

GLOBAL ENTREPRENEURSHIP MONITOR

*National Entrepreneurship Assessment:
United States of America
1999 Executive Report*

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Note: This report is one of 10 developed by countries involved in the first cross-national study of entrepreneurship and national economic growth. It is best understood when reviewed in relation to the cross-national comparisons report, Global Entrepreneurship Monitor: 1999 Executive Report: Kansas City, Mo.: Kauffman Center for Entrepreneurial Leadership, June 1999.

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EXECUTIVE SUMMARY

The United States has one of the highest levels of entrepreneurial activity in the world. Yet there has been little serious attention — either by the national government or other research institutions — to developing a reliable means for measuring and describing the level of entrepreneurial activity. In addition, scholars lack a general understanding of the cultural, social and economic factors that determine the level of activity.

The result is a glaring knowledge gap. Without credible measures, it's difficult to assess the impact on entrepreneurship of a wide range of federal, state and local policies, regulations and legislative changes, as well as geographic and market context. Entrepreneurship is one of America's most important mechanisms for adapting to economic change. But the United States has not focused on understanding how entrepreneurial efforts contribute to economic growth. Thus the United States lacks explicit, research-based policies related to the entrepreneurial sector, the activity that sustains growth and develops tomorrow's industries. In short, U.S. entrepreneurial activity is honored and accepted, but not understood.

The Global Entrepreneurship Monitor (GEM), a joint research initiative by Babson College and the London Business School and sponsored by the Kauffman Center for Entrepreneurial Leadership, was launched in September 1997 to analyze entrepreneurial activity, its impact on national growth, and those factors that affect the level of entrepreneurial activity. The United States and nine other industrial countries were included in the analysis (Canada, Denmark, Finland, France, Germany, Israel, Italy, Japan and the United Kingdom).

GEM's study concludes that as much as one-third of the differences in national economic growth may be due to differences in entrepreneurial activity. A key element in the United States is the annual implementation of 600,000-800,000 new companies that create real jobs. That's a birth rate of 14-16 start-ups for every 100 existing businesses, similar to the level of activity in Canada. Perhaps another two million U.S. businesses are begun each year as self-employment ventures or businesses without employees. As many as 8.4 out of every 100 U.S. adults — 16 million Americans in all — are right now trying to start businesses of their own. In addition, 4.5 percent of American adults report providing, in the past three years, personal funds to individual start-up businesses. More formal start-up funds are provided in the United States at four times the rate, per 1,000 citizens, as in Europe and 60 times the rate as in Asia.

Culturally and demographically, the United States is quite distinctive. Americans accept and respect entrepreneurs; some business terminations are expected and they are considered a normal part of the process. With Canada, the United States has the highest proportion of working adults aged 25-44, the age range of people most likely to start businesses. And unlike most major countries, where population is expected to remain stable or decline, the U.S. population is forecast to grow more than 20 percent over the next 25 years. Further, U.S. women are very active in entrepreneurship, responsible for more than a third of all start-up efforts.

It is not clear, however, that the United States has an optimum entrepreneurial sector. The GEM analysis provides 10 implications for U.S. policy related to entrepreneurial activity:

- Equity seed capital is relatively hard to obtain in the United States. Some experts believe that finding start-up equity financing between \$50,000 and \$1 million is particularly difficult.
- Venture capitalists provide about \$4 billion for U.S. high-end start-ups, or some 37 percent of their \$12 billion in new investments each year.

- Informal financial support from friends, family and work associates contributes the lion's share of initial funding, an estimated \$56 billion per year. But such private investment is likely to flow through well-developed social networks on the local level. Electronic networking forums, such as ACE-Net, that try to match start-ups with established angels have not, as yet, developed into major sources for start-up funding.
- Local, state and federal governments provide financial support, such as the federal government's Small Business Administration (SBA) guaranteed loan program, to 2-3 percent of small businesses; and a large proportion of these funds are provided to existing small businesses, not start-ups.
- Other federal, state and local assistance programs for entrepreneurs are poorly publicized and marketed; most nascent entrepreneurs do not know they exist. The need for some mechanism to coordinate and "market" these support programs is a common theme among national experts.
- There is considerable regional variation in entrepreneurial activity. While the major urban areas generally have much more activity than rural areas, some urban areas are well known for very high levels of start-ups (Silicon Valley, Boston's Route 128, North Carolina's Research Triangle, etc.) Those regions with higher levels of start-ups tend to have more fully developed legal, accounting, banking and other services for new and small businesses. This provides, in turn, a regional advantage for further start-ups.
- Education in entrepreneurial skills is virtually nonexistent in U.S. primary and secondary schools, as is economics in general: Americans as a whole lack a strong understanding of basic economics.
- In colleges and universities, entrepreneurship programs have grown dramatically in the past 20 years. Hundreds of U.S. colleges and more than 90 university-based centers of entrepreneurship now offer entrepreneurship training. But many GEM interviewees feel the courses are few and limited in depth and the teachers inexperienced. They also find too little training in engineering and technical skills needed to bring technology innovations to market.
- Universities' R&D transfer policies and tax laws dissuade some aspiring entrepreneurs from pursuing market-worthy technologies. Even so, U.S. entrepreneurs are more positive than entrepreneurs in other countries about R&D transfer from universities, government labs, large companies and other entrepreneurial ventures.
- Compliance with U.S. regulations and tax laws is labor intensive and costly. Moreover, regulations generally rely on punitive remedies to achieve compliance rather than incentives. Taxes and regulations are generally perceived to be size neutral; companies big and small are in the same boat. But the relative burden is greater on companies with fewer resources, such as new start-ups. Simplifying compliance and reporting requirements for new and small firms may increase their chance of survival.

The GEM initiative set out to discover to what extent entrepreneurial activity varies among 10 countries: the United States, Canada, United Kingdom, Germany, France, Italy, Denmark, Finland, Israel and Japan. It then pursued whether the level of entrepreneurial activity affects a country's economic growth and what factors make a country entrepreneurial. GEM researchers assembled much relevant statistical material from existing sources; commissioned surveys of 1,000 adults in each of the 10 countries to measure participation in and attitudes toward entrepreneurship; and interviewed more than 300 national experts, 36 in each country, on a wide variety of factors in their country's entrepreneurial sector.

Some of the findings support prior studies. Others have found, for instance, that 67 percent of all new inventions occur at smaller companies. And small businesses create the majority of new jobs — 1.6 million, or 64 percent, of the 2.5 million new jobs created in the United States in 1996, for example. Since 1980, Fortune 500 companies have lost more than five million jobs while the United States as a whole has added 34 million new jobs. These results are consistent with the GEM analysis that suggests a positive relationship between the level of entrepreneurial activity and average growth in Gross Domestic Product (GDP).

Some of the relationships were unexpected. For instance, income dispersion is greatest in the United States. Total income of the top 20 percent of the population is nine times the total income of the bottom 20 percent; this measure is four to six times greater than that in the other GEM countries. The presence of the high-income group may create new demands for goods and services that provide entrepreneurial opportunities and the ability to provide the financial resources to support new ventures. The presence of a large number of well-to-do households, when coupled with social acceptance of status and income mobility, may also provide an incentive to pursue entrepreneurial ventures.

Just as surprising, the GEM study found that such national characteristics as openness to global trade, degree of government interference in markets, physical infrastructure for businesses, and well developed management skills — associated with more success among large, established firms — had no significant relationship with the level of business start-ups.

What the United States does have is a society that places high value on self-sufficiency, individualism and personal initiative. Americans generally do not expect the government to provide for their well-being. And they're likely to accept differences in standards of living. Within that fundamental cultural tradition, Americans are more likely than people in other countries to recognize opportunities for start-ups and to be motivated to pursue those opportunities through the creation of a new venture.

This provides, as the GEM report points out, a basic competitive advantage the United States can ill afford to squander.

THE ROLE OF ENTREPRENEURSHIP IN THE UNITED STATES

New and growing firms, the heart of the entrepreneurial phenomenon, play a substantial role in U.S. economic growth and adaptation. Although Fortune 500 companies have lost more than five million jobs since 1980, the United States has added more than 34 million new jobs.¹ The original research by David Birch indicating that new and small firms create the majority of all new jobs has been replicated in a number of other countries.² There is no longer any doubt that new and growing firms are the major source of jobs.³

Small businesses in the United States, those with fewer than 500 workers, employ 53 percent of the private workforce, account for 47 percent of sales and 51 percent of private sector GDP.⁴ In 1996, small businesses produced an estimated 64 percent, or 1.6 million, of the 2.5 million new jobs created.⁵ Those new and small firms with higher growth trajectories are known to provide the largest proportion of new jobs.⁶ A small percent (5-15 percent) of the fastest-growing entrepreneurial firms account for a majority of the net new job creation.⁷ And contrary to popular perception, most of these growing firms are not high technology enterprises.⁸ In addition, these smaller entrepreneurial businesses account for 55 percent of all innovations.⁹

New and small firms compose more than 99 percent of all firms in almost all advanced countries, and their share of employment and contribution to the GDP may be increasing.¹⁰ New evidence suggests that entrepreneurship and new firms are an important career option for those in the labor force. Data commissioned by GEM suggests that one in 12 U.S. adults may be engaged in a new firm start-up, compared to one in 60 in Finland and Japan. As many as two in five U.S. households have one or

more adults with past or current experience with new or small firms.¹¹ More than 40 percent of U.S. men report a period of self-employment during their work career.¹²

New and growing firms are, then, a major source of new jobs, have a critical role in GDP growth, are associated with the restructuring of most economic sectors (where larger numbers of smaller specialized firms are replacing few giant firms), and are a significant career alternative in the work life of many. One might, therefore, expect that contemporary studies of national economic growth would incorporate indicators of entrepreneurial activity and would attempt to better understand the details of the processes linking the entrepreneurial sector to national economic well-being. This is not, however, currently the case. This hiatus provides the basic rationale and opportunity for the GEM initiative. This research program has been designed to establish the role and impact of the entrepreneurial sector on economic growth.

The GEM project has, in the first year, involved systematic data collection on the precursors to national entrepreneurial activity, as well as the level of activity and its consequences. Data collection has been completed on 10 countries, the G-7 (Canada, France, Germany, Italy, Japan, United Kingdom and the United States) plus Denmark, Finland and Israel, which provides a unique opportunity to explore the special situation of the United States. Following a review of the conceptual scheme that forms the basis for the GEM initiative, the special factors associated with the United States will be reviewed in detail.

THE GLOBAL ENTREPRENEURSHIP MONITOR

The Global Entrepreneurship Monitor initiative was created in September 1997 as a joint research initiative by Babson College and London Business School. The central focus was to bring together the world's best scholars in entrepreneurship to study the complex relationship between entrepreneurship and economic growth. From the outset, the project was designed to be a long-term multinational enterprise. Thus, to obtain reliable, comparable data, GEM focused on the G7 countries (i.e., Canada, France, Germany, Italy, Japan, United Kingdom and the United States). Three additional countries, Denmark, Finland and Israel, were added the first year because selected scholars in these countries had particular expertise relevant to the project.

For the purpose of understanding its role in economic growth, entrepreneurship was defined as:

"Any attempt to create a new business enterprise or to expand an existing business by an individual, a team of individuals, or an established business."

Three fundamental questions were implicit in this project:

- *Does the level of entrepreneurial activity vary between countries, and, if so, to what extent?*
- *Does the level of entrepreneurial activity affect a country's rate of economic growth and prosperity?*
- *What makes a country entrepreneurial?*

Though the anecdotal evidence suggests that entrepreneurship plays a major role in the growth of modern economies, no study has yet developed a clear understanding of how entrepreneurship impacts an economy, what factors influence its role, and whether the entrepreneurial process is consistent

across cultures. The GEM model depicted in Figure 1 identifies the key variables under study and how they are related. Moving from left to right, the variables include: Social, Cultural and Political Context; General National Framework Conditions; National Entrepreneurial Framework Conditions; Entrepreneurial Opportunities; Entrepreneurial Capacity; Business Dynamics; and National Economic Growth.

