Global Entrepreneurship Monitor

2001 Summary Report

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Foreword

The Global Entrepreneurship Monitor 2001 Report is unprecedented in terms of global scale. Covering 29 countries, it provides a detailed view of a major source of national economic growth – entrepreneurship. IBM decided to sponsor the 2001 report because it very much reflects our commitment and interest in nurturing entrepreneurship within our own company, as well as recognizing that entrepreneurship within a country benefits the IT industry and global economy as a whole.

The GEM report, supported by London Business School and Babson College, is unique in terms of engagement and involvement of national teams and the project has the capacity to explore the major issues associated with the emergence of firms at all levels, from the most basic to the most complex undertakings.

IBM set up a division to specifically focus on the emerging start-ups and service providers whose businesses are based around the Internet. The global Net Generation division was launched in December 1999 and the sales and marketing teams are working on a daily basis with entrepreneurs. IBM has put together specific offerings, programs, and financing to support these companies' business models and to help them reach profitability quickly. The NetGen division has worked with over 3,400 new customers since its conception at the end of 1999.

In addition to the value we place on entrepreneurship in our customers, IBM has also tried to create an environment that encourages entrepreneurship within our company and this is one of the key reasons why we were so pleased to be a sponsor of this year's GEM report. Among the initiatives we have in place are employee self-management of their skills, jobs and careers; mobility programs that offer flexibility to choose when and where employees work; and sales and incentives' plans that support risk taking.

I would like to congratulate GEM and London Business School and Babson College for executing a highly complex and comprehensive study into entrepreneurship and hope that you, the reader, find the report interesting and useful.

Hans-Ulrich Maerki
Chairman of the Board, IBM EMEA

Foreword

The Global Entrepreneurship Monitor (GEM) stands as one of the most significant research programs in the study of entrepreneurship. That status is based on four factors: 1) the compelling nature of the issues under study; 2) the integrity and quality of the research scholars and institutions involved; 3) the comprehensive research design; and 4) the opportunity to create the world's leading forum for dialogue and debate about the importance of entrepreneurship in economic growth.

The Kauffman Center for Entrepreneurial Leadership has been a proud collaborator with Babson College and the London Business School from the inception of the program. Since the release of the first GEM report for 10 countries in 1999, the program has grown in many ways. The number of countries studied is expected to grow to more than 40 in 2002. This, in turn, significantly increases the number of researchers and total dollars invested in the program. And, the issues assessed in the research design have become even more challenging and comprehensive.

The GEM sponsorship is part of the Kauffman Center's strategy to accelerate entrepreneurship. Funded by a successful entrepreneur, Ewing Marion Kauffman, the Kauffman Center is the largest organization dedicated to entrepreneurial success at all levels, from elementary school students to high-growth entrepreneurs. We look to the Global Entrepreneurship Monitor to help explain the issues surrounding entrepreneurship on a global and country level and to stimulate the highest levels of debate about policy and practice.

Dr. S. Michael Camp
Vice President, Research
The Kauffman Center for Entrepreneurial Leadership

Preface

In 1999, the GEM program was designed to explore three fundamental questions:

- Does the level of entrepreneurship vary between countries, and if so, by how much?
- Are the differences in national entrepreneurial activity related to national economic growth?
- What national characteristics are related to differences in entrepreneurial activity?

The 1999 assessment, involving the G-7 along with Denmark, Finland, and Israel, was a success. While the main focus was on survey-based measures of participation in business start-ups, or nascent entrepreneurs, it made clear the substantial variation among countries and that a relationship to national economic growth was present.

Expanding to 21 countries for 2000, survey-based measures of activity were enhanced to include national samples of two thousand and identify both nascent entrepreneurs involved in start-ups and those involved in operating new businesses. These were combined to form the Total Entrepreneurial Activity (TEA) index. The addition of developing countries (Brazil, India) led to much greater variation in activity levels. A significant relationship to national economic growth was present among countries dominated by domestic economic activity, e.g. relatively low external trade.

Two major changes occurred in GEM 2001. An expansion to 29 countries and adjustment of the interview procedure to make a distinction between entrepreneurship reflecting the voluntary pursuit of opportunity and that reflecting a necessity to engage in entrepreneurship when there is an absence of employment opportunities. Data processing was revised to avoid a shortcoming in the GEM 2000 procedure; those that initially appeared as new firm principals without paying wages or salaries were being ignored. They are now reclassified as nascent entrepreneurs, those still in the start-up process. Applying the same procedures to both 2000 and 2001 data indicates considerable year-to-year stability. Again, for 2001, there was a significant relationship between the national level of necessity entrepreneurship and projected economic growth.

Expansion to more developing countries and countries in the transition to market economies is anticipated for GEM 2002; over 40 national teams should be involved. These enhancements and the development of longitudinal data allow refinement of the initial questions to include:

- Does the type of entrepreneurial activity vary between countries?
- Are different types of entrepreneurial activity related to national economic growth in different ways?
- What national characteristics are related to differences in types of entrepreneurial activity?

The work and cooperation of the national teams, the survey firms, the national experts and financial support from the Kauffman Foundation, IBM, and all the national team sponsors has been critical for the success of this seminal research program. Their contributions are much appreciated.

Paul Reynolds and the GEM Coordination Team

Report Summary

For several years now, evidence has accumulated that documents the significant impact of entrepreneurship on national economic adaptation and expansion. As a result, the rate of public and private investments devoted to entrepreneurial activity has exploded in the hopes of accelerating its innovation, technology development, and job creation benefits. Despite the added attention, however, there have been few systematic cross-national comparisons of the level of entrepreneurship, its association with national economic growth, or the factors that influence it over time.

The third annual assessment of these issues has been completed with 29 countries involved in the Global Entrepreneurship Monitor (GEM) program. GEM was initiated in 1997 by leading scholars from Babson College (US) and the London Business School (UK), with strong support from the Kauffman Center for Entrepreneurial Leadership at the Ewing Marion Kauffman Foundation in Kansas City, Missouri (USA). IBM became a global sponsor for GEM 2001. In 1999, the first year of the assessment, 10 countries participated. Twenty-one countries participated in 2000 and 29 in 2001. The countries included in the 2001 assessment represent 40% of the world population of 6.2 billion. Included are:

European Region

Belgium, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, The Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, and the United Kingdom

Asian Region

India, Japan, Korea, and Singapore

Latin American Region

Argentina, Brazil, and Mexico

North American Region

Canada and the United States

Other Regions

Australia, Israel, New Zealand, and South Africa.

The central aim of GEM is to assemble the world's leading scholars around three compelling questions:

- Does the level of entrepreneurship vary between countries?
- Are the differences in entrepreneurial activity associated with national economic growth?
- What national characteristics are related to differences in the level of entrepreneurial activity?

Data were assembled for each participating country from four basic sources: 1) surveys of at least 2,000 adults in each country; 2) in-depth interviews with more than 950 national experts on entrepreneurship; 3) standardized questionnaires completed by the national experts; and 4) a wide selection of standardized national data.

The key findings from the 2001 assessment are:

- **Entrepreneurship is a global phenomenon with significant differences between countries.** About 1.4 billion working-age individuals (20 to 64 years old) live in the 29 GEM 2001 countries. Slightly less than 10 percent of these people are, at any point in time, in the process of creating and growing new businesses. *Thus, in the GEM countries alone, almost 150 million people are engaged in some form of entrepreneurial activity!* And the level of that activity varies from country to country, from a low of approximately 5 percent of the adults in Belgium and Japan to about 18 percent in Mexico. In addition, about 3 percent of the adults in the 29 countries have recently invested personal funds into others' new businesses, most as small-scale business angels.

- **Entrepreneurship is a multi-faceted phenomenon.** The GEM 2001 assessment uncovered a dynamic dimension inside entrepreneurial activity. Each respondent was asked to indicate whether he was starting and growing his business to take advantage of a unique market opportunity (opportunity entrepreneurship) or because it was the best option available (necessity entrepreneurship). The average opportunity entrepreneurship prevalence rate across the 29 GEM countries was about 6.5 percent, while the average for necessity entrepreneurship was 2.5 percent. Four countries ranked highest in opportunity entrepreneurship (in alphabetical order): Australia, Mexico, New Zealand, and the United States. Five countries ranked among the highest group for necessity entrepreneurship (in alphabetical order): Brazil, India, Korea, Mexico, and Poland. The analysis indicated that developing countries generally have a higher prevalence rate for necessity entrepreneurship.

- **The relationship between entrepreneurship and economic growth is complex.** The prevalence rate for necessity entrepreneurship in 2001 was positively associated with national economic growth. This association was stronger when countries highly dependent on international trade — Belgium, Hungary, Ireland, Netherlands, and Singapore — were excluded. The prevalence rate of opportunity entrepreneurship, on the other hand, was not associated with any measure of national economic growth. Without longitudinal data it is difficult to unravel the mystery of causality in these relationships. However, it does appear that in developing countries necessity entrepreneurship may have a strong macro-economic function.

- **Several national contextual factors influence the level of entrepreneurial activity.** Both opportunity and necessity entrepreneurship were higher in countries where there was greater income inequality and where the adults expected the national economic situation to decline. Opportunity entrepreneurship was higher where there was (a) a reduced national emphasis in manufacturing, (b) less intrusive government regulations, (c) a higher prevalence of informal investors, and (d) a significant level of respect for entrepreneurial activity. Necessity entrepreneurship was higher in countries where (a) economic development was relatively low, (b) the economy was less dependent on international trade, (c) there was not an extensive social welfare system, and (d) women were less empowered in the economy.

The policy implications of the findings from the GEM 2001 assessment are numerous. Although implementation of any of these principles will vary from country to country, a few have general applicability.

1. **Emphasize economic adaptation as a collective responsibility.** Governments at all levels can promote the view that all citizens share responsibility for change in the economic system. The greater the proportion of economic transaction activity conducted in the private sector, the greater the potential for entrepreneurial activity.

2. **Lessen the regulatory burden on new and small firms.** The GEM 2001 assessment clearly identified government regulatory burdens as a major deterrent to higher levels of entrepreneurial activity. Governments should ensure that every aspect of their national economic system is supportive of entrepreneurship, including reducing and simplifying the regulatory burden, minimizing taxation, and lowering non-wage labor costs.

3. **Strike a balance between economic security and self-sufficiency.** GEM 2001 revealed a strong negative association between the level and duration of unemployment benefits and the prevalence of necessity entrepreneurship. National policy should strive to balance the need to protect the unemployed with the need to encourage higher levels of individual self-sufficiency.

4. **Facilitate greater levels of female participation.** Women participate in entrepreneurship at about one-third the rate of men across all GEM 2001 countries. There is perhaps no greater initiative a country can take to accelerate its pace of entrepreneurial activity than to encourage more of its women to participate.

5. **Compensate for gaps in the population age structure.** Across the 29 GEM 2001 countries, participation of adults in entrepreneurship is highest between the ages of 18 and 34. Countries with a relative shortage of mid-career adults (i.e., 24 to 44 years old) or a projected decline in adults in these age ranges, particularly males, should explore ways to encourage their older citizens to become more active in entrepreneurial efforts.

6. **Encourage toleration of diversity in personal income and wealth.** GEM has indicated that greater diversity in household and personal income is consistently associated with higher levels of entrepreneurial activity. As long as this diversity reflects appropriate contributions to national economic growth, governments should ensure that policies reflect a recognition and acceptance of diversity in wealth.

7. **Enhance education — general and entrepreneurship specific.** A strong commitment to education, both general and entrepreneurship specific, is clearly justified across all national contexts. Not only are those with limited education less likely to participate in entrepreneurial initiatives, they tend to match their business aspirations to their level of skills and knowledge. As a consequence, they generally emphasize less ambitious business activities.

National Teams

UNIT	LOCATION	MEMBERS	FINANCIAL SPONSORS
GEM Project Directors	Babson College	William D. Bygrave	
	Kauffman Center for Entrepreneurial Leadership	S. Michael Camp	
	London Business School	Michael Hay	
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South Africa	University of Cape Town	Amanda Driver Mike Herrington Nick Segal Eric Wood	Liberty Financial Services Group Standard Bank of South Africa South African Breweries

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Data Adjustments

This report was completed several months following the 58-page four-color Global Entrepreneurship Monitor 2001 Executive Report, produced and distributed by the Kauffman Center for Entrepreneurial Leadership. A number of minor errors in the data set were correct and there may be a slight difference in some tables and figures between the two reports. None of these are statistically or substantively significant.

The most significant adjustment was related to the estimates of the TEA prevalence rates for Singapore, which have increased slightly, the overall TEA prevalence rate from 5 to 6 per 100, with some adjustments for both the opportunity and necessity TEA prevalence rates. While this provides a slight increase in the rank order of Singapore among the 29 countries, it has no discernable affect on any of the relationships or levels of statistical significance.

Paul Reynolds

Section A

Introduction

Entrepreneurship continues to be a central focus in discussions of economic growth - these global phenomena may have increased since the initial GEM assessment was released in 1999. Evidence continues to accumulate that entrepreneurial activity has a central role in national economic adaptation and expansion. Substantial sums of public funds and private efforts have been devoted to enhancing entrepreneurial activity, often without systematic or clear scientific evidence. Despite substantial attention to the subject, there have been little systematic cross-national comparisons of the level of entrepreneurship, its association with national economic growth, and factors that may influence the level of entrepreneurial activity.

The Global Entrepreneurship Monitor program was initiated to consider three primary issues:

- Are there significant national differences in entrepreneurial activity?
- Are differences in national entrepreneurial activity related to economic growth?
- What national characteristics are related to national differences in entrepreneurial activity?

The initial model of the role of entrepreneurship in national economic growth, presented in Section B, emphasizes the complementary role of "established national corporations" and the new and growth firm sectors in contributing to national economic growth. This model was adopted to guide the research program when it was initiated in 1998 and while it has proved robust, the results of GEM 2001 suggest that some adjustments may be in order. These are discussed in the conclusion.

Unique to this effort are surveys of the adult population in each country. At least 2,000 respondents are interviewed in each country to provide a direct estimate of participation in entrepreneurial endeavors, over 74,000 interviews were actually completed. These national samples represent an estimated 147 million individuals involved in entrepreneurial activities in 29 countries. Data from a wide range of standardized international sources provide widely accepted measures of national economic growth as well as indicators of a wide range of national characteristics. Interviews and questionnaires completed by national experts provide standardized information on a wide range of national characteristics not available in cross-national data sets. A more complete description of all methodological procedures is provided in Appendix II.

All of these procedures have undergone considerable modification and improvement over the past three years, but most important have been en-

hancements in portraying the tendency of ordinary individuals to be involved in the creation of new firms. The initial measures of activity utilized in 1999 emphasized only those in the start-up process. This measure was enhanced in 2000 by adding an estimate of those managing new firms, those less than 42 months old; the two measures were combined to provide the Total Entrepreneurial Activity (TEA) prevalence rate. Additional items allowed classifying entrepreneurial activity as either "opportunity" or "necessity" entrepreneurship, based on the motives of the principal, and were introduced in 2001 and have led to dramatic new insights into the entrepreneurial process. Additional refinements in the processing of data now provide both a more accurate portrayal of the level of participation in entrepreneurial activities and a greater comparability across countries. Further enhancements are to be expected as experience with the phenomena accumulates.

This report is one of three prepared by the GEM coordination team to summarize the project. The most widely disseminated report is the GEM 2001 Summary Report based largely on sections of this, the longer GEM 2001 Research Report. The details of the data collection and analysis procedures are provided in the GEM 2001 Operations Manual (Reynolds, Hunt *et al*., 2001). All three may be downloaded and printed at no cost from the major program websites "www.entreworld.org/GEM2001" and "www.gemconsortium.org". Many national reports will be prepared and they are also placed on these websites listed on the last pages as their electronic versions become available.

The model guiding the GEM initiative is described in the next section, B, along with some comments on its theoretical underpinnings. Section C is devoted to the first major issue, the measurement of entrepreneurial activity with special attention to opportunity, necessity, and growth potential entrepreneurial endeavors. The relationship to national economic growth is reviewed in Section D. National characteristics set the context for individuals to make the decision to create a new venture. The nature of those involved in entrepreneurial activities is considered in Section E. The analysis reflects the global population of 147 million individuals involved in entrepreneurship in the 29 GEM 2001 countries. Section F gives attention to the many factors associated with variation in entrepreneurial activity. Special reports on two topics, a special assessment of the magnitude of venture capital investments across GEM countries and issues related to the creation and transfer of research and development to commercial use, are presented in Sections G and H. The unique features and issues confronting entrepreneurship in each country can only be determined through personal issues with national experts; their perspectives are summarized in Section I. This is followed by a brief national assessment completed

for each GEM 2001 country by the respective national team in Section J. Major implications for public policy are presented in Section K. A commentary on the status of the project and recommendations for revising the conceptual model are the focus of Section L. A commentary on the role of the GEM research program to the growing scholarly attention on the role of entrepreneurship to economic growth is provided in Appendix I. A more complete description of the research procedures and the full adult population interview schedule is provided in Appendix II.

Section B

Conceptual Model

The GEM initiative is at the forefront of efforts to enhance understanding of the role of entrepreneurial processes in national economic growth. Scholarly work on this topic has developed dramatically in the past decade and there has been a clear shift in focus on entrepreneurial processes as a major source of economic growth (see Thurik and Wennekers' review in Appendix I). The most current assessments in the United States, for the 1995-96 period, indicate that only firms less than one year old are a source of net job gains in the US (Acs and Armington, 2000). There is a net loss of jobs for all business entities older than one year. For all these older businesses, job gains from expansion are less than job losses from contractions and terminations (firm deaths).

Based on these considerations, a conceptual model, summarizing the major causal mechanisms affecting national economic growth, was developed to guide the data collection and analysis for the GEM program. This model has several major features. First, the dependent variable – the ultimate national feature to be explained – is national economic growth. Second, it assumes that all economic processes take place in a relatively stable political, social, and historic context. This is a set of national characteristics that change slowly, if at all. Third, two major mechanisms are considered to be the major source of growth, acting as intervening processes between the slow-to-change background features and the actual economic growth.

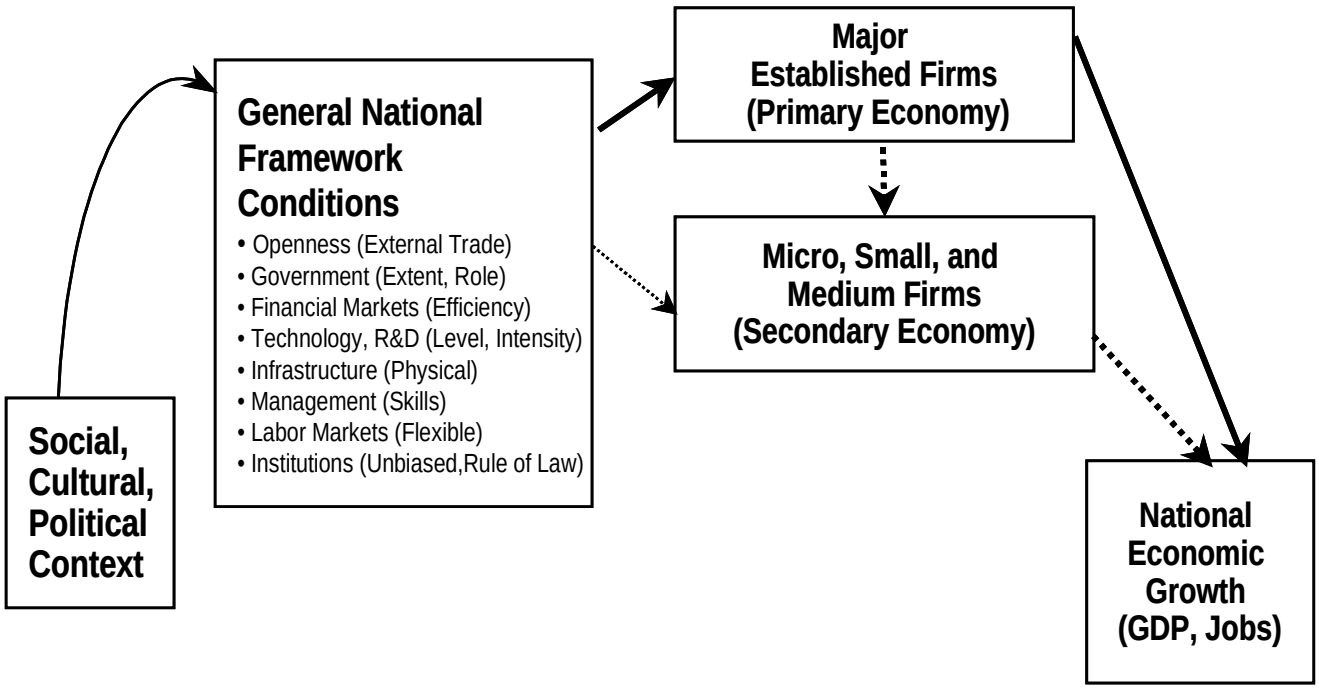

Chart B.01 Established Firms and National Economic Growth

The first major mechanism is illustrated in Chart B.01 and reflects the role of large established firms, firms that can provide a national representation in international trade. It is assumed that if the general national framework conditions are appropriately developed, then the international competitive posture of such firms will be enhanced and they will provide growth for the micro, small, and medium firm sectors in the national economy. Such a set of processes may work well if the international exchanges are restricted to stable commodities with little change in markets or production technology.

An alternative mechanism for growth would emphasize the role of new and growth firms – the entrepreneurial processes. Such a mechanism is represented graphically in Chart B.02. In this case a different set of national features intervene between the social, cultural, and political context and the emergence of new firms. These "entrepreneurial framework conditions" are different from, though related to, the general national framework conditions. Further, two aspects of the entrepreneurial sector are delineated – the emergence of opportunities and the capacity of the people to initiate new firms. This is assumed to contribute to turbulence and change among firms and jobs, the churning of the business sector. In turn, the churning is assumed to contribute to national economic growth.

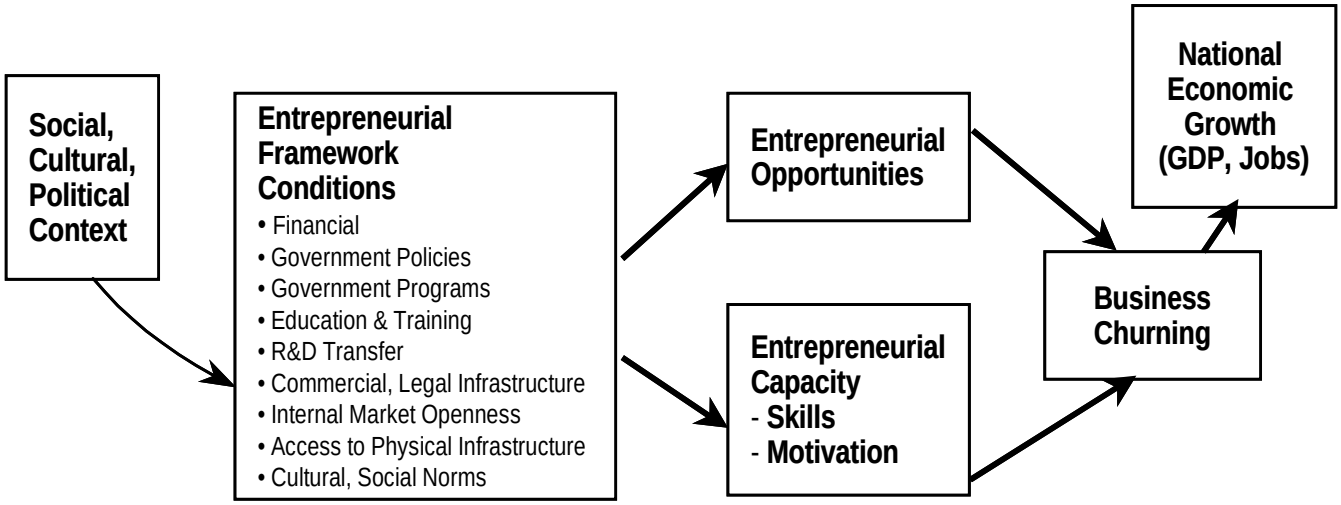

Chart B.02 The Entrepreneurial Process and National Economic Growth

These two processes are considered to be complementary, as illustrated in Chart B.03. Indeed, large firms may well provide opportunities for new business initiatives. New and growth firms are often major suppliers to the established national firms, and if they help keep costs low and quality high they can be an important competitive advantage for established firms in global markets. In similar fashion, some new business initiatives are sponsored, all or in part, by established businesses. This may take the form of a completely new legal entity, sponsorship of new firms initiated by entrepreneurs, or even a new product line or productive activity wholly contained within an existing firm or business unit.

The value of this conceptual scheme is the focus of attention on the complementary processes, both of which may promote national economic growth. A number of existing efforts, such as the Global Competitiveness Report and the World Competitiveness Yearbook[1], have emphasized the factors that will promote the competitive posture of established national firms. The GEM program complements these efforts with a focus on the role and impact of the entrepreneurial process.

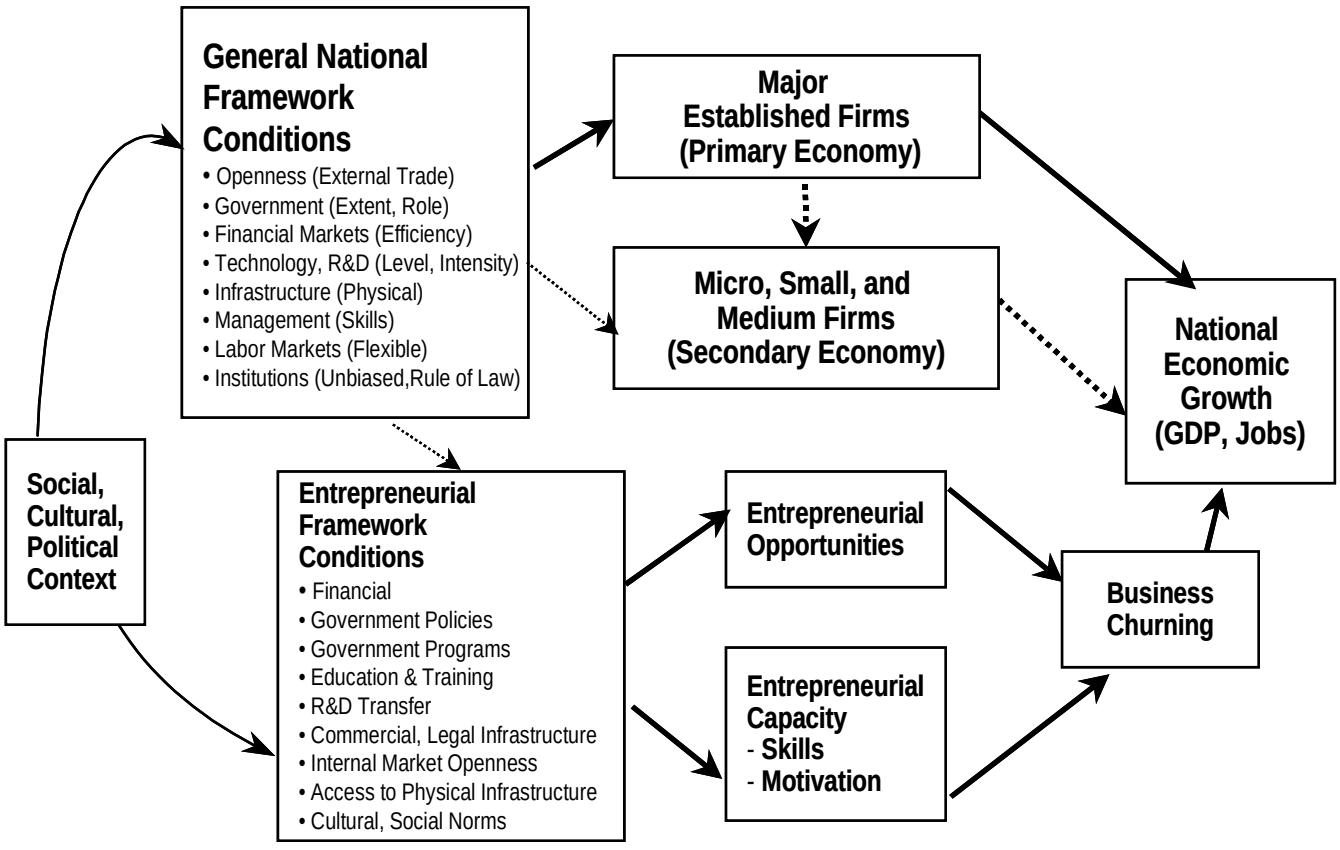

Chart B.03 Consolidated Model of National Economic Growth

This model was developed to guide the initial GEM 1999 assessment and has proved to be robust; it was adopted without change for the GEM 2000 and GEM 2001 assessments. GEM 2001 data collection, however, involved expansion to 29 diverse countries; identified two distinct types of entrepreneurial activity; and has been completed during a slight downturn in the global economy. As a consequence, a number of the major results seem to reflect causal processes that are not easily identified in the consolidated model presented in Chart B.03. While the general perspective reflected in the model continues to be valuable, the presentations of some internal processes appear to be inadequate. The entrepreneurial process is more complex and diverse than initially envisioned. Based on the GEM 2001 analysis, a number of enhancements are proposed for the model in Section L, the conclusion of the report.

