. Several observers do suggest that birth rates of firms in the UK are increasing although, as of the late 1980s, small firms were still relatively less important in the UK economy, for example, compared to Germany (Table 8-1).

Table 9.4

Manufacturing Firms: Birth Rate for Selected Countries

	,	n		
Country	Regional average	Regional minimum	Regional maximum	<u>Maximum</u> minimum
Germany (86)	6.8	4.5	12.0	2.7
Ireland (80-90)#	22.3	10.7	42.7	4.0
Italy (87-91)	26.8	12.7	51.0	4.0
UK (80-90)#	27.5	10.0	59.5	6.0
Sweden (85-89)*	10.3	4.4	28.7	6.5
US (86-88)#	16.8	2.4	114.0	47.5

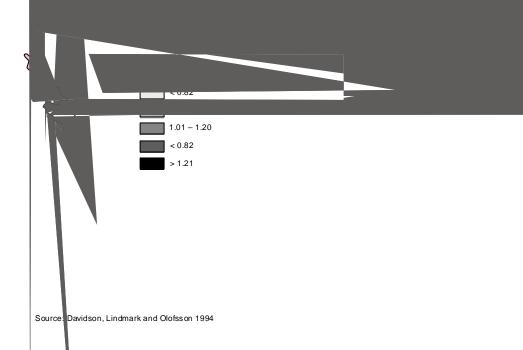
Source: Reynolds, Storey and Westhead 1994: 449
Notes: #Population 16-64 used as denominator
*Manufacturing workers used as denominator

In the specific case of the UK, regional variations in new manufacturing ('production') firm formation rates between 1980 and 1990 generally confirm previous studies (for example, Pounce 1981; Storey 1982) and support Martin's (1988) two nation hypothesis (Figure 9.3). Thus, regions in the south-east and south-west England and East Anglia are all in the highest three birth rate categories and most of the top two categories are located in these regions. On the other hand, the most peripheral regions of northern England, most of Scotland and northern Ireland are in the lowest two categories.



the case of Sweden, there are also v (Figure 9.4). The authors claim tha "...with few exceptions, small in ter administration and education tend t manufacturing (Davidsson, Lindma

> Sw Manufa



Statistical explanations - Various attempt have been made to statistically explain regional variations in new firm formation rates in terms of variables (or 'indicators') representing various regional characteristics, such as population, demand and employment conditions and urban industrial structure. Storey (1982), for example, suggested new firm formation rates correlated with six main indicators, namely the percentage of small firms, the percentage of the population that are managers, the percentage of the population with degrees, savings per head of population, the percentage of owner occupied houses, the percentage of the workforce in low entry barrier industries and the regional income distribution. Recently, Reynolds, Storey and Westhead (1994) have summarized the results of surveys in six countries which have sought to (statistically) associate birth rates among manufacturing firms with indicators of regional characteristics (Table 9.5; see also Table 9.4). This study, it might be noted, also reported on non-manufacturing firms.

There are two immediate, general observations that can be made regarding these results. First, the variables employed in the six surveys account for between 37% (Sweden) and 76% (Ireland) of the variance in new firm formation rates. In the 'best' Irish case, Hart and Gudgin (1994) found that the main determinants of new firm formation at the regional level are the proportion of small firms in the area, growth in local industrial demand, the proportion of professional and managerial occupations in the population and the impact of government policy. On the other hand, in four of the six national cases at least 38% of the variance is statistically unexplained. Possibly, the variables used do not adequately capture the regional characteristics they represent, there are other characteristics and factors that are important but have not been included, the regions chosen may be internally highly differentiated and there may be some peculiarities in the data on new firm formation in the particular time periods chosen.