The *Social, Cultural and Political Context* encompasses a range of factors that have been shown to play an important role in shaping a country's national framework conditions. Analyzing all such influences is beyond the scope of GEM; however, certain key issues have been considered, including demographic structure, investment in education, social norms and attitudes associated with individual independence and the perception of entrepreneurs.

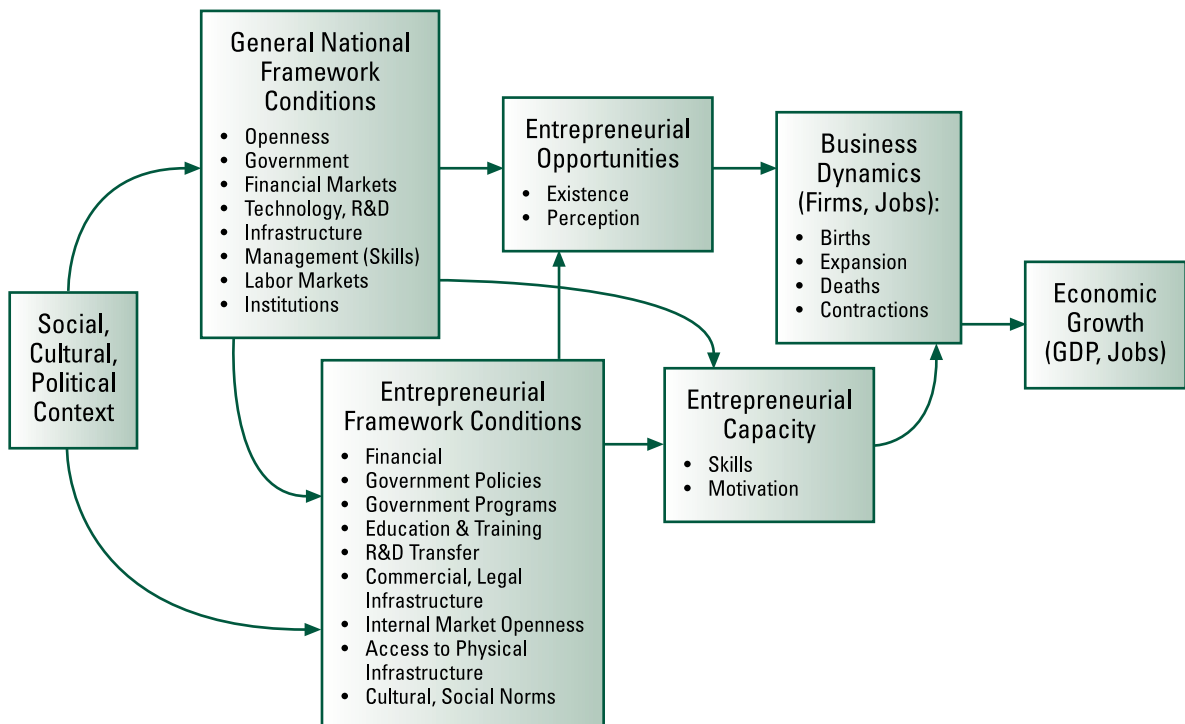
National framework conditions include general and entrepreneurial. *General National Framework Conditions* include the role of government and financial institutions, the level of R&D, the quality and strength of the physical infrastructure, the efficiency of the labor market, and the efficiency and robustness of legal and social institutions. *National Entrepreneurial Framework Conditions* comprise the availability of financial resources for new firms, government policies and programs designed to support start-ups, the level of education and training for aspiring and practicing entrepreneurs and access to professional support services (e.g., lawyers and accountants). These factors are expected to be more volatile than the General National Framework Conditions, reflecting an intermediate stage in the overall causal sequence outlined in Figure 1.

Entrepreneurial Opportunities refers to the existence and perception of market opportunities available for exploitation. *Entrepreneurial Capacity* refers to the motivation of individuals to start new firms and the extent to which they possess the skills required to adequately pursue them. *Business Dynamics* encompasses the process whereby new firms start, grow, contract or die; and *National Economic Growth* incorporates a number of standard economic measures, including growth in GDP, changes in employment and per capita income. The continual *economic churn* associated with the birth, death, expansion and contraction of business firms has been shown to closely relate to the rate of job creation.¹³ It is assumed that as the rate of economic churn increases, the rate of economic growth will increase as well.

There are three major research activities

associated with the GEM initiative. First is assembly of existing standardized economic and socio-demographic data on countries involved from international sources (e.g., World Bank, OECD, UN, etc.). Second, a sample of 1,000 adults was chosen at random in each country to determine participation in and attitudes toward entrepreneurship. Finally, a team in each country completed a careful assessment of their own entrepreneurial sector, including personal interviews with more than 35 experts on entrepreneurship in that country. The primary objective for each participating country was to develop causal interpretations of the core variables in the entrepreneurship process and to assess their role in determining the country's level of entrepreneurial activity. The following report details the U.S. results and compares the United States with the other nine GEM nations.

Figure 1
Conceptual Model: The Entrepreneurial Sector and Economic Growth



U.S. ENTREPRENEURIAL ACTIVITY

Cross-national comparisons of the 10 GEM countries suggest that variation in the level of entrepreneurial activity may account for one-third of the difference in the rate of economic growth. It is not coincidental that the high level of entrepreneurial activity in the United States, relative to all other GEM nations, is associated with one of the longest periods of sustained economic growth in history.

Ironically, in the United States — the exemplar of an “entrepreneurial economy” — the ability to measure or estimate the level of entrepreneurship is quite limited. In fact, not only is it difficult to track the

emergence of new firms, it is not even possible to develop a precise census of existing firms. And without an accurate count of existing firms, it is difficult to determine how many new firms have been created.

This problem can be illustrated by the seven different comparisons provided in Table 1. They illustrate seven different ways of tracing new business activity. The top row provides an estimate of the number of start-up efforts identified in a survey of the adult population commissioned by the GEM initiative, discussed below. It was estimated that 7.3 million start-up efforts were under

Table 1
U.S. New Firm Activity: Selected Estimates

	Stage in Entrepreneurial Process	Source of Estimate	Basis for Estimate	Type of Activity	Number at Beginning of Period	Relevant Period	Count/Estimate for U.S.
2	Start-Up Effort (Gestation)	GEM Survey	Population Survey (n=1,000)	Start-Up Efforts	Not Measured	During March 1999	7,300,000
3	New Firm	Wells Fargo/NFIB	Population Survey (n=36,000)	New Business (purchases excluded)	Not Measured	1996–1997	2,900,000
4	New Firm	Wells Fargo/NFIB	Population Survey (n=36,000)	New Business with Employees (other than owners)	Not Measured	1996–1997	620,000
5	New Establishments (single site of activity)	U.S. Bureau of Labor Statistics	New Unemployment Insurance Filings, All States	New Establishments with Employees	6,057,000	1994–1995	819,000
6	Firms (single and multiple site)	Dun and Bradstreet Duns Market Identifier File	Reconstruct Establishments in Same Enterprises	Any Business with Employees	8,348,068	1996	Not Provided
7	New Firms (single and multiple site)	U.S. Census/SBA	New FICA Filings	New Firms with Employees	5,770,090	1994–1995	594,369
8	New Business Incorporations	Dun and Bradstreet	State Records, New Filings	Incorporations	Not Measured	1994–1995	770,206
9	Non-Farm Business Tax Returns	Internal Revenue Service	Net Change in Tax Returns	Business Activity	22,550,000	1994–1995	499,000

Sources: Row 2: GEM commissioned surveys. Row 3,4: National Federation of Independent Business, (www.nfibonline.com). Row 5,8,9 U.S. Small Business Administration, State of Small Business: 1996, Tables 1.3, 1.2, 1.5. Row 6, Birch, David, et al, Corporate Almanac, Cognetics, Inc. 1997, Pg 17, Firms by Industry: 1996. Row 7, Catherine Armington, “Statistics of U.S. Businesses Micro Data and Tables: Data on Establishments by Firm Size,” U.S. Small Business Administration, 4 June 1998, Table 7.5.

way in March 1999.¹⁴ A similar project has estimated the total new businesses, those that have passed the start-up stage, reported by individuals in 1996-1997 at 2.9 million. If those without employees are excluded, however, this number drops to 620,000.

New establishments counted on the basis of new unemployment insurance filings to all state governments were estimated at 819,000 for 1994-1995. Although this would include only those businesses with employees, it would also include establishments (branches or subsidiaries) put in place by existing firms as part of a business expansion. The total number of firms, including single and multi-site enterprises, was estimated at 8,348,000 for 1996, based on careful editing of the files of a commercial credit rating firm. New establishments that were not a form of firm expansion were estimated at 594,000 for 1994-1995, using data assembled from federal Social Security (FICA) registrations supplemented with federal tax filings. New business incorporations filed with all state-level departments of commerce totaled 770,000 for the 1994-1995 period.¹⁵ And the net number of non-farm business tax returns provided to the federal internal revenue service in 1995 was 499,000 more than the 22.5 million filed in 1994.

What is one to make of this array of estimates? First, it suggests that the federal government has not been serious about tracking and measuring the level of entrepreneurial activity in the United States. Hence, there is no way to measure the impact of changes in federal or state policies on entrepreneurial activity. This has led to several private initiatives to fill the gap. Two of them — those sponsored by GEM and the Wells Fargo/NFIB time

series — are represented in Table 1; a third is provided by a private consulting firm, Cognetics, Inc. of Cambridge, Mass.¹⁶

Second, it is clear that quite different things are being measured with different procedures: efforts to start a firm (which may not be successful), incorporation of a firm (which may never go into business), changes in net tax returns filed (reflecting new filings minus filings no longer received), and a substantial amount of full and part-time self-employment. It would seem safe to assume that new firms with employees may number more than 600,000 in a given year, and that another couple of million new business entities — in the form of self-employment — may also come into being each year. That is approximately one new firm with employees for every 300 adults in the United States every year. Since the typical new firm has at least two owner-managers, one of every 150 adults participates in a new firm founding each year. Substantially more — one in 12 — are involved in trying to launch a new firm.

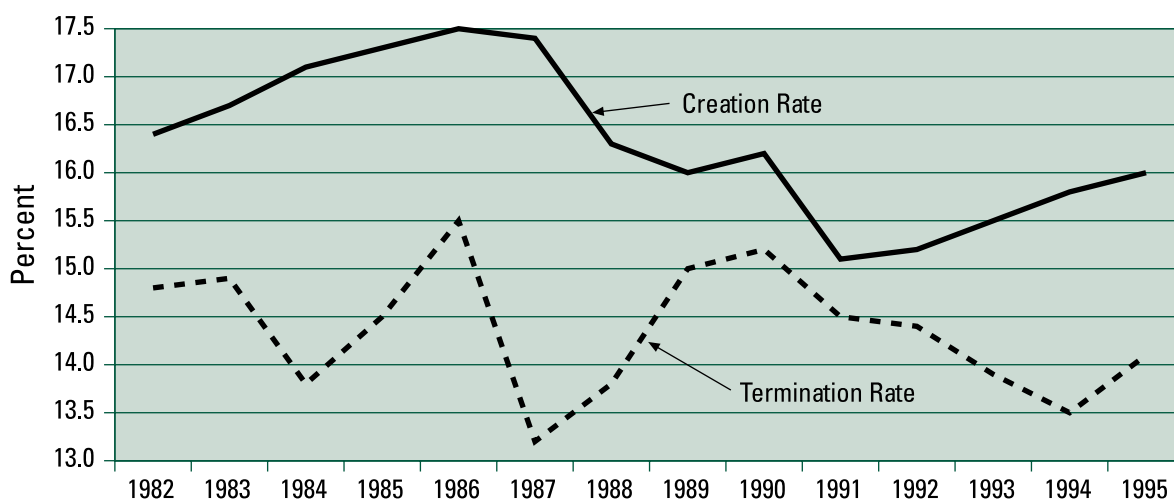
The net result, then, is that the United States has a very robust level of firm creation. Among the six million establishments (single and multi-site firms) with employees, approximately 600,000-800,000 are added each year.¹⁷ This translates into an annual birth rate of 14-16 per 100 existing establishments.¹⁸ Terminations occur for about 12-14 of each 100 establishments. The result is an annual increase of about 2 percent.¹⁹ Figure 2 illustrates the rate of establishment births and deaths over the 1982-1995 period. The year-to-year variation is higher in the establishment termination rate, which has declined slightly in the 1990s. A high level of volatility or churn, compared to other

countries, can be viewed as the rate at which an economy rejuvenates itself. Adding the birth and death rates provides a measure of total volatility. Each year about three in 10 U.S. establishments (30 percent) are new or terminated.