END NOTES SECTION A

1 World Economic Forum, The Global Competitiveness Report 2000, NY: Oxford University Press, 2000 and International Institute for Management Development (IMD), World Competitiveness Yearbook 2001, Lausanne, Switzerland: IMD, 2001.

Section C

Entrepreneurial Activity: How much? What kinds?

There is a lot. There are around 147 million people involved in entrepreneurial activity in the 29 countries involved in GEM 2001, representing around 10 percent of the 1.4 billion adults between 20 and 64 years old. There are about 3.5 billion working age adults in the world.[1]

PARTICIPATION RATES

The overall level of entrepreneurial activity is presented in Chart C.01, which shows the proportion of individuals aged between 18 and 64 that are either in the process of starting a nascent business or are the owner-managers of a new operating business that is less than 42 months old. This Total Entrepreneurial Activity (TEA)[2] prevalence rate is shown for each of the 29 participating countries. The points in the diagram represent the average estimate for each country. The vertical bars represent the 95 percent confidence intervals, a measure of the precision of the estimates. In most countries a sample of around 2,000 individuals was used to estimate the proportion of the adult population. However the sample size was greater in some countries, 7,000 in Germany and 5,500 in the United Kingdom, and, as a result, the confidence intervals around the estimates for these countries are noticeably narrower.

The range in prevalence rates is substantial, from the lowest of around 5 percent (1 in 20 adults) in Belgium, Japan, and Singapore to the highest of 18 percent (about 1 in 6 adults) in Mexico. Mexico leads a group of 5 countries with higher prevalence rates than the other 24 countries. The difference in the prevalence rates in the top five countries – Australia, Brazil, Korea, New Zealand, and Mexico – is not statistically significant.

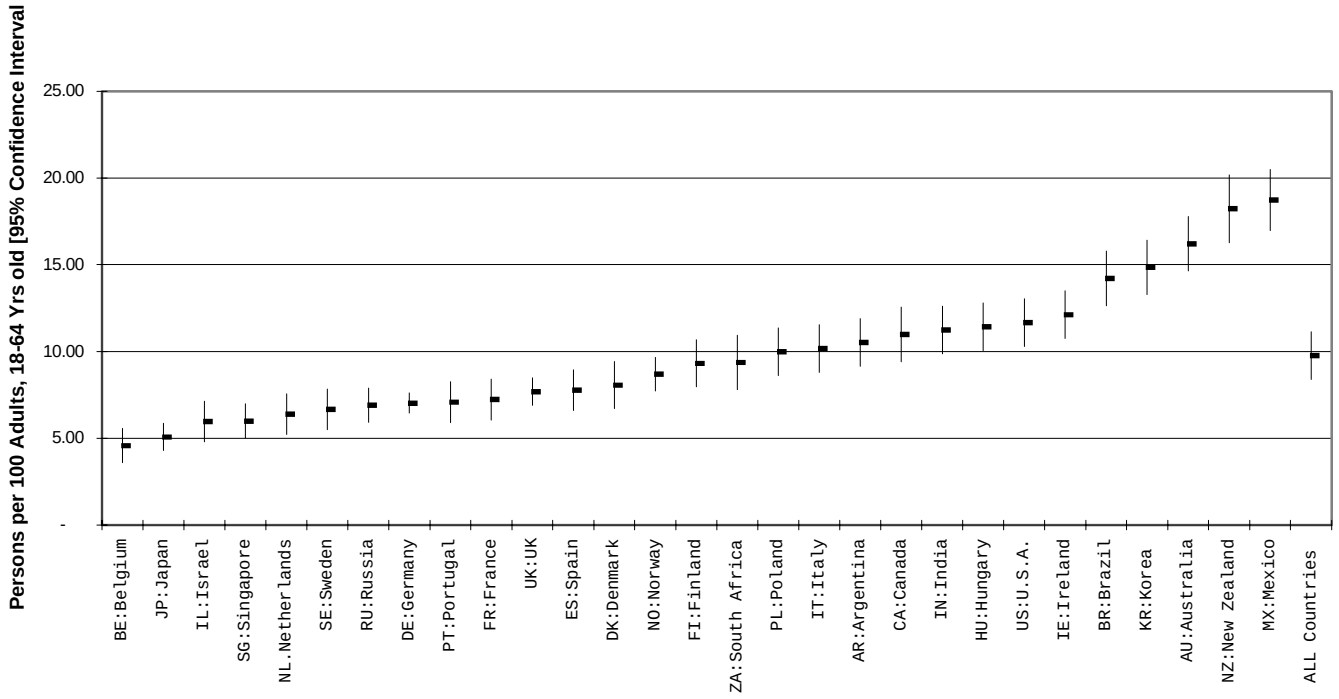

Chart C.01 Total Entrepreneurial Activity Prevalence Rate by Country, 2001

Table C.01 National Populations and Scope of Activity

	Total Population	Population 20-64 yrs old	TEA Overall (#/100)	TEA Opportu-nity (#/100)	TEA Neces-sity (#/100)	TEA Overall Counts	TEA Op-porunity Count	% TEA Oppor	TEA Neces-sity Count	% TEA Nece	TEA Other/ DK/R Counts	%OPPOR
U.S.A.	278,058,881	164,202,111	11.66	10.36	01.24	19,145,966	17,011,339	88.9%	2,036,106	10.6%	98,521	88.9%
Norway	4,503,440	2,656,993	08.70	07.38	00.23	231,105	196,192	84.9%	6,085	2.6%	28,828	84.9%
Netherlands	15,981,472	9,927,074	06.38	05.38	00.38	633,744	533,679	84.2%	38,021	6.0%	62,044	84.2%
Denmark	5,352,815	3,283,526	08.07	06.72	00.44	264,981	220,653	83.3%	14,513	5.5%	29,814	83.3%
New Zealand	3,864,129	2,295,768	18.23	15.05	02.84	418,519	345,513	82.6%	65,200	15.6%	7,806	82.6%
Sweden	8,875,053	5,214,686	06.67	05.49	00.79	347,976	286,078	82.2%	40,987	11.8%	20,911	82.2%
Finland	5,175,783	3,135,858	09.33	07.63	00.71	292,419	239,266	81.8%	22,139	7.6%	31,014	81.8%
Belgium	10,258,762	6,123,765	04.59	03.61	00.80	280,775	221,007	78.7%	48,990	17.5%	10,778	78.7%
Portugal	10,066,253	6,131,881	07.09	05.53	01.40	434,873	338,786	77.9%	85,908	19.8%	10,179	77.9%
Australia	19,357,594	11,598,346	16.21	12.47	03.24	1,880,208	1,446,778	77.0%	375,670	20.0%	57,760	76.9%
Singapore	4,300,419	2,966,424	05.19	03.96	01.23	153,868	117,500	76.4%	36,368	23.6%	0	76.4%
Italy	57,679,825	35,985,837	10.17	07.77	02.14	3,658,680	2,796,459	76.4%	769,017	21.0%	93,203	76.4%
Ireland	3,840,838	2,256,924	12.12	08.97	02.07	273,426	202,333	74.0%	46,763	17.1%	24,330	74.0%
Russia	145,470,197	89,389,653	06.91	04.97	01.13	6,179,507	4,442,666	71.9%	1,009,209	16.3%	727,632	71.9%
Spain	40,037,995	24,861,121	07.78	05.49	01.98	1,934,692	1,365,621	70.6%	493,245	25.5%	75,826	70.6%
Hungary	10,106,017	6,300,754	11.42	07.86	03.35	719,546	495,050	68.8%	211,201	29.4%	13,295	68.8%
Canada	31,592,805	19,468,659	10.98	07.56	03.01	2,138,048	1,471,831	68.8%	586,591	27.4%	79,627	68.8%
Germany	83,029,536	51,604,712	07.04	04.81	01.88	3,630,908	2,480,639	68.3%	969,653	26.7%	180,616	68.3%
United Kingdom	59,647,790	35,305,378	07.69	05.03	01.39	2,713,924	1,775,861	65.4%	491,098	18.1%	446,966	65.4%
South Africa	43,586,097	22,879,475	09.37	05.98	02.93	2,144,493	1,368,879	63.8%	670,826	31.3%	104,788	63.8%
Mexico	101,879,171	52,732,495	18.74	11.36	06.88	9,879,960	5,989,357	60.6%	3,626,941	36.7%	263,662	60.6%
Brazil	174,468,575	97,655,312	14.21	08.53	05.68	13,879,749	8,329,022	60.0%	5,549,751	40.0%	977	60.0%
Argentina	37,384,816	20,386,629	10.52	05.83	04.50	2,144,877	1,188,133	55.4%	917,398	42.8%	39,346	55.4%
Korea	47,904,370	30,339,498	14.85	08.01	05.67	4,505,415	2,429,890	53.9%	1,721,160	38.2%	354,365	53.9%
France	59,551,227	34,957,669	07.24	03.76	01.32	2,529,537	1,313,360	51.9%	462,840	18.3%	753,338	51.9%
Poland	38,633,912	23,383,572	09.99	04.74	04.96	2,335,785	1,107,212	47.4%	1,159,124	49.6%	69,449	47.4%
Japan	126,771,662	78,649,096	05.08	02.31	01.94	3,996,161	1,816,794	45.5%	1,525,792	38.2%	653,574	45.5%
Israel	5,938,093	3,215,058	05.98	02.07	00.55	192,196	66,648	34.7%	17,811	9.3%	107,737	34.7%
India	1,029,991,145	536,200,032	11.25	03.80	07.45	60,333,228	20,397,049	33.8%	39,936,178	66.2%	0	33.8%
Total/Country Avg	2,463,308,672	1,383,108,306	09.77	06.63	02.49	147,274,567	79,993,594		62,934,587		4,346,386	67.9%
						100.00%	54.32%		42.73%		2.95%	

Amount of Activity

The proportion of individuals involved is one important measure, but the actual numbers of individuals provides a quite different indication of emphasis. The estimated number of those 20 to 64 years old actually engaged in entrepreneurial activity is presented by country and type of motivation in Table C.01.

It shows, for example, that of the 147 million active in entrepreneurship in the 29 GEM 2001 countries, 92 million, or 62 percent of the total, are in three countries – India, US, and Brazil. In contrast, the total numbers in 10 European countries – including France, Germany, Italy, and the UK – is slightly more than 13.6 million, or about 70 percent of the 19.2 million in the US. Despite the low participation rate in Japan (5 percent), because of the size of the population there are more individuals active in entrepreneurship, 4 million, than in any single European country where the participation rates are higher.

The presence of these 147 million individuals involved in entrepreneurial activity in different regions of the world is illustrated in Chart C.02. It shows that almost half, 47 percent, are to be found in Asia, with the largest number in India and South Korea. There is about an equal presence in Europe (including central Europe, Russia, and Israel), North America, and Latin America, and the smallest total count in former British colonies (Australia, New Zealand, and South Africa). Hence, despite the high prevalence rates in some countries, the actual numbers of individuals involved show a quite different distribution.

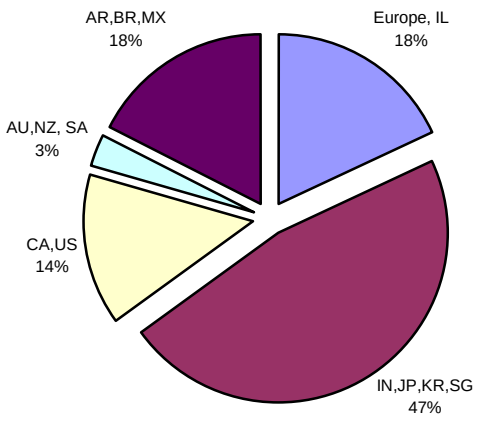

Chart C.02 Presence of Entrepreneurial Activity by World Regions, 2001

STABILITY

The prevalence of entrepreneurial activity in most countries changes only modestly from year to year. It can therefore be considered a relatively stable phenomenon, subject to gradual changes over the longer term.

A comparison of the Total Entrepreneurial Activity (TEA) index for 20 countries in 2000 and 2001 is presented in Chart C.03.[3] This shows that the average for the 20 countries has fallen by less than one percentage point over the two years, but the change is not statistically significant. For 17 of the 20 countries, there is no statistically significant difference between the levels of entrepreneurial activity in 2000 and 2001. Three countries – Brazil, Norway, and the US – have a drop from 2000 to 2001 that is statistically significant at the 0.05 level (chances are 19 in 20 this difference would be replicated). All three are also significant at the more conservative 0.01 level of significance (chances are 99 in 100 this difference would be replicated), suggesting that this may be a real change. For most countries, however, the level of entrepreneurial activity can be considered a stable phenomenon – one that would be expected to change only slowly over time.

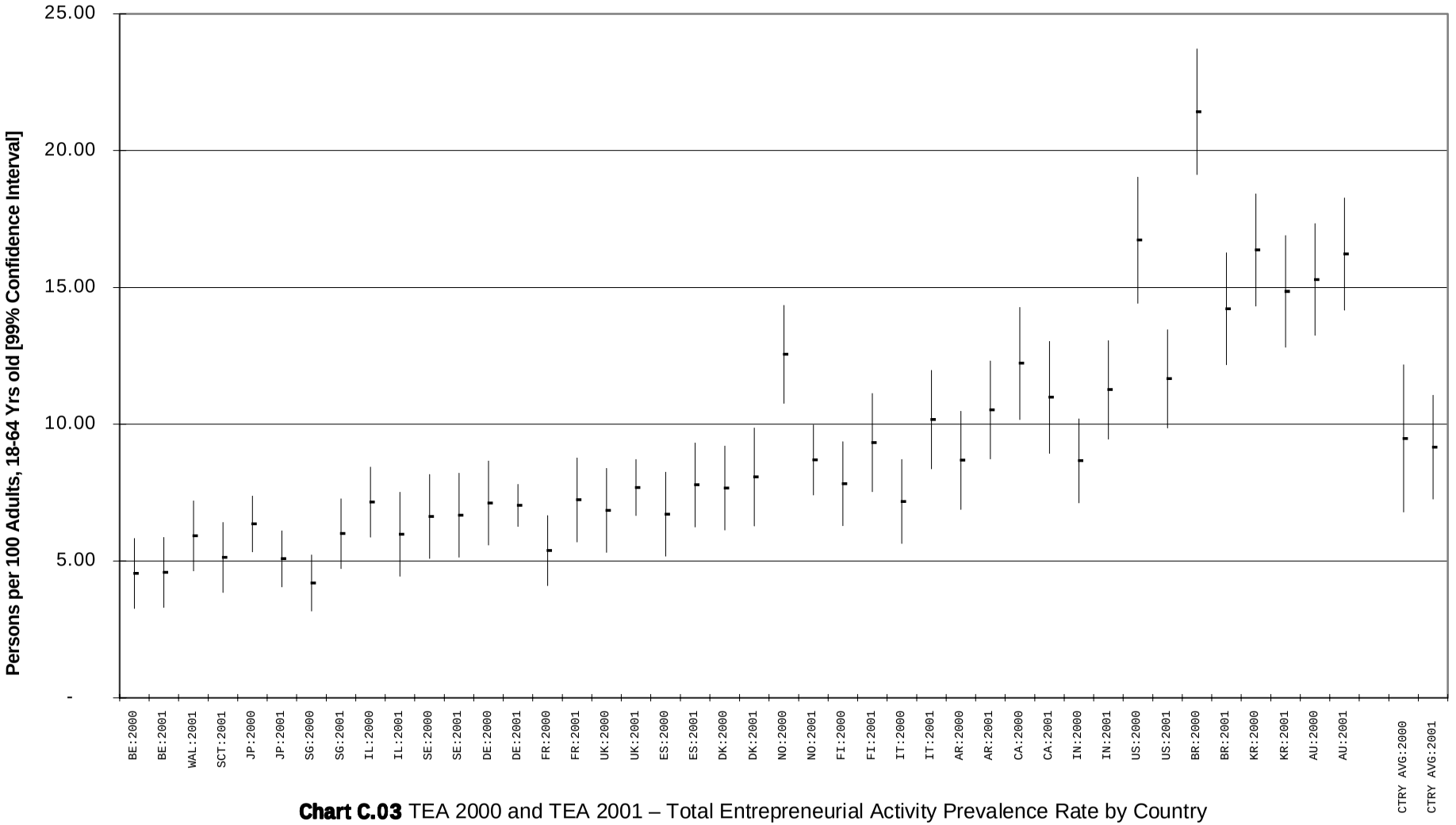

Chart C.03 TEA 2000 and TEA 2001 – Total Entrepreneurial Activity Prevalence Rate by Country

MOTIVES FOR ENTREPRENEURIAL ACTIVITY

Significant differences emerge when overall entrepreneurial activity is broken down according to the motives behind an individual's decision to start or become involved with a start-up business.

Slightly more than one half (54 percent) of those involved in start-up businesses claimed that they were pursuing a business opportunity or personal interest, often while they were working in a regular job. This activity is referred to as "opportunity" entrepreneurship, reflecting the voluntary nature of the involvement. Opportunity entrepreneurs have other choices open to them but choose to start a new business out of personal preference.

Slightly more than two in five (43 percent) claim to be involved only because they have "no better choices for work." This is referred to as "necessity" entrepreneurship, reflecting the individual's need to have some form of work activity and that the decision to start a business is not a voluntary one. The remaining 3 percent of entrepreneurs either cite other motives for their involvement or do not provide one. The pattern of opportunity and necessity entrepreneurship varies considerably across the GEM 2001 countries. The prevalence of opportunity entrepreneurship in the 29 countries, expressed as a proportion of the adult population, is presented in Chart C.04. The range of prevalence rates is wide, from the low of 2 percent (1 in 50 adults) in Israel to the highest of 15 percent (over 1 in 7 adults) in New Zealand – a seven-fold difference. Among the top four countries – Australia, Mexico, New Zealand, and the United States – New Zealand may not be significantly higher than Mexico and the US.

The pattern of necessity entrepreneurship is presented in Chart C.05. The range of prevalence rates is again substantial, from the lowest of 0.2 percent (1 in 500 adults) in Norway to the highest of 7.5 percent (1 in 13 adults) in India – a difference greater than fifteen-fold. Most developing countries, or countries with a substantial "developing sector," in South America, Asia, Africa and central Europe tend to have relatively high levels of necessity entrepreneurship.

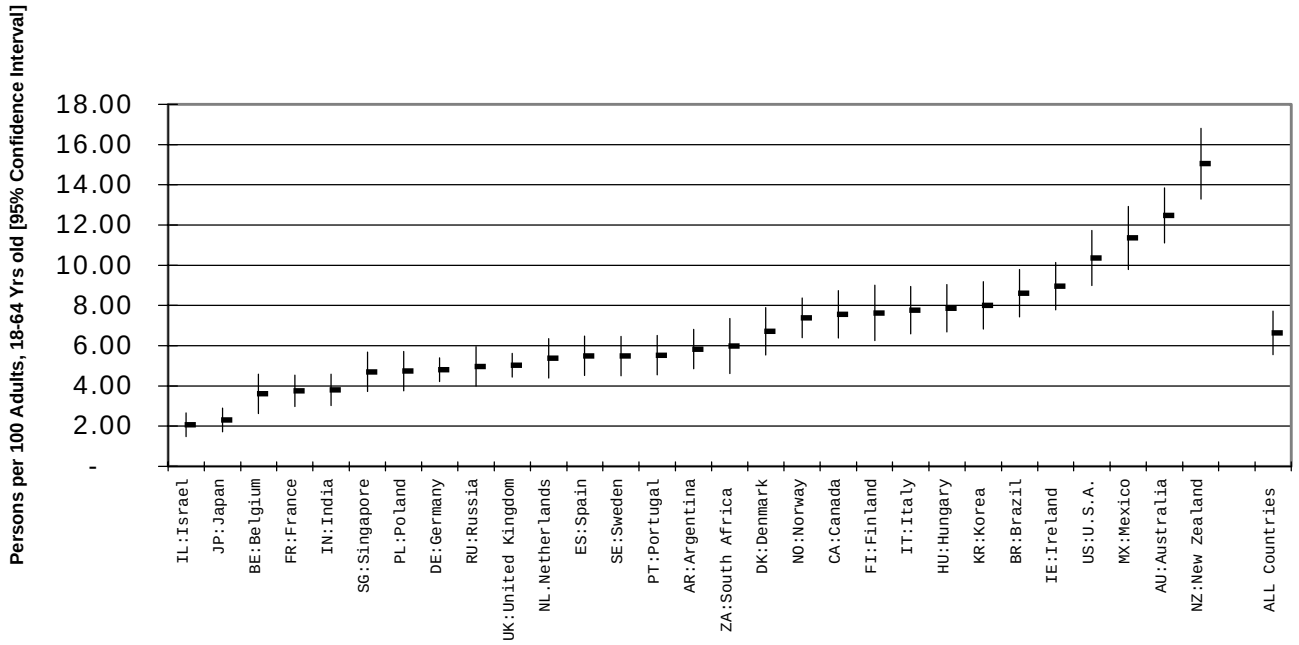

Chart C.04 TEA 2001 Opportunity Prevalence Rate by Country

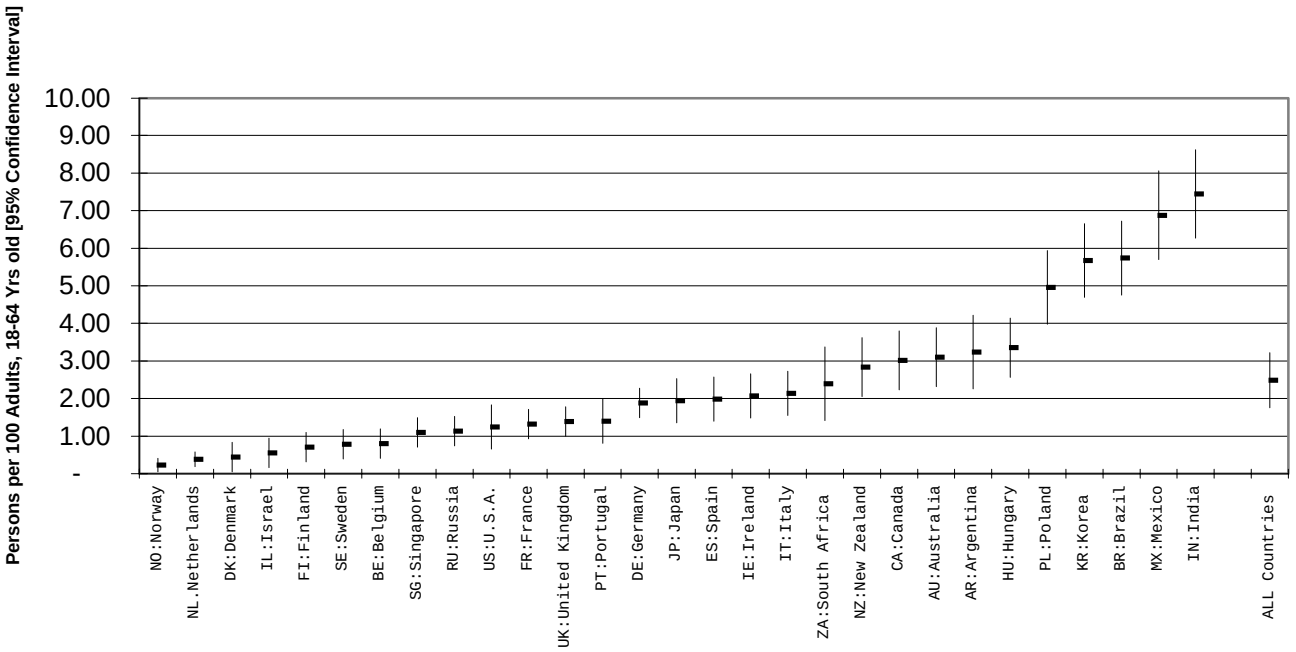

Chart C.05 TEA 2001 Necessity Prevalence Rate by Country

More economically advanced countries in Europe, North America, and Asia tend to have relatively low levels. With the exception of Israel, the seven countries with levels of necessity entrepreneurship below 1 percent are all advanced EU countries with very supportive social welfare programs.

As might be expected, both opportunity and necessity entrepreneurship prevalence rates are strongly correlated with the overall TEA prevalence rate. As is shown in Table C.02, the correlation for opportunity entrepreneurship (0.86) is higher than that for necessity entrepreneurship (0.70). Both are statistically significant. However, the correlation between the two measures is relatively low (0.27) and is not statistically significant. This gives a strong indication that the two types of entrepreneurial activity are not closely related and may reflect quite different underlying causal mechanisms.

The TEA rate is based on the prevalence of nascent firms – entrepreneurs engaged in the process of setting up a start-up business that is not yet operational – and the prevalence of new firms – entrepreneurs who are owner-managers of new businesses that are operational but are less than 42 months old. Those engaged in both activities are, however, counted only once (this reduces the overall rate by about 5%, equal to the number of individuals that are involved in both start-ups and new firms).

	TEA Overall	TEA Opportunity	TEA Necessity	Nascent Firms	New Firms
TEA Overall [#/100 18-64 yrs old]	1.00				
TEA Opportunity [#/100 18-64 yrs old]	0.86	1.00			
TEA Necessity [#/100 18-64 yrs old]	0.70	0.27*	1.00		
Nascent Firms [#/100 18-64 yrs old]	0.91	0.76	0.73	1.00	
New Firms [#/100 18-64 yrs old]	0.81	0.72	0.43*	0.50	1.00
* - Not statistically significant.					

Table C.02 Interrelations Among Measures of Entrepreneurial Activity

Correlations between the TEA index and these two component measures, as well as the prevalence of opportunity and necessity entrepreneurship, are also presented in Table C.02. Four of the five measures have high and statistically significant inter-correlations. The exception is the necessity prevalence rate, which does not have a statistically significant relationship either with the opportunity or new firm prevalence rates. This provides further confirmation of the difference between necessity and opportunity entrepreneurship.

ECONOMIC SECTOR PROFILE

Opportunity and necessity entrepreneurship vary in a number of ways.[3] One way is the sectors of the economy in which entrepreneurs start new businesses. This is presented in Table C.03. Four broad economic sectors are shown:[4] extractive industries, mainly agriculture and mining; transforming industries, mainly construction, manufacturing, transportation, and wholesale trade; business services, including all financial services, insurance, real estate, and professional services; and consumer services, including all retailing, restaurants, hotels, recreation and leisure, and health, education, and social services.

	Total	Opportunity Entrepreneurship	Necessity Entrepreneurship	Mixed or Other
Start-up, or Nascent Firm (# cases)	6,609	3,489	2,908	212
Extractive: Farming, Fishing, Hunting, Forestry, Mining	4%	4%	4%	8%
Transforming: Construction, Manufacturing, Transportation, Wholesale, Communications, Utilities	33%	30%	37%	36%
Business Services: Financial, Insurance, Real Estate, Consulting, Business Professionals	14%	21%	5%	13%
Consumer Oriented: Retail, Hotels, Restaurants, Consumer Services, Health, Education, and Social Services	49%	45%	54%	43%
	100%	100%	100%	100%

Table C.03 Entrepreneurship Motives and Sector Emphasis

Most entrepreneurial activity, whether it is motivated by opportunity or necessity, is in the two service sectors, although the proportion is higher for opportunity entrepreneurs (66 percent) than it is for necessity entrepreneurs (59 percent). A noticeably higher proportion of opportunity entrepreneurship is related to business services (21 percent) than is the case for necessity entrepreneurship (5 percent). This may reflect the fact that those already involved in or able to supply business services often have more choices open to them and therefore start new businesses in order to pursue perceived opportunities. In contrast, a greater proportion of necessity entrepreneurship is related to consumer services.

AGE AND GENDER

There is no significant difference between genders and the balance between opportunity and necessity entrepreneurship. Table C.04 indicates that men are about twice as likely to be involved in entrepreneurial activities than women. The ratio is slightly higher for necessity entrepreneurship than opportunity entrepreneurship.

There are differences, however, between age groups in the motives for entrepreneurship. On the one hand, opportunity entrepreneurship is most prevalent among mid-career adults between 35 and 44 years old. On the other hand, necessity entrepreneurship peaks for the very youngest 18-24 age group and declines steadily among older age groups. This suggests that as people get older, and gain experience and contacts, they are better able to start new businesses.