Table 9.5

Regional Characteristics and Manufacturing Firm Birth Rates:
Generalized Statistical Relationships

	Firm birth/year/10,000 population					
	Germany	Ireland	Italy	Sweden	UK	USA
Demand growth	-					
In-migration/population growth	0	(-)	(+)	+	+	+
Growth in Gross Domestic Product	0	+	0	0	0	-
Urbanization/agglomeration						
Percentage 25-44 years old	0	NI	0	NI	NI	-
Population density	+	-	(+)	0	+	-
Percentage secondary housing	NI	NI	NÍ	NI	NI	NI
Percentage managers in workforce	0	+	0	NI	+	+

Notes: + = statistically positive influence, () marginal significance.
- = statistically significant negative influence, () marginal significance.
0 = measure included, not statistically significant.

NI = no measure included in the analysis.

With respect to potentially important factors not wtaied, influenocnufsI significance.

migration/population growth variable may be noted. In three countries, this variable is significant and in another it is marginally significant. That is, although a large number of characteristics are thought to be relevant to understanding spatial variations in new firm

It is important to bear in mind that the relationships between plant size, ownership and new firm formation need to be explored in particular contexts. Two broad points can be made to underline this statement. First, as noted (Table 8.1), the size distribution of firms varies internationally and, for example, the stronger role played by small and medium size firms in the Japanese and German economies than the American or British economies directly reflects the stronger tradition of large firms and plants in the former economies to spawn and cooperate with new and small firms. Second, changes occur over time. Indeed, in the contemporary period of restructuring, the creation of leaner and flatter organizations is a significant theme, perhaps especially in North American and British contexts, and there has clearly been significant re-thinking about the relative roles of large and small firms in favour of the latter (Storey 1994). Contemporary corporate restructuring, for example, often involves decisions to contract out ('vertically

Chemainus mill (see chapter 9). The extent to which vertical disintegration and lay-offs are contributing to new firm formation in an aggregate sense, however, is not clear, in British Columbia or elsewhere. There is also the question of the geographical implications of vertical disintegration. While in the case of wood processing in Chemainus, vertical disintegration has encouraged a localized concentration of activity, trends elsewhere are more varied (Milne 1991; Storper and Christopherson 1987). This issue, which is complicated by the fact that vertical disintegration as well as vertical integration are reversible processes, will be addressed in Part IV.

Table 9.6

Paul can Enterprises, Chemainus: Source of Plant and Equipment, 1985-94

<u>Item</u> <u>Source</u>

Main planer MacMillan Bloedel, Chemainus (sawmill rebuilt)
Small planer Fletcher Challenge, Youbou, (sawmill rationalized)

Lumber sorter Northcoast Lumber, Coquitlam (sawmill closed)

Strapper MacMillan Bloedel, Nanaimo (sawmill rebuilt)

Beams/sawmill City of Vancouver, Lion's Gate Bridge (maintenance)
Trimmer set Champion Lumber, Libby, Montana, (sawmill closed)

Beams/trusses Canadian Pacific, Gold River, Tahsis cedar mill

Roof/main mill Mayo Lumber, Nanaimo (sawmill rebuilt) Boilers for kilns Alberta Liquor Control Board, Edmonton

Kilns Welland, Marysville, California

Tilboy system Vancouver

Source: Fieldwork, 1994.

The effects of regional dynamism

In addition to the effects of industrial structure, there has long been the suggestion that regional dynamism underlies variations in new firm formation rates (Firn and Swales 1978; George 1974). In this context, regional dynamism refers to absolute increases in levels of economic activity and regional income and/or per capita increases in regional

income. In this view, those regions which sustain growth over a long period of time are more likely to generate higher rates of new firm formation than slow growth or stagnating regions. Given that causes and effects between regional dynamism and new firm formation is likely to be interrelated, this argument suggests sustained growth encourages entrepreneurship because: it implies that threshold levels for an increasing number of economic activities are passed; more diversified economies in terms of skills and occupations which provide more opportunities for new firms; bigger populations in turn increase the chances for innovative behaviour; growth is likely to fuel its own spirit of speculation and optimism; and growth typically implies net in-migration and interregional migration, at least within advanced countries, is a selective process emphasizing better educated, higher skilled and higher income individuals. Conversely, slow growth or stagnating regions might be expected to reveal the reverse of these effects.