The GEM results indicate that, in addition to the United States, other countries have dynamic economies as measured by the rate of firm births and deaths. Canada's firm volatility rate is also

about 30 percent (i.e., 15.5 percent births and 14.7 percent deaths each year). Japan, on the other hand, has very low firm volatility at 7.4 percent (i.e., 3.6 percent births and 3.8 percent deaths each year). Where national data are available on firm turbulence there is a correspondence with the level of start-up activity based on surveys of the adult populations across the GEM nations.

Figure 2
Establishment Creation and Termination Rates in U.S.: 1982–1995



Source: Small Business Administration (1996). *The State of Small Business*.

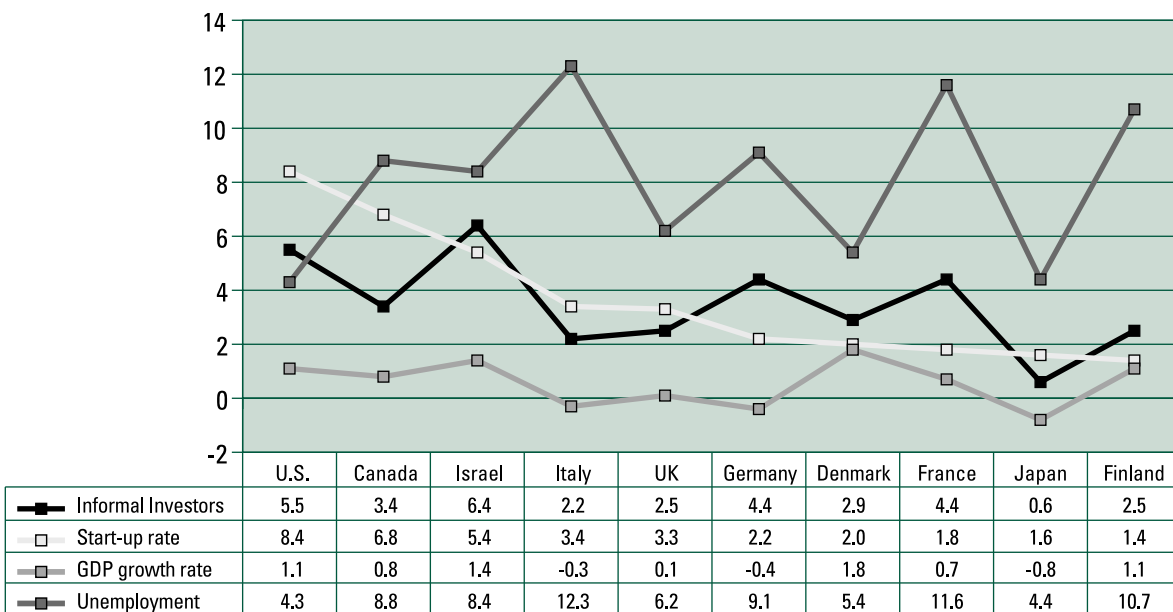
ENTREPRENEURIAL ACTIVITY AND ECONOMIC GROWTH

A critical feature of the GEM initiative was a survey of 1,000 typical adults in each of the 10 countries. Each person was asked if he or she was currently involved in a new firm start-up and could meet three criteria: (1) some activity to create the start-up in the past 12 months (e.g., business plan, team formation, incorporation, etc.); (2) expected to own all or part of the new business; and (3) the start-up firm had yet to pay salaries for more than three months. The percentage of respondents involved with start-ups²⁰ in the United States (8.4 percent) and Canada (6.4 percent) are

significantly greater than those involved in start-ups in Japan (1.6 percent). As illustrated in Figure 3, there is a strong positive correlation between firm start-up rates and growth in national GDP (0.60)²¹ and the employment rate (.47).²²

The rate at which people provide funds for start-up companies is also an indication of the level of activity in the entrepreneurial sector. In the adult population survey, all 1,000 were asked if they had personally invested in any start-up, not their own, excluding stocks and mutual funds, in the past three years. As depicted in Figure 3,

Figure 3
Start-up Rate, Informal Investor Participation Rate, GDP Growth Rate and Unemployment Rate: Cross-National Comparisons



the percentage of adults who answered yes (5.5 percent or one in 20 for the United States) is also highly correlated to GDP (.93)²³ but not highly correlated with level of employment (.24).²⁴

The following will review the elements in the causal mechanisms affecting start-up activity implied in the conceptual model presented in Figure 1. The extent to which the various features — social, cultural and political context; general national

framework conditions; entrepreneurial national framework conditions; aspects of the entrepreneurial sector including opportunities and capacity — will be reviewed in turn. This is followed by a discussion of geographic diversity in firm start-ups across the United States. The conclusion reviews the implications of these findings for the capacity of the United States to maintain its role as a leading “entrepreneurial economy.”

SOCIAL, CULTURAL AND POLITICAL CONTEXT

Five distinctive features of the context of all countries were explored for the 10 GEM countries. These included the age structure of the population, involvement of women in entrepreneurial activities, national emphasis on educational activities, anticipated population growth, and the level of income disparity. For all factors, the United States had — compared to most GEM countries — a very favorable situation.

Age structure:²⁵ The majority of those involved in new firm start-ups are 25-44 years old. Among the 10 countries in the GEM analysis, the United States (along with Canada) was among the highest in terms of the percentage of working-age adults (18-64 years) in this age range. This was 10 percent higher than the average across countries and 20 percent higher than the country with the lowest proportion of the population in this age group. As the proportion of adults in the “entrepreneurial years” had a correlation of about 0.7 with overall start-up rates, this provides the United States with a considerable advantage.

Involvement of women: Countries with a higher overall level of start-up activity also tended to have a larger proportion of women involved. Within the United States, the ratio of reports from women (7.6 percent) to men (12.5 percent) at 0.61 is among the highest of all GEM countries; Israel is slightly higher at 0.64. For Finland and Japan, it is one woman involved in start-ups for every three or four men. Clearly, women in the United States are very much involved in entrepreneurial activities and are a major reason for the higher level of start-up activity in the United States. It seems unlikely that women will become less involved in the immediate future. If women’s participation reaches parity with

U.S. men, it would increase the U.S. start-up rate another 20 percent.

Future population growth — 1999-2025:²⁶ A substantial body of research indicates that the most powerful factor encouraging entrepreneurial activity is anticipated increases in demand for goods or services. Expected population growth is a basic indicator of expected growth in demand. In the cross-national analysis, projections of population growth for 1999-2025 had a correlation of 0.75 with levels of start-up activity. Countries expecting population growth had more current start-up activity. Five of the GEM countries have negative population projections for the next 25 years (Italy, Germany, France, Japan and Finland), two have zero population growth projections (Denmark and United Kingdom) and three expect growth of more than 20 percent (Canada, Israel and the United States). This fact alone indicates a positive context for entrepreneurship in the United States for the foreseeable future.

Investment in education: Advancement of knowledge:²⁷ Systematic data on the societal investment in education indicate no difference among the 10 GEM countries in terms of primary and secondary educational activities. In all countries almost all of the eligible young people are involved in age-appropriate primary and secondary educational programs. Hence, it is unrelated to differences in start-up behavior.

Involvement in post-secondary or tertiary activities, such as vocational, college or university, or graduate degree programs indicates a substantial variation. The variation in 1995 has a correlation of about 0.65 with firm start-up rates across the 10 GEM countries. In this regard, the United States and Canada have a dramatic advantage, with 81 percent of age-

appropriate individuals involved in tertiary education in the United States and 103 percent in Canada. (This is more than 100 percent because older persons have returned to school with their younger compatriots.) The comparable figure is 40-50 percent for all other GEM countries except Finland, where it is 67 percent.

Maintaining a national system of tertiary educational institutions and the broad range of ancillary programs in research and knowledge development represents a massive societal commitment. This effort takes a long time to develop and represents a considerable on-going investment. It will provide, however, a continuing source of creativity, innovation, and new knowledge in all domains of human activity — law, the arts, science, medicine, engineering, technology, etc.

Further, the tertiary educational experience tends to provide, beyond skills and knowledge, encouragement to be independent and autonomous in intellectual matters. Those that challenge the status quo, or at least understand current practices in detail, are predisposed to consider new ways to do the conventional. Clearly, it encourages a spirit of challenge and change and develops skills at opportunity recognition.

This may be a basic competitive advantage the United States can ill afford to squander.

Income dispersion:²⁸ All societies have some persons, or households, with more income or consumption than others. The degree of such dispersion is often measured

by dividing the total income of the wealthiest 20 percent of the population by the total income of the poorest 20 percent of the population. This ratio allows for systematic cross-national comparisons. Income diversity in the early 1990s has a correlation of 0.81 with start-up rates in early 1999. Among the nine GEM countries with income diversity data (it is missing for Japan) the United States is clearly at the top of the list, with a ratio greater than 9. This means that the total income (or consumption) of the top 20 percent of the population is nine times greater than the total income (or consumption) of the bottom 20 percent.

Causality is, however, ambiguous. Higher income dispersion may provide the accumulated savings required for investment in new firms, and high income individuals and households may create demand for goods and services that provides opportunities for new firms. Hence, income dispersion may increase entrepreneurship. In contrast, the accumulation of wealth by successful entrepreneurs, increasing the amount in the upper 20 percent may well contribute to income dispersion.

Regardless of the causal relationships, the correlations are strong and pervasive. It is clear that the acceptance and toleration of income diversity is a critical asset. This appears to be the case in the United States and, if it continues, would contribute to maintaining a high level of entrepreneurial activity.

GENERAL NATIONAL FRAMEWORK CONDITIONS

An annual ranking of the relative competitiveness of the major economies of the world is based on the development of multi-item indices of eight national framework conditions. These include measures related to external market openness for global trade: the extent to which government does not interfere with the operations of the national markets, the presence of globally competitive financial markets, the availability of sophisticated research and development, a physical infrastructure suitable for business, the development of managerial skills among the managers and administrators within the country, flexible labor markets, and institutions that support a market economy.

These eight dimensions are combined into a single number that is considered to represent the extent to which each of 53 countries are competitive in the global economy.²⁹

None of these measures, however, have a significant relationship to the measure of business start-ups developed for the 10 GEM countries. The highest correlation is between the 1997 measure of national competitiveness and the winter 1999 measure of firm start-ups, which is 0.4. However, since the entire global competitiveness program is designed to measure the context for large, established firms, there is no reason to be concerned about this outcome.