	All TEA	Opportunity Entrepreneurship	Necessity Entrepreneurship
All respondents, 18-64 years of age (#/100)	10.6	5.8	4.5
Men, 18-64 years of age (#/100)	14.4	7.7	6.3
Women, 18-64 years of age (#/100)	6.6	3.9	2.5
Ratio (Men/Women)	2.2	2.0	2.5
Age: 18-24 Years old (#/100)	11.9	5.0	6.8
Age: 25-34 Years old (#/100)	13.0	6.8	5.9
Age: 35-44 Years old (#/100)	11.7	7.4	4.0
Age: 45-54 Years old (#/100)	8.2	5.3	2.6
Age: 55-64 Years old (#/100)	6.2	3.5	2.4

Table C.04 Opportunity and Necessity Entrepreneurship: By Age and Gender

GROWTH ASPIRATIONS

Entrepreneurs motivated by opportunity and those motivated by necessity also differ in their growth aspirations. As is shown in Table C.05, aspirations vary dramatically. Around 14 percent of opportunity entrepreneurs expect to provide 20 or more jobs within five years, almost seven times the proportion of necessity entrepreneurs with the same expectations. In contrast, 90 percent of necessity entrepreneurs expect to provide no more than 5 new jobs in the next five years, compared with 66 percent of opportunity entrepreneurs.

	Total	Opportunity Entrepre-neurship	Necessity Entrepre-neurship	Mixed or Other
Start-up, or Nascent Firm (# cases)	6,609	3,489	2,908	212
Growth Aspirations:				
Expect no jobs in 5 years	14 %	14 %	14 %	18%
Expect 1-5 jobs in 5 years	62 %	52 %	75 %	47%
Expect 6-19 jobs in 5 years	15 %	20 %	9 %	18%
Expect 20 or more jobs in 5 years	9 %	14 %	2 %	18%
	101%	100%	100%	101%

Table C.05 Entrepreneurship Motives and Growth Aspirations

A unique set of entrepreneurs expect their firms to grow very rapidly. Around 3 percent expect to grow to employ 50 or more people within five years, while less than 1 percent expect to have more than 100 employees within the same time period. While some of these projections may be optimistic, most seem to reflect serious aspirations. A profile of these high-growth entrepreneurs is provided in Table C.06. The patterns represent the global population from which the sample was drawn. High-growth entrepreneurs are distributed across all GEM 2001 countries, although more are based in the United States than any other country.

While high-growth entrepreneurs are present in all economic sectors, the top part of Table C.06 makes clear they are more likely to be involved in business services. In fact, 10 to 15 percent are involved in information technology, which is classified as a business service. A clear majority (78 percent) of high-growth entrepreneurs are motivated by opportunity. They are much more likely to be involved in nascent or new firms with multiple owners, with 35 to 44 percent reporting three or more owners, compared with 11 to 13 percent of typical nascent and new firms.

High-growth entrepreneurs tend to be younger men. Three out of five are men aged between 25 and 54. They are likely to have completed secondary education and have relatively high levels of household income. The vast majority start their business while in paid work.

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	START—UPS			NEW FIRMS	
	Growth Nascent Firms [50-1000 Jobs in 5 Years]	All Nascent Firms		Growth New Firms [50-1000 Jobs in 5 Years]	All New Firms
Number of cases	56	2,962		55	1,944
Percent of total	1.9 %			2.8 %	
ECONOMIC SECTOR					
Agriculture, Forestry, Hunting, Fishing	6.5 %	4.0 %		0.3 %	3.8 %
Construction, Mining	7.6 %	4.3 %		11.1 %	4.9 %
Manufacturing	12.0 %	12.6 %		5.9 %	18.8 %
Transportation, Communication, Utilities	18.1 %	5.1 %		1.7 %	4.2 %
Wholesale; Motor vehicle sales, service	5.0 %	10.5 %		8.7 %	8.2 %
Retail, Hotels, Restaurants	12.6 %	42.1 %		28.2 %	32.5 %
Financial, Insurance, and Real Estate	0.9 %	2.1 %		1.3 %	2.2 %
Business Service	32.0 %	10.0 %		40.3 %	14.2 %
Health, Education, and Social Services	2.7 %	4.1 %		0.5 %	7.7 %
Consumer Service	2.6 %	5.1 %		2.0 %	3.5 %
PERSONAL MOTIVES					
Exploit business opportunity	77.9 %	44.5 %		77.8 %	47.9 %
Best work choice available	11.4 %	43.3 %		15.8 %	40.0 %
Best work choice and opportunity	3.8 %	8.0 %		3.0 %	7.7 %
Working but seek better opportunity	4.1 %	2.1 %			
Other, don't know, refused	2.9 %	2.1 %		3.4 %	4.4 %
NUMBER OF CURRENT OWNERS					
Currently one owner	48.8 %	61.8 %		28.7 %	69.9 %
Currently two owners	7.1 %	25.5 %		35.6 %	18.9 %
Currently 3-5 owners	18.3 %	10.6 %		24.4 %	9.5 %
Currently 6 or more owners	25.7 %	2.1 %		11.3 %	1.7 %
AGE by GENDER					
Men: 18-24 years old	3.3 %	19.0 %		3.9 %	11.5 %
Men: 25-34 years old	22.7 %	18.3 %		40.8 %	22.6 %
Men: 35-44 years old	19.9 %	16.3 %		21.0 %	19.3 %
Men: 45-54 years old	11.9 %	8.9 %		4.8 %	9.9 %
Men: 55-64 years old	9.2 %	8.0 %		5.3 %	6.8 %
Women: 18-24 years old	13.0 %	4.7 %		5.7 %	4.0 %
Women: 25-34 years old	6.3 %	7.7 %		6.4 %	7.3 %
Women: 35-44 years old	1.4 %	9.3 %		2.0 %	10.9 %
Women: 45-54 years old	8.5 %	6.4 %		9.6 %	5.7 %
Women: 55-64 years old	3.7 %	1.4 %		0.3 %	2.1 %
EDUCATIONAL ATTAINMENT					
Graduate experience	4.8 %	2.1 %		12.4 %	3.9 %
Post secondary completion	59.2 %	32.4 %		46.2 %	38.3 %
Secondary school degree	30.7 %	37.1 %		39.1 %	35.2 %
Secondary school not finished	5.4 %	28.4 %		2.2 %	22.6 %
RELATIVE HOUSEHOLD INCOME					
Household income in upper third	65.0 %	26.0 %		84.0 %	38.0 %
Household income in middle third	19.0 %	34.5 %		14.8 %	37.6 %
Household income in lower third	16.0 %	39.5 %		1.2 %	24.4 %
LABOR FORCE STATUS					
Working full or part time	88.9 %	75.7 %		92.8 5	94.0 %
Not working	10.7 %	19.9 %		5.2 %	4.0 %
Retired, student, disabled, on welfare, other	0.4 %	4.4 %		1.9 %	2.0 %

Table C.06 High Growth Entrepreneurship: Selected Features

SUMMARY

In general, the overall TEA prevalence rate provides a good indicator of entrepreneurial activity. A range of other measures of entrepreneurial activity has high and statistically significant correlations with the TEA prevalence rate and its four component parts – opportunity entrepreneurship, necessity entrepreneurship, nascent firm entrepreneurship, and new firm entrepreneurship. These are shown in Table C.07. They include measures of the prevalence of growth-oriented entrepreneurs who expect to employ 15 or more people within five years, independently sponsored nascent firms, nascent firms sponsored by existing businesses, and nascent firms initiated by men, women, young adults, and mid-career adults.

Only two correlations are not statistically significant. One is the relationship of business-sponsored nascents, or start-up efforts, with the level of necessity entrepreneurship. It is reasonable that individuals pursuing entrepreneurship because they

	TEA Overall	TEA Opportunity	TEA Necessity	Nascent Firms	New Firms
Growth Oriented TEA [#/100 18-64 yrs old expect 16+ jobs in five years]	0.69	0.75	0.26*	0.60	0.61
Independent Nascents [#/100 18-64 yrs old]	0.90	0.74	0.74	0.90	0.61
Business Sponsored Nascents [#/100 18-64 yrs old]	0.73	0.71	0.45*	0.73	0.50
Male Nascent Nascents [#/100 18-64 yrs old]	0.96	0.77	0.71	0.82	0.84
Female Nascents [#/100 18-64 yrs old]	0.92	0.90	0.54	0.87	0.71
Young Adult Nascents [#/100 18-34 yrs old]	0.69	0.47	0.71	0.74	0.39*
Mid-Career Adult Nascents [#/100 35-54 yrs old]	0.90	0.80	0.60	0.94	0.56
* - Not statistically significant.					

Table C.07 Selected Aspects of Entrepreneurial Activity

cannot locate employment are unlikely to have sponsorship by existing businesses. The rate for your adult participation, those 18-34 years old, related to the prevalence rate of new firms. This may reflect a tendency for younger adults that pursue start-ups to be less successful, compared to older adults, in turning the start-up into a going concern/a new business.

Harmonized surveys of the adult population in a wide range of countries can be used to measure national levels of entrepreneurial activity. They clearly illustrate that there are major differences between countries in the overall level or prevalence of entrepreneurial activity. The surveys conducted as part of GEM 2001 also highlight the marked differences in the motives behind entrepreneurial activity and the extent to which the two forms of entrepreneurship are prevalent in different countries.

There is far greater variation between countries in the prevalence of necessity entrepreneurship than the prevalence of opportunity entrepreneurship. This suggests that necessity entrepreneurship may be more sensitive to certain country-specific factors, notably the level of general economic development.

All measures appear to be relatively stable over the short term. However, the differences between countries provide a strong indication that changes can be expected over the long run if underlying conditions change sufficiently.

The research procedure adopted in GEM 2001 can be used to examine the nature of entrepreneurial activity in greater depth. A good illustration of this is the growth aspirations and potential of new firms. However, samples of more than 2,000 in each country would be required to develop reliable national estimates of more detailed measures of entrepreneurial activity.

ENDNOTES SECTION C

1 Mid-year world population estimated at 6.2 billion for 2001. Assuming the same ratio of working age to total population for the world as in the 29 GEM 2001 countries (56 percent), this is about 3.5 billion persons 20 to 64 years old (US Census, International Population Center: www.census.gov/ipc/www/idbnew.html

2 The procedures for calculating the total TEA index have been revised since the GEM 2000 report was released. Adjustments were made to (a) compensate for failure to properly reclassify nascent firms as new firms and new firms as nascent firms and (b) account for variation among countries in the proportion of respondents that provided "don't know" or "refusal" responses to the screening items related to entrepreneurial activity. The result has been an increase in prevalence rates for a number of countries, although the rank order of countries has not been dramatically affected. TEA prevalence rates for 2000 were recalculated to allow a precise comparison with 2001 TEA rates. Recalculation of 2000 data for Ireland was not possible.

3 The sample weight for each respondent was adjusted by multiplying the weight by the ratio of total population 20 to 64 years of age by the size of the sample. This was done individually for each country. Following this, the sum of the population weight variable was standardized to equal the sum of the cases. The actual weights then varied from 0.02 to 12.00, reflecting the wide range in population sizes found among the GEM 2001 countries.

4 All start-up businesses, new businesses, and businesses receiving informal funding were coded by the GEM coordination team using the International Standard Industrial Classification (ISIC), Third Revision, as described in United Nations, "International Standard Industrial Classification of all Economic Activities, Third Revision," New York: United Nations' Statistical Papers, Series M, No. 4, Rev 3, 1990.

Section D

Entrepreneurial Activity: Does It Make a Difference?

Entrepreneurial activity and national economic growth tend to occur together. The relationship between them is consistent and positive but is not strong. It varies depending upon the countries included in the analysis and the nature of the entrepreneurial activity.

The association between the several measures of entrepreneurial activity in 2001 and economic growth[1] is presented in Table D.01. Three measures of economic growth, as measured by the annual change in real Gross Domestic Product (GDP), are included: actual growth in 2000; growth expected in 2001; and growth projected for 2002. Each is taken from the International Monetary Fund (IMF) World Economic Outlook of May 2001. The IMF projections do not, as yet, take into account the measures of entrepreneurial activity developed in the GEM assessments. They therefore represent an independent measure of forecast economic activity.

	Real GDP Growth 2000	Real GDP Growth: 2001 [Projected]	Real GDP Growth: 2002 [Projected]
All GEM 2001 Countries [n=29]			
TEA [Total Entrepreneurial Activity] 2001	0.18	0.22	0.32
Nascent [Start-up] firm prevalence rate: 2001	0.02	0.20	0.23
New business prevalence rate: 2001	0.36	0.18	0.36
TEA opportunity entrepreneurship rate: 2001	0.10	0.07	0.05
TEA necessity entrepreneurship rate: 2001	0.16	0.37	0.55*
GEM 2001 Countries without Export Emphasis [n=24, excludes Belgium, Hungary, Ireland, Netherlands, and Singapore]			
TEA [Total Entrepreneurial Activity] 2001	0.31	0.28	0.39
Nascent [Start-up] firm prevalence rate: 2001	0.09	0.28	0.27
New business prevalence rate: 2001	0.51*	0.19	0.44*
TEA opportunity entrepreneurship rate: 2001	0.12	0.00	-.01
TEA necessity entrepreneurship rate: 2001	0.31	0.58*	0.73**
Statistically significant: * 0.05 level; **0.01 level.			

Table D.01 Correlations of Economic Growth with Entrepreneurial Activity

In Table D.01, the Total Entrepreneurial Activity (TEA) prevalence rate is presented along with its four possible components according to the type of entrepreneurial activity and the motives for involvement in entrepreneurial activity.

Firstly, the overall prevalence rate of entrepreneurial activity is split between the prevalence rate of nascent firms – entrepreneurs engaged in the process of setting up a start-up business that is not yet operational – and the prevalence rate of new firms – entrepreneurs who are the owner-managers of businesses that are operational but are less than 42 months old.

Secondly, the overall prevalence is also split between the prevalence of entrepreneurs whose primary motive is one of opportunity and those whose primary motive is one of necessity.

As can be seen in the top half of Table D.01, in which the results for all 29 GEM 2001 countries are presented, each measure of entrepreneurial activity is positively related to the three measures of economic growth, although, in a small number of cases, the association is close to zero. The association is strongest for necessity entrepreneurship. It has a correlation of 0.37 with growth expected in 2001 and a statistically significant correlation of 0.55 with growth projected for 2002.

The TEA prevalence rate is a measure of indigenous entrepreneurial activity. If a country has substantial imports and exports, it is reasonable to expect that national economic growth will reflect competitiveness in international markets and be less dependent on internal developments. Five of the 29 GEM 2001 countries have total international trade – measured by the combined value of exports and imports – greater than annual GDP. These are Singapore, where international trade is almost three times GDP (295 percent), Belgium (156 percent), Ireland (135 percent), Hungary (121 percent), and the Neth-

erlands (110 percent). For these countries, the relationship between entrepreneurship is likely to differ from those countries whose economies are less dependent on international trade. For this reason, the lower half of Table D.01 presents the same set of correlations for the 24 GEM 2001 countries for which international trade is less than GDP. In most cases the relationship between entrepreneurial activity and economic growth is stronger and the correlations higher. Again the prevalence rate of necessity entrepreneurship shows the highest and statistically significant correlation. The correlation between necessity entrepreneurship with growth projected for 2001 is 0.58 and that with growth projected for 2002 is 0.73. Both are statistically significant.

The correlation between the prevalence of necessity entrepreneurship and economic growth projected for 2001 is presented in Chart D.01. That with growth projected for 2002 is presented in Chart D.02. Each of the 29 GEM 2001 countries is represented by a point on the two scatter diagrams, showing the relationship between real GDP growth (horizontal axis) and the prevalence of necessity entrepreneurship (vertical axis). The dashed line represents the correlation between the two measures for all 29 countries, while the solid line represents the correlation for the 25 countries with international trade less than GDP.

Several features of this relationship are important. Firstly, as shown in Chart C.04, the range of necessity entrepreneurship is wide, from about 0.2 percent for Norway to almost 8 percent for India. This wide range in prevalence rates can increase the po-

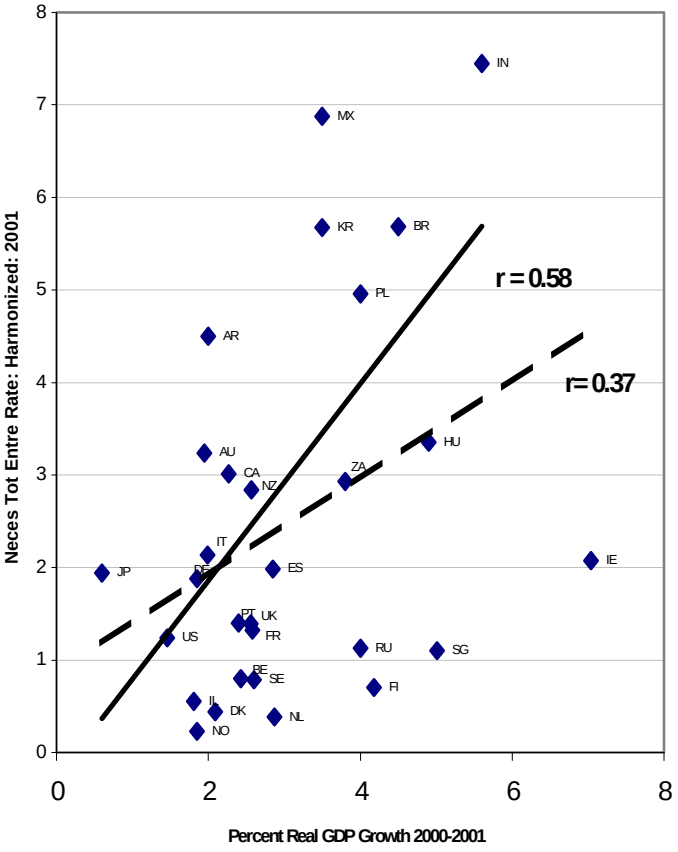


Chart D.01 TEA Necessity Entrepreneurship 2001 Related to 2001 Growth in GDP [All 29 countries, dotted line; 24 domestic emphasis countries, solid line]

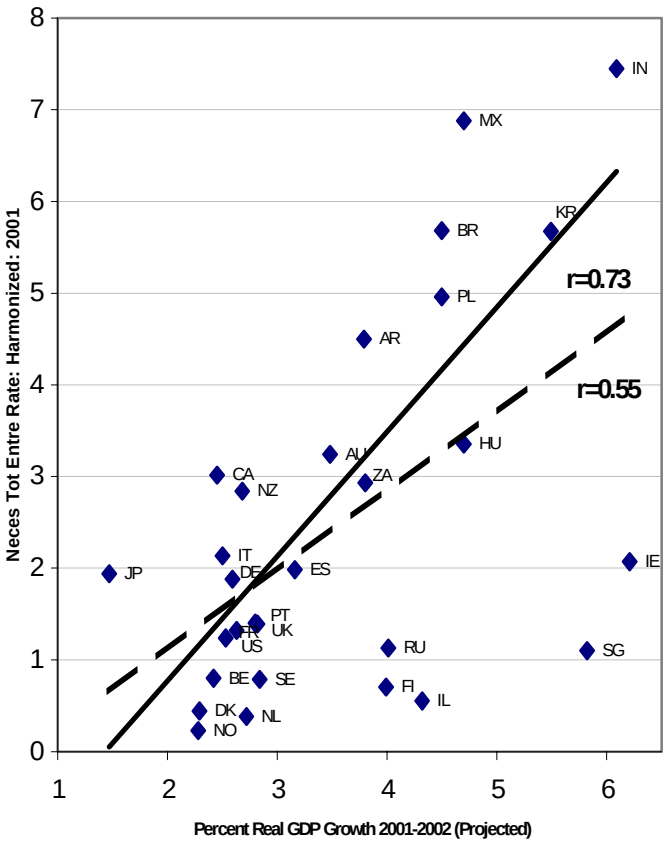


Chart D.02 TEA Necessity Entrepreneurship 2001 Related to Projected 2002 Growth in GDP [All 29 countries, dotted line; 24 domestic emphasis countries, solid line]

tential for a higher correlation with economic growth.

Secondly, there are very few countries with high levels of necessity entrepreneurship and low levels of economic growth (the top-left quadrant of Charts D.01. and D.02.). Argentina (AR) in Chart D.01 may be the only exception. In contrast, there are a number of countries, such as Singapore (SG), Russia (RU), and Finland (FI), for which relatively high GDP growth is projected with only modest levels of necessity entrepreneurship. These outliers reduce the correlations.

Finally, the high levels of association reflect the higher economic growth rates among less developed countries, which also have higher levels of necessity entrepreneurship. Higher levels of annual economic growth among less developed countries starting from a low base is a well-known pattern. It is referred to as the convergence phenomena – as countries reach a common level of advanced development, growth rates converge. The presentations in Charts D.01 and D.02 would suggest that necessity entrepreneurship might play a major role in the accelerated growth rates among developing countries.

The lack of a systematic relationship between opportunity entrepreneurship and national economic growth is something of a dilemma. However, there are two types of business opportunities that encourage individuals to pursue new firms and new ventures. By far the largest proportion are attempting to exploit opportunities reflecting an increase in demand for existing goods and services. They may come about as a result of in-migration, either from other countries or other regions within a country, or increased in disposable income which may result in rising prices and difficulty in obtaining conventional goods and services. Demand-based opportunity entrepreneurship is a response to economic expansion caused by other processes.

In contrast, market-creation opportunity entrepreneurship reflects the development of new goods and services that will expand the range of options for customers, either natural persons or organizations – businesses, government agencies, or not-for-profit. This is the type of opportunity development that is often considered "real entrepreneurship" as reflected in the conception of "creative destruction" – new markets created that destroy, or at least reduce, the scope of demands for existing goods and services. Market-creation opportunity entrepreneurship is unlikely to account for more than a small proportion of all opportunity entrepreneurship, perhaps no more than 15 percent, but may lead to increases in economic growth.[2] This will be explored more systematically in the GEM research program in future years.

In summary, there is consistent evidence that entrepreneurship and economic growth occur together. Very few countries are able to grow with low levels of entrepreneurial activity. Developing countries with high levels of economic growth also have high levels of necessity entrepreneurship. There is no strong evidence of a causal relationship. But, as a longitudinal data set is developed for the GEM program in future years, it will be possible to explore further the causal mechanisms between entrepreneurial activity in its different forms and economic growth.

ENDNOTES SECTION D

1 All measures of national economic growth are taken from the International Monetary Fund World Economic Outlook Database, May 2001, found at **"http://www.imf.org/extyernal/pubs/ft/weo/2001/01/data/index.htm".**

2 A precise assessment of start-ups in Sweden, where most efforts are related to opportunities, has found that 15 percent of start-ups may be related to "innovation" and the remainder (85 percent) appeared to replicate existing commercial activities (Samuelsson, Mikael (forthcoming) "Innovative and Equilibrium Business Activities: Investigating the Venture Opportunity Exploitation Process Across Time," Jonkoping, Sweden: Jonkoping International Business School, doctoral dissertation.

Section E

Entrepreneurial Activity: Who Does It?

People – both individually and in teams – create and build new businesses. Although it is not unusual for a start-up to be sponsored by an existing business, most new businesses rely on the personal resources of their founders. Any attempt to increase the level of entrepreneurial activity or improve the potential for new firm success will be ineffective unless people take the initiative to start a business. Any serious assessment of the entrepreneurial process must therefore look first at those that are centrally involved – the entrepreneurs – as well as the national context in which they operate.

This section examines the profile of the entrepreneurs themselves, while the following section assesses the national context in which they operate. To facilitate cross-national comparisons, all assessments are restricted to those 18 to 64 years old in the survey sample; population data is based on those 20 to 64 years old, almost exactly the same age group.

About 147 million individuals are involved in entrepreneurial activity in the 29 GEM 2001 countries, representing 10 percent of the 1.3 billion people between 18 and 64 years old. Are they different? Is this difference systematic? The answer to both questions is a partial "Yes." Certain types of individual are more likely to be involved in entrepreneurial activity than others. But individuals from all categories are involved to some extent.

The portrait of the typical entrepreneur in the 29 GEM 2001 countries is strongly influenced by the way in which the results of the national surveys are weighted. In order to represent the population of 1.3 billion adults, the global sample is adjusted so that the weight of responses reflects the size of national populations. This substantially increases the weight attached to samples in large developing countries. Brazil, India, and Mexico, each with sample sizes of around 2,000, account for half the working adult population in the 29 countries. In contrast, New Zealand, Norway, and Singapore, each with sample sizes of around 2,000, account for 6 percent of the working adults in GEM 2001 countries. The weighting scheme compensates for this difference so that the global sample represents the global population of 147 million entrepreneurs.

DEMOGRAPHIC PROFILE

Nothing is more fundamental than age and gender, as shown in Chart E.01. This shows the prevalence rate for women (left-hand side) and men (right-hand side) for five measures of entrepreneurial activity: the overall TEA index, opportunity entrepreneurship, necessity entrepreneurship, nascent firm activity, and new firm activity. The prevalence rates for five age groups are presented for each type of activity.

The two major patterns, found in all similar research, are that men are twice as active as women and that those aged between 25 and 44 are the most actively involved in entrepreneurial activity. This is true for the overall measure of entrepreneurial activity, as shown in the top of Chart E.01. Most striking is that the prevalence of opportunity and necessity entrepreneurship are very similar, in part reflecting the high weighting of developing countries in which necessity entrepreneurship is most prevalent.

Patterns related to age, however, are quite different for opportunistic and necessity entrepreneurship. For both men and women, the prevalence of opportunity entrepreneurship is highest in the 35 to 44 age group and is generally lower in younger and older groups. The prevalence of necessity entrepreneurship among men is highest in the youngest (18-24) age group and then declines steadily thereafter. The prevalence of necessity entrepreneurship among women is similar for all age groups up to the age of 54, when there is a dramatic decline. Previous assessments of entrepreneurship, based only on data from developed countries where necessity entrepreneurship is less prevalent, did not reflect this steady decline with age.[1]

The impact of motivation on prevalence by age is reflected in the prevalence by age for start-up activity, which tends to mirror the patterns by age for necessity entrepreneurship. In a similar fashion, the prevalence by age for new firms tends to mirror the patterns by age for opportunity entrepreneurship.

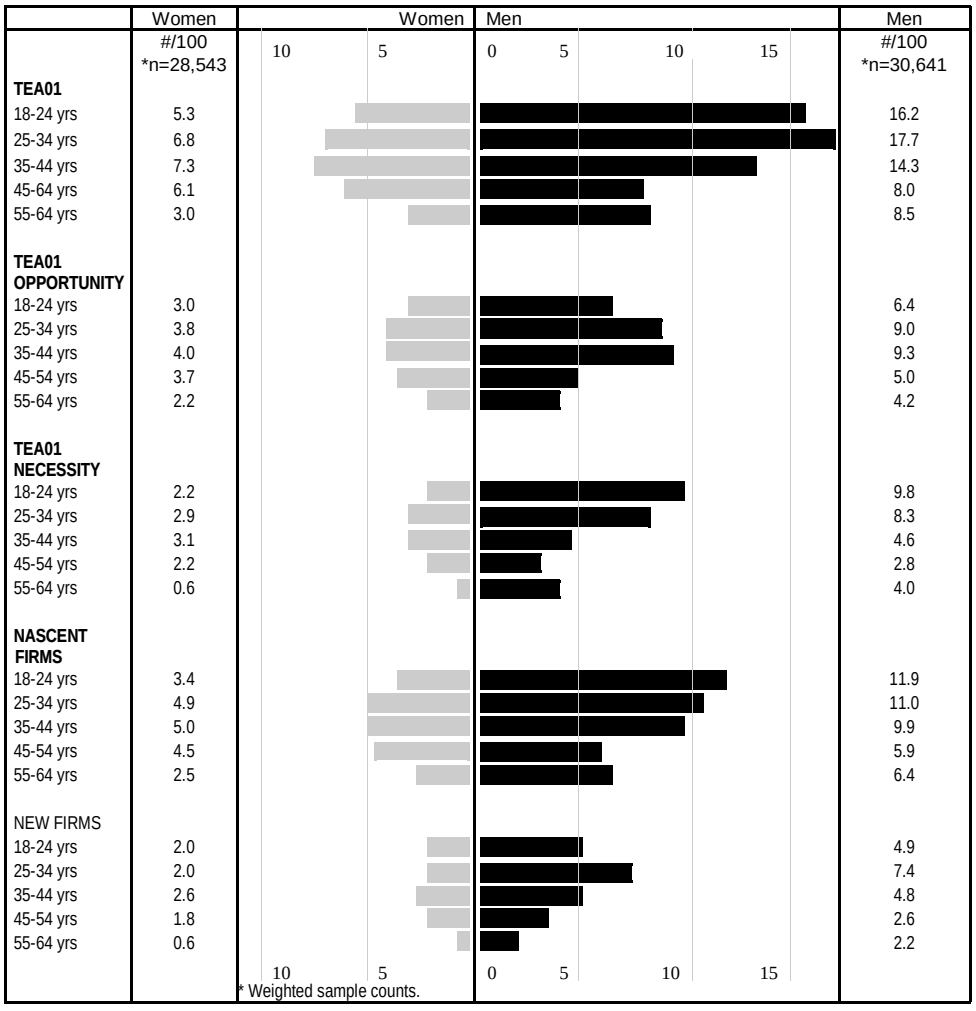


Chart E.01 Entrepreneurial Activity Prevalence Rates by Gender, Age, and Type of Activity 2001

The tendency of individuals from a particular group to participate in entrepreneurial activities, represented by a difference in prevalence rates, offers one view of the demographic profile of entrepreneurs. The profile of those actually involved offers a complementary view. Chart E.02 shows the age and gender of entrepreneurs in the 29 countries. It reveals that 70 percent are men, 57 percent of the men are between 25 and 44 years old. Men and women between 18 and 24 years old make up one-fifth of the entrepreneurs. A substantial proportion of these are young men involved in entrepreneurial activity out of necessity. Men and women over 45 years of age make up another one-fifth of the entrepreneurs. Almost three-fifths, therefore, are men and women from 25 to 44 years of age.