The influence of regional dynamism, which captures the effects of a number of factors on new firm formation, on new firm formation rates is strongly supported by a comprehensive statistical analysis of firm births across the industrial spectrum in 382 labour market regions in the US during the highly volatile early 1980s (Reynolds et al 1994). Thus, this study determined that the single most important ('major') influence on new firm formation (and for branch plant formation) in all (manufacturing and non-manufacturing) industries is local economic diversity and that population growth and greater personal wealth revealed 'strong' positive associations. Interestingly, the previously noted surveys of new firm form

during recessions as they were willing willing to accept lower labour productivity during periods of declining demand, that is to hoard labour.

New firms: the challenge of survival

It has been recognized for some time that new firms experience the highest death rates among firms of all ages and that death rates are high (Steindl 1947). Recently, Bates (1995) has noted that among American firms formed between 1984-87, 35% of franchises and 28% of non-franchises had failed by 1991. Across a variety of US sectors, including manufacturing, evidence from the 11 year period between 1976 sand 1986, over half of new firms failed to survive, a pattern similar to UK experience (Storey 1995: 95). From this perspective, Pacific Emergency (Exhibit 9.1), Madge networks (Exhibit 9.2) and Paulcan (Table 9.6) are already exceptional in that they have both overcome the critical challenge to survival facing new firms in their first few years. In fact, the owner of Paulcan had to delay start-up until he had cleared bankruptcy problems from an earlier venture.

As Marshall (1922: 315) intimated, the problems facing new firms can be usefully reviewed within the context of a life cycle model of small firms (Figure 9.5). This model portrays a (successful) firm moving through five stages. In stage 1 (Introduction), new products are introduced at which time the firm encounters consumer ignorance and possibly resistance. Sales are typically low, growth slow for a while and profitability hard to achieve. In stage 2 (Take-off), the product becomes accepted and sales grow and profitability is achieved, although the higher the profits the greater the possibility of competition. In stage 3 (Diminishing growth), growth typically slackens for a combination of reasons such as saturation of demand, competition and attainment of a size that the owner is 'comfortable' with, the so-called 'comfort level'. Profits might slip. In stage 4 (Maturity), sales are static and may simply be replacement sales. There is a need

for product differentiation. In stage 5 (Old age), in the absence of product innovation decline may set in and firm may die.

Introduction Take-off Slow down Maturity Decline

Survival Consolidated Control Expansion and planning

Time

Product/Service becomes accepted by customer's

Replacement sales m

Figure 9.5
The Life Cycle Curve for Successful New Firms

Organizational metamorphosis and new firms - The thesis that organizational structures are adjusted to evolving organizational strategies was developed in the context of the long run growth of firms, from the very small to the very large (Figure 7.1). But new firms often face significant, interrelated problems of strategy formulation and organizational adjustment in a short period of time. The first two stages of the life cycle model, for example, raise a considerable number of problems facing new firms (Burns 1989: 43; Storey 1994: 121). According to this model, for example, in the first phase of the Introduction Stage, new firms are pre-occupied with survival; in terms of management owners do everything including direct supervision of employees, the marketing problem is that of accessing a sufficient number of customers and developing a market niche, the accounting problem is one of establishing a cash flow while the financial problem is typically overcome by use of personal funds and borrowed money from friends, relatives and perhaps banks. Once survival is ensured, the policy issues facing new firm founders change. In particular, emphasis shifts towards consolidation. Similarly, if the Take-off Stage is reached the nature of the management, marketing, accounting and financial problems continue to evolve. Thus, the firm has to develop proper procedures for control and planning and solve the problems necessary for rapid expansion. In the case of marketing, the firm has to access more consumers on a more permanent basis. During take-off, a more systematic approach to marketing (administration, files, cost allocation, hiring of sales people) is needed while expansion requires a strategy to reach new customers (advertising, identification of customers, personal contact with new markets, circulars, innovation of new products).