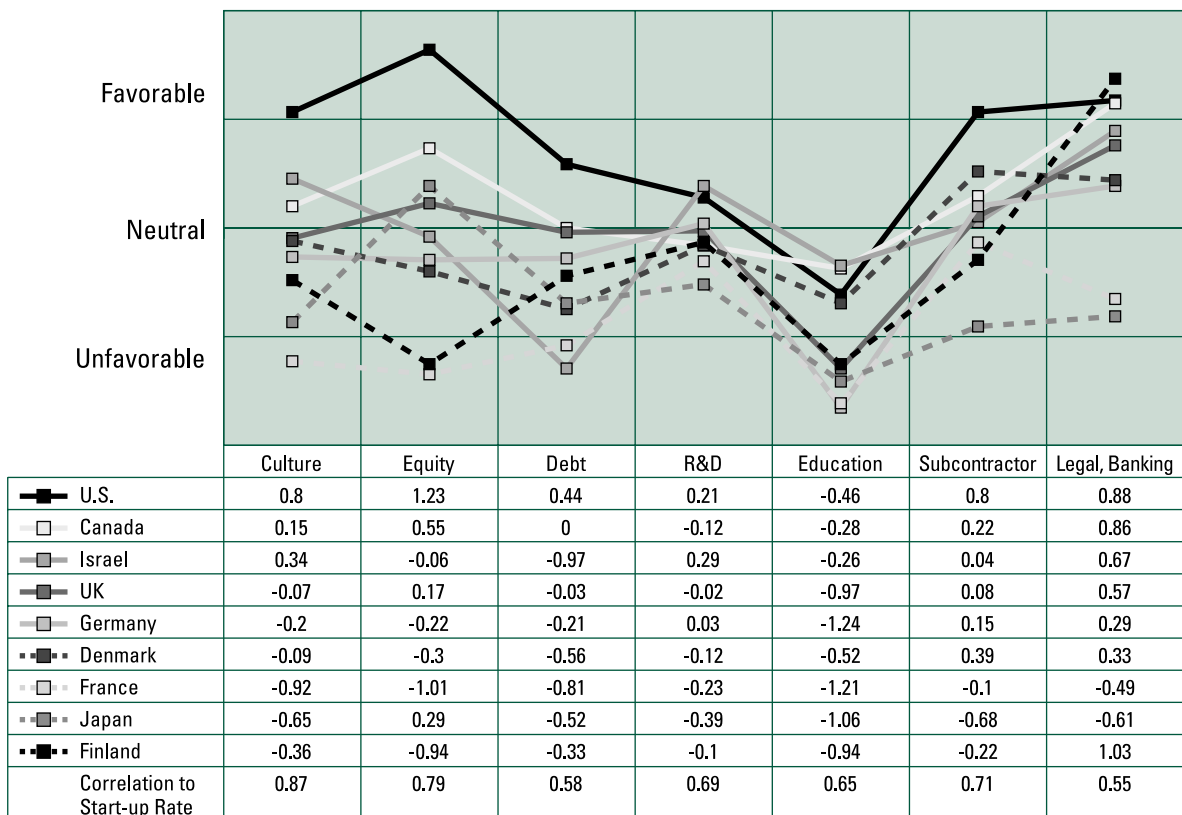
ENTREPRENEURIAL FRAMEWORK CONDITIONS

National entrepreneurial framework conditions are expected to have a major impact on the entrepreneurial sector, as illustrated in the conceptual scheme in Figure 1. Assembling reliable data for cross-national comparisons of these framework conditions is a major undertaking. A very substantial effort was implemented to provide reliable measures suitable for cross-national comparisons.

In nine of the 10 GEM countries, national teams completed in-depth interviews and questionnaires with 36 key informants or experts on entrepreneurship. Four individuals were selected as experts in each of the nine entrepreneurial framework

conditions. The topics covered in the interviews included observations on national opportunities for entrepreneurship, and the population's skills and motivation to pursue such opportunities. Each expert also responded to a series of items on a questionnaire related to the nine entrepreneurial framework dimensions. Multi-item indices were created to provide comparisons across countries for each dimension. A summary comparison of the major results for those framework conditions where the patterns were significant are presented in Figure 4. These expert ratings are supplemented, where possible, with responses to specific questions

Figure 4
Entrepreneurial Framework Conditions: Cross-National Comparisons of Key Informant Multi-Item Indices



asked of all 1,000 respondents in the adult population surveys.

Comparisons across countries help to determine the extent to which the entrepreneurial framework conditions support entrepreneurial activity. Figure 4 illustrates that the United States is typically perceived more favorably on the entrepreneurial framework conditions than other countries. In particular, the United States is viewed more favorably on the socio-culture, finance (equity and debt), and subcontractor dimensions. The United States is not significantly lower on any of the dimensions, although education and training seem to be an area of great concern in all GEM countries.

A summary of the responses from experts in each country did not always indicate a strong relationship to the level of entrepreneurial activity. The remainder of this report details the findings for those conditions that were most highly correlated with the level of activity across countries, namely: Cultural and Social Norms, Financial Support, R&D Transfer, Education and Training, and Commercial and Professional Infrastructure. A brief summary of the review of comments on Government Policies and Programs is also provided because of interest in this topic.

All of these factors are expected to affect the national entrepreneurial sector, as reflected in the capacity to observe opportunities as well as the capacity and motivation of the citizens to exploit those opportunities. Variations on these dimensions are reviewed in the following section.

Cultural and Social Norms

From in-depth interviews with experts across the country, it is apparent that the high rate of business start-ups, angel investing and technology commercialization

in the United States are made possible by a culture that strongly encourages and supports self-enterprise. Starting and owning one's own business has long been a central component of the great American dream of self-realization. Americans generally favor self-starters and the independent spirit that undergirds their success. Business failures are generally not considered a personal failure and many consider "not to have tried" as a sign of personal weakness. Successful entrepreneurs not only are accepted but are often considered "champions of industry" and presented as role models for others. As a result there are numerous successful entrepreneurial examples to emulate in the United States.

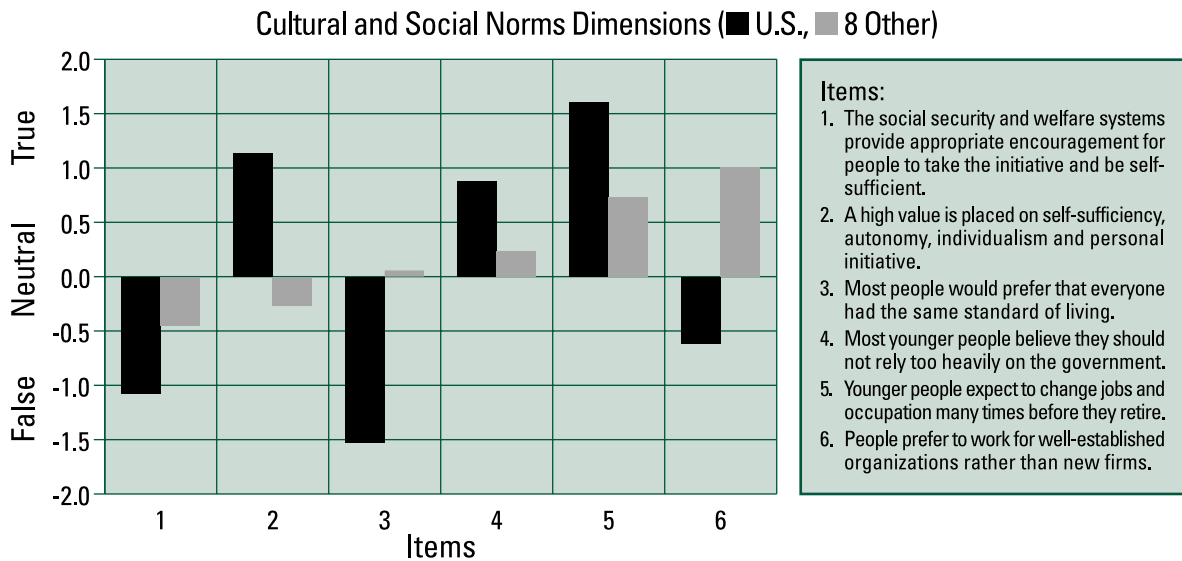
Comparisons of key informants in the United States and eight other countries on the cultural and social norms items are presented in Figure 5. The U.S. key informants consider the United States as a place where there is a high value placed on self-sufficiency, individualism and personal initiative (Item 2) and generally don't rely on the government to provide for their well being (Item 4). Moreover, those in the United States are likely to accept differences in standards of living (Item 3). This reflects acceptance of the U.S. level of income dispersion, which — as discussed above — is the highest among the 10 GEM countries.

In terms of work career, younger people are seen as expecting to have a series of jobs with different organizations (Item 5 in Figure 5) and much less likely than those in other GEM countries to seek a career only in large, established organizations (Item 6).

Financial Support

The U.S. financial support infrastructure is considerably more developed than most other countries (see Figure 4). There are two primary categories of

Figure 5
Cultural and Social Norms Questionnaire Items: U.S. vs. GEM Countries



financial support, debt and equity. Compared to other countries, the U.S. key informants consider obtaining equity and debt as somewhat less of a problem (Items 1 and 2 in Figure 6). Key informants also don't think that federal government programs to help improve access to debt capital are making a substantial difference in

the level of entrepreneurial activity (Item 3 in Figure 6), although no key informants considered this a major source of new firm financing. In the United States, the highly visible SBA loan guarantee programs help a large number of small firms, but only 2-3 percent of the total number of start-ups.³⁰

Figure 6
Financial Support Questionnaire Items: U.S. vs. GEM Countries

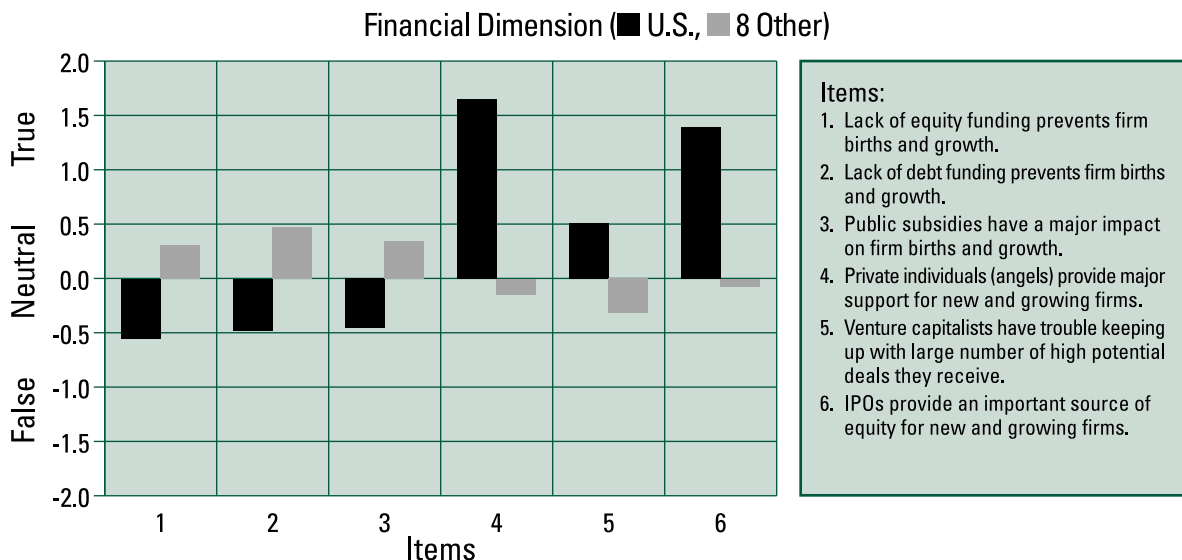
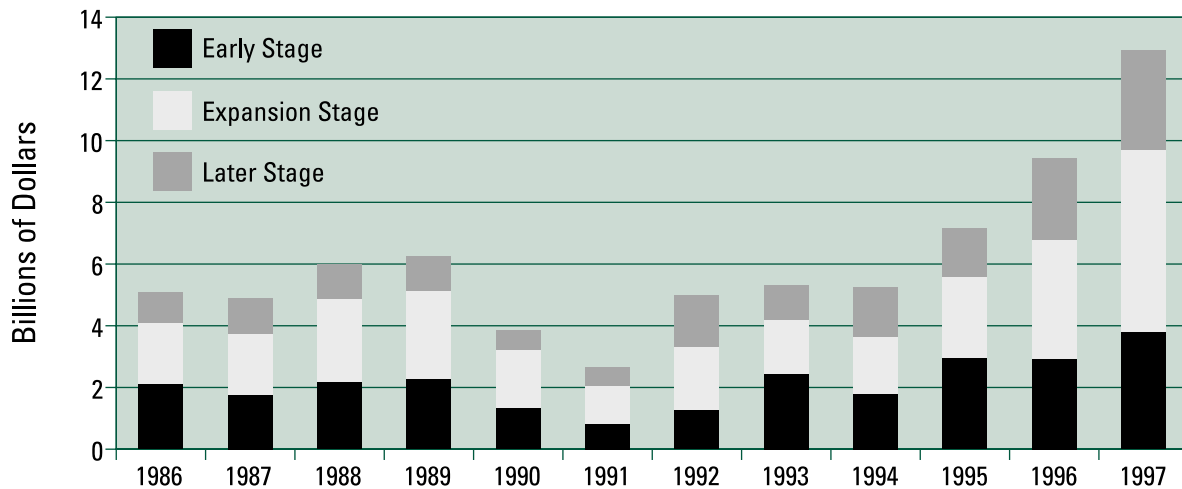