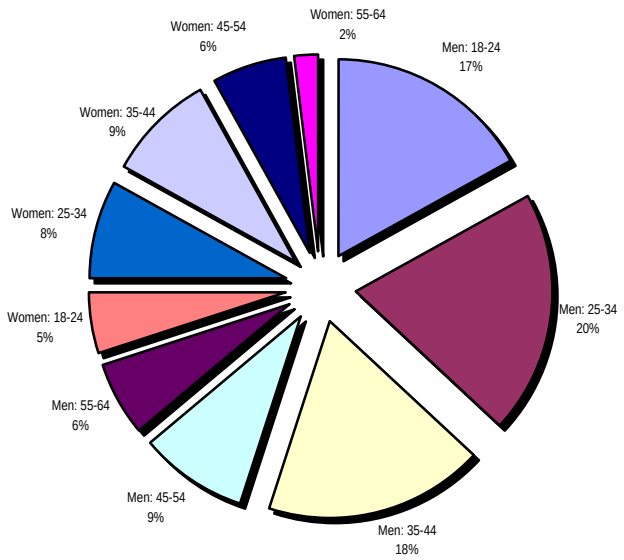


Chart E.02 Proportion of All Entrepreneurial Activity Participants by Age and Gender

A second important pattern is the greater prevalence of entrepreneurial involvement in nascent businesses (6.8 percent) rather than in the operation of new firms (3.3 percent). This is to be expected, given that only around one in three start-up efforts results in the formation of an operational business. Unfortunately, the cross-sectional measures of nascent and new firms used in the GEM 2001 assessment do not provide the information required to determine the transition rate of nascent initiatives into new firms across the 29 GEM 2001 countries.

WORK STATUS

The involvement in entrepreneurial activity of people who are not active in the workforce remains an important issue. Work status can be determined for 51,000 respondents developing nascent businesses in 24 of the 29 GEM 2001 countries.[2] These can be arranged into three general categories: those in full-time or part-time paid work; those not in paid work either because they were unemployed or homemakers; and retirees, students, the disabled, and others in special circumstances that prevent them from working. The proportion of nascent firm entrepreneurs in these categories, by gender, is presented in Chart E.03. The prevalence rate among men in paid work (9.8 percent) is roughly equal to that of men who are not (10.2 percent). The prevalence of entrepreneurial activity is substantially higher among women in paid work (5.5 percent) than it is among women who are not, many are homemakers (3.3 percent). It is much lower for those in the "other" category – retirees, students – for both men and women.

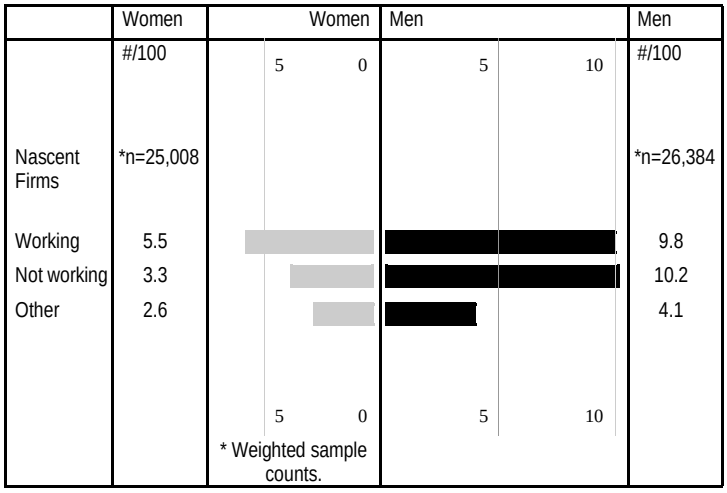


Chart E.03 Nascent Entrepreneurs' Prevalence Rates by Gender and Labor Force Status

The profile of the entrepreneurs involved in developing nascent firms in terms of gender and work status is shown in Chart E.04. Those currently in paid work account for over three-quarters (77 percent). Three in five (61 percent) are men. Those not in paid work, primarily women homemakers, account for almost one in five (19 percent). Students, retirees, the disabled and others represent a small portion (4 percent).

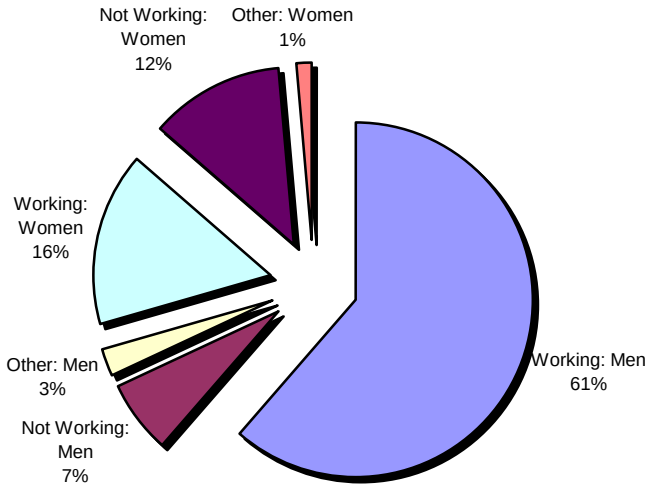


Chart E.04 Proportions of Nascent Entrepreneurs' Participants by Gender and Labor Force Status

Men are equally likely to be involved in developing a nascent business whether they are in paid work or not. However, because a far greater number of men are in paid work, working men represent the significant majority of such entrepreneurs. This is not surprising, given that participation in and knowledge of the business world is necessary for identifying opportunities and mobilizing the resources to start a new business. Both personal skills and access to financial resources can be expected to have a major impact on entrepreneurship.

EDUCATIONAL ATTAINMENT

Educational attainment data is available for 43,0000 respondents from 24 GEM 2001 countries.[3] The general patterns by gender for the five types of entrepreneurial activity are presented in Chart E.05. The patterns for men and women differ noticeably. Women's participation in entrepreneurial activity increases with higher levels of educational attainment, especially with post-secondary education. In contrast, men's participation declines among those that go beyond secondary education. Male participation is lowest for those with the least education (no secondary degree) and for those with the most education (graduate experience).

The educational profile of opportunity entrepreneurs is very different to that of necessity entrepreneurs. Among opportunity entrepreneurs, there is very little difference between men that have completed secondary education, post-secondary education, or graduate education. Opportunity entrepreneurship is low among men that have not completed secondary education. Among women, higher levels of educational achievement are again associated with greater involvement in opportunity entrepreneurship. The pattern for necessity entrepreneurship is reversed for both men and women. The higher the level of educational attainment, the lower the involvement in necessity entrepreneurship.

	Women	Women	Men	Men
	#/100 *n=19,073	10 5 0	5 10 15	#/100 *n=23,547
TEA01				
Graduate Experience	7.2			9.8
Post Secondary	8.1			14.4
Secondary Degree	5.4			16.7
No Secondary Degree	5.5			9.9
TEA01 OPPORTUNITY				
Graduate Experience	6.4			7.9
Post Secondary	6.0			8.2
Secondary Degree	3.1			9.3
No Secondary Degree	2.2			2.8
TEA01 NECESSITY				
Graduate Experience	0.8			1.6
Post Secondary	1.8			5.7
Secondary Degree	1.9			6.9
No Secondary Degree	3.2			6.9
Nascent Firms				
Graduate Experience	6.3			4.8
Post Secondary	4.8			10.0
Secondary Degree	4.0			12.0
No Secondary Degree	3.9			7.0
New Firms				
Graduate Experience	1.0			5.7
Post Secondary	3.7			4.9
Secondary Degree	1.5			5.2
No Secondary Degree	1.6			3.2
		10 5 0	5 10 15	

* Weighted sample counts.

Chart E.05 Entrepreneurial Activity Prevalence Rates by Gender, Educational Attainment, and Type of Activity=

The educational attainment, by gender, of those involved in entrepreneurial activity – either through opportunity or necessity – is presented in Chart E.06. The majority (62 percent) involved have not gone beyond secondary school. Those with university experience represent 35 percent of the total and the small remainder (3 percent) are men and women with graduate experience.

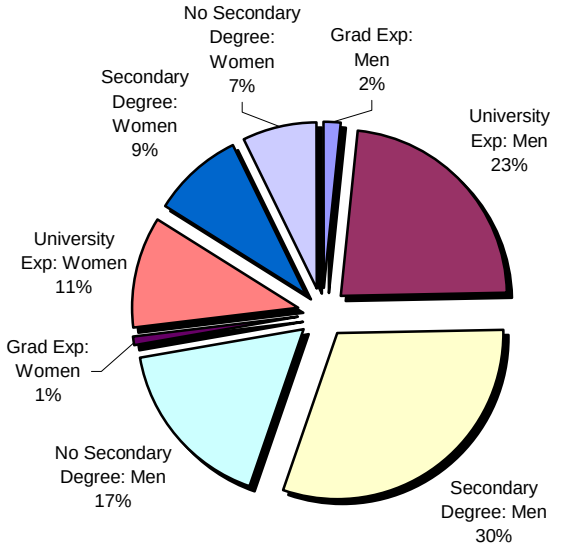


Chart E.06 Proportions of All Entrepreneurial Activity Participants by Gender and Educational Attainment

Education is related to sector and expected firm growth. As shown in Table E.01, entrepreneurs with higher levels of educational attainment are much more likely to be active in business services than in consumer services. Most entrepreneurs (81 percent) expect to create no more than 5 jobs within five years. But a substantially higher proportion of entrepreneurs with graduate experience expect to create 6 or more jobs than those with less education. The difference is even more marked for the proportion of entrepreneurs expecting to create 20 or more jobs.

HOUSEHOLD INCOME

In order to assess the impact of household income on entrepreneurship, the 43,000 respondents from 23 countries who provided an indication of their household income were placed into the upper third, middle third, or lower third of household incomes in their national sample.[4] As shown in Chart E.07, there are marked differences in terms of gender and type of entrepreneurial activity. A low level of household income is associated with less opportunity entrepreneurship for both men and women, and much less involvement in new firms. But it is also associated with higher levels of necessity entrepreneurship for men. For high levels of household income the pattern is reversed: greater involvement in opportunity entrepreneurship and less involvement in necessity entrepreneurship. Among men, there appears to be little relationship between household income and nascent entrepreneurial activity, reflecting the consequences combining those engaged in entrepreneurship for quite different reasons.

	Secondary School Experience	Secondary School Completed	University or College Experience	Graduate Experience	All Levels
ECONOMIC SECTOR					
Number	1,010	1,571	1,298	75	3,954
Extractive	4 %	5 %	3 %	7 %	4 %
Transforming	32 %	32 %	29 %	20 %	31 %
Business Services	7 %	9 %	24 %	42 %	14 %
Consumer Oriented	57 %	54 %	44 %	30 %	51 %
EXPECTED GROWTH					
Number	1,648	2,455	2,891	280	7,274
No jobs in 5 years	36 %	27 %	40 %	21 %	34 %
1-5 jobs in 5 years	57 %	54 %	38 %	48 %	48 %
6-19 jobs in 5 years	6 %	9 %	14 %	14 %	11 %
20 up jobs in 5 years	1 %	10 %	7 %	17 %	7 %

Table E.01 Educational Attainment and Types of Entrepreneurial Ventures

	Women	Women	Men	Men
	#/100 *n=21.696	10 5 0	5 10 15	#/100 *n=23,677
TEA01				
Upper third	9.7			15.0
Middle third	4.6			16.1
Lowest third	4.5			10.7
TEA01 Opportunity				
Upper third	6.7			10.2
Middle third	3.1			8.4
Lowest third	1.7			3.9
TEA01 Necessity				
Upper third	2.7			4.3
Middle third	1.3			7.6
Lowest third	2.7			6.7
Nascent Firms				
Upper third	6.0			9.6
Middle third	2.8			10.1
Lowest third	3.6			8.8
New Firms				
Upper third	4.2			6.2
Middle third	2.0			6.5
Lowest third	0.9			2.1
		10 5 0	5 10 15	

* Weighted sample counts.

Chart E.07 Entrepreneurial Activity Prevalence Rates by Gender, Household Income and Type of Activity

The household income profile of men and women entrepreneurs is shown in Chart E.08. Taking men and women together, the distribution according to the three income levels is relatively even, with 26 percent in the upper third, 39 percent in the middle third and 35 percent in the lower third. There appears to be little relationship between overall entrepreneurial activity and household income. The major difference, as shown in Chart E.07, is related to the underlying motives of opportunity and necessity.=

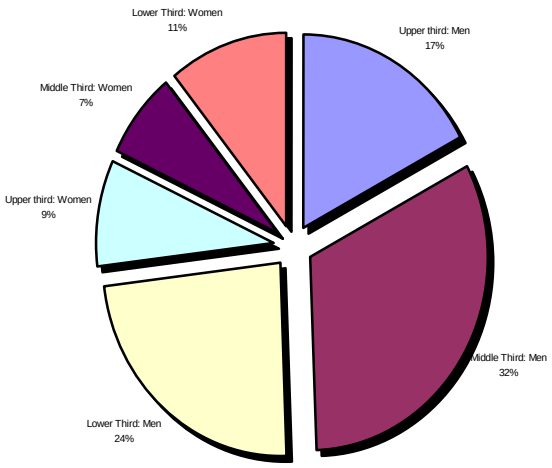


Chart E.08 Proportions of All Entrepreneurial Activity Participants by Gender and Household Income

SUMMARY

A wide set of factors may influence an individual's decision to pursue an entrepreneurial ven-

ture. Table E.02 presents the impact of three groups of factors on the five measures of entrepreneurial activity. The first group of factors covers basic demographic characteristics such as age and gender. The second, an individual's immediate situation and perceptions, including acquaintance of an entrepreneur, perceived business opportunities, skills to start a new business, fear of failure, perceptions as to the economic prospects for family and the economy. The third, the impact of the individual's current work activity, level of education, and household income on entrepreneurial activity is presented. Because of the large sample size, in excess of 40,000 in every cell, all fifty-five comparisons in this chart are statistically significant. ▪

Some comparisons stand out. For example, those that report they have the skills to pursue a new venture are six times more likely to be involved in entrepreneurial activity (19.7 percent) than those who do not (3.4 percent). Similarly, those who report good business opportunities are three times more likely to be involved (19.6 percent) than those who do not (6.6 percent). Those who expect the economic prospects

	Total Entre Activity	TEA: Opportunity	TEA: Necessity	Nascent Firms	New Firms
GENDER					
Men	13.5 %	7.1%	6.0%	9.3%	4.6%
Women	6.0 %	3.4%	2.4%	4.2%	1.9%
AGE					
18-24 Years Old	11.3 %	4.8%	6.4%	8.0%	3.6%
25-34 Years Old	12.2%	6.3%	5.5%	7.9%	4.7%
35-44 Years Old	10.9%	6.7%	3.8%	7.5%	3.7%
45-54 Years Old	7.1%	4.4%	2.5%	5.2%	2.2%
55-64 Years Old	5.8%	3.2%	2.4%	4.5%	1.4%
CONTACT WITH ENTREPRENEURS					
Know an Entrepreneur: Yes	17.0%	11.9%	4.6%	11.6%	6.2%
Know an Entrepreneur: No	7.3%	2.9%	4.2%	5.1%	2.2%
PERCEPTION OF BUSINESS OPPORTUNITIES					
Good Opportunity for Business: Yes	19.6%	11.3%	8.1%	14.5%	6.0%
Good Opportunity for Business: No	6.6%	3.2%	3.2%	4.3%	2.4%
BUSINESS SKILLS					
Have skills to start a business: Yes	19.7%	11.3%	8.0%	13.8%	6.6%
Have skills to start a business: No	3.4%	1.4%	1.9%	2.4%	1.1%
FEAR OF FAILURE					
Failure fear NOT a problem: Yes	12.0%	6.6%	5.1%	8.5%	3.9%
Failure fear NOT a problem: No	6.2%	2.8%	3.2%	4.1%	2.3%
FAMILY'S ECONOMIC FUTURE					
Family future looks: Better	15.0%	8.3%	6.4%	10.5%	5.1%
Family future looks: Same	6.3%	3.0%	3.1%	4.4%	2.0%
Family future looks: Worse	4.5%	2.3%	1.9%	3.3%	1.3%
COUNTRY'S ECONOMIC FUTURE					
Country future looks: Better	12.6%	6.9%	5.5%	8.6%	4.4%
Country future looks: Same	7.5%	4.8%	2.4%	5.1%	2.7%
Country future looks: Worse	9.3%	4.7%	4.3%	6.3%	3.3%
EDUCATIONAL ATTAINMENT					
Graduate program experience	8.8%	7.3%	1.2%	5.4%	3.8%
Beyond secondary school	11.5%	7.2%	3.9%	7.6%	4.3%
Secondary school degree	11.6%	6.6%	4.6%	8.4%	3.6%
Not completed secondary school	8.0%	2.6%	5.3%	5.7%	2.5%
LABOR FORCE STATUS					
Working full or part time	13.0%	6.8%	5.8%	8.4%	5.1%
Not working: Homecare, unemployed	4.5%	2.4%	2.1%	4.3%	0.3%
Not in labor force: retired, student	3.9%	2.7%	1.2%	3.4%	0.6%
RELATIVE HOUSEHOLD INCOME					
HH Income in upper third for country	12.6%	8.6%	4.6%	7.9%	5.3%
HH Income in middle third for country	11.1%	6.1%	4.8%	6.9%	4.5%
HH Income in lower third for country	7.4%	2.8%	3.6%	6.1%	1.5%
NOTE: EVERY pattern is statistically significant, even when the difference is 0.04%.					

Table E.02 Impact of Selected Factors on Five Aspects of Entrepreneurial Activity▪

for their family to "get better" are also about three times more likely to be involved in entrepreneurial activity than those who expect them to remain stable or worsen. Those who know an entrepreneur personally are over twice as likely to be involved themselves than those who have no such acquaintances.

Generally speaking, people who are better educated, who are in paid work, and have high levels of household income are more likely to become involved in entrepreneurial activity. They have the skills and information to identify opportunities as well as the confidence and resources to develop new ventures.

There are considerable differences between the typical opportunity entrepreneur and the typical necessity entrepreneur. For example, knowing an entrepreneur and a fear of failure are much less important for those involved out of necessity. As has already been mentioned, the age and educational attainment of necessity entrepreneurs is significantly different to that of opportunity entrepreneurs. Younger adults with less education are more likely to be necessity entrepreneurs. Older, more educated adults are more likely to be opportunity entrepreneurs.

An important question is the extent to which these various factors are interrelated. As an example, men are twice as likely to be in paid work than women, and someone in paid work is twice as likely to claim to have the skills to start a new business. Somebody who has gone beyond secondary educational is almost three times as likely to know an entrepreneur as somebody who has not completed secondary education.

The combined impact of various factors can be dramatic. For example, in the adult population, the prevalence of entrepreneurial activity is 10 percent. Among adults who claim to have the skills to start a business and consider there to be good business opportunities and expect economic prospects for their family to get better, the prevalence is 31 percent – three times higher. Those in this situation are 13 percent of the total sample but represent 38 percent of the group that is entrepreneurially active. In marked contrast, among adults who do not claim to have the skills to start a business and see no good business opportunities and expect their family's economic prospects to remain stable or get worse, the prevalence of entrepreneurial activity is as low as 2 percent. These individuals make up 5 percent of the total sample but are less than one percent (0.9 percent) of the entrepreneurially active. Detailed analysis of such complex interactions is beyond the scope of the current GEM assessment. A considerable amount of work remains be done to understand their combined impact on entrepreneurial activity.

While variation in the individual situation of the citizens in the GEM 2001 countries clearly has a major influence on their decisions to pursue entrepreneurial career options, the national context is also a significant factor. The following section focuses on those national features that seem to have a major impact on all their citizens and decisions to pursue entrepreneurial options.

ENDNOTES SECTION E

1 The pattern for the US is clear in this regard, with participation rates quite low below 25 years (8 percent for males; 4 percent for females) and peaking for those 25-34 years of age (29 percent for males; 22 percent for females). Reynolds, Paul D., "National panel study of US business start-ups: background and methodology," in Jerome A. Katz (ed.), Advances in Entrepreneurship, *Firm Emergence and Growth*, Vol. 4: NY: Elsevier Science, Inc.: JAI Press, 2000, pg. 181.

2 Data on labor force status was available for all countries except Brazil, Hungary, Ireland, Norway, and Spain. Original consolidation involved six categories: full-time work; part-time work; retired/ disabled; homemaker; student; and not working, other. These were consolidated into three categories for this analysis: 1) working, full or part time; 2) not working (homemakers, not working: other); and 3) retired, disabled, and students.

3 Data on educational attainment was available for all countries except Australia, Brazil, Ireland, Mexico, and Spain. The four classifications were designed to emulate those used by OECD in classifying educational programs. A small number of respondents, less than 1 percent, with no education were placed in the not completed secondary education category.

4 Data on household or personal income was available for all GEM 2001 countries except Belgium, Ireland, Netherlands, Spain, and the United Kingdom. Distributions had from two to a dozen categories so the allocation into thirds was approximate for most countries.

Section F

Entrepreneurial Activity: What Affects It?

Entrepreneurial activity at a national level is the sum of the activities of individual entrepreneurs. These take place within a particular national context that influences, and is influenced by, the level of entrepreneurial activity within a country. The national context is complex and has many disparate features. The major features or factors that influence entrepreneurial activity are therefore grouped into three principal categories: long-term structural factors; intermediate or medium-term factors; and more immediate short-term factors. This grouping is consistent with the GEM model illustrated in Chart B.03. Financial support available to business start-ups deserves special attention and is presented as a separate, or fourth, category. It can be considered as lying between the medium- and short-term factors.

The underlying structure of a country's economy changes gradually over the longer term. Significant changes can take decades. These long-term structural factors include the overall level of economic development, the degree of integration into world markets, the relative importance of different economic sectors, the balance between the public and private sector, the demographic profile of the population, and the role of women in the economy.

Intermediate term factors, which may change in less than a decade, include general national framework conditions as well as specific national features that have a particular bearing on entrepreneurial activity. General national framework conditions developed for the annual Global Competitiveness Report sponsored by the World Economic Forum include the newly devised Current Competitive Index and Growth Competitive Index, which score and rank countries according to a number of economic, political, business, and social characteristics. Other measures that have a direct impact on entrepreneurial activity include government presence in the economy, the cost of formally registering a new business, income distribution, and education.

Financial support plays a crucial role in the entrepreneurial process. Although the availability of funds may not be critical in determining whether or not an individual decides to start a new venture, it is very important in ensuring the venture's continued development. The institutional mechanisms for providing formal support for entrepreneurial efforts may take years to emerge, but the provision of funds is a short-term issue. Nascent and new firms cannot sustain momentum for more than a few months without adequate financing.

The short-term factors include more personal judgments that can change in a few years or in a matter of months. These include perceptions of business opportunities, the actual ability of individuals to develop, implement, and manage new businesses, the motivation to become an entrepreneur, and expectations as to the short-term prospects facing an individual's family or the wider economy.

The complexity of entrepreneurial activity among the GEM 2001 countries makes assessment difficult. The overall TEA prevalence rate provides a useful summary measure of entrepreneurial activity. Previous sections of this report have drawn attention to the differences between the two stages of the entrepreneurial process – nascent firms and new firms – and the motives for entrepreneurial activity opportunity and necessity entrepreneurship. Each of these five measures may react differently to the various long-, medium-, and short-term factors.

The impact of these factors on overall entrepreneurial activity, and its resulting impact on economic growth, therefore depends on the distribution of these types of entrepreneurial activity across the different countries and how each type reacts to the range of influencing factors.

LONG-TERM STRUCTURAL FACTORS

The GEM 2001 assessment includes concrete measures of some of the more enduring features of the 29 participating countries. These include the level of economic development, the degree of integration into world markets, the sectoral structure of the economy, the degree of support provided by the social security system, major population characteristics, and the role of women in the economy. The correlation between these measures and the five aspects of entrepreneurial activity is presented in Table F.01.

Level of Economic Development

Measures of economic development include GDP per capita and a broader index of the level of human development.[1] The Human Development Index, produced by the United Nations, combines a number of measures covering health, education, and general living standards. There is a very strong negative relationship between human development and necessity entrepreneurship. As shown in Chart F.01, the higher the level of economic development the lower the prevalence of necessity entrepreneurship. The greatly reduced level of necessity entrepreneurship in more developed countries, illustrated graphically in Chart C.04, substantially reduces the overall level of entrepreneurial activity in these countries.

	TEA01 Overall	TEA01 Opportunistic	TEA01 Necessity	Nascent Firms	New Firms
LEVEL OF DEVELOPMENT:					
GDP Per Capita: 2000	-.28	0.08	-.67**	-.29	-.17
Human Development Indicator: 2000	-.27	0.10	-.70**	-.32	-.10
INTEGRATION IN WORLD MARKETS					
International Trade as % of GDP:2000	-.31	-.15	-.28	-.34	-.13
Globalization Index:2000	-.42*	-.02	-.77**	-.44*	-.25
ECONOMIC STRUCTURE					
Agriculture: Percentage of workforce: 1998	0.55**	0.30	0.72**	0.56*	0.37
Manufacturing: Percentage of workforce: 1998	-.39*	-.42*	-.10	-.25	-.47*
Services: Percentage of workforce: 1998	-.23	-.01	-.53**	-.31	-.04
EXTENT OF SOCIAL BENEFITS/ SECURITY PROGRAM					
Total Social Security Cost as % GDP: 1996 [n=27]	-.45*	-.17	-.67**	-.40*	-.38*
Unemployment benefits % work salary: 1995 [OECD only, n=16]	-.43	-.35	-.49*	-.46	-.33
POPULATION CHARACTERISTICS					
Percentage of workforce 25-34 years old: 2001	0.44**	0.17	0.60**	0.41*	0.35
Expected population growth: 2001 to 2025	0.14	0.07	0.17	0.06	0.21
ROLE OF WOMEN					
Gender Empowerment Measure: Human Development Report 2000	-.14	0.15	-.53**	-.12	-.15
Female/Male Labor Force Participation Ratio: 1999	-.27	-.02	-.53**	-.33	-.10
* Statistical significance at 0.05 level.					
** Statistical significance at 0.01 level or better.					