Employment practices and relations, which interestingly are not incorporated in Burns' (1989) model, can also change rapidly for a firm such as Pacific Emergency which within 10 years of start-up expanded their labour force from just themselves to 30 people. Such an expansion involves decisions to hire, train, supervise, establish pay scales, hours of work, and non-wage benefits, while the owners have no doubt had to handle a variety

and the UK suggests that from 1985 to 1990 firms employing between 5 and 20 workers created relatively more jobs than firms employing more than 500 workers. The contributions made by new firms (births), expansions and contractions within different size categories of firms varied by time period and country. Thus, the formation of new, small firms was far more important to (net and gross) job creation in the UK than in the US in the late 1980s. Even so, in the US small firms (5-19 employees) increased employment levels by 18.3% between 1988 and 1990 while large firms (> 500 employees) declined.

Second, according to Fredrickson and Lindmark (1979), the relative contributions of small versus large firms begins with the recognition of the differing abilities of the two types of firms, first, in utilizing the internal human and capital resources available to them and, second, in influencing external organizations. Large firms, in thin ta3w, sae iparticuargy mefercive on nfluencing erival, iondsuenr, isupplies and groersnen-0.5(dnt. Evtriepenteurilly ru firm)8.5(s, o the U]TJT*0.0

south as California to fetch equipment even if this means hiring labour and trucks. The reason is cost. In August of 1994, for example, Paulcan had just bought a trimmer at an auction in Libby, Montana after a big lumber mill had closed. The cost of the second hand trimmer, including delivery, will be about \$50,000 while a new one made a few kilometres away would cost \$450, 000. Apparently, the firm usually buys second items at around 10% of the purchase price.

Fourth, new and small firms are believed to play distinctive roles in the innovative process (Britton 1989; MacPherson 1994; Oakey 1984). Indeed, some studies suggest that the innovativeness of small firms is superior to large firms. Pavitt et al (1987), for example, claim that in the UK firms with less than 1000 employees account for 3% of R&D expenditure but onethird of significant innovations. Admittedly, 1000 employees is an unusually high limit for defining small firms and there is evidence that small firms of less than 200 employees, in part because of the expense involved, have been poor adopters of new technology such as CAD-Can systems (References). Indeed, the scavenging activities of firms like Paul can are consistent with this view. At the same time, Paulcan had their ability to integrate new computerized control systems with old equipment in a manner which would not be contemplated by most large firms. If the majority of new and small firms do not engage in 'significant' innovations, Britton (1989a; 1989b; 1991; 1994) has emphasized their role in incremental innovation (MacPherson 1987, 1988, 1994). Incremental innovations occur as more or less continuous improvements by engineers and others in productivity, products and services and at least important segments of small firm populations do implement incremental change. Although not dramatic, cumulative impacts of incremental technological change can result in impressive productivity improvements over periods of time (Freeman and Perez 1988). Indeed, by virtue of their specialization and narrow focus, small firms are a particularly important source of incremental innovations, the benefits of which, can be passed on to large firms through subcontracting linkages (Patchell 1993).

Fifth, it is widely argued that new and small firms enhance local multiplier processes by their proclivity to purchase local supplies of inputs of goods and services. indeed, the direct implication of the seed bed hypothesis is that new firms will rely on highly localized suppliers (Table 9.6). Thus, over half of a small sample of new manufacturing firms location gin the Vancouver metropolitan area purchased at least 75% of their inputs from this area, and the main exceptions were provided by immigrant entrepreneurs.