Figure 7
Venture Capital Investment Within the U.S.: 1986–1997



Source: U.S. Venture Capital — Industry Overview and Economics: Summary Document. McKinsey & Company, September, 1998.

However, while there are numerous sources for equity financing, success in raising equity capital requires successful promotion of the business opportunity and close personal contact with the sources of equity. In 1996, the U.S. private equity market exceeded \$100 billion under management.³¹ Formal venture capitalists had approximately \$30 billion under management, including new investments of more than \$12 billion in 1997 (Figure 7). In addition, approximately 37 percent of the pool, or \$4 billion, was directed toward seed and start-up companies.

Compared to other regions of the world, the availability of private venture capital is substantial. An estimate of the funds available for the United States, Europe, Asia and Latin America is provided in Table 2. Not only is 71 percent of the total managed within the United States, but there is about \$125 available for each person in the United States, compared to \$30 for each person in Europe, \$3 for each person in Latin America, and less than \$2 for each

person in Asia (excluding China and North Korea). The availability of formally managed private venture capital is substantially greater in the United States than anywhere else in the world.

Among the 600,000-800,000 new firms with employees started in the United States each year, venture capital funds assist less than 1,000. Where are the other 799,000 getting their funds? These formal sources appear to be supplemented, in a major way, by informal investments provided from the friends, family and work associates of those implementing new firms. Estimates from the adult population survey were made of the amount of informal investment in new start-ups, excluding new businesses of the respondent and formal purchases of equities. Of each 100, 5.5 reported such an investment in the past three years, and the average annual investment was slightly over \$5,000. This amounts to an annual total investment for 191 million adults of \$56 billion dollars.³² If, as presented in Table 1, 7.3 million start-ups are in process in the

Table 2
Private Venture Capital by Global Region

	Private Equity (\$ Millions)	Total Population (Millions)	Private Equity per Person (U.S. \$)	Allocation to Regions
Year	1996	1997		
U.S.	33,577*	268	125.29	71%
Europe	8,900	291	30.58	19%
Latin America	1,511	494	3.06	3%
Asia	3,000	1,761	1.70	6%
Total	46,988	2,814	16.70	99%

Sources: Private Equity: "The search for the perfect gift horse" *Latin Finance*, 97(May 1998): 23. Population Estimates: World Bank. 1999. World Development Indicators: 1999. Table 1.1. Asia includes East Asia and Southwest Pacific, excludes China and Democratic Republic of Korea.

* In 1997 and 1998, new commitments to U.S. venture capital funds totaled \$38.7 billion.

United States, this is about \$7,000 per start-up effort. If three million new firms — with and without employees — are implemented each year, this is slightly less than \$20,000 per new firm.

So the total provided to start-up firms may be about \$60 billion per year, \$4 billion from formal private equity sources (venture capital) and \$56 billion from informal private contributions. This informal private funding is widely diffused among all geographic regions and all economic sectors of the U.S. economy.

The majority of national experts felt that there is plenty of equity available. This is reflected in the high relative ratings to Item 4 in Figure 6, related to funds provided by business angels, and the access to formal funding via initial public offerings. However, a significant number perceived supply to be limited and access difficult for seed stage capital. As Figure 7 suggests, as venture funds have grown larger (\$183 million under management on average³³), venture capitalists have shifted their focus toward later-stage investments. The rise in

lucrative Internet-based investment opportunities and the increasing pressure to invest a larger percentage of available funds may redirect the industry toward more early-stage deals in the future. While IPOs are considered a strong source of growth capital and the most active exit mechanism for venture capital investments, the key informants recognize that their success is closely tied to the robust U.S. economy and the strength of financial markets overall. As a result, IPOs historically decline or disappear during recessions and weak stock market cycles.³⁴

Item 4 in Figure 6 indicates that the respondents perceive a strong supply of individuals making private investments, but that, for the most part, such angel investors are hard for entrepreneurs to identify. To overcome this difficulty, a number of angel networks have been established. The most wide reaching of these networks are electronic forums (e.g., ACE-Net) where potential entrepreneurs can advertise their business opportunities and financial needs. However, the experts argue that most private

investment deals are syndicated and focused in the angels' local area so that they can stay closely involved in the growing firm. Because of these constraints, most key informants don't think that the electronic forums have been very successful at networking entrepreneurs and angel investors.³⁵

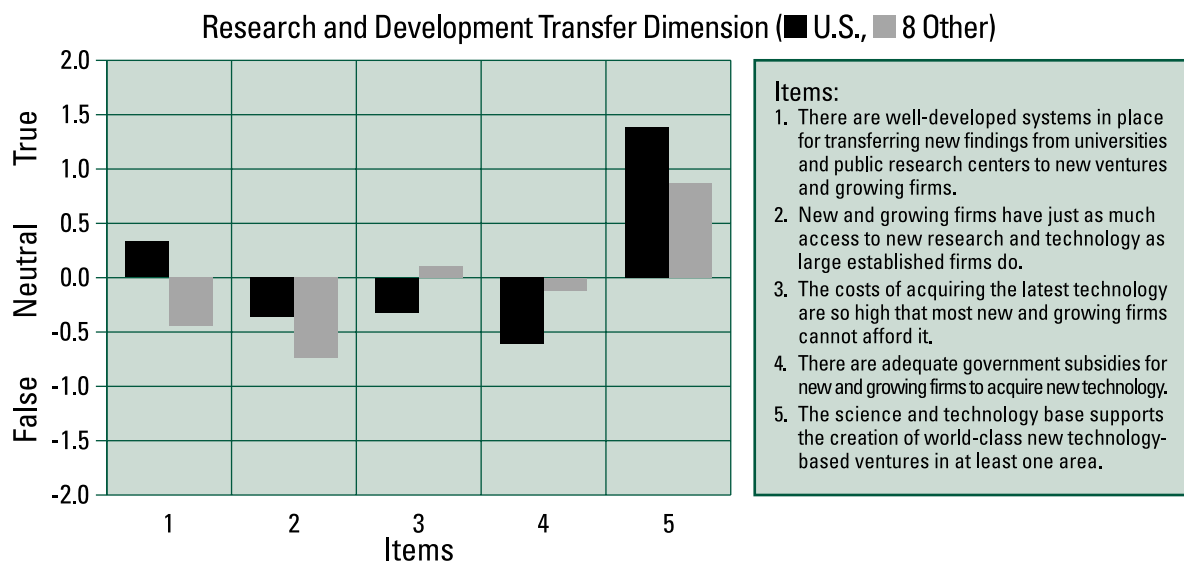
Research & Development, Technology Transfer

Technology transfer appears to be strong in the United States, although not significantly stronger than most other GEM countries (see Figure 4). In the recent past, R&D has been vibrant in the United States, especially among smaller companies. Sixty-seven percent of all new inventions occur in smaller companies (i.e., those under 500 employees).³⁶ Technology is transferred from a number of sources in the United States, including universities, large corporations, entrepreneurial companies and government labs. More than 200

universities are currently engaged in technology transfer, versus only 25 in 1980, adding \$21 billion and 180,000 jobs into the economy each year.³⁷ These institutions are a rich source of new inventions and innovations, yet only a fraction of all innovations developed in the United States are ever successfully commercialized.

As evident in Figure 8, the U.S. key informants are more positive about R&D transfer activity in the United States than key informants in the other GEM countries. On four of the items the situation in the United States is considered to be in better shape than in the other countries, including the presence of mechanisms to promote technology transfer to new firms (Item 1), size-neutral access to new technology (Item 2), costs for new technology that do not discriminate against small firms (Item 3), and the presence of technological and scientific advances that can support world-class new firm development (Item 5). Only with regard to the presence of government

Figure 8
R&D Transfer Questionnaire Items: U.S. vs. GEM Countries



subsidies for technology transfer to new firms (Item 4) are the U.S. key informants less positive than their counterparts in other GEM countries.

Although U.S. tech transfer is vibrant relative to other GEM countries, key informants noted that university policies and tax laws dissuade some aspiring entrepreneurs from pursuing market-worthy technologies. The key informants generally felt that there was a proper balance between proprietary protection and available information. More protection might impede technology advancement, whereas less protection might be a disincentive to pursue innovation. The key informants noted that while a tremendous number of inventions are available, most R&D facilities have a difficult time finding entrepreneurs or organizations to commercialize their innovations.

Education and Training

Key informants across all participating nations viewed education and training in neutral to unfavorable terms (see Figure 4). Key informants in Canada and Israel perceive strong availability of entrepreneurial training in their countries, followed closely by the United States and Denmark. The primary concern from key informants across all countries was the lack of entrepreneurship education at primary and secondary levels. Key informants from those countries where education was viewed less favorably (i.e., Germany, Japan, United Kingdom and France) believed that the quality of entrepreneurship instruction is inadequate at all levels of education.

Like most countries, entrepreneurship education is a relatively new phenomenon in the United States. Twenty years ago, only a handful of colleges even offered entrepreneurship courses. Today,

entrepreneurship education is proliferating across the country. Hundreds of colleges offer some entrepreneurship curricula, and there are more than 90 active university-based centers of entrepreneurship in the United States.³⁸

Entrepreneurship education, however, isn't common at the primary and secondary levels. Recently, the National Council on Economic Education found that Americans as a whole lack a strong understanding of basic economics.³⁹ Adults scored an average 57 percent and high school students scored an average 48 percent on a test of basic economics. The National Council on Economic Education attributes these poor results to a lack of basic economic education in the primary and secondary levels. The situation has even greater implications for the teaching of complex entrepreneurship skills, such as opportunity recognition, marshaling resources in pursuit of opportunity and mastering long-term vision.