Table F.01 Basic National Features and Entrepreneurial Activity

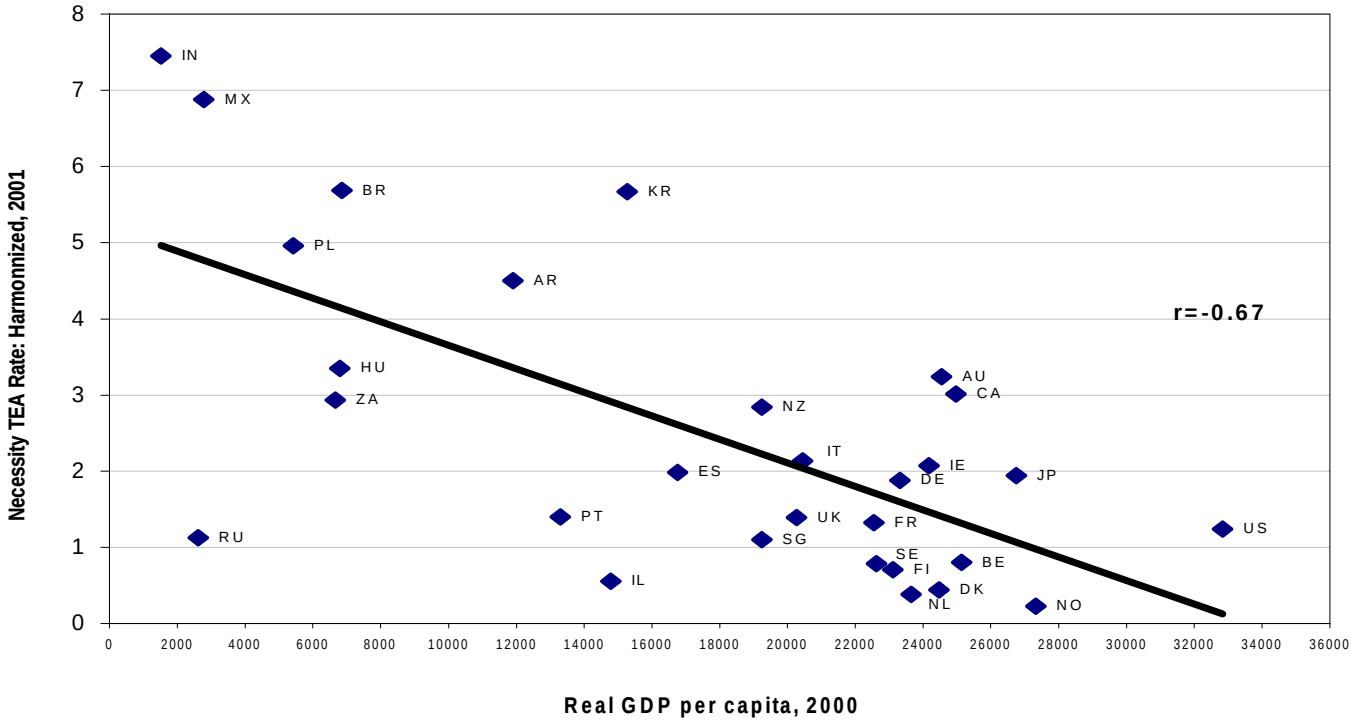


Chart F.01 GDP per Capita: 2000, and Prevalence Rate of Necessity Entrepreneurship, 2001-

Integration into World Markets

A second feature of an economy is the extent of involvement in international trade. Two indicators of international integration are provided. The first is a country's total international trade, measured by the sum of imports and exports as a proportion of GDP. While countries with higher levels of international trade are generally associated with lower levels of entrepreneurial activity, the relationship is not statistically significant. A second measure is the AT. Kearney/Foreign Policy Magazine Globalization Index™, which is a weighted combination of international trade, the inflow and outflow of capital, personal contacts with outsiders, and the Internet capacity of the country.[2] This index, which has been reversed so that large numbers reflect higher levels of globalization, also has a consistent negative relationship with entrepreneurial activity. The negative association with necessity entrepreneurship is substantial and statistically significant. Less developed countries that are not well integrated into the world economy have much higher levels of necessity entrepreneurship and, in particular, higher rates of nascent or start-up firms.

Sectoral Structure of the Economy

A third basic feature of an economy is its sectoral structure. The most general indicators of sector emphasis are related to the percentage of the labor force employed in three major sectors – agriculture, manufacturing, and services.[3] There is a clear pattern among the GEM 2001 countries in this respect, with a significant and positive relationship between the proportion of the labor force in agriculture and necessity entrepreneurship. In sharp contrast, there is a significant and negative relationship between the proportion of the labor force in manufacturing and all measures of entrepreneurship, with the strongest negative relationship with opportunity entrepreneurship. The proportion of the labor force employed in services is also negatively associated with the level of entrepreneurship, but it is only statistically significant for necessity entrepreneurship.

The scattergram for the relationship of proportion of manufacturing employment and the TEA prevalence rate, presented in Chart F.02, makes clear that a number of countries with over 30 percent of the workforce in manufacturing have relatively low levels of entrepreneurial activity. These include Germany, Japan, Portugal, and Spain.

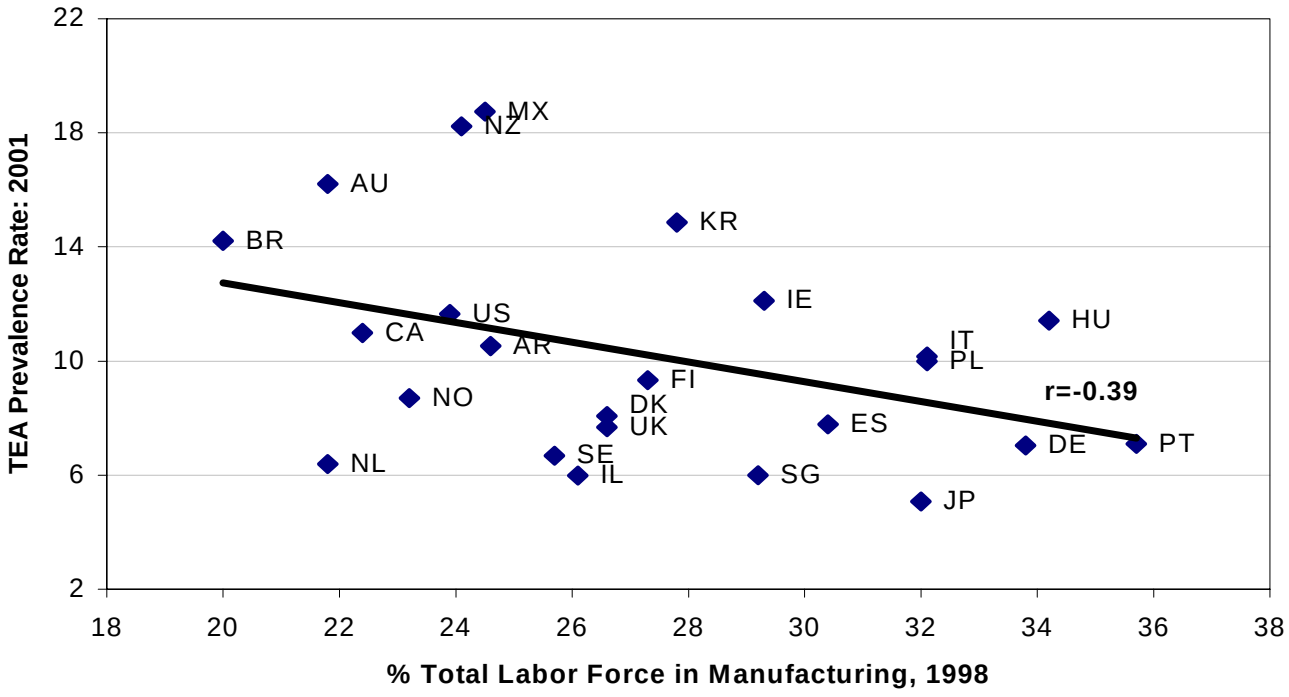


Chart F.02 Percentage Workforce in Manufacturing, 1998, and TEA Prevalence Rate, 2001

Economic Security

Most modern societies have developed a range of programs that provide citizens with a degree of social and economic security. These include programs designed to provide support in retirement, for health care, and in case of unemployment. The cost of such benefits, as a proportion of GDP, provides one measure of the state's willingness to reduce people's economic uncertainty. Such a measure is available for 1996 in all but one of the GEM 2001 countries.[4] It ranges from 2 percent in India to 34 percent for Sweden. A measure of the generosity of unemployment benefit schemes is available for 16 OCED countries in 1995.[5] The "gross replacement rate" – an estimate of the proportion of full-time wages paid to the unemployed – ranges from 21 percent in the United Kingdom to 77 percent for Sweden. As shown in Table F.02, the higher the level of spending on social security benefits, the lower the level of entrepreneurial activity.

The relationship is particularly strong with necessity entrepreneurship, with negative correlations of 0.67 and 0.49 for the two indicators, both of which are statistically significant.

The relationship between social security benefits as a proportion of GDP and necessity entrepreneurship, which has a negative correlation of 0.67, is presented in Chart F.04. This makes clear that the pattern is a general one. It is clear that those countries with more supportive economic security systems also have very low levels of necessity entrepreneurship and, as result, relatively low levels of total entrepreneurial activity.

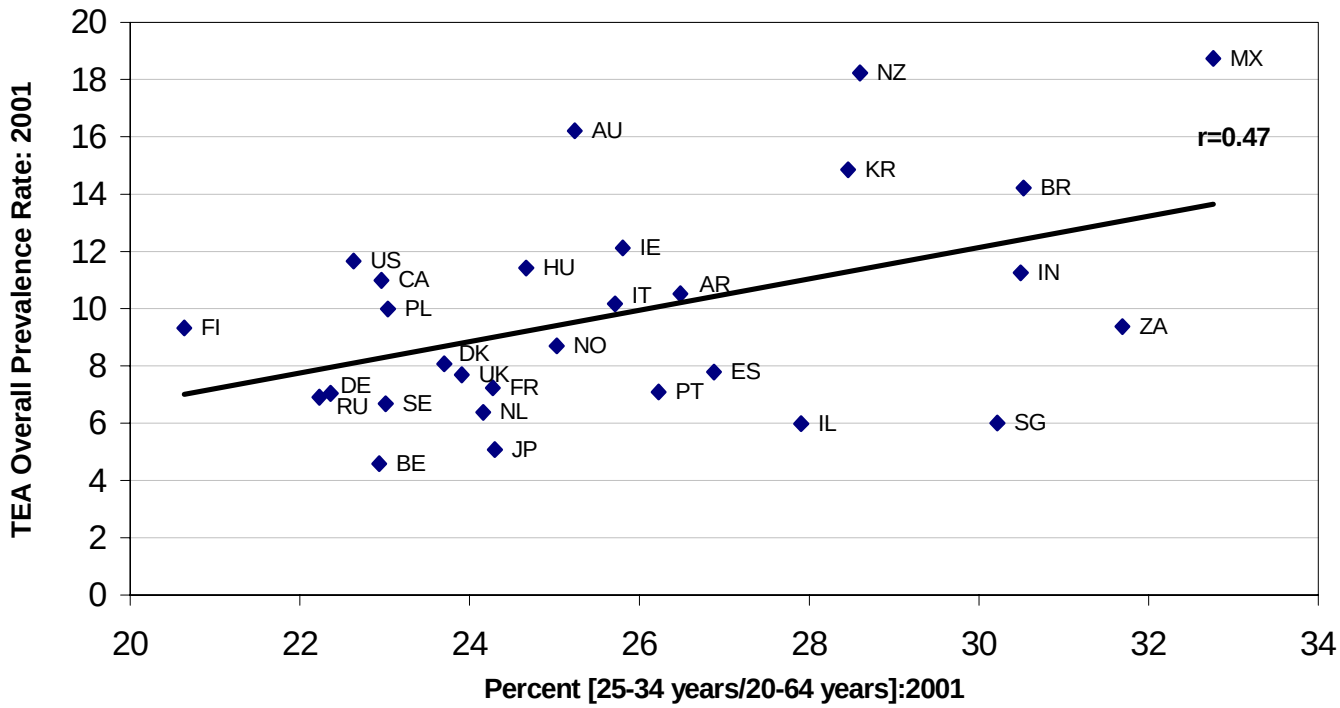


Chart F.03 Percentage Working Population 25-34 Years Old and TEA Prevalence Rate, 2001

Demographic Characteristics

The main demographic influences on entrepreneurial activity within the GEM 2001 countries included in the GEM assessment are the age distribution of the population and projected population growth. The proportion of the workforce between 25 and 34 years old – the age when opportunistic entrepreneurship peaks – and expected national population growth from 2001 to 2025 are represented in Table F.04.

The proportion of young adults in the labor force ranges from a low of 20 percent in Finland to a high of 33 percent in Mexico. Countries with fewer young adults tend to have less entrepreneurial activity. Expected national population growth seems to have a positive, though not statistically significant, relationship with entrepreneurial activity.

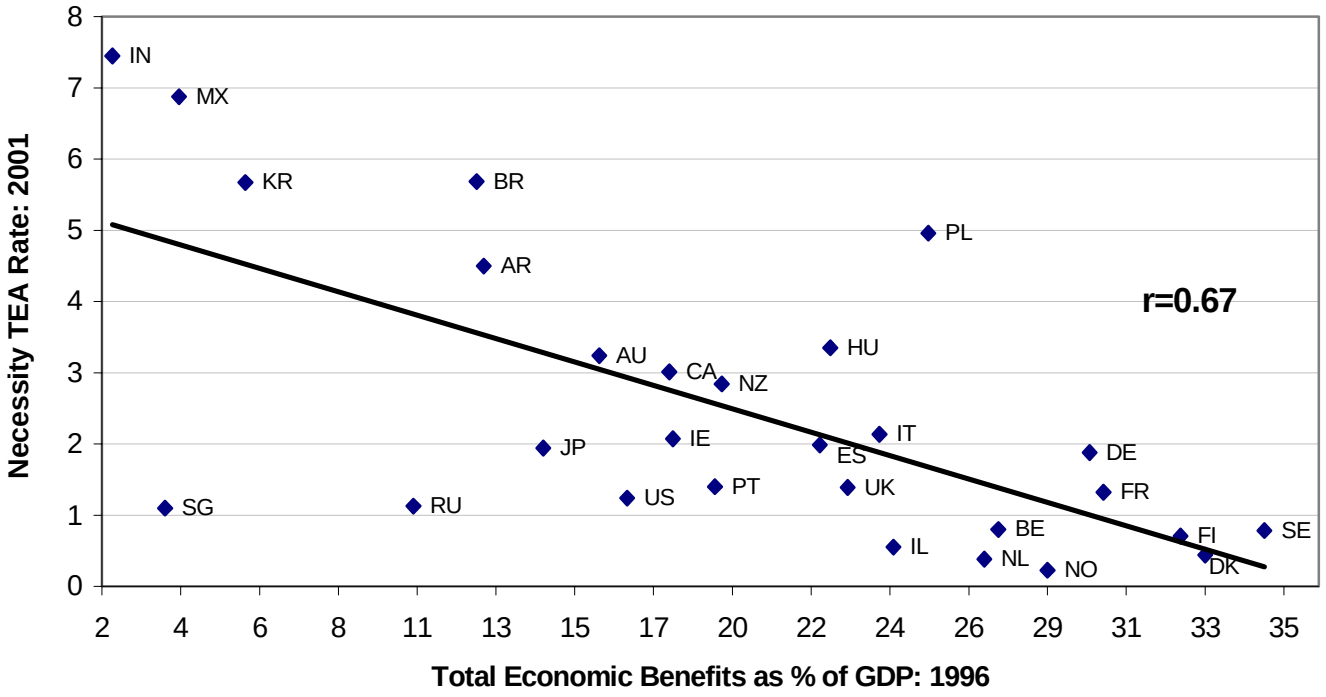


Chart F.04 Overall Level of Public Income Security, 1995, and TEA Necessity Prevalence, 2001-

The Role of Women

An additional structural feature of the GEM 2001 countries is the role of women in the economy. Two indicators are used: the Gender Empowerment measure[6] developed for the UN Human Development Report; and the ratio of female to male participation in the labor force[7] developed, for 1990 and 1999, as part of the World Bank's World Development Indicators. Only 10 of the 29 GEM 2001 countries showed any change in the ratio of female participation between 1990 and 1999, and no country showed an increase of more than 10 percent. This suggests that women's economic role changes very slowly. Both measures reflect the more advanced status of women in more developed countries, particularly those in northern Europe, where there are higher levels of female participation in the labor force but less entrepreneurial activity. As is illustrated in Chart F.05, the Gender Empowerment measure shows the same negative association with necessity entrepreneurial activity.

It is clear that some well-established features of a national economy can have a systematic and statistically significant impact on the level of entrepreneurial activity. These features form the backdrop to other intermediate, financial, and short-term factors that also have an impact on entrepreneurial activity.

INTERMEDIATE INFLUENCING FACTORS

Two sets of factors play a prominent role in the GEM model developed to guide the research program: general framework conditions and other conditions that may have a direct impact on entrepreneurial activity.

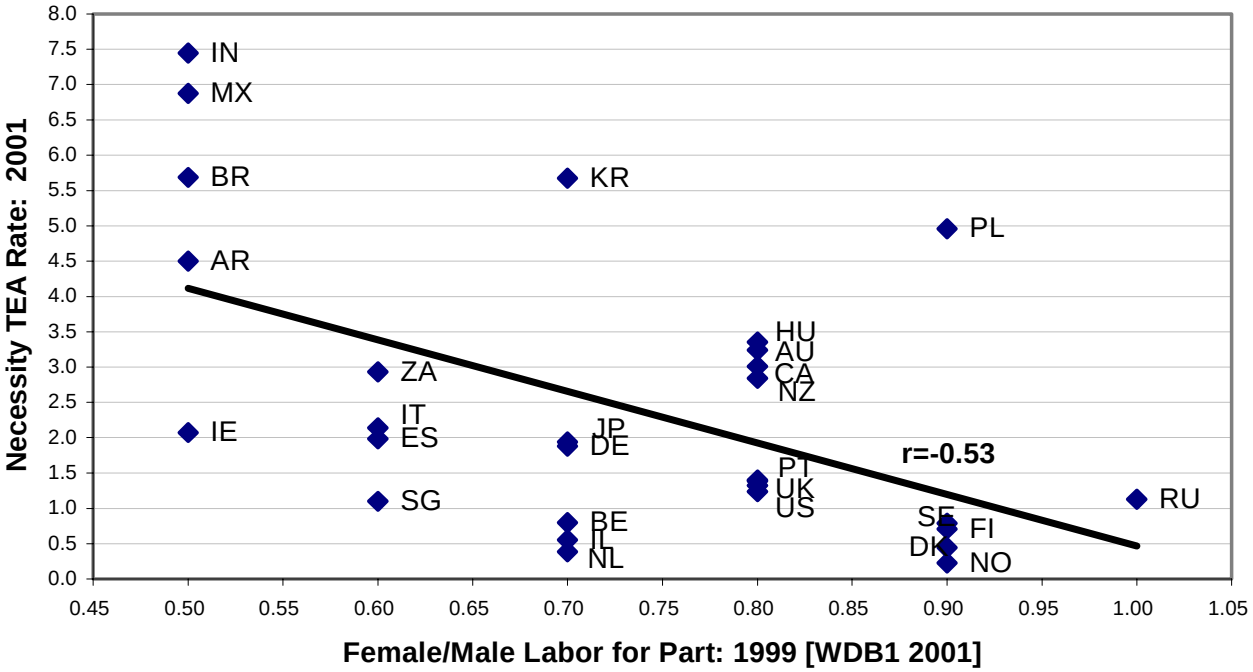


Chart F.05 Female/Male Labor Force Participation Ratio and TEA Necessity Prevalence Rate, 2001

General Framework Conditions

The general framework conditions are the basic parameters underlying the performance of an economy. Emphasis is given to factors that affect international competitiveness and those that affect the level of economic development, measured by GDP per capita. The actual measures used are taken from the 2000 issue of the World Economic Forum's Global Competitiveness Report.[8] Data are available for all GEM 2001 countries. Correlations for the two major indices – the Current Competitiveness Index and the Growth Competitiveness Index – are presented along with their various sub-indices with the five measures of entrepreneurial activity in Table F.02.

	TEA01 Overall	TEA01 Opportunistic	TEA01 Necessity	Nascent Firms	New Firms
GLOBAL COMPETITIVENESS INDICES					
Current competitiveness index	-.38*	-.10	-.65**	-.39*	-.25
1) Quality of established firm management	-.46*	-.20	-.66**	-.47*	-.31
2) Efficiency of domestic financial markets	-.35*	-.06	-.58**	-.39*	-.18
3) Technology, R&D national capacity	-.33	-.06	-.63**	-.42*	-.10
4) Efficient, unbiased administrative, judicial institutions	-.30	0.00	-.62**	-.39*	-.08
5) Openness to international trade	-.27	0.13	-.71**	-.35	-.08
6) Quality of physical infrastructure	-.30	0.03	-.65**	-.35	-.13
7) Labor market flexibility	-.13	0.16	-.52**	-.31	0.16
8) Efficiency of government operations	0.32	0.40*	0.08	0.21	0.39*
Growth competitiveness index	-.30	0.04	-.64**	-.37*	-.10
1) Technology transfer capacity	-.32	-.22	-.35	-.32	-.23
2) Business environment	-.21	-.02	-.38*	-.17	-.20
3) Economic creativity	-.20	0.04	-.50**	-.28	-.02
4) "Start-up" index [not a direct measure of start-ups]	0.24	-.06	0.57**	0.35	0.00
MEASURES OF GOVERNMENT PRESENCE					
Government employ as percentage of total employ	-.40	-.16	-.61**	-.41	-.22
Taxes collected as % of GDP	-.40*	-.10	-.68**	-.37*	-.31
Collected income tax as % of GDP	-.09	0.24	-.54**	-.12	-.02
REGULATION OF NEW START-UPS					
Number of procedures to register new firm: 1995	-.27	-.50*	0.36	-.11	-.39*
Start-up cost index [procedures, time, money]: 1995	-.24	-.42*	0.29	-.09	-.35
INCOME, WEALTH INEQUALITY					
Gini Index: 2001	0.42*	0.25	0.44*	0.41*	0.31
Top 10%/Lowest 10%	0.40*	0.28	0.39*	0.41*	0.24
EDUCATIONAL INFRASTRUCTURE					
Public education spending, % National Income: 1996	0.04	0.19	-.31	-.01	0.09
Gross tertiary enrollments [enrolled/eligible]: 1997	0.00	0.31	-.48**	-.12	0.17
Gross secondary enrollment [enrolled/age eligible]:1977	-.27	0.08	-.66**	-.38*	-.05
Gross primary enrollment [enrolled/age eligible]: 1997	0.05	0.04	0.11	0.13	-.07
Expert Ratings of Educational Infrastructure: 2001	-.17	-.03	-.32	-.23	-.04
* Statistical significance at 0.05 level.					
** Statistical significance at 0.01 level or better.					

Table F.02 Intermediate-Term National Features and Entrepreneurial

These two multi-item indices are based on combinations of harmonized national data and responses by executives of medium and large businesses to standardized questionnaires. Few people with a substantial involvement with the entrepreneurial sector were a source of primary data. The indices – the Current Competitiveness Index and the Growth Competitiveness Index – are refined and adjusted to maximize the association with per capita income, with which correlations tend to be high (in excess of 0.9). Correlations with measures of economic growth, however, are negative (-0.4) and statistically significant. This may reflect the convergence hypothesis regarding national economic wellbeing. Simply stated, less developed countries, starting from a lower base, tend to have higher growth rates than more developed countries. As a consequence, it is expected that the *per capita* income difference between faster-growing developing countries and slower-growing developed countries will converge. Over time they will be expected to converge.

This tendency is consistent with the pattern of relationships between the measures of competitiveness and growth and those of entrepreneurial activity presented in Table F.02. Almost all aspects of the competitiveness and growth measures have negative relationships with all measures of entrepreneurial activity. Many are statistically significant. This is particularly true of necessity entrepreneurship. The only factor with a positive association with necessity entrepreneurship is the sub-index related to "start-ups." This is a relatively simple index based on the availability of venture capital funding, low collateral requirements for asset-based bank loans, and a rating of "start-up difficulty" by executives in large established firms. Its relationship to actual entrepreneurial activity – behavior related to creating new firms – is unclear and it should be treated with caution.

Government Involvement in the Economy

A further intermediate factor is the extent of government presence in the economy. Three measures are presented in Table F.02: public sector employment as a proportion of total employment; total tax revenue as a proportion of GDP; and income tax revenue as a proportion of GDP.[9] All three measures show the same pattern: the higher the measure of government involvement, the lower the level of entrepreneurial activity. This is particularly the case for necessity entrepreneurship.

The association between public sector employment and the level of necessity entrepreneurship, which shows a statistically significant negative correlation of 0.61, is presented in Chart F.06. Except for Poland, all countries with over 19 percent of the labor force in government have rather low levels of necessity entrepreneurship, including Denmark, Finland, France, Israel, Norway, Russia, and Sweden.

Greater government involvement in the economy, particularly as an employer, reduces the pool of potential entrepreneurs and the scope of opportunities open to them. When a substantial proportion of the workforce is employed by government agencies, it is also possible that a smaller proportion of the workforce possesses the business skills to start new firms.

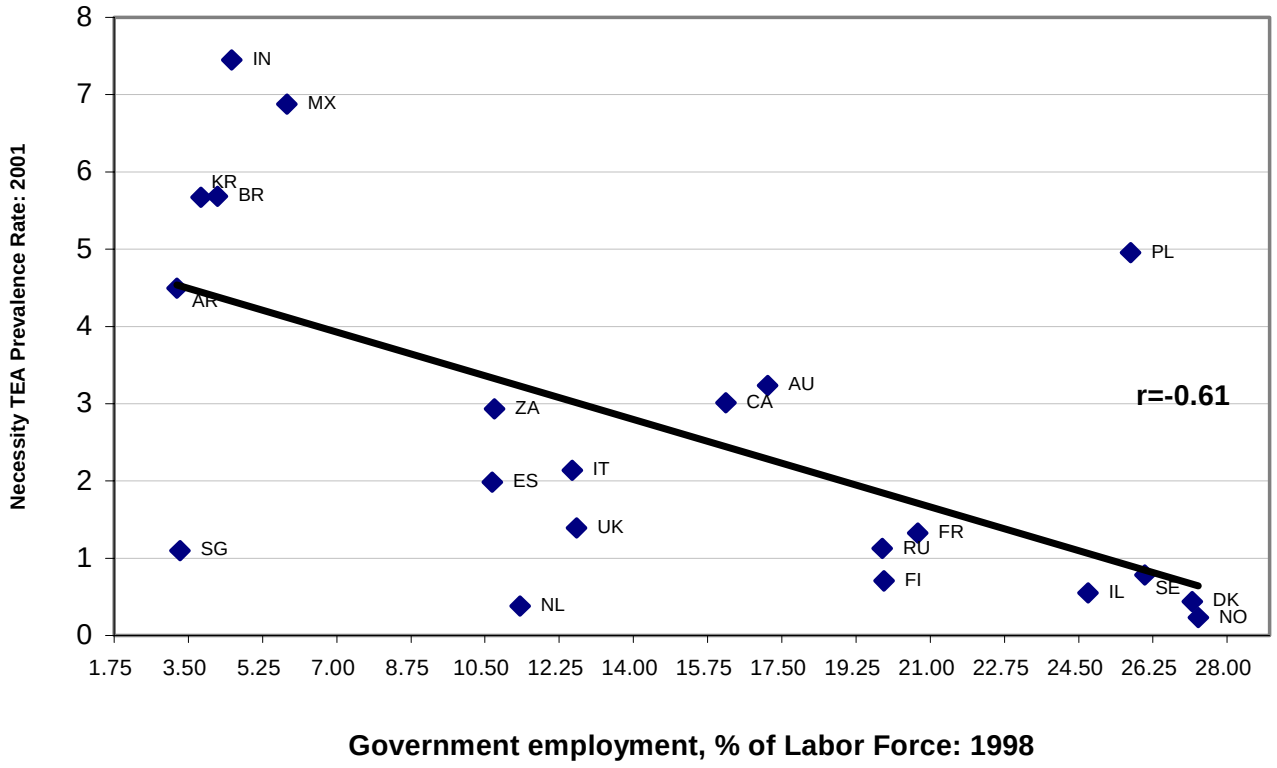


Chart F.06 Percent Government Employees 1998 and TEA Necessity Prevalence Rate, 2001-

New Business Regulation

There is substantial variation between countries in the effort that is required to register a new venture as an official company.[10] Estimates of the number of procedures required and an index of the total "registration burden" – based on the procedures to be completed, the time required, and the monetary costs involved – are related to entrepreneurial activity in a very similar way. Higher registration burdens have a statistically significant negative association with opportunistic entrepreneurship, as shown in Chart F.07, and the prevalence of new firms. It would appear that, when regulatory burdens are high, many entrepreneurs engaged in setting up a nascent business fail to complete the process and found new firms. A positive but not statistically significant relationship between the regulatory burden and necessity entrepreneurship may reflect the high burden in some developing countries rather then suggest any causal relationship. In reality, higher registration costs are unlikely to encourage more necessity entrepreneurship.