Sixth, the marketing linkages of new and small firms are often local (Table 9.7) and as such these firms provide important roles in improving levels of self sufficiency in a local economy, reducing reliance on imports or at least acting as a relatively cheap form of learning as to whether or not the particular good they are manufacturing is actually viable within a local economy. In this regard, high death rates among new and small firms is not simply a waste of resources as the entrepreneur and locality can learn from such disappointing experiences.

Table 9.7

new and small firms are critically important. As noted, new and small firms are not inevitably 'entrepreneurial'; in all characteristics and some may be classified as laggards (Figure 8. 3). In addition, the opportunism of entrepreneurs may generate socially undesirable outcomes in the form of hyper-competition, labour exploitation and environmental degradation. Any implications of new firms for local development does of course depend on their establishment and survival.

Small firms and regional development policy

With increasing momentum since the early 1970s, new firm formation and the small firm sector in general has acquired a higher profile in regional and local development polices in many countries. In the US, UK and Canada, and elsewhere, stimulation programmes in support of small firms have generally emerged out of the ashes of more traditional forms of industrial stimulation programmes which favoured the attraction of large scale branch plant operations. In several cases, long established designated regions such as northern England, central Scotland and Atlantic Canada that since the 1950s had attracted branch plant investments, were found to be deficient in the supply of new firms (Firn 1975; George 1974; Storey 1981). Bearing in mind that, traditionally, industrial incentives were designed to change the locational preferences of branch plant investors, these policies encouraged industrial structures, particularly with respect to large size and external ownership, now considered inimical to the creation of new firms (Hayter 1982; Storey 1981).

In contrast to traditional forms of industrial incentives which seek to change location preferences, policies to stimulate small firms generally take location as given and generally assume the actual or potential presence of locally based entrepreneurship. Broadly speaking, the goals of small firm stimulation programmes have been to encourage the creation of new firms and the consolidation and expansion of small firms and often applied to non-manufacturing as well as manufacturing industries. The policies themselves are highly varied and in different

forms and mixes have provided financing, information and advice, services, access to foreign markets, infrastructure while in recent years there has been growing concern for promoting networks of small firms, especially high

developments such linkages were not an explicit thrust of policy. With the shift in regional and local development policy towards small firms, however, efforts have been made to design industrial parks which hopefully will act as incubators to new high tech firms (Oakey 1985). Thus, in addition to factory space, contemporary industrial parks frequently contain incubator buildings which offer various services such as typing, faxing, computing, seminar rooms, video equipment, business advice centres and such social services as restaurants and day care which can be shared among new firms. These services may be provided free or at low cost, at least for a particular time period to help

1988: 70-97) and linkages among park tenants (Malecki 1987; Gillespie *et al* 1987; Howells 1986; and Keeble 1989). Oakey (1991; 1993) has also consistently raised doubts about the job potentials of new high tech firms and has been particularly critical of the growth performance of new British companies in relation to US companies.

In practice, available evidence suggests that planning for incubation, whether with respect to manufacturing firms as a whole or high tech firms in particular, is problematical. At the local level, there are successes and failures, and perhaps in a high tech context, attempts to clone Silicon Valley have been predominantly frustrating exercises.

CONCLUSION

Since 1980 a large literature has led to a much better appreciation of new and small firms. Debate continues to occur regarding the importance of new and small firms to local economies, for example, with respect to job generation. The basic point, however, is that the small firm sector remains a significant segment within capitalist economies and in some countries it is probably becoming somewhat more important. Fears for the death of small firms have proven unfounded. At the same time, the new found vitality of small firms has brought mixed reactions. In general terms, while some authors celebrate the renaissance of small firms as the most appropriate way of promoting local development (Piore and Sable 1984) others suggest that the growth of small firms is part of a wider trend toward an 'enterprise culture' which gives too much priority to individualism and not enough to community values (Heelas and Morris 1992; Marquand 1992).

Just as the demise of small firms has not occurred, fears for the decline of large firms seem unfounded. It is still useful to examine large firms.