These shortcomings are widely recognized and several organizations have tried to fill the gap. More than 200,000 children across the country have participated in Mini-Society® in the past five years.⁴⁰ Mini-Society® is one of the programs designed by the Kauffman Center for Entrepreneurial Leadership to teach entrepreneurship to elementary and secondary school children. The program is an experienced-based approach directed at children ages 8 to 12. Through Mini-Society®, children design and develop their own society and identify tasks for which they can earn money. Ultimately, the children identify opportunities and establish their own businesses to provide goods and services to their fellow citizens. Throughout the 10-week program, the instructor or course leader conducts in-depth debriefings with each student to introduce and explain the concepts

underlying the learning experiences. More than 3,500 teachers and youth leaders across the country have been trained to teach Mini-Society®.

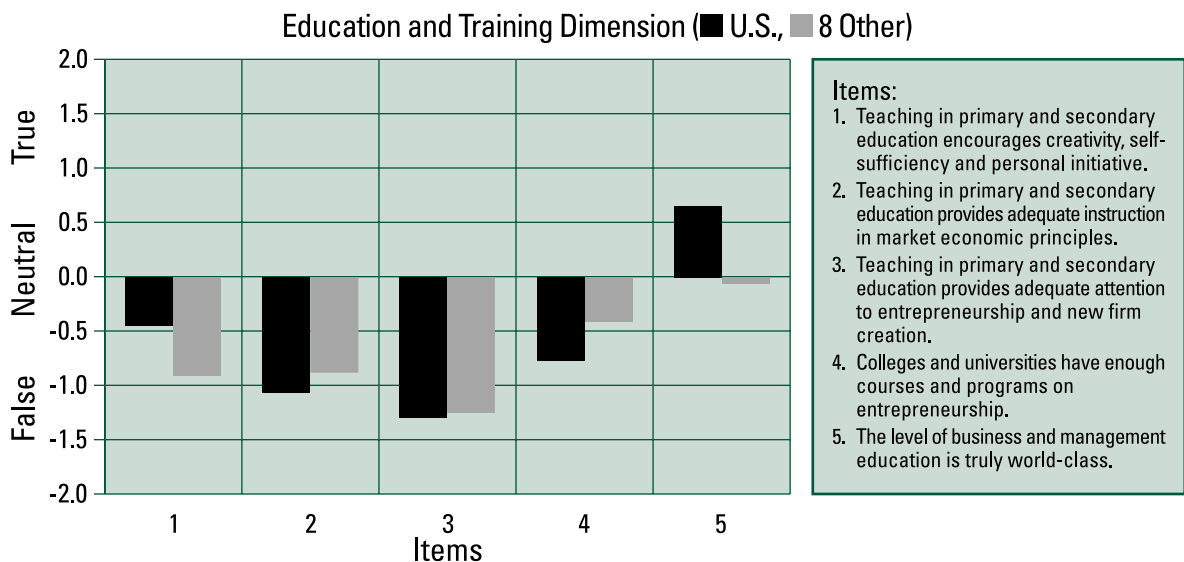
National Foundation for Teaching Entrepreneurship (NFTE) has designed programs (e.g., summer camps) to teach low-income teens how to start their own businesses.⁴¹ To date, 23,000 students have volunteered for NFTE programs, and NFTE expects to serve 9,000 students in 1999.⁴² Ninety percent of the students completing NFTE programs report that they are better able to communicate with teachers, parents and peers.

The questionnaire results highlight the perceived weakness in entrepreneurship education at the primary and secondary levels. The key informants question whether there is adequate instruction in basic economic markets in general (Item 2 in Figure 9), and whether there is adequate instruction in entrepreneurship specifically

(Item 3). The key informants were mixed as to how well primary and secondary education instilled self-reliance (Item 1). Somewhat surprisingly, many key informants believe that colleges do not offer enough entrepreneurship courses (Item 4), which is most likely in reference to the lack of depth in courses currently being offered. Many colleges teach an introductory entrepreneurship course that focuses on business plan creation. Often, this is the only entrepreneurship course taught. Relatively few colleges offer more than three or four courses. The U.S. key informants are, however, very positive — relative to their counterparts in other GEM countries — about the quality of the general management education provided by U.S. educational institutions (Item 5).

In general, the key informants view college level entrepreneurship courses as a strength (few discussed whether the course offerings were sufficient as highlighted in

Figure 9
Education and Training Questionnaire Items: U.S. vs. GEM Countries



Item 4 on page 23). However, the rapid growth in colleges offering the curricula has created a potential problem with the quality of instructors. Many colleges rely on adjunct professors (40 percent of all entrepreneurship courses taught). Although adjunct professors often bring more current real-life entrepreneurial experience to the classroom, they may not be as prepared in pedagogical methods. Likewise, relatively few Ph.D.-granting institutions offer degrees in entrepreneurship.

Another concern revolves around technical and engineering training. Two items are of particular importance; getting more people to study technical topics and the lack of entrepreneurship training for engineering and technical students. Technology innovations provide plentiful opportunities for future economic growth, but several key informants fear that the United States is not training enough people in the skills needed to bring these innovations to market. In universities throughout the United States, entrepreneurship education is predominantly located in the business schools. As such, engineering and other technical students aren't being adequately exposed to entrepreneurship fundamentals. There are a few programs, more recently formed, that are attempting to bridge the gulf between the science and business communities (e.g., Stanford University, University of Chicago, University of Colorado-Boulder, University of Iowa, University of Texas-Austin, etc.). Such programs will serve as future role models for encouraging the integration of entrepreneurship and technical skills-based education.

Commercial and Professional Infrastructure

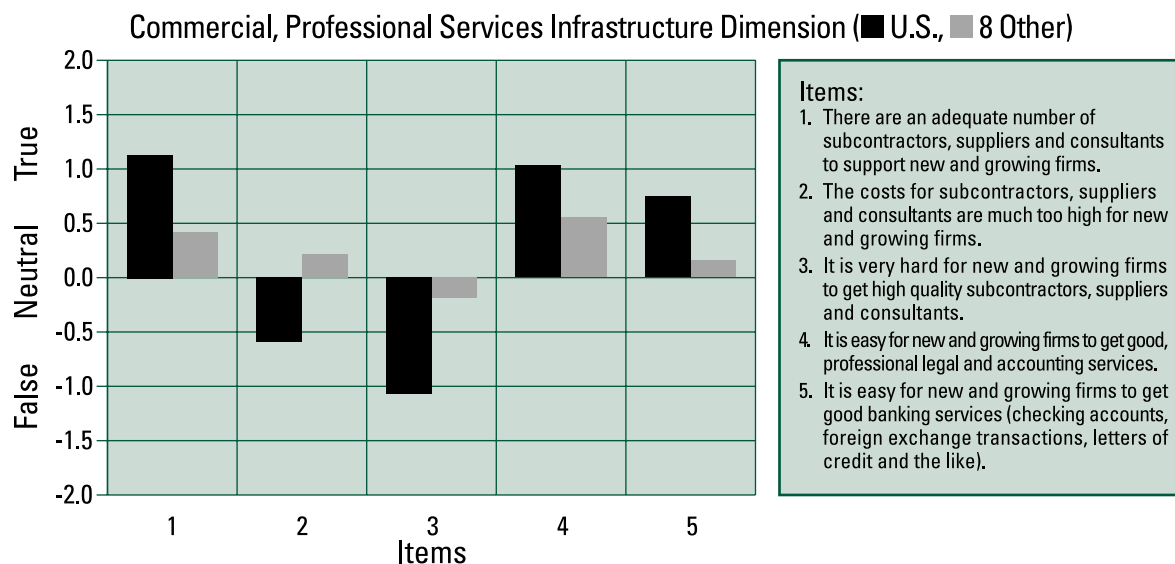
Accompanying the burgeoning entrepreneurial economy in the United States is the well established commercial and

professional supporting infrastructure. In fact, most of the key informants across all the GEM countries felt that their commercial and professional infrastructures (including subcontractors, lawyers and accountants) were strong, with the exception of Japan and France (see Figure 4). In the United States, all of the "big five" accounting firms have established small business practices. Attracting and working with growing firms seems to be a major source of new clients. To attract prospective growth firms, many commercial providers offer deferred fees, reduced fees or will accept equity in lieu of fees. Not only do reduced fees/deferred fees build up the provider's business, but they also increase the chances that resource-constrained start-ups will access the services.

A significant majority of all the key informants agreed that there was an adequate supply of commercial and professional providers (Item 1 in Figure 10). This is one of the strongest responses in the entire survey. The key informants also believed that professional provider fees weren't excessive (Item 2), and that it was not difficult to find quality providers (Item 3). The key informants also agreed that the quality of legal advice (Item 4) and banking services were strong (Item 5). In sum, one of the major indicators that the U.S. economic structure is organized to accept and support new and growing firms is the availability of adequate, affordable, quality professional and banking services.

Although respondents nationwide generally had a favorable impression of commercial providers, those in the Midwest felt that commercial providers in that region were not as creative in structuring relationships with entrepreneurs. It appears that commercial provider interaction with

Figure 10
Commercial and Professional Infrastructure Questionnaire Items:
U.S. vs. GEM Countries



start-ups affects the ability to grow a new firm. Providers in entrepreneurial “hot spots” such as the Silicon Valley and Boston’s Route 128 have substantial experience with start-ups and, thus, are generally more sophisticated in structuring these relationships.

Government Policies and Programs

U.S. key informants generally believe that an entrepreneur’s decision to start a new venture is not affected by whether government policies and programs are supportive of that decision. This conclusion is consistent across the 10 GEM countries. However, key informants do suggest that government policies and programs may impact the likelihood of success of new ventures. As such, our review of these items has significant policy implications.

Perhaps the most striking conclusion to be drawn from the key informant interviews regarding the role of government policies

and programs is the perception that such initiatives only marginally impact the rate of new venture start-ups, if at all. Programs and policies affecting the U.S. entrepreneurial sector are derived from three different levels of government: federal, state and local. The primary policy concerns are tax policies and business regulations. The primary concerns regarding governmental programs are the degree of redundancy across programs and how difficult it is to know when one qualifies for a particular program.

In general, the key informants view U.S. taxes and regulations as predictable and neutral toward small and large firms. Several key informants noted that the regulation environment in the United States relies on punitive remedies rather than incentives to meet and exceed guidelines. Moreover, compliance on these regulations is measured in quantitative terms that

encourage minimal compliance. Compliance with various regulations and tax laws is considered to be labor intensive. In 1992, it was estimated that regulatory compliance cost small firms approximately \$5,000 per employee, versus \$500 to \$3,400 for larger firms.⁴³

With respect to government programs, key informants felt that locating the most appropriate program was difficult and time consuming. It appears that many entrepreneurs are unaware of the programs available or how to find them. For example, Wisconsin has at least 400 programs providing 700 different services for small business, but overall awareness of this assistance is low.⁴⁴ A perusal of programs in Massachusetts confirms the Wisconsin findings. Many key informants also noted that there has been little or no research into the effectiveness of government programs. As a result, programs are funded indefinitely, even as new programs with similar services are initiated. The inevitable

proliferation of programs diminishes government efficiency. Many of the key informants felt that a more rigorous evaluation of the effectiveness of government programs would be a useful step in eliminating such redundancy.

There have been efforts to explore the impact of contact with assistance programs. In general, the evidence suggests that those start-ups that make contact with such programs are more likely to implement a new business, and that new businesses that make contact for assistance have a higher survival rate and tend to report more growth. Indeed, when nascent entrepreneurs and owners of new businesses report on their experiences, they are uniformly positive and complimentary about the assistance.⁴⁵ In essence, the major problem appears to be one of marketing, rather than delivery of services. If properly promoted, however, the demand for services would substantially increase.