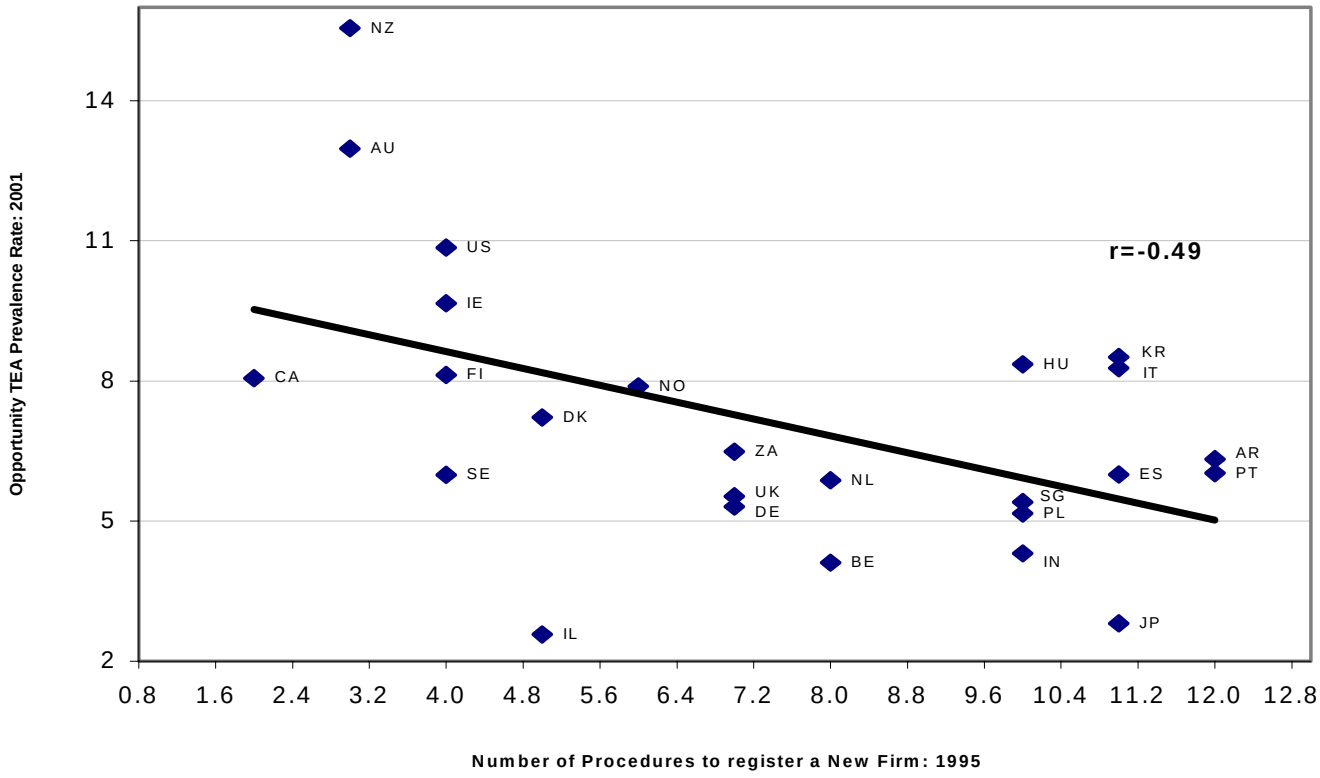


Chart F.07 Number of Procedures to Register New Firms, 1995, and TEA Opportunistic Prevalence Rate, 2001

Income Distribution

Inequality in income distribution tends to be higher in less developed countries. These countries also have higher levels of necessity entrepreneurship. Two measures of income inequality – the Gini Coefficient, which measures deviations from perfect equality of income distribution, and the income of the top 10 percent of households as a ratio of the income of the bottom 10 percent – are presented in Table F.02.[11] Both are significantly and positively associated (0.4 and above) with all types of entrepreneurial activity. As is illustrated in Chart F.08, the greater the income inequality in a country, the higher the level of entrepreneurial activity. This correlation of 0.40 increases to 0.67 if Brazil, Russia, and South Africa are excluded. All three countries have unique issues associated with income inequality. The direction of causation behind this relationship, however, is unclear: greater income inequality may encourage more entrepreneurial activity; but more entrepreneurial activity may lead to greater income inequality.

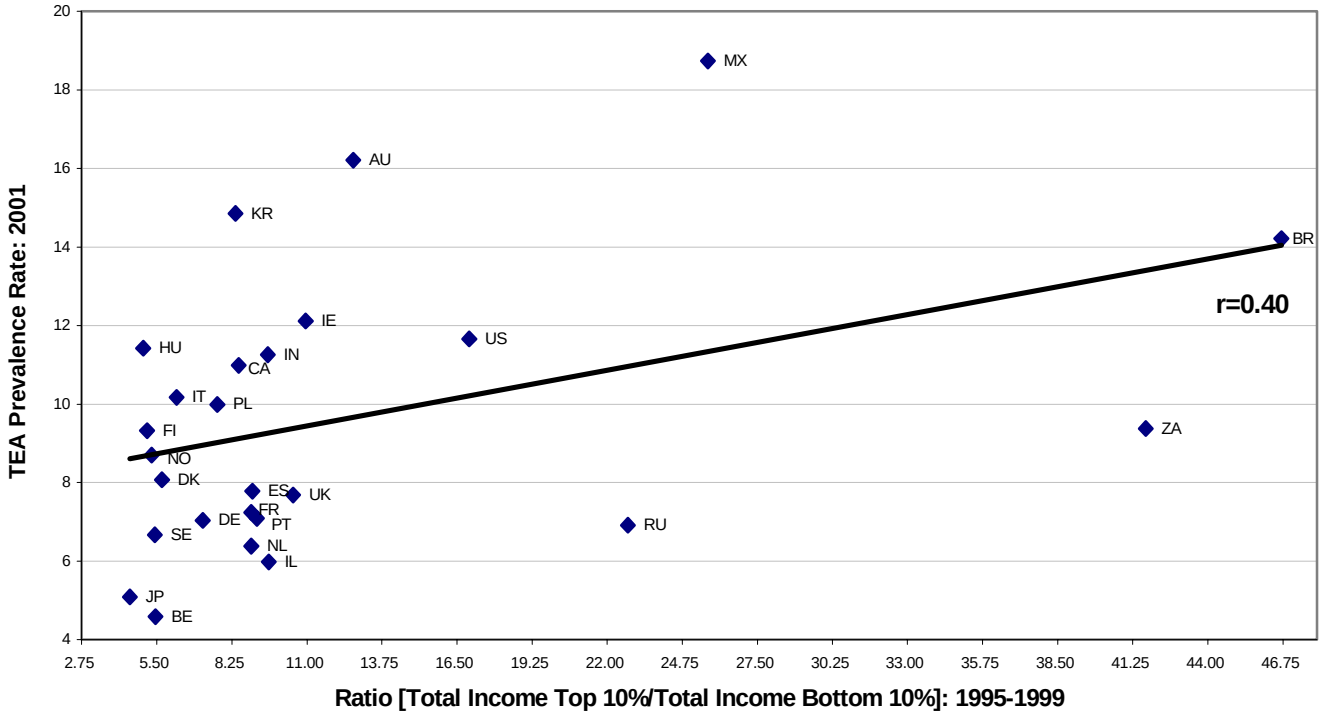


Chart F.08 Income Inequality (1995-1999) and TEA Overall Prevalence Rate, 2001

Education

The personal characteristics of those involved in entrepreneurial activity, described in Section E above, reveal that most of those engaged in entrepreneurial activity have completed secondary educational programs. At the national level, however, the relationship between investment in education and the level of entrepreneurial activity is not so clear cut. A number of national indicators of education are presented in Table F.02. These include the proportion of national income spent on education, the gross enrollment of students in primary, secondary, and post-secondary education programs, and expert ratings of the suitability of the education system for entrepreneurship.

As the proportion of students who complete advanced education programs is higher in more developed countries, there is a negative relationship between education and necessity entrepreneurship. The relationship between enrollments in post-secondary education and opportunistic entrepreneurship is positive, but is not statistically significant. This does not suggest that investment in education does not promote entrepreneurship, but indicates that the causal effect may be indirect. The finding in Section E that those with start-up skills and education beyond the secondary level are more likely to become involved in entrepreneurial activities supports this view.

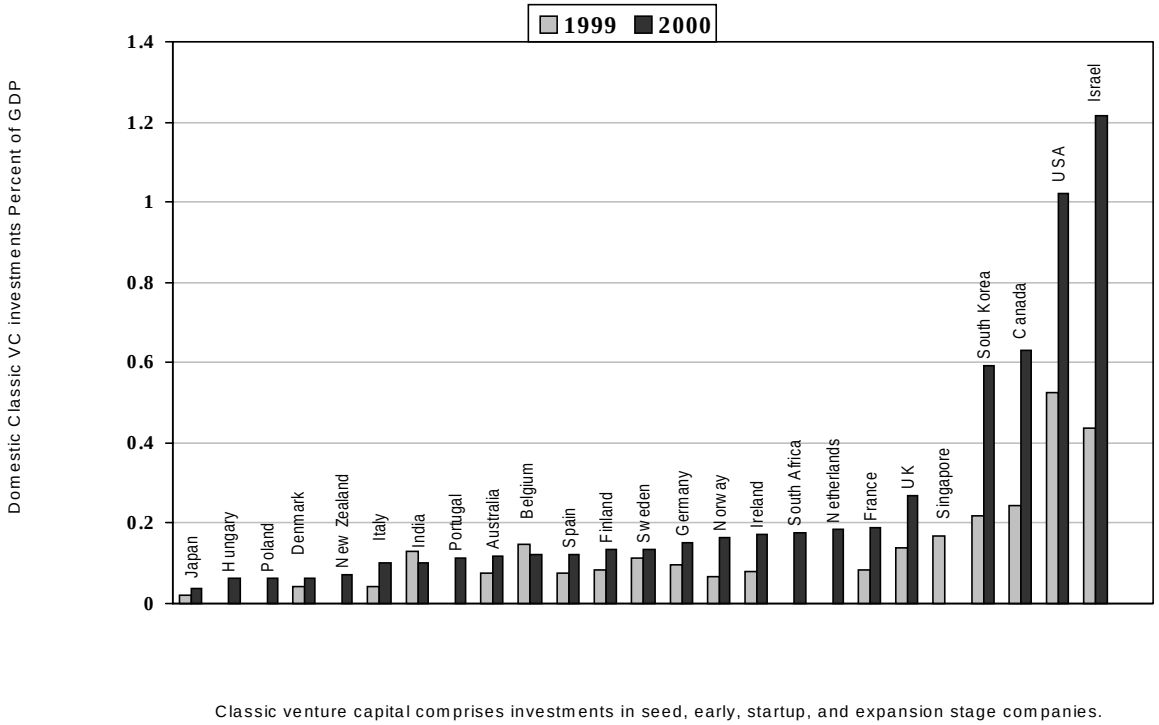
FINANCIAL SUPPORT

Starting a new business requires both human and financial resources. Financial support for new and growing firms receives more attention than almost any other factor.

Two major sources of funding are unique to nascent and new firms: informal financial contributions from family, friends, and associates of the entrepreneur; and formal funding from venture capital funds, usually in return for a share of ownership.

The financial support available to entrepreneurs is important enough to justify special attention. With only a few exceptions, the national teams that took part in GEM 2001 provided data on the venture capital industry for 2000 in their respective countries. These data form the basis of a special assessment of informal finance and venture capital in Section G of this report.

The total amount of venture capital for domestic start-ups in most of the GEM 2001 countries is presented in Chart F.09 as a percent of GDP for both 1999 and 2000. This excludes investment in companies outside the relevant country and in firms beyond the start-up phase, such as private equity provided for acquisitions, buy-outs, or later-stage expansions. The ranking of countries is similar in both years. In 2000, when there was a major increase in venture capital investment in information technology, telecommunications, and the Internet, Korea, Canada, US, and Israel had a level of investment in excess of 0.5 percent of GDP. For most countries the level remained below 0.2 percent of GDP.



Classic venture capital comprises investments in seed, early, startup, and expansion stage companies.

Chart F.09 Domestic Start-Up Support from Venture Capital, % GDP, 2000 GEM Countries

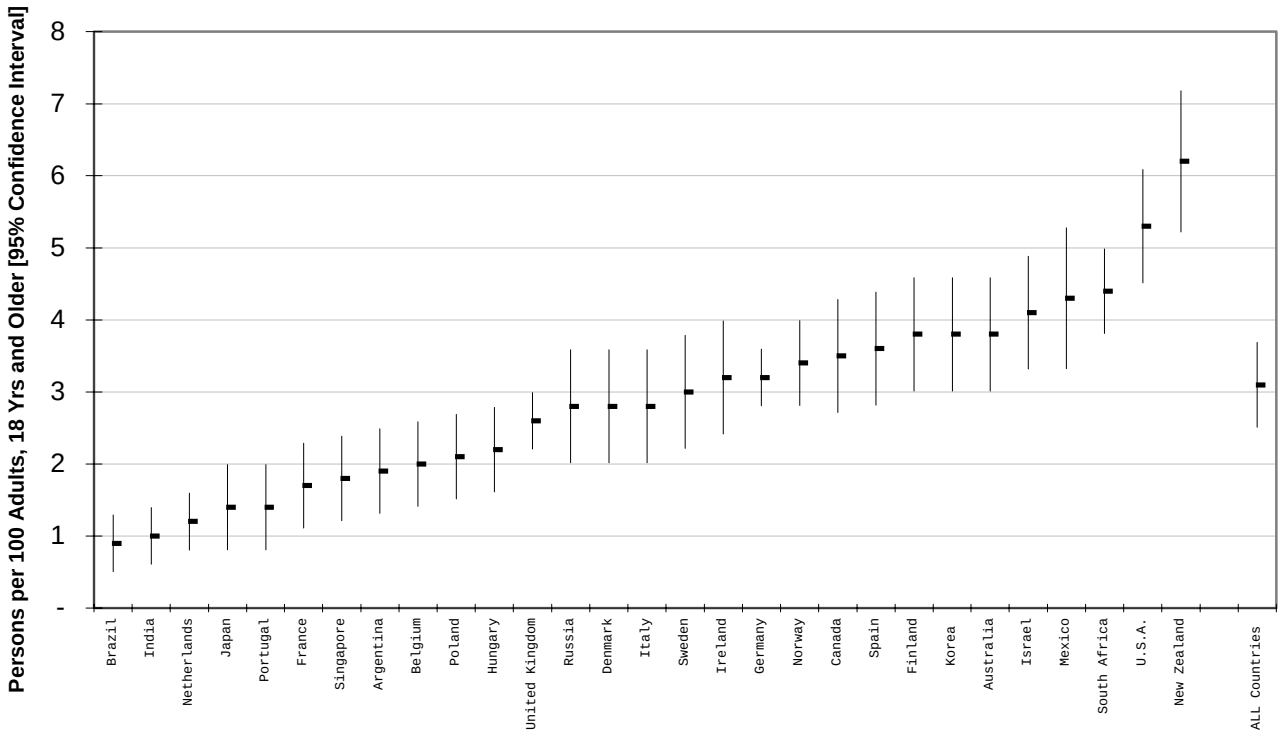


Chart F.10 Informal Investors' Prevalence Rate by Country

The GEM 2001 population survey included measures of the prevalence of informal investment. One survey item asked respondents whether they had invested in a start-up business that was not their own, excluding the purchases of stocks and mutual funds, over the previous three years. Those who reported any investments were also asked the amount they had invested. The prevalence rate of informal investors, or business angels, among the GEM 2001 countries is shown in Chart F.10. The variation is similar to that of other measures of entrepreneurial activity, with an average across all countries of around 3 percent.

Estimates of the combined total of domestic venture capital funds for start-ups and funds invested by informal investors are only available for 13 GEM 2001 countries. The amount invested for each member of the total adult population is presented in Chart F.11. It ranges from less than US$ 50 in South Africa to US$ 1,400 in the United States. The US figure is uniquely high due to the record US$ 100 billion of venture capital invested in information technology, telecommunications, and the Internet in 2000. This level of venture capital support in the US has not been sustained in 2001.

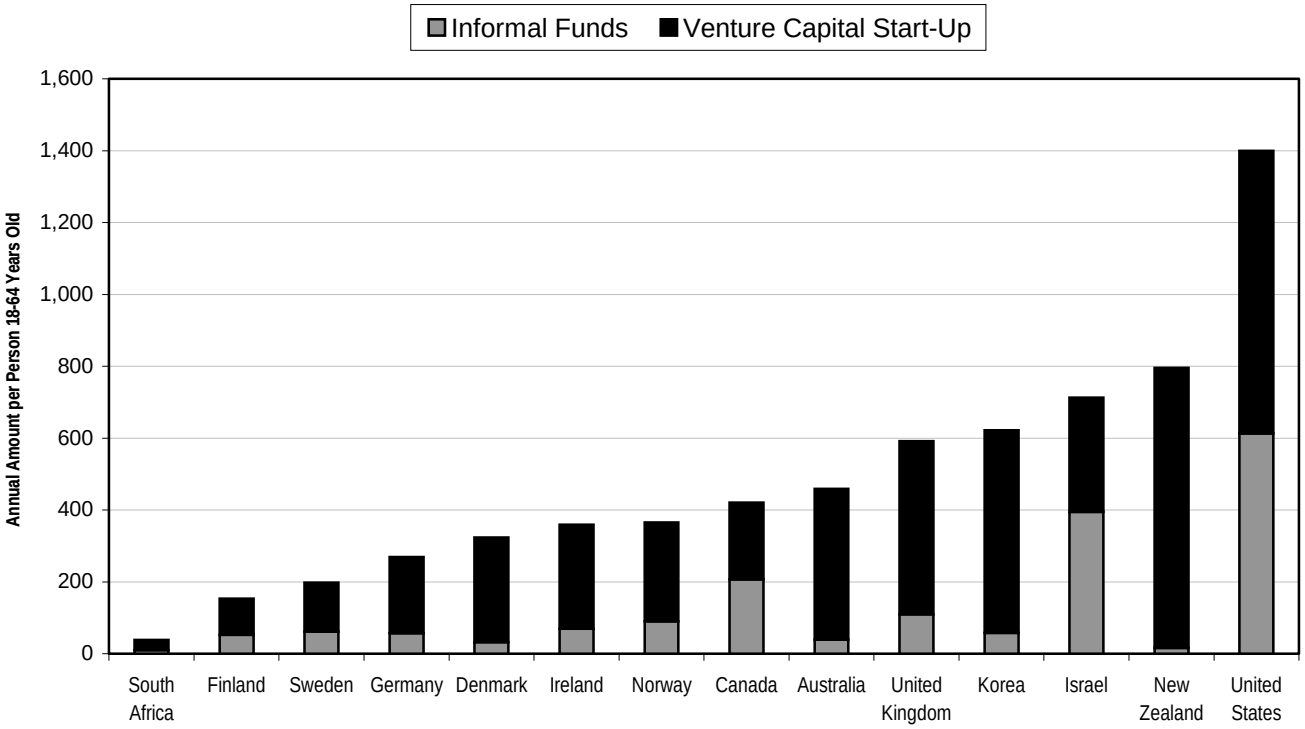


Chart F.11 Total Venture Capital and Informal Investments per Working Population (US$): Selected GEM 2001 Countries

In most countries, informal investment is considerably higher than formal venture capital investment, often by as much as 10 or 20 times. Venture capital funds tend to invest fairly substantial amounts in a relatively small number of start-ups, no more than 20,000 for all GEM 2001 countries. This is in contrast to the 147 million individuals involved in starting about 67 million new ventures (the average number of owners per start-up is 2.2; it is 2.0 for each new firm). At best, one in three thousand entrepreneurial ventures receives venture capital support. The primary source of initial financial support for start-ups remains informal funds from friends, family, and associates. An average of 3 percent of the adult population invests between US$ 5,000 and US$ 10,000 each year in start-up businesses. The informal funding this represents is significant, in the order of billions of dollars for millions of start-ups and new firms.

The association between the size of these financial flows and the level of entrepreneurial activity is presented in Table F.03. Three measures are shown: domestic venture capital funds available to start-ups; funds from informal investors; and the sum of the two sources. Each is expressed on a *per capita* basis for each member of the adult population. The prevalence rate of informal investors has a statistically significant and positive association with the TEA prevalence rate and a stronger relationship with both opportunity entrepreneurship and the prevalence of new firms. Total, formal, and informal investment are unrelated to the level of necessity entrepreneurship, suggesting that funding is not a major constraint for this type of entrepreneurship.

	TEA01 Overall	TEA01 Oppor-tunistic	TEA01 Neces-sity	Nas-cent Firms	New Firms
Informal Investors Preva-lence: 2001 [18 and older]	0.43*	0.59**	-.10	0.31	0.46**
VC Domestic Start-up Funds/18-64 Year Old [n=23]	0.01	0.06	-.25	-.09	0.12
Informal Financial Sup-port /18-64 Year Old [n=18]	0.20	0.38	-.20	0.04	0.37
Total VC and Informal Funding/18-64 Year Old [n=14]	0.32	0.34	0.05	0.22	0.34
* Statistical significance at 0.05 level.					
** Statistical significance at 0.01 level or better.					

Table F.03 National Financial Support and Entrepreneurial Activity

IMMEDIATE CONTEXT

The decision to embark on an entrepreneurial venture is an important and difficult one for any individual to make. The GEM model explicitly recognizes the immediate factors that are likely to impact upon the individual's decision. This includes perceptions as to the opportunities that exist, individuals' ability to undertake an entrepreneurial venture in terms of the business skills they possess, the level of motivation to become an entrepreneur, as well as expectations about the immediate economic conditions for the family and the country. These are subjective judgments and are best measured using survey techniques. The GEM population surveys therefore include questions to gauge respondents' perceptions on each of these four issues, as well as others. The survey results are supplemented by the views expressed by national experts in subsequent interviews. The resulting indicators are presented in Table F.04. As might be expected, judgments regarding business opportunities, capability, and motivation are most closely related to opportunity entrepreneurship.

	TEA01 Over-all	TEA01 Oppor-tunistic	TEA01 Neces-sity	Nascent Firms	New Firms
PERCEPTION OF OPPORTUNITY					
Adult survey: % yes business opportunity: 1999 [N=10]	0.79**	0.74**	-.02	0.45	0.64*
Adult survey: % yes business opportunity: 2000 [N=21]	0.21	0.40	-.05	0.25	0.09
Adult survey: % yes business opportunity: 2001 [N=29]	0.24	0.49**	-.16	0.20	0.23
Expert ratings: Opportunity Index: 2000 [n=21]	0.04	0.20	-.22	-.13	0.23
Expert ratings: Opportunity Index: 2001 [n=26]	0.07	0.26	-.24	-.07	0.26
POTENTIAL FOR ENTREPRENEURIAL ACTIVITIES					
Adult survey: Skills for Start-up: % yes: 2001 [n=29]	0.64**	0.73**	0.26	0.55**	0.56**
Expert ratings: New buss mgt index: 2000 [n=21]	0.31	0.25	0.23	0.16	0.39
Expert ratings: New buss mgt index: 2001 [n=26]	0.32	0.39*	0.10	0.18	0.42*
Adult survey:Know an entrepreneur: % Yes 2000 [n=21]	0.36	0.57**	-.20	0.19	0.45*
Adult survey:Know an entrepreneur: % Yes 2001 [n=29]	0.29	0.56**	-.25	0.13	0.44*
MOTIVATION TO ENTREPRENEUR					
Adult survey: Fear of failure: % no: 2000 [n=21]	-.16	-.40	0.22	-.12	-.16
Adult survey: Fear of failure: % no: 2001 [n=29]	-.01	-.12	0.17	-.05	-.05
Expert ratings: Society values indepen: 2000 [n=21]	0.23	0.41	-.19	0.04	0.39
Expert ratings: Society values indepen: 2001 [n=24]	0.26	0.32	0.06	0.21	0.25
Expert ratings: Accept job turbulance: 2001 [n=24]	0.12	0.36*	-.30	0.01	0.25
ECONOMIC FUTURE EXPECTATIONS					
Adult survey: Family economic future better: % 2001 [n=29]	0.42*	0.34	0.30	0.32	0.43*
Adult survey: Country economic future better: % 2001 [n=29]	0.27	0.15	0.38*	0.31	0.12
* Statistical significance at 0.05 level.					
** Statistical significance at 0.01 level or better.					

Table F.04 Short-Term National Features and Entrepreneurial Activity

Business Opportunities

The GEM surveys in 1999, 2000, and 2001 included the same question on the perception of opportunities for new business start-ups in the next six months.[12] The 2000 and 2001 surveys are supplemented by the reactions of national experts who were asked to give their assessment of the same opportunities in the form of a multi-item index. As seen at the top of Table F.04, the association between the percentage of adults that consider new business opportunities to exist and the various measures of entrepreneurial activity is generally positive. In fact, the data from the 10 GEM 1999 countries have a strong correlation of 0.74 with the prevalence of opportunistic entrepreneurship in 2001, some two years later. The relationship between the 2001 measure of perceived business opportunity and opportunistic entrepreneurship, which is significant and positive (0.49), is shown in Chart F.12. There is, however, no relationship between measures of perceived opportunity and necessity entrepreneurship. Expert ratings of business opportunities show a similar pattern, with the strongest association with the prevalence of new firms.

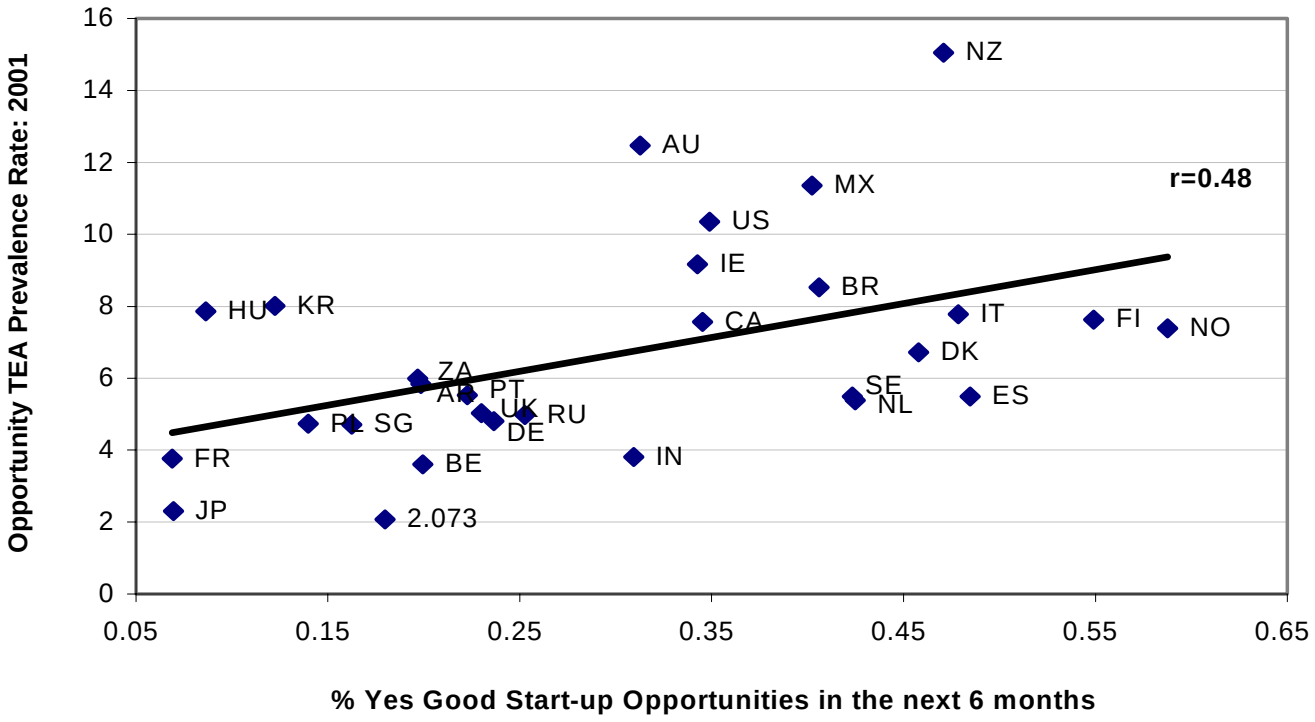


Chart F.12 Percentage Adults Report Good Business Opportunities, 2001 and TEA Opportunity Prevalence Rate, 2001

Entrepreneurial Capability

Entrepreneurial capability – possession of the skills, training or experience to start a new business – is represented by three different measures. Two measures are calculated from the responses to GEM surveys.[13] These give the proportion of adults, in the 2001 survey, that consider themselves to have the requisite skills, and the proportion, in the 2000 and 2001 surveys, that know an entrepreneur. It is assumed that knowing an entrepreneur gives an individual access to information on how to start and run a business. The third measure is derived from the judgment of national experts on the capacity of those in their country to implement and manage a new business.[14] This is available for 2000 and 2001 in the form of a multi-item index.

There are similar associations between all these measures and the various measures of entrepreneurial activity. Greater skills among the adult population are associated with higher levels of entrepreneurial activity, particularly among opportunity entrepreneurs and those involved with new firms. This is further illustrated in Chart F.13, which shows the relationship between the TEA prevalence rate and perceived skills. There is no statistically significant relationship between perceived skills and the prevalence of necessity entrepreneurship. Unlike opportunity entrepreneurs, those who become entrepreneurs out of necessity do so irrespective of whether they feel they have the necessary skills.

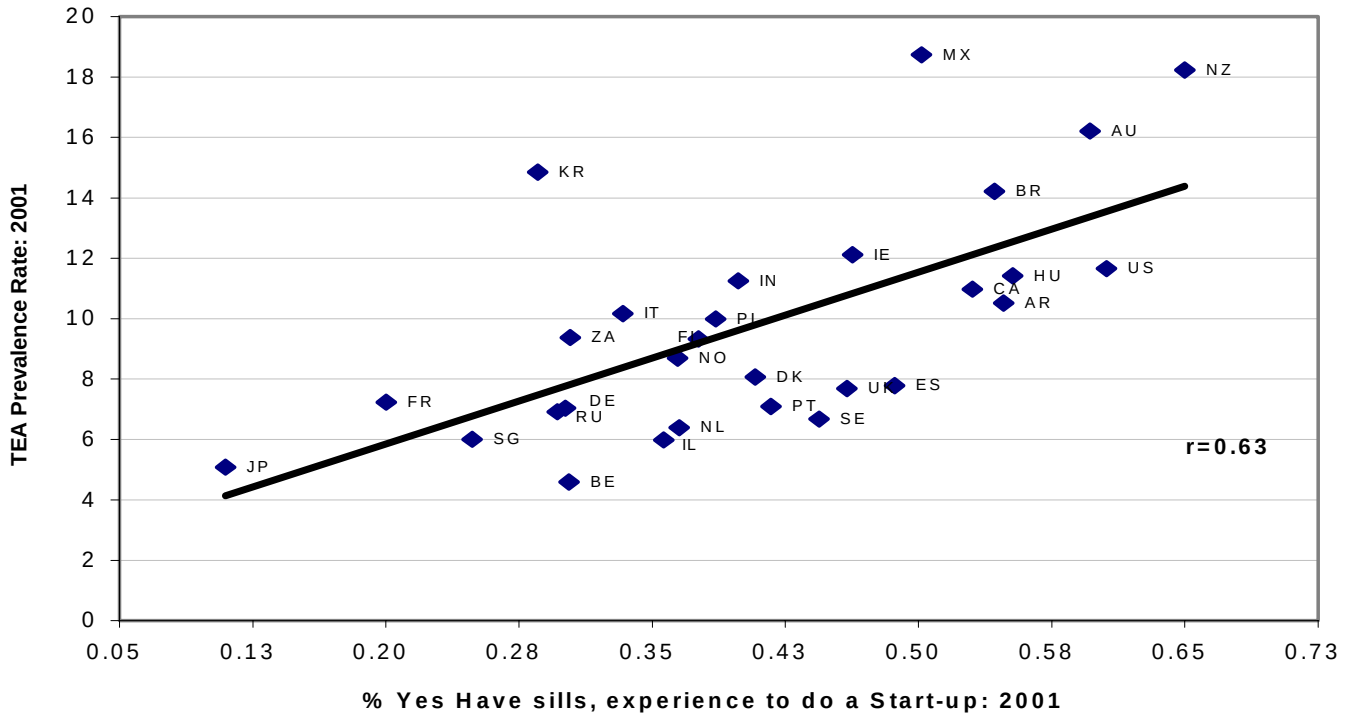


Chart F.13 Percentage Adults Reporting They Have Skills to Start a Business, 2001, and TEA Overall Prevalence Rate, 2001

Attitude to Entrepreneurship

Table F.04 includes a number of indicators of attitudes to entrepreneurship and what it entails. The GEM surveys in 2000 and 2001 asked respondents whether fear of failure would prevent them from starting a business. In addition, national experts provided ratings of the extent to which independent action was valued in their respective countries in the form of multi-item indices for 2000 and 2001[15]. In GEM 2001 national experts also rated the acceptance of turbulence in the job markets and career uncertainty in their countries.

In general, fear of failure reduces the prevalence of entrepreneurship. There is a moderate negative correlation (-0.40) between this measure in 2000 and opportunity entrepreneurship in 2001. In contrast, countries in which independence and autonomy are valued appear to have higher levels of opportunity entrepreneurship. There is a similar positive and statistically significant relationship between acceptance of job turbulence and the prevalence of opportunity entrepreneurship. Most of these relationships are suggestive, but not statistically significant, reflecting the difficulty of developing reliable measures of cultural and social values.

Future Economic Prospects

A further short-term influencing factor, again shown in Table F.04, is the degree of confidence expressed by individuals. Two measures are included, both drawn from the GEM surveys: expectations as to the economic prospects of the immediate family; and expectations as to the outlook for the wider economy.[16]

Those who expect the economic prospects for their family to improve are more likely to be involved in entrepreneurship. This is particularly true for the prevalence of new firms. The relationship between perceived prospects for the family and new firm prevalence, has a statistically significant correlation of 0.43. Causality is not clear, for the respondents may be pursuing entrepreneurial options because of an improving family situation or may expect the family situation to improve when the entrepreneurial initiative is successful. Expectations of improvement in the national economy may reflect an expectation that demand for goods and services will increase, enhancing the prospects for an entrepreneurial initiative. This seems to have a particularly high association with necessity entrepreneurship.

SUMMARY

An overview of the individual and contextual factors associated with entrepreneurial activity reviewed in Sections E and F is presented in Table F.05.

The direction of the relationship between all influencing factors and opportunity and necessity entrepreneurship is the same and statistically significant for eight factors. There are eighteen factors where there is no association with one and a significant association with the other, and three factors where the relationships are in opposite directions and statistically significant.

	TEA01 Overall	TEA01 Opportunis-tic	TEA01 Necessity	Nascent Firms	New Firms
INDIVIDUAL CHARACTERISTICS					
Men versus women	Positive	Positive	Positive	Positive	Positive
Age	Mid-career	Mid-career	Early career	Early career	Mid-career
Educational attainment	Positive	Positive	Negative	Negative	Positive
Working full time	Strong Positive	Strong Positive	Strong Positive	Strong Positive	Strong Positive
Higher household income	Positive	Positive	None	None	Positive
Perception of business opportunity	Strong Positive	Strong Positive	Positive	Strong Positive	Positive
Report skills to start-up	Strong Positive	Strong Positive	Strong Positive	Strong Positive	Strong Positive
Personally know an entrepreneur	Strong Positive	Strong Positive	None	Strong Positive	Strong Positive
Absence of fear of failure	Positive	Positive	Low Positive	Positive	Positive
Expect economic future to be better	Positive	Positive	Positive	Positive	Positive
LONG-TERM, BASIC FEATURES					
Level of development:	Negative	None	Strong Negative	Negative	None
Integration in world markets	Negative	None	Strong Negative	Negative	None
Economic structure: Agr emphasis	Positive	None	Strong Positive	Positive	Weak Positive
Economic structure: Manufactuirng emphasis	Negative	Negative	None	None	Negative
Economic structure: Service emphasis	None	None	Negative	None	None
Extent of economic security programs	Negative	None	Strong Negative	Negative	Negative
Population characteristics: % young adults	Positive	None	Positive	Positive	Positive
Role of women: Women empowered nationally	None	None	Negative	None	None
INTERMEDIATE-TERM FEATURES					
Global competitiveness measures	Negative	None	Strong Negative	Negative	None
New firm registration complications	None	Negative	Positive	None	Negative
Government presence in the economy	Negative	None	Strong Negative	Negative	Negative
Income inequality	Positive	Positive	Positive	Positive	Positive
Educational infrastructure	None	None	Negative	Negative	None
FINANCIAL ASPECTS					
Prevalence rate of informal investors	Positive	Strong Positive	None	Positive	Positive
Total VC and informal investors: 2000-2001	Positive	Positive	None	None	Positive
IMMEDIATE CONTEXTUAL FEATURES					
Perception of opportunity	Positive	Positive	None	None	Positive
Individual skill potential	Positive	Strong Positive	None	Positive	Strong Positive
Motivation: Acceptance of entrepreneurial efforts	None	Positive	None	None	Positive
Motivation: Expect economic situation to improve	Positive	Positive	Positive	Positive	Positive

Table F.05 Summary: National Features and Entrepreneurial Activity =

Six of the eight that are consistent are related to personal factors pertaining to the individual. An individual is more likely to be an entrepreneur if he is male, working, believes that business opportunities exist, and considers himself to possess the skills needed. He does not fear failure but personally expects the economic situation to improve. The other two factors, associated with higher overall levels of entrepreneurial activity, are greater income inequality and a general national expectation of an improvement in the economic situation.

Two of the three factors that have inverse associations with opportunity and necessity entrepreneurship are individual factors. Opportunistic entrepreneurship peaks among mid-career adults, while necessity entrepreneurship is highest among the youngest adults. Higher levels of educational attainment are associated with higher levels of opportunity entrepreneurship but with lower levels of necessity entrepreneurship. Onerous new firm registration is associated with lower levels of opportunistic entrepreneurship but with higher levels of necessity entrepreneurship. This may be an artifact of the presence of more onerous new firm registration procedures in developing countries.

Factors with a strong positive association with opportunistic entrepreneurship but with little effect on necessity entrepreneurship include higher household incomes, personal acquaintance of an entrepreneur, less reliance on manufacturing in the national economy, the availability of both informal and venture capital funds, the general perception of business opportunities, the existence of new business skills, and the social acceptance of entrepreneurship.

Factors with a strong positive association with necessity entrepreneurship and little effect on opportunity entrepreneurship include a low level of economic development, a lack of national integration into world markets, a strong emphasis on agriculture and less emphasis on the service sector in the national economy, a modest level of economic security benefits, a young workforce, less empowerment of women, a low global competitiveness rating, less active government in the economy, and less investment in education. These patterns reflect many of the distinctive features of developing countries where necessity entrepreneurship tends to be most prevalent.

The direction of the relationship between the factors affecting nascent firms and new firms is the same in all but two cases. The prevalence rate peaks among younger adults for nascent firms but among mid-career adults in the case of new firms. Individual educational attainment has a positive relationship with the prevalence of new firms but a negative relationship with the prevalence of nascent firms, a reflection of the strength of impact of necessity entrepreneurship for the young in developing countries. It is appropriate to assume that factors with a positive association with the prevalence of nascent firms will also have a positive association with the prevalence of the new firms – operating entities that will result from the start-up efforts.

CONCLUSION

The relationship between entrepreneurship and economic growth is a complex one. Much depends on the nature of the entrepreneurial activity, in particular on the motives behind it. Voluntary entrepreneurial endeavors, in pursuit of perceived opportunities, appear to have only a modest relationship with economic growth. Involuntary entrepreneurial activity, which is motivated by necessity and the absence of preferred employment options, appears to be positively related to economic growth. Some desirable features of modern economies, particularly the ability to offer economic and social security for all and expansions of the government role in the economy, are associated with less necessity entrepreneurship.

It is clear that these two types of entrepreneurial activity – necessity entrepreneurship and opportunity entrepreneurship – arise from a different set of circumstances and respond in different ways to different factors. Policies should take this into account. The level of economic development itself is a key determinant of the balance between necessity and opportunity entrepreneurship within a country. No single set of prescriptions will be optimal for all countries.

ENDNOTES SECTION F

1 GDP per capita is based on measures from the World Economic Outlook Data Base (see End Note 4). Human development index taken from the United Nations Development Program, Human Development Report 2000, NYC, United Nations, 2000.

2 See "Measuring Globalization," Foreign Policy, January/February 2001, pg. 56-65.

3 Data are taken from the World Bank, World Development Indicators, Washington, D.C., 2001, Table 2.3.

4 Data are from the International Labor Organization, World Labor Report 2000: Income Security and Social Protection in a Changing World, Geneva, International Labor Organization, 2000, Table 14.

5 Data are from Organization for Economic Cooperation and Development, Making Work Pay, Paris, France: OECD, 1997, Table 2, pg. 20; single and couple gross replacement rates for 1994/1995 were averaged for this analysis.

6 United Nations Development Program, Human Development Report 2000, NYC, United Nations, 2000.

7 Data are taken from the World Bank, World Development Indicators, Washington, D.C., 2001, Table 1.3.

8 See the World Economic Forum, The Global Competitiveness Report 2000, NY Oxford University Press, 2000.

9 Data are taken from Institute for Management Development, World Competitiveness Yearbook: 2001, Lausanne, Switzerland: IMD, 2001: employment, total and government, Table 1.4.01 and 1.4.06; total taxes collected as percent of GDP, Table 2.2.01; and personal income tax collected as a percent of GDP, Table 2.2.03.

10 Discussion and data taken from Djankov, Simeon, Rafael La Porta, Florencio Lopez-Silanes, and Andrei Schleifer. "The Regulation of Entry," National Bureau of Economic Research Working Paper 7892, September 2000.

11 Data are from World Development Indicators: 2001, Table 2.8.

12 The specific item, to be answered "yes" or "no," was "In the next six months, there will be good opportunities for starting a business in the area where you live?"

13 The specific item on skills used in GEM 2001 was "You have the knowledge, skill, and experience required to start a new business?" The item on knowing an entrepreneur used in GEM 2000 and GEM 2001 was "You know someone personally who has started a business in the past two years?" Both required a yes or no response.

14 The items in both the GEM 2000 and 2001 expert questionnaires included: "In my country … many people know how to manage a small business," "many people can react quickly to good opportunities for starting a new business," and "many people have the ability to organize the resources required for a new business." The reliability, Chronbach's Alpha, was 0.79 for both GEM 2000 and GEM 2001 data.

15 Two items are in this index. “In my country, most younger people believe they should not rely too heavily on the government,” and “in my country, younger people expect to change jobs and occupations many times before they retire.” Reliability, measured by Chronbach’s Alpha, is 0.49 for the GEM 2000 data and 0.52 for GEM 2001.

16 The items, taken from the ongoing Survey of Consumer Attitudes at the University of Michigan that is the basis for the consumer confidence index, were as follows: “Looking ahead, do you think that a year from now you and your family with you will be better off financially, or worse off, or about the same as now?” and “in a year from now, do you expect that in the country as a whole business conditions will be better or worse than they are at present, or just about the same?”

Section G

Special Topics: Informal Finance and Venture Capital (William G. Bygrave)

If entrepreneurs are the engines that drive new companies, financing is the fuel that propels them. The source of that financing depends on where the start-up lies on the entrepreneurship spectrum. At one end of the spectrum is the lone, self-employed person for whom eking out a living from a micro-business is better than no work at all. At the other end is the team of high-tech superstars with a high-potential opportunity that they believe will change the way in which we work, live, and play. In the middle are start-up ventures founded on opportunities that are more limited than high-potential ones but have the potential to become viable businesses that will eventually provide a comfortable living for the entrepreneur and, in some cases, full-time employees.

Micro-entrepreneurs, pushed into self-employment in order to survive, have few choices other than to finance themselves. Entrepreneurs pursuing an opportunity with modest potential usually obtain financing from informal investors – the Four Fs of Founders, Family, Friends, and Foolhardy investors. Superstars with extraordinary opportunities launch their businesses with financing from professional venture capital, strategic partners, and sophisticated angels, as well as the Four Fs.

The GEM study provides measures across the spectrum of start-up financing. Data on informal investment are derived from population surveys in each of the 29 participating countries. Data on formal venture capital investment are gathered from industry sources in each country.[1]

INFORMAL INVESTORS

One of the most striking findings of the GEM surveys is that informal investing is very extensive and the amount invested enormous (Table G.01). The overall prevalence rate of informal investors across all 29 GEM 2001 countries is 3.4 percent, ranging from 1.4 percent in Brazil to 6.2 percent in New Zealand.

Informal investors invest $196 billion a year in start-up and growing companies in the GEM countries, equivalent to 1.1 percent of GDP.

Viewed from another perspective, every adult in the GEM nations invests an average of $315 each year in a start-up or growing business. This level of informal investment per adult ranges from $9 in Brazil to $653 in New Zealand.

When the amount of informal investment for start-up and growing businesses is as much as one or two percent of a country's GDP, it is clearly a significant factor in the country's economy.

Informal investors put up more money for start-ups and growing businesses than professional venture capital firms in all GEM 2001 countries. Taking all countries together, informal investment accounts for 61 percent of total investment by both informal and formal venture capital investors. For every dollar of formal venture capital, approximately 1.6 dollars of informal capital is invested. The proportion of informal capital is highest in New Zealand, Australia, Denmark, and Korea, where at least 90 percent of funding comes from informal investors. The proportion is lowest in Israel, the United States, and Canada, where the proportion is less than 60 percent of the total.

	Classic Venture		Informal Investment			Classic Venture Capital & Informal Investment			
	Total classic VC invested domestically	Average annual VC investment per company	Prevalence of informal investors 20 years & older	Average annual informal investment per investor (1998-2001)	Total informal for country (20 years and older)	Informal & classic VC combined	Informal as a percent of combined	Average total per person (20 years and older)	Average total per GDP
	$US million	**US$ 1,000**	**Percent***	**US$**	**US$ million**	**US$ million**	**Percent**	**US $**	**Percent**
Argentina			2.0	2,724	1,323				
Australia	452	1,449	3.3	10,573	4,869	5,321	92	380	1.38
Belgium	278	1,117							
Brazil			1.4	690	998				
Canada	4,015	3,923	3.0	5,953	4,177	8,192	51	349	1.21
Denmark	106	800	3.4	6,899	957	1,062	90	261	0.66
Finland	166	633	3.6	2,257	315	481	65	123	0.39
France	2,562	1,198							
Germany	2,961	1,143	3.7	4,506	10,902	13,863	79	212	0.7
Hungary	29	1,040							
India	479								
Ireland	157	1,260							
Israel	1,269	2,473	3.8	7,070	1,023	2,292	45	602	2.2
Italy	1,103	2,917							
Japan	1,671	718							
Mexico			4.3	1,370	3,372				
Netherlands	689	2,075							
New Zealand	37	1,465	6.2	10,476	1,789	1,825	98	666	3.61
Norway	240	1,311	4.1	5,414	732	971	75	291	0.67
Poland	102	1,428							
Portugal	119	1,081							
Russia									
Singapore			1.5	14,335	702				
S. Africa	225	1,898	2.2	1,182	650	876	74	35	0.68
S. Korea	1,756	1,074	3.8	13,391	17,121	18,877	91	558	4.04
Spain	694	2,221							
Sweden	320	680	2.7	3,892	709	1,029	69	152	0.44
UK	3,857	5,141	2.8	13,860	17,026	20,883	82	467	1.47
USA	100,596	19,162	6.1	10,628	129,180	229,776	56	1,153	2.33
All Nations	123,882	6,319	3.4	8,111	195,844	308,562	61	611	1.83
* Data averaged for 2000 and 2001 may differ from Chart F.10.						Combined classic VC & informal totals and averages above include only nations with data for both classic and informal.			

Table G.01 Financial Support from Classic Venture Capital and Informal Investments

CLASSIC VENTURE CAPITAL

Classic venture capital investment is relatively rare. As many as 147 million adults are involved in start-ups or new businesses in the 29 GEM 2001 counties. But fewer than 20,000 start-ups and growing businesses received venture capital in the same countries in 2000.

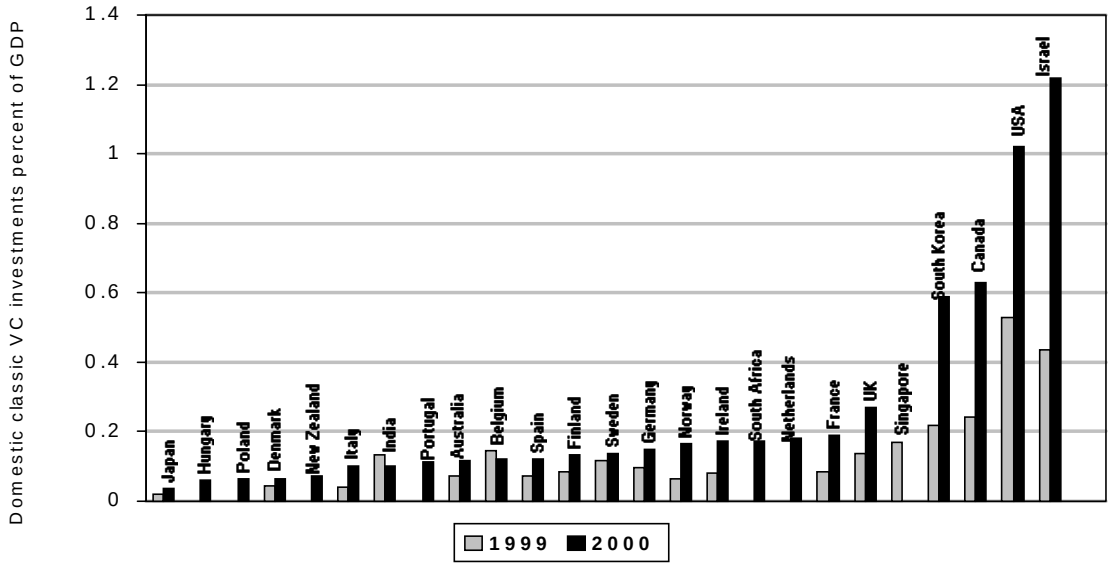
However, its impact is immense. A recent study by WEFA[2] found that 4.3 million new jobs have been created in the United States by companies originally backed by venture capital. The same companies generated $736 billion in revenues in 2000. Put another way, venture-capital-backed companies employed 3.3 percent of total workers in the United States and accounted for 7.4 percent of GDP. The study did not include companies backed by venture capital that were acquired by or merged with other companies. Had it done so, it is estimated that the new jobs created would have been 5.6 million and the revenue $9.56 billion. As well as generating impressive revenues and jobs, venture-capital-backed companies introduce new products and services that improve productivity and the quality of life.

Classic venture capital invested by domestic firms in 24 GEM 2001 countries in 2000 totaled $123.8 billion, 0.50 percent of GDP. [3] The majority, $100.6 billion, was invested in the United States. The proportion invested in the United States increased from 76 percent in 1999 to 81 percent in 2000.

As shown in Chart G.01, only two countries had levels of venture capital invested equivalent to over 1 percent of GDP in 2000. These were Israel (1.22 percent) and the United States (1.02 percent). In the majority of countries, venture capital investment represented less than 0.4 percent of GDP. All countries for which data are available, except for Belgium and India, saw significant increases in venture capital between 1999 and 2000. The increase was most marked in Israel, Norway, Canada, Italy, France, and Ireland, where venture capital investment doubled. A number of other countries saw increases of between 50 and 100 percent.

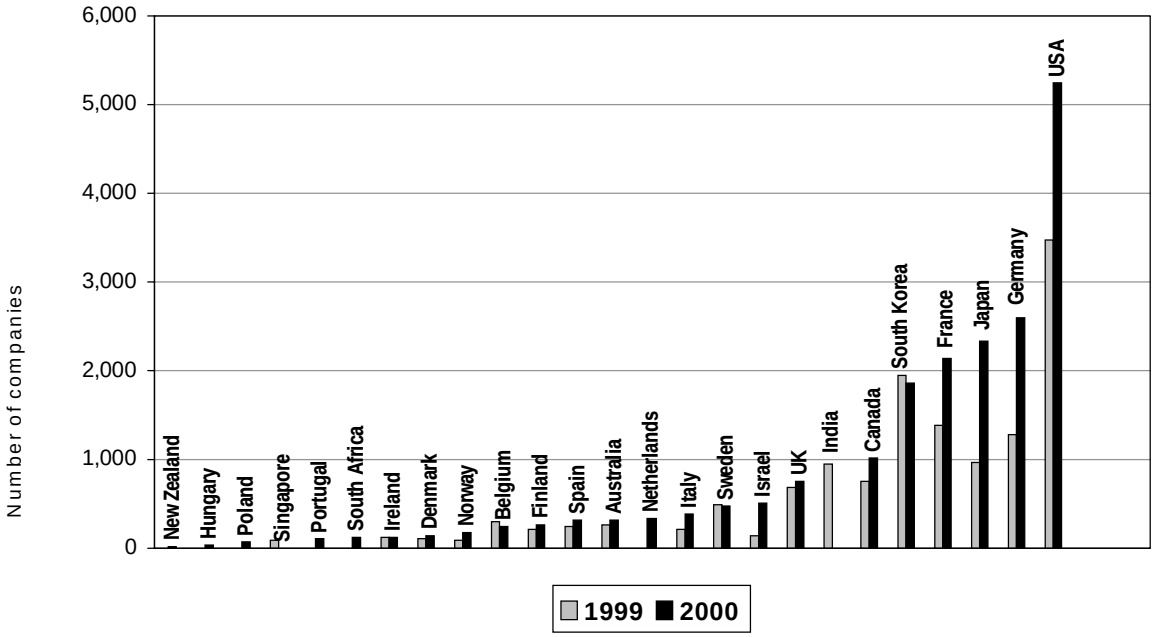
The distribution of companies backed by venture capital across the GEM 2001 countries is shown in Figure G.02. There were more companies receiving venture capital in 2000 than in 1999 in all GEM countries for which data are available for both years, except for Belgium, Ireland, and Sweden. The biggest increases in the number of companies receiving venture capital occurred in the United States, Germany, Japan, and France.

Only 5,250 out of the 14,319 companies that received venture capital investment in 2000 were located in the United States. Yet they garnered a whopping 81 percent of the total venture capital invested. The average amount invested per company was therefore substantially higher, at $19.2 million, than in any other country. Outside the United States, the average amount invested was $1.7 million, with average investments ranging from $0.63 million in Finland to $5.1 million in the United Kingdom. There was a substantial rise in the average size of investments between 1999 and 200 in most countries, except for Germany, Israel, Japan, and Belgium.



Classic venture capital comprises investments in seed, early, start-up, and expansion stage companies.

Chart G.01 Domestic Classic Venture Capital Invested: Percent of GDP



Classic venture capital comprises investments in seed, early, start-up, and expansion stage companies.

Chart G.02 Number of Companies Receiving Domestic Venture Capital in 2000

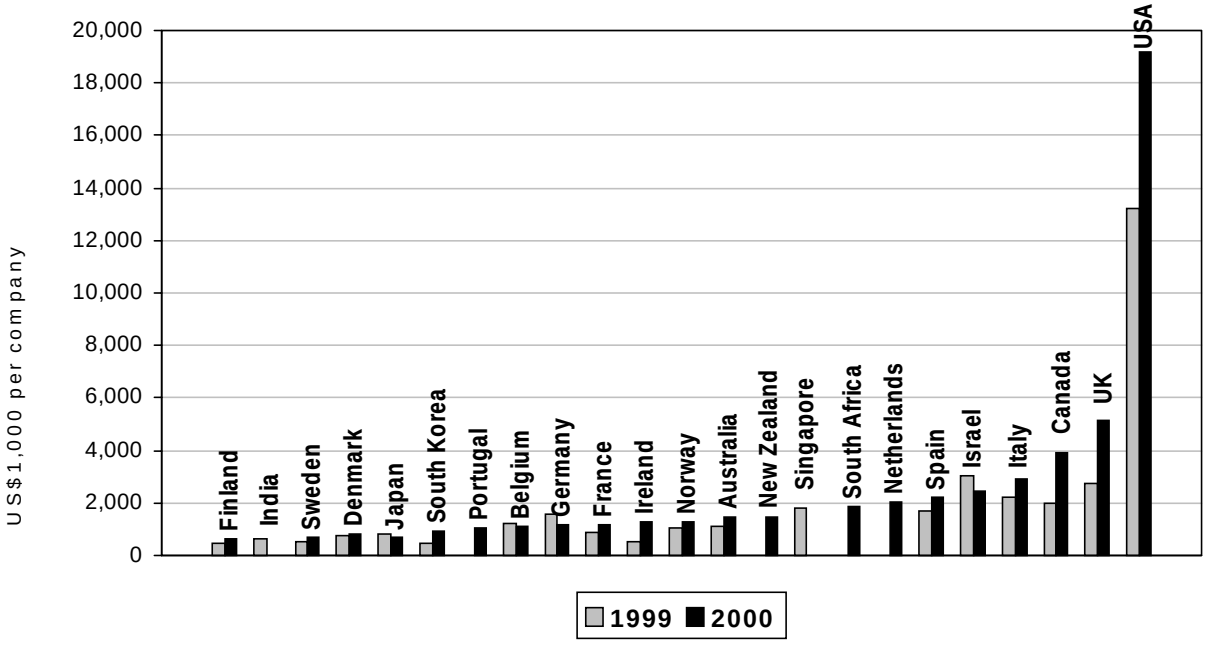


Chart G.03 Amount of Domestic Venture Capital Invested per Company ($1,000)

The large disparity between countries in the amounts invested in each company raises questions as to the competitiveness of these companies. The cost of starting and growing a business in many countries is likely to be similar to that in the United States, but, on average, US companies receive significantly more venture capital. They also have a larger domestic market for their products and services. Companies outside the United States, especially those competing in global technology markets, are likely to be at a serious disadvantage compared with their US counterparts.