ENTREPRENEURIAL OPPORTUNITIES AND CAPACITY

The social, cultural and political context, the general national framework conditions and the entrepreneurial national framework conditions are all assumed to have an impact on the national entrepreneurial sector. In turn, the national entrepreneurial sector is considered to have several major features: the perception of opportunity, the presence of entrepreneurial capacity and the motivation to pursue a new firm start-up. All three must be present before a viable effort to launch a new firm can begin. Two types of information are used to assess these three aspects of the entrepreneurial sector: the judgements of the key informants in each country and selected items from the adult population surveys.

A summary of these comparisons for the 10 GEM countries is provided in Table 3. Most Americans believe that “there will be good opportunities for starting a business in the next six months,” are motivated to do so and are more capable than people from other GEM nations (see Table 3). The top row of Table 3 gives the

survey-based start-up rates for each GEM country. The next five rows show how opportunities are perceived from both the general population survey and the national panels of key informant, the perceived entrepreneurial capacity (key informants only), perceived motivation to start an entrepreneurial venture (key informants only) and respect for entrepreneurs (general population sample only). Measures for the general population sample are in percentages related to each item (i.e., percent agree or disagree). The key informant index values are standardized across the participating countries so that each country is measured in terms of standard deviation units from the mean (or average). High positive standard deviations, greater than 1.0, indicate that a country is well above average in the category; a negative figure less than -1.0, would indicate well below average.

As can be seen from Table 3, Americans are far more likely than their counterparts in other countries to perceive opportunities

Table 3
Perceived Opportunities and Motivation to Pursue Entrepreneurial Opportunities

	Correlation with Start-Up Rates	U.S.	Canada	Israel	Italy	UK	Germany	Denmark	France	Japan	Finland
Business Start-Up Rate Prevalence: %	—	8.4	6.8	5.4	3.4	3.3	2.2	2.0	1.8	1.6	1.4
Opportunity, Perceived: Key Informant Index	0.80	1.9	0.7	0.2	—	-0.1	1.1	-1.6	-0.8	-0.5	0.4
Opportunity, Perceived: Survey Respond: %	0.84	57.0	37.0	28.0	25.0	16.0	15.0	27.0	15.0	1.0	19.0
Entrepreneurial Capacity: Key Informant Index	0.69	1.3	0.6	0.6	—	-0.3	0.4	-0.7	-1.5	-1.3	1.0
Entrepreneurial Motivation: Key Informant Index	0.93	1.8	0.7	1.3	—	-0.6	-0.2	-1.0	-0.6	-0.6	-0.7
Respect for Start-Ups: Survey Respond: %	0.45	91.0	86.0	66.0	68.0	38.0	73.0	85.0	83.0	8.0	67.0

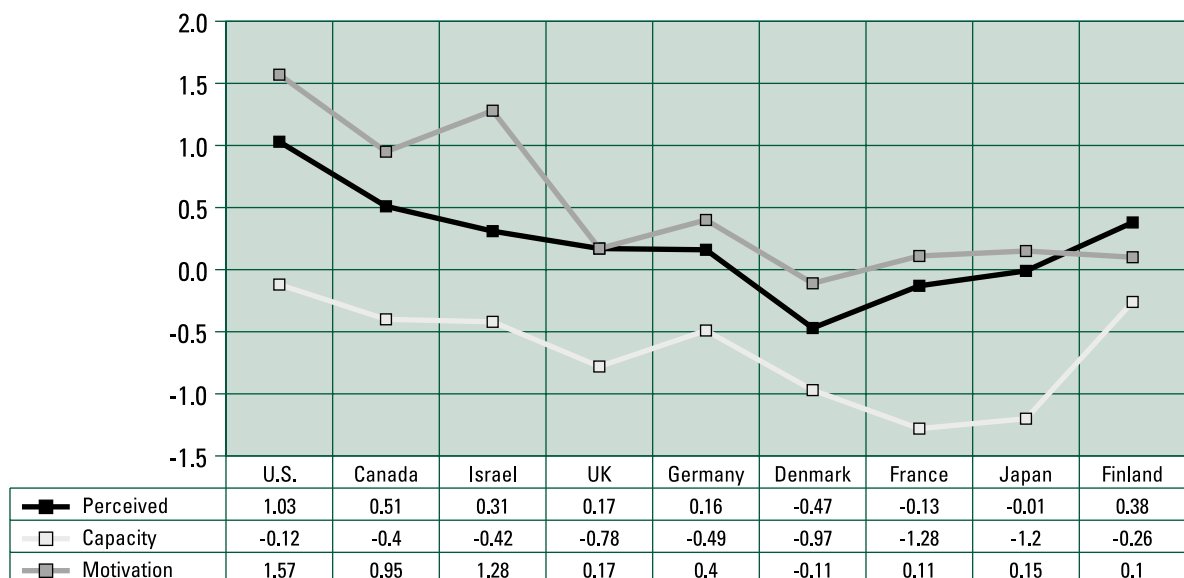
for entrepreneurial ventures. Fifty-seven percent of Americans perceive good opportunities, which is significantly higher than any other country. Likewise, the U.S. key informants perceive far more opportunities than did their peers in other countries (Index value of 1.9). Figure 11 graphically illustrates how the key informants viewed entrepreneurial opportunities. A closer look at the key informant responses reveals that they perceive more opportunities than there are people to take advantage of them, including many opportunities for creating high-growth firms.

Entrepreneurial capacity is composed of two dimensions: the motivation to start a new business and the skills to do so. Results from the U.S. study were mixed on this measure. Based on the results of the population survey, adults in the United States appear highly motivated to start new businesses. When asked if their family and

friends would pursue opportunities to start a new business if such opportunities existed, 56 percent (or 1.8 on the Entrepreneurial Motivation Index) of the key informants thought they would. This is significantly higher than any other participating country (see Table 3 and Figure 11).

There was some question, however, as to the overall level of competency in the population for pursuing such opportunities. The key informants generally believe that aspiring entrepreneurs could be better trained in the start-up process. This is particularly evident when and where there are opportunities to create high-growth firms. The experts argue that a more highly trained class of aspiring entrepreneurs would accelerate the rate of entrepreneurship in America by reducing the number of failures, improving the overall efficiency of established firms and providing for a larger number of growth-oriented firms.

Figure 11
Perceived Opportunities, Capacity and Motivation Indices:
Cross-National Comparisons



REGIONAL DIVERSITY

Earlier research, not specifically related to the GEM initiative, indicates a substantial geographic variation across 382 U.S. labor market areas in business start-up activity. The degree of diversity is presented in Table 4, where start-up activity is presented for all firms and for manufacturing firms only. The annual rate of start-ups is presented in two ways: in proportion to 100 existing firms and to 10,000 people in the population. As seen in Table 4, annual firm births ranges from four to 11 per 100 existing firms and 18 to 78 per 10,000 individuals, leading to high/low ratios of 3-to-1 and 4-to-1. These ranges are much greater among manufacturing firm births, as some U.S. labor market areas in sparse rural locations have virtually no manufacturing activity.

Systematic research on the differences between U.S. labor markets that are high and low in entrepreneurial activity suggests that the major factors are growth in demand (reflected in population growth, growth in disposable income, or low unemployment), diversity of the economic structure, presence of mid-career adults and greater flexibility in employment relationships. Because analysis involved 382

labor market areas and temporal comparisons over a number of time periods, it was possible to control for the relative impact of a number of factors. Regional variation associated with higher densities of customers, suppliers, workers, R&D resources, costs of production or access to national transportation facilities had little systematic impact on firm birth rates.

Basically, the major urban areas were the primary settings for higher levels of firm creation, while rural areas — many with declining populations — were most likely to have reduced levels of start-up activity.⁴⁶ The regional comparisons were extremely stable over time, as there was very little change in the relative position of the geographic regions in terms of the major causal factors over several decades.

The Emergence of Regional Sector Specialization: Industrial Districts

In addition to the general regional patterns, some regions develop an expertise in a specific type of commercial activity, producing a sustained regional advantage for that type of work. Once this specialization becomes apparent, considerable expertise and specialized

Table 4
Regional Variations in U.S. Firm Births: 1986–88

Data for 382 Labor Market Areas	Average	Maximum	Minimum	Ratio
New Firms/100 Existing				
All Economic Sectors	6.9	11.0	3.9	2.8
Manufacturing only	6.0	14.2	2.1	6.8
New Firms/10,000 Human Population				
All Economic Sectors	33.0	74.0	18.0	4.1
Manufacturing Only	126.8	114.0	2.4	47.5

Reynolds, Paul D., David J. Storey, and Paul Westhead. 1994. Cross-national Comparisons of the Variation in New Firm Formation Rates. *Regional Studies* 28(4): pg 449, Table 1.

commercial and government infrastructures often develop in relation to a unique market or economic sector. The best known are based on high technology — Silicon Valley in California, Route 128 in Massachusetts, Research Triangle in North Carolina. The same basic factors appear for other types of activities in other areas — telemarketing and phone interviewing in Omaha, Nebraska, health care in Philadelphia, movie and TV production in Los Angeles, financial markets in New York City and, just recently, software development in Redmond, Washington.

In such settings, technology transfer or diffusion of innovation mechanisms may emerge, many through informal and personal networks often associated with major research institutions or informal networks that develop among technical specialists (e.g., trading success stories in the local restaurants on Friday nights). This will complement other features that may develop, such as a talented flexible pool of specialized workers and professionals, a mass of similarly oriented entrepreneurial companies that may provide complementary products and services, individuals and institutions to provide financial support (risk capital, equity, debt), and a well-developed commercial and physical support infrastructure. The resulting system

becomes a burgeoning source of innovation and advancement in this particular economic subsector.

During periods of sector expansion, some hyper-growth firms and highly visible entrepreneurs are evident. Once a geographic cluster gains critical mass in terms of the level of entrepreneurial activity and (e.g., Silicon Valley) markets continue to expand, the result is a competitive advantage that is hard for other regions, even within the United States, to challenge. During periods of rapid market expansion, the *present rate* of new start-ups in a specialized region will be a good predictor, perhaps the best predictor, of rates of new firm start-ups in the immediate future.

Despite the obvious appeal of such “industrial districts” as sources of economic growth and, for the successful firms, wealth creation, no one has figured out how to create such an activity. They are easy to study, as those directly involved are eager to share experiences, but no obvious steps to initiate the development have been discovered. Governments may, however, be prepared to facilitate the growth of such regional specialization when the first signs begin to appear. This can facilitate the emergence of sustained regional competitive advantages and, in some cases, sustained national competitive advantages.

IMPLICATIONS FOR THE U.S. ENTREPRENEURIAL ECONOMY

The major implications from the cross-national comparison of the 10 GEM countries are clear. A country's rate of economic development is critically linked to the level of entrepreneurial activity. The level of this entrepreneurial activity reflects both the perception of the availability of opportunities for new ventures and the public's motivation and skill to pursue them.

Systematic Advantages

The United States has a number of major advantages that facilitate continuation of an entrepreneurial economy.

- Anticipation of sustained population growth over the next 25 years.
- Relative high level of women participating in firm start-ups.
- A substantial proportion of the work population in the prime "entrepreneurial years."
- High level of income diversity, with a substantial proportion of wealthy households.
- Widespread political and social acceptance of the existing income diversity.
- A substantial, sophisticated and well established post-secondary educational system.
- National acceptance of a vigorous, extensive entrepreneurial sector as a fundamental feature of national economic life.
- Acceptance of entrepreneurship career options as appropriate and acceptable for those who wish to pursue them.
- Widespread inclination to identify opportunities, along with the capacity and motivation to pursue them.

The major implication of the foregoing analysis is that, compared to other GEM

countries, the U.S. entrepreneurial sector is in very good shape. The major focus should therefore be on maintaining these systemic advantages. For example, a major reduction in the scope or magnitude of the post-high school (secondary or tertiary) educational and training systems could have a major negative effect, as would changes in legislation or policies that would reduce the proportion of women involved in entrepreneurial ventures. Assuming such changes are very unlikely, what other implications might be justified? Some comments are possible about adjustments that may facilitate smoother working and an overall enhancement of the existing system.

Enhancing the System

The perception of entrepreneurial opportunities and the capacity to exploit them are strongly associated with social norms that encourage venturing, such as the availability of risk capital, access to developing technologies, a quality diverse entrepreneurship education system and a sound professional infrastructure. These findings have considerable implications for the U.S. entrepreneurial economy.

Expand Education and Training:

Entrepreneurship education, at all levels, could very effectively prepare and train students to start and manage new businesses. Entrepreneurship education is strong and getting stronger in business schools across the country, but it needs to proliferate outside of the business domain. Among those 25-34 years old, 87 percent have completed high school, 56 percent have completed some form of post-high school training, 27 percent completed college and 6 percent post-college experiences.⁴⁷ Only 16 percent, however, of college students major in business subjects.⁴⁸ And not every

business school student is required to or elects to take an entrepreneurship course. Thus the number of people exposed to higher-level entrepreneurship education is relatively small in the United States. Therefore, it is critical that entrepreneurship education be expanded. Major areas identified in the key informant interviews included the engineering and technology schools within our universities and the primary and secondary levels.

Engineering and other technology graduates have the capability to generate innovations that may be the basis for high-growth firms. They need to learn techniques for discerning whether or not such innovations have commercial potential. As such, universities need to encourage the integration of their degree requirements between entrepreneurship/management and engineering/technology. There are often many hurdles to such collaboration, however, including issues of funding, credit allocations, faculty teaching loads, scheduling conflicts and the lack of available facilities. While a handful of schools are facing and overcoming these issues, there is a real need to see more active collaboration on our university campuses.

Although programs such as those sponsored by the Kauffman Center and NFTE are quite successful, there needs to be a more concentrated effort to introduce entrepreneurship and basic economic principals at the primary and secondary levels. At the primary level, these concepts could be integrated throughout the curriculum. At the secondary level, entrepreneurship skills and basic economic principles could be offered as stand-alone courses. Many people enter the workforce without a college education and have no possibility for exposure to entrepreneurship training.

While not every high school graduate has the capacity or desire for higher education, almost everybody has the potential to start a new business. The average high school graduate may not start a fast-growth, high-technology company, but he or she can start a landscaping business, a retail business or some other venture that will employ other people and contribute to economic adaptation. As such, it is critical to provide at least the basic instruction to insure that these future entrepreneurs have the understanding of and a certain level of proficiency in the skills necessary to implement and manage a business.

Government Assistance Programs: Numerous governmental programs at all levels have been designed with the entrepreneur in mind. However, many key informants believe that a great number of these programs compete with each other, which leads to as much confusion as assistance. Duplication not only diminishes the impact that these dollars could have, but also makes it difficult for the entrepreneur to know which program best addresses his specific need. Recognizing the seriousness of the matter, various national experts recommended the establishment of a "clearinghouse" for government programs. A clearinghouse, perhaps Web-based, could provide an efficient means for entrepreneurs to gain knowledge of specific programs and to access those programs.

Another dominant theme in the key informant interviews was the need to simplify compliance pressures on entrepreneurial firms. Simplifying compliance requirements would improve entrepreneurial efficiency at the most critical times in the venture's life. Many new ventures report having a difficult time staying on top of all the reporting

requirements. Key informants agree that further efforts to reduce the required paperwork would reduce manpower constraints on new ventures, thereby increasing their chances of surviving the early years.

Responding to Structural Shifts: All business activity in the United States occurs within an institution context that includes the education and legal systems as well as the government policies and regulations that impinge on all. While it is virtually impossible to predict major shifts in the economic base of a given geographic region, or the nation as a whole, there are reasons to expect institutions to be poised to adapt to major shifts in the economic structure. This can be in terms of developing new regulations, providing infrastructure or adapting existing procedures to facilitate business activity.

One of the major advantages of a substantial entrepreneurial sector is the capacity to adapt and adjust to new procedures, new demands and new competition. Unnecessary delays and complications among societal institutions can do much to mitigate this advantage if the capacity for adjustment is hampered.

This problem could be of particular relevance to a local region or community where resources to provide adjustments may be scarce. In such cases, state or federal government programs may do much to facilitate the necessary local adaptation by providing new educational programs, infrastructure or assistance with regulatory and policy change.

The “Gap” in Seed Stage Financing: One of the more prominent problems identified by the key informants was the apparent gap in the availability of seed stage capital. However, key informants were in disagreement as to whether there really is a gap or not. Several explanations for this

apparent contradiction were provided. First, if the gap exists, it may be more pronounced in different industries (i.e., high tech versus low tech), different geographic regions (i.e., Silicon Valley versus the Midwest), or for distinct groups of entrepreneurs (i.e., minorities and women). The substantial amount of funding provided through informal channels, orders of magnitude greater than that provided by formal venture capital investments and heretofore unknown and unappreciated, suggests some mechanisms for filling the gap may have developed without recognition.

Second, there may not be a gap in the availability of such capital, but, rather, in the entrepreneur’s knowledge of where it resides and how to tap it. This would open the door to more systematic program solutions, rather than needing to shift the underlying investment philosophy of the entrepreneurial sector. Finally, the experts may be split over whether a gap exists in seed capital because of the fact that many entrepreneurs choose not to endure the time, cost and bureaucracy involved in the search and seizure of such capital. Like most financing rounds involving outside sources, the process of identifying and securing seed funding greatly strains the entrepreneur’s time and resources.

Successful Role Models: Power in the Story: In today’s media (newspapers, periodicals, television programs, etc.), numerous stories are told about successful entrepreneurial endeavors. However, regions wishing to improve their entrepreneurial sector probably can foster more recognition and visibility for their local entrepreneurial role models. Ernst & Young’s Entrepreneur Of The Year® program recognizes national entrepreneur winners and also celebrates winners in 47 regions across the country. States, cities and

other localities wishing to increase the level of entrepreneurial activity in their area could create similar ways to recognize and celebrate their entrepreneurs. Increasing the visibility of entrepreneurs by telling their story could prove to be an attractive way to encourage others to pursue their own entrepreneurial opportunities. It reflects widespread acceptance of entrepreneurship as a career option in the United States.

Understanding the Entrepreneurial Process

It is clear that entrepreneurship has a major role in modern market economies. As the pace of change and adaptation increases in the global economy, an understanding of the mechanisms associated with the implementation of new firms and their growth trajectory become even more important. The United States, in some ways, has been complacent. Even now, as reviewed above, there is no accurate national count of new and growing firms.

The lack of comprehensive data means there is no reliable source for measuring the impact of and response to policy issues as they arise. As a result, policy decisions regarding entrepreneurship are often made in a vacuum, without knowledge of the full impact of the decisions.⁴⁹

Given the extent to which entrepreneurial career options are an integral feature of work life in the United States, it is astonishing that a more comprehensive research program has not been initiated. This is not the case in Europe, where substantial public funds are supporting major research programs on the start-up process itself as well as the role of entrepreneurship in national economic growth. Many of the GEM national teams receive financial support from national government agencies. In the absence of a more comprehensive, long-term research program on the entrepreneurial process, federal and state policies regarding new and growth firms will continue to fluctuate in reaction to political whims and pressures from special interest groups.

CONCLUSION

The United States is well positioned for the future. The country has a high start-up rate, a robust entrepreneurial sector and the most critical background factors are well established. People perceive opportunities and are motivated to pursue entrepreneurial careers, which not only improves the overall economy but also provides social mobility for the entrepreneur. This research suggests that as much as one third of the variation in national economic growth may be attributable to variation in entrepreneurial activity. Moreover, other countries continue to strive to improve their entrepreneurial sectors. Considering the importance of a strong entrepreneurial sector and the fact that other countries are moving ahead to improve, it is critical that the United States not rest on its laurels. How can entrepreneurial activity be improved?

Launching a business takes knowledge. One of the areas that might have the greatest impact on entrepreneurial activity is increasing the proliferation of entrepreneurship education outside of its traditional domain of the business college. Specifically, increased entrepreneurship

education at the primary and secondary levels, as well as at technical and engineering schools might create a whole new generation of entrepreneurs.

Changes in government policies and programs might facilitate entrepreneurship at the margins. Specifically, simplifying regulation and tax reporting requirements would diminish the disproportionate resource drain on constrained new ventures. Creating a clearinghouse detailing government programs might help bridge the seed and start-up financing gap, especially if these programs can be targeted to those geographic areas, industries and demographic groups where the gap is most pronounced.

Systematic federal efforts to provide accurate, timely measures of new and growth firms and an ongoing assessment of the national entrepreneurial process would do much to enhance understanding of this important activity and may prevent major policy errors or oversights.

Entrepreneurship is critical to the nation's economic well-being. It is hoped that this report provides a basis to ensure its continued vigor.

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¹⁴This estimate is based on 8.4 percent of a representative sample of U.S. adults interviewed in March 1999 by Market Facts, Inc. of Arlington Heights, IL. Previous research has suggested that an average of 2.2 adults are involved in each start-up, reducing this figure to 3.8 percent, or 7,308,684 among the 191,417,914 in the United States that are 18 years or older.

¹⁵However, a new incorporation may never become an operating business and the majority of new businesses are not legal corporations.

¹⁶These are produced annually as part of a Corporate Demographic series. The principal owner/manager of the firm is David Birch, the first person to develop the procedures that made these estimates possible.

¹⁷Acs, Z., & Armington, C. 1998. Longitudinal establishment and enterprise microdata (LEEM) documentation. Washington, D.C.: Center for Economic Studies Discussion Paper 98-9 (July).

¹⁸OECD, 1998.

¹⁹Ibid.

²⁰By start-up, we mean participation in new and small firm sector as measured in the adult population surveys. Respondents considered to be active in start-ups met the following criteria: (1) they expected to own all or part of the new firm, (2) they had been active in initiating the start-up in the past

12 months, and (3) the firm had not paid salaries or wages for more than three months.

²¹Finland is not included in this measure because its largest company, Nokia, accounts for 18 percent of Finnish exports and 25 percent of all Finnish economic growth. Thus, it skews the results if included.

²²Japan is excluded from this measure because despite its currently low growth rate, it still has one of the lowest unemployment rates (4.4 percent).

²³Again, Finland is not included because of the unduly large impact of Nokia.

²⁴Again, Japan is not included because of its low unemployment rate.

²⁵Population data for all 10 countries were taken from U.S. Census, International Data Base, Washington, D.C. (www.census.gov/ftp/pub/ipc/www/idbnew.html).

²⁶Population data for all 10 countries were taken from U.S. Census, International Data Base, Washington, D.C. (www.census.gov/ftp/pub/ipc/www/idbnew.html).

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³¹OECD, 1998.

³²The small sample is reflected in the wide range of the 95 percent confidence interval, which is from \$24

billion to \$100 billion. In other words, if the data collection was repeated 20 times, the average would be in this range for 19 of the 20 samples.

³³Venture Economics Investor Service: 1997. National Venture Capital Association Annual Report. This figure is skewed due to a small number of megaVCs who have more than \$1 billion under management.

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⁴⁰The Mini-Society[®] curriculum was created by Dr. Marilyn Kourilsky.

⁴¹Approximately 70 percent of those completing the NFTE experience are currently pursuing or plan to pursue post-secondary education. Sixty-five percent of NFTE alumni eventually start a business, compared to 2 percent in a comparison group of those that do not volunteer for the experience. NFTE staff believe that better education in economics and entrepreneurship will allow disadvantaged people to become more socially mobile.

⁴²www.NFTE.com

⁴³OECD, 1998.

⁴⁴OECD, 1998.

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