End of the Gold Rush for Classic Venture Capital

There is no doubt that the last five years were a golden age for classic venture capitalists and the companies they invested in. It was golden both metaphorically and literally, as an ever greater number of venture capitalists and entrepreneurs appeared to have the Midas touch. Some of the financial gains from companies backed by venture capital were of mythological proportions. Benchmark Capital's investment of $6.7 million for 30 percent of eBay multiplied 10,000-fold in just two years. True, this set an all-time record for Silicon Valley, but there have been plenty of instances where investments increased at least a hundred-fold and in some cases a thousand-fold or more. With investments such as those, overall returns on classic venture capital soared, with the one-year return peaking at 143 percent at the end of the third quarter of 2000 compared with average annual returns in the mid-teens prior to the golden age.

As returns increased dramatically, the amount of classic venture capital invested in US companies shot up from around $5 billion in the mid-1990s to $101 billion in 2000. Investments in Internet-related companies rocketed from $0.5 billion in 1994 to $79 billion in 2000. By the end of the 1990s, Internet-related investments were driving the classic venture capital industry in the United States and were attracting more and more attention throughout the world.

The appetite of public investors for shares in Internet-related companies at the time of their Initial Public Offering (IPO) seemed to be insatiable. The 231 IPOs of venture-capital-backed companies in the United States raised a record $22 billion in 2000.

But as demand for shares in IPOs escalated, the quality of many of the companies floating those shares deteriorated, none more so than "dot-com" ventures. This became an increasing cause of concern to some observers, including GEM researchers. This is what we wrote in the GEM2000 USA report:

> *"Some pessimists are fretting that the new economy boom may end rather suddenly with a bust.[4] The gist of their argument is that the old economy business cycle has been replaced by a new economy technology cycle driven by financial markets. So when the financial markets for technology stocks turn bearish, the stocks prices of new economy companies – none more so than venture-capital-backed firms – will nosedive, the window for IPOs will close, venture capital returns will suffer a steep decline, and in turn commitments of new venture capital will dry up. This will shut off the principal source of cash that fuels the growth of young companies that are the leading innovators in the new economy. Hence the rate of innovation will slow, and along with it the rate of productivity growth. When productivity slows, inflation will rise, and a recession will follow.[5]*

What has happened in the 12 months since we wrote that? Late in 2000, a number of icons of the new economy – Intel, Dell, and Cisco among others – announced that incoming orders were slowing down. Likewise, up-and-coming public venture-capital-backed companies such as Akamai, Sycamore, Ariba, Ciena, and Juniper announced in the first quarter of 2001 that their revenue was growing at a slower rate than had been expected just a few months earlier, or worse, was shrinking. Internet-related share prices tumbled. The investors' retreat from public dot-coms, which began in the spring of 2000, became a rout by early 2001. Many were merged at fire-sale prices, and others shut their doors with huge losses to public investors and venture capital firms.

By the spring of 2001, the technology-laden NASDAQ had lost more than $3 trillion in market capitalization, with the NASDAQ index tumbling more than 60 percent from its record high only one year earlier. To put it mildly, the IPO market turned very bearish. In the first quarter of 2001, only 11 venture-capital-backed companies went public compared with 79 in the same period in 2000, and some of those that did, such as Loudcloud, turned out to be big disappointments for investors.

Venture capital returns plummeted, suffering a 21 percent loss for the six months ending March 31, 2001. That loss more than wiped out the gain in the previous six months so that the 12-month loss through March 31, 2001 was 6.7 percent – the first negative return ever recorded for any 12-month period. In the third quarter of 2001, there is little evidence that the situation is turning around. Closures of venture-capital-backed companies are continuing. Only nine venture-capital-backed companies went public in the second quarter of 2001.

The sudden, sharp slump in the new economy has not yet brought on a recession in the US economy. The US economy is sluggish, but it is not in a recession. It remains to be seen what will happen if the slump in the new economy continues.

The downturn for Internet-related companies would have been less severe if the sector had been driven by market demand for technology-based products and services rather than by the financial markets. Venture capitalists and investors would have been more discerning in their investments. They would have invested only in companies that had well-thought-out plans with reasonable expectations of profits in the foreseeable future, rather than business models that had no hope of producing profits as far as the eye could see.

More venture-capital-backed companies will be closing their doors. A severe shake out of the venture capital industry is also likely, with some of the unsuccessful firms – predominantly younger ones – closing down. However, it is important not to take too gloomy a view of the status of the classic venture capital industry in 2001. Prior to 2001, the two lowest annual returns were 1.4 percent in 1984 and 1.8 percent in 1990. In both years, as in 2001, a surge of investments in technology companies was accompanied by a hot IPO market that suddenly turned cold.

Venture capital veterans have been through cycles before and take a long-term view. This appears to be happening in this downturn. They still have ample funds to invest. Successful, more established firms continue to raise substantial amounts of money for new funds. But they have turned leery of investing in seed-stage companies. Instead, they are investing in follow-on rounds of financing in private companies that still show promise but are unable to raise money in the public markets.

If the pace of investing and fund raising in the second half of 2001 stays at the same level as the first half, then 2001 will be the third highest year on record in the United States. Venture capital investment will remain some 5 to 10 times higher than in the mid-1990s.

It is almost certain that the pattern of venture capital investment in the United States is being or will be repeated in other countries. Evidence already points to a slowdown in investment and greater emphasis on later stage companies.

However, one encouraging aspect of the present situation is that the well-publicized failure of many venture-capital-backed companies has not significantly dampened general enthusiasm for entrepreneurship. In most countries for which year-on-year comparisons can be made, the prevalence of entrepreneurial activity has held steady as has the amount of informal investment.

ENDNOTES SECTION G

1. Data on venture capital were obtained from industry sources, government sources, the National Venture Capital Association, the European Venture Capital Association, the *Australian Venture Capital Journal*, and the *Venture Capital Journal*.

2. www.nvca.com/nvca050201.html

3. Venture capital data for Argentina, Brazil, India, Mexico, Russia, Singapore, and South Korea were not available for 2000 when this report was being written.

4. Mandel, Michael J., *The Coming Internet Depression: Why the High-Tech Boom Will Go Bust, Why the Crash Will Be Worse Than You Think, and How to Prosper Afterwards.* New York: Basic Books, 2000.

5. *Business Week*, October 9, 2000. Pp.173-178 & p.226.

Section H

Special Topics: Research and Development Activity (Erkko Autio and Riikka-Leena Leskelä)

Research and Technological Development (RTD) is inextricably linked with economic growth. According to modern economic growth theories, economic growth is ultimately driven by the search of new ideas by profit-seking innovators.[1] The greater the investment in RTD, the greater should be the rate at which new innovations are produced. Innovations then translate into economic growth.

While theories of economic growth agree on the causal role of technology, they remain silent about the organizational forms through which growth is generated. Even though Schumpeter (1912) assigned this task to entrepreneurs who start new firms, he later revised his theory and assigned this key role to large, established firms who could afford long-term Research and Development (R&D) projects.[2] This change of mind coincided with the invention of the industrial R&D department in the 1940s.

The empirical evidence on the relationship between RTD and entrepreneurship appears mixed. Available data on and analysis of RTD and new firm activity suggest that some industry sectors may be more conducive to the creation of technology-based new firms than others.[3] On the one hand, for example, many information technology sectors, such as packaged computer software, tend to be populated by new and small firms. On the other hand, pharmaceutical industries tend to require such massive investments in R&D that even the largest pharmaceutical corporations often struggle to keep up with the pace of technological development.

Using GEM 2001 data on entrepreneurial activity and data on innovation and RTD activity, it is possible to explore the possible relationships between them. Consistent with recent theories of innovation, indicators of innovation[4] can be classified into those related to input, process, and output. Input indicators comprise various resource and knowledge inputs into basic and applied research. Process indicators relate to interactions between the various institutions involved in innovation. Output indicators describe the outputs of innovative processes. A further set of relevant indicators include the sophistication of technology infrastructure and the degree of protection of intellectual property rights (IPR).

FINDINGS

Wide differences in RTD reflect the diversity among the 29 GEM 2001 countries. National expenditure on RTD in 1999, as a proportion of GDP, ranged from 0.5 percent in Argentina to 3.9 percent in Israel. The average for all 29 GEM countries was 1.9 percent. After Israel, the countries with the highest levels of R&D spending were Sweden (3.8 percent), Finland (3.3 percent), and Japan (3.1 percent).

Total income from royalties and license fees in 1999, as a proportion of GDP, also vary greatly. Royalties and license fees ranged from 0.1 percent of GDP in Argentina and India to 0.6 percent in the Netherlands, the United Kingdom, and Sweden, with an average for all GEM countries of 0.2 percent.

The output of national RTD activity also varies significantly between countries, as do indicators of technology infrastructure. The number of scientific and technical journal articles per 100,000 people ranged from 0.87 in India to 96 in Israel, with an average of 42 articles per 100,000 people. Per capita computing power, in terms of Millions of Instructions per Second (MIPS) per 1,000 people in 1998,

ranged from a low of 513 in India to a high of 96,000 in Sweden.

The relationships between the various measures of RTD activity and four measures of entrepreneurial activity – the TEA prevalence rate, opportunity entrepreneurship, necessity entrepreneurship, the prevalence of firm-sponsored start-ups – are presented in Table H.01.

As Table H.01 shows, results for the TEA prevalence rate appear to suggest that there is little or no relationship between RTD and entrepreneurial activity. The only significant correlation to emerge is the negative association between the change in technology imports and entrepreneurial activity, which indicates a possible import substitution effect, whereby technology imports displace entrepreneurial activity.

However, the situation changes when opportunity and necessity entrepreneurship are treated separately. There are significant correlations between opportunity entrepreneurship and several RTD indicators: computing power; enrollment in tertiary education; spending on information technology;

	TEA Overall	*TEA Opportunity*	*TEA Necessity*	*Firm-Sponsored Start-Ups*
National RTD System Input Indicators				
Computer Power per capita (MIPS per 1,000 People), 1998	0,03	**0,35**†	**-0,58*** **	0,31
Gross School Enrollment in Tertiary Education, 1996	0,23	**0,48***	**-0,40***	**0,42***
Information and Technology Expenditure as % of GDP, 1999	0,17	**0,39**†	**-0,33**†	0,29
Total Expenditure in R&D as % of GDP, 1999	-0,33	-0,21	**-0,49****	-0,14
Total R&D Personnel per 1,000 People, 1999	-0,31	-0,04	**-0,61*** **	-0,27
National RTD System Process Indicators				
GEM Technology Transfer Index, 2001	-0,04	0,02	-0,39	0,14
Number of Science Parks, 1999	-0,39	-0,20	**-0,58***	-0,37
Royalties and License Fees as % of GDP, 1999	-0,27	-0,07	**-0,51****	-0,04
National RTD System Output Indicators				
High-Technology Exports as % of Manufactured Exports, 1999	-0,04	0,09	**-0,34**†	0,11
Nobel Prizes per capita, 1901-2000	-0,20	0,03	**-0,45***	0,03
Number of Patents in Force per 100,000 People, 1998	-0,31	0,00	**-0,54***	-0,15
Percentage Change in High-Tech Exports, 1995-1998	0,22	0,32	**-0,45**†	0,23
Percentage Change in High-Tech Imports, 1995-1998	**-0,61***	**-0,55***	-0,34	**-0,53***
Scientific and Technical Journal Articles per 100,000 People, 1997	-0,17	0,10	**-0,66*** **	0,05
National RTD System Infrastructure Indicators				
Internet Hosts per 10,000 People, July 2000	0,25	**0,53****	**-0,38**†	**0,56*** **
Mobile Telephones per 1,000 People, 1999	-0,22	0,03	**-0,60*** **	-0,06
Personal Computers per 1,000 People, 1999	0,04	**0,35**†	**-0,56*** **	0,27
Intellectual Property Protection Index				
GEM Intellectual Property Protection Index, 2001	0,28	**0,47***	-0,28	**0,44***

Note: Countries with very high import-export ratio excluded. Ireland and Mexico included.

† Significant at the 0,1 level (2-tailed test)
* Significant at the 0,05 level (2-tailed test)
** Significant at the 0,01 level (2-tailed test)
*** Significant at the 0,001 level (2-tailed test)

Table H.01 Correlations Between Entrepreneurial Activity and National Innovation System Indicators

the number of internet hosts; the number of personal computers; and the change in technology imports. These associations are in the expected direction, with increases in input, infrastructure, and IPR protection indicators associated with higher levels of opportunity entrepreneurship.

The clearest associations can be observed with necessity entrepreneurship. All correlations point to the same direction: the greater the technological sophistication of an economy or the greater the resources allocated to RTD, the lower the level of necessity entrepreneurship. The correlations are quite strong and consistent, suggesting a clear association between necessity entrepreneurship and national RTD activity.

CONCLUSIONS

These observations are consistent with the GEM model: increased investment in RTD appears to be associated with higher levels of opportunity entrepreneurship. As Table H.01 shows, part of the effect is channeled through the corporate sector. In general, the relationships between indicators of RTD activity and firm-sponsored start-up activity appear quite similar to those for opportunity entrepreneurship.

The findings are also consistent with received theories on endogenous economic growth and with empirical observations of the relationship between RTD and entrepreneurial activity in different industry sectors. The numerous significant relationships between RTD indicators and necessity entrepreneurship suggest that RTD activity creates wealth: the greater a country's investment in RTD, the smaller the number of involuntary start-ups. It is also possible that greater RTD activity in more developed countries reduces the level of necessity entrepreneurship directly by creating new jobs.

The apparently weaker effects on opportunity entrepreneurship are not inconsistent with received empirical observations on innovation among small firms in different industry sectors. In some sectors, investment in RTD is predominantly carried out by large, established firms, while in other sectors, it is more the preserve of smaller technology start-ups. At a national level, differences between sectors may mask the complex relationships between national RTD activity and opportunity entrepreneurship.

The relationship between RTD activity and entrepreneurial activity appears to be highly complex and varied. It is clear that more data and more sophisticated analysis are required to uncover these relationships.

ENDNOTES SECTION H

1. Romer, P. (1990). "Endogenous Technological Change." Journal of Political Economy **98**: 71-102.

2. Schumpeter, J.A. (1996). The Theory of Economic Development. London, UK: Transaction Publishers.

3. Acs, Z.J. and D.B. Audretsch (1988). "Innovation in Large and Small Firms – an Empirical-Analysis." American Economic Review **78**(4): 678-690.

4. Lundvall, B.A. (ed.) (1992). National Systems of Innovation: Toward a Theory of Innovation and Interactive Learning. London: Pinter Publishers.

Section I

National Assessments: Expert Interviews

The creation of new firms, whether out of necessity or opportunity, is the essence of entrepreneurship. This fact is universal. However, as GEM has revealed, there are considerable differences from country to county in the levels of entrepreneurship each country is able to sustain and the context in which entrepreneurship flourishes. We know that, in most instances, more entrepreneurship is better than less, and countries may struggle with the means to increasing the level of entrepreneurship activity in their nations. Some of this struggle is due to very deeply rooted cultural issues that may take decades to address through standard policies, programs, and practices. Some of the lag, however, is simply due to the steepness of the learning curve regarding what makes a country entrepreneurial.

The GEM global comprehensive assessment provides the first cross-national assessment of the factors that can be manipulated to increase the entrepreneurial activity of its citizens. These issues are not well known and they are not always uniform across cultures. More importantly, they are difficult to understand except when taken with a deep qualitative assessment of the conditions that shape the entrepreneurial climate in a country. Imagine considering the cross-national patterns in issues such as access to financial capital, quality and availability of government programs, market openness, quality and value added of education systems, etc. These issues all vary by national context and must be interpreted from a national perspective when setting national policy.

As in previous years, the GEM 2001 assessment included semi-structured face-to-face interviews with experts on entrepreneurship within each country. This year, over 950 such informants were interviewed for their unique expertise in one or more of the nine entrepreneurial framework conditions outlined in the GEM model. The interviews constitute a rich data source for identifying and assessing the major entrepreneurial issues in each country and a unique basis for cross-national comparisons. The observations provided in these interviews provide a rich in-depth perspective only available through a qualitative research protocol. Such a perspective goes beyond simply counting and involves searches for the patterns across each of the nine entrepreneurial frameworks and between experts for systematic indicators of global issues. Defining such issues can contribute to understanding why one country is more entrepreneurial than another even though countries might enjoy similar levels of economic prosperity. This may help set a globally relevant policy for making countries more entrepreneurial.

The GEM national research teams provided summaries of the face-to-face interviews. These identified the experts' selection of the primary issues facing their country and the three most significant problems challenging the level of entrepreneurship. The summary sheets were coded by the GEM coordinating team and content analysed to determine (1) how frequently a particular issue was mentioned and (2) how serious the issues were for each of the nine framework factors. This systematic procedure provided an opportunity to see patterns common to all countries as well as the individual conditions that make a country unique. This rich perspective is unprecedented and one of the many features that makes GEM the premier global platform for debating global policy conditions and practices.

The findings from this year's assessment are unique in many respects. However, one of the more significant ways is the degree to which the level of necessity entrepreneurship clearly links to economic growth. Many of the countries, however, with the highest levels of necessity entrepreneurship also have unique cultures and some are not supportive of entrepreneurship. In this section we explore the contextual factors that have been most supportive of entrepreneurship as well as the issues that limit each country from enhancing its level of entrepreneurial activity.

DEFINING THE GLOBAL LANDSCAPE

Data were analyzed from the interview summary sheets. These detailed the three most important conditions supporting entrepreneurship, the three most significant problems facing the country, and the three most important success stories characterizing the attempts made to improve national conditions for entrepreneurship. The first phase of the analysis consisted of a count of the three most important issues raised in each country. This gives a basis of comparison with data obtained through interviews in GEM 2000 and defines the common global landscape for entrepreneurship. As is evident in Table I.01, the rank order of the three most frequently cited issues are a) cultural and social norms, b) financing, and c) government policies. Interestingly, these issues were ranked highest in the GEM 2000 analysis, though in a different rank order (government policies ranked second). Given the close similarity between the rank order of 1999, 2000, and 2001, it is clear that these three issues dominate the international scene.

POLICY-RELEVANT ISSUES

Through in-depth content analysis, the specific issues highlighted in each of the primary issues' areas were assessed. Analysis of the most frequently cited issues gives a clear indication, not only across countries, but also within issues, regarding what specific environmental constructs are determining the

	1st	2nd	3rd
Finland	CULTURAL SOCIAL NORMS	EDUCATION AND TRAINING	FINANCIAL SUPPORT
USA	GOVERNMENT POLICIES	EDUCATION AND TRAINING	CULTURAL SOCIAL NORMS
Belgium	FINANCIAL SUPPORT	GOVERNMENT POLICIES	CULTURAL SOCIAL NORMS
UK	CULTURAL SOCIAL NORMS	FINANCIAL SUPPORT	GOVERNMENT POLICIES
Denmark	CULTURAL SOCIAL NORMS	GOVERNMENT POLICIES	EDUCATION AND TRAINING
Germany	FINANCIAL SUPPORT	CULTURAL SOCIAL NORMS	GOVERNMENT POLICIES
Scotland	CULTURAL SOCIAL NORMS	EDUCATION AND TRAINING	GOVERNMENT POLICIES
Italy	FINANCIAL SUPPORT	GOVERNMENT POLICIES	EDUCATION AND TRAINING
Argentina	GOVERNMENT POLICIES	FINANCIAL SUPPORT	GOVERNMENT PROGRAM
Sweden	CULTURAL SOCIAL NORMS	GOVERNMENT POLICIES	EDUCATION AND TRAINING
Singapore	FINANCIAL SUPPORT	GOVERNMENT POLICIES	GOVERNMENT PROGRAM
Hungary	GOVERNMENT POLICIES	CULTURAL SOCIAL NORMS	FINANCIAL SUPPORT
Brazil	EDUCATION AND TRAINING	GOVERNMENT POLICIES	CULTURAL SOCIAL NORMS
Norway	FINANCIAL SUPPORT	EDUCATION AND TRAINING	CULTURAL SOCIAL NORMS
New Zealand	CULTURAL SOCIAL NORMS	FINANCIAL SUPPORT	EDUCATION AND TRAINING
Japan	CULTURAL SOCIAL NORMS	FINANCIAL SUPPORT	EDUCATION AND TRAINING
Ireland	CULTURAL SOCIAL NORMS	GOVERNMENT POLICIES	FINANCIAL SUPPORT
Netherlands	EDUCATION AND TRAINING	CULTURAL SOCIAL NORMS	GOVERNMENT POLICIES
Australia	CULTURAL SOCIAL NORMS	FINANCIAL SUPPORT	EDUCATION AND TRAINING
Portugal	CULTURAL SOCIAL NORMS	EDUCATION AND TRAINING	GOVERNMENT POLICIES
South Africa	EDUCATION AND TRAINING	FINANCIAL SUPPORT	CULTURAL SOCIAL NORMS
Mexico	GOVERNMENT POLICIES	EDUCATION AND TRAINING	FINANCIAL SUPPORT
Spain	FINANCIAL SUPPORT	CULTURAL SOCIAL NORMS	GOVERNMENT POLICIES
India	GOVERNMENT POLICIES	FINANCIAL SUPPORT	CULTURAL SOCIAL NORMS
France	CULTURAL SOCIAL NORMS	EDUCATION AND TRAINING	FINANCIAL SUPPORT
Israel	GOVERNMENT POLICIES	FINANCIAL SUPPORT	EDUCATION AND TRAINING
ALL	CULTURAL SOCIAL NORMS	FINANCIAL SUPPORT	GOVERNMENT POLICIES

Table I.01 Experts' Identification of Three Most Important Issues by Country

entrepreneurial landscape.

Culture and Social Norms

Across the 29 countries in GEM 2001, the most pressing issue with respect to cultural and social norms is the general attitude of the public toward entrepreneurship. This includes the public's attitude toward, support of, and understanding of the importance of entrepreneurship in society. In nearly every country, this attitude was mentioned as one of the greatest inhibitors or enhancers of entrepreneurship. The specific issues include the social legitimacy of entrepreneurship, the value the society places on self-employment, and the reward for individualism.

There was, in addition, substantial concern for the way in which societal norms impacted entrepreneurial behavior. In several European countries, for instance, the experts were clear that society's negative posture with respect to creativity, innovation, and tolerating change significantly reduces the number of people engaged in starting new firms. For many such countries where the societal norms are opposed to entrepreneurial traits, there is little regard for personal characteristics that define the entrepreneurial mindset, including self-confidence, self-reliance, personal drive, and a strong internal locus of control.

There was some additional concern about the issues of attitudes toward risk taking and failure. There is little understanding of what actually motivates individuals to take risks but it is clear that a culture that rewards risk taking is more inclined to support higher levels of entrepreneurial activity. A willingness to accept failure also tends to associate with encouraging risk taking. There are countries where there is an understanding that innovation and entrepreneurship is risky and that if they are going to benefit from entrepreneurship they must be willing to accept some failures. However, many in these countries shun failure and consider the entrepreneur who terminated a business a personal disgrace.

Financial Support

The overriding issue that dominates the global landscape concerning financial support for entrepreneurial endeavors is the lack of adequate supply of risk capital. This includes issues associated with too little capital, too difficult to access, not appropriately structured for all stages of venture development, and the lack of understanding of how to determine and time financial needs. This issue clearly speaks to the performance of new ventures. Undercapitalization is blamed for as much as half of the failures for new entrepreneurial businesses in the US. Inadequate capitalization can be caused by all of these factors, in addition to poor management.

The other two financial support issues that show clear patterns across countries are associated with adequate equity capital and the inherent risk aversion capital providers, particularly banks, have for risky start-up efforts. These two issues are associated with cultures that do not tolerate failures and are suspicious of entrepreneurs. The funding necessary to start innovative entrepreneurial ventures is just not adequate. This risk aversion tends to create the appearance of a "capital gap," in that the funds needed to adequately finance a young growing venture are not readily available at the time the venture needs them most. When the venture has struggled but has reached a point of critical mass and needs fewer dollars for working capital, funds appear to be in adequate supply and are less costly.

Government Policies

Across experts in all GEM 2001 countries, a top priority limiting the level of entrepreneurial activity is the amount and extent of government regulations. The regulatory burden for starting and growing new businesses in some countries severely inhibits entrepreneurial activity. The regulatory demands put an undue burden on the fledgling businesses in terms of time and cost of compliance, excessive intrusion into personal and business affairs, and an enormous learning curve to understand what policies apply to their business situation and how to comply administratively. Taxation, as a specific form of regulatory burden, was mentioned less frequently though when it was mentioned, the respondents were adamant about the fact that excessive taxation of options, profits, and personal distributions impedes entrepreneurial activity.

Another specific area mentioned frequently by all experts included the government's direct support for entrepreneurship and the impact of broad national policy on the level of entrepreneurial activity. Though few policies directly relate to entrepreneurship, those that do are believed to have significant impact. When governments lack support for small business and entrepreneurship in a general policy context, it suggests that the government is not aware of the significant contribution entrepreneurship makes. When the national government is supportive through its policies, there tends to be a higher overall level of support across the country. As such, government policy can play a strong advocacy role for increasing the level of entrepreneurial activity. This includes tax incentives as well as government procurement programs that set aside a proportion of all purchases to small business. While few experts reported any direct government hostility toward entrepreneurship, many suggested that when the government is silent on the issue it is perceived as a lack of support.

It is also very evident to the national experts that the general government policies on business practices have a significant impact on the level of entrepreneurial activity and the ability of new firms to survive and prosper. In particular are policies on health care, industry deregulation, competition and fair trade, intellectual property, minimum wage and other labor practices, and export trade. It is the opinion of many experts in all countries that governments enact policies and legislation around these types of issues with little or no regard for how they impact the small and entrepreneurial sector. Most of the limitations are on existing businesses and their ability to perform at peak levels and grow substantially. Seldom do government policies actually limit the number of new ventures attempted.

PATTERNS BETWEEN COUNTRIES

The primary issues that support or hinder the national level of entrepreneurial activity include the nature of culture and social norms, financial support, and government policies. We have also explored specific issues within each of these areas that tend to establish a global policy agenda. Where a particular country stands on a particular issue, however, might in some way be dependent on that country's level of entrepreneurial activity. We conducted an in-depth assessment of the many individual issues identified, looking for patterns between countries with high levels of entrepreneurial activity and countries with low levels of activity. The comparisons help reveal the contextual factors that are most supportive of entrepreneurial activity. This may help countries planning to enhance the level of entrepreneurial activity to establish policy priorities.

For this analysis we separated the countries into two groups: high and low levels of activity – the results are shown in Table I.02. High included any country equal to or above the median prevalence rate, while low countries consisted of those below the median prevalence rate on the Total Entrepreneurial Activity (TEA) Index. Low entrepreneurial countries included Belgium, Denmark, France, Germany, Ireland, Japan, Netherlands, Portugal, South Africa, Spain, Sweden, and the United Kingdom. High entrepreneurial activity countries included Australia, Brazil, Hungary, Italy, Mexico, New Zealand, and the United States. Although all GEM 2001 countries are included in the TEA index, some countries were not able to compile their data in time for this report and as such were not included in this comparative analysis. The issues are compared within each of the three primary framework factors identified earlier: culture and social norms, financial support, and government policies.

Less Entrepreneurial Activity	***More Entrepreneurial Activity***
Belgium	Australia
Denmark	Brazil
France	Hungary
Germany	Italy
Ireland	Mexico
Japan	New Zealand
Netherlands	United States
Portugal	
South Africa	
Spain	
Sweden	
United Kingdom	

Table I.02 Countries Above and Below the Average of Total Entrepreneurial Activity: 2001

CULTURE AND SOCIAL NORMS

Differences

As summarized in Table I.03, the perceived need for role models is greater in the least entrepreneurially active countries. There are also more comments about ethnic and gender discrimination. While the more entrepreneurially active countries are looking for ways to encourage women and minorities to be more entrepreneurial, experts in less entrepreneurially active countries comment on the efforts to get society to simply accept racial and ethnic and gender diversity. These less entrepreneurially active countries may be generations away from encouraging minorities and women to engage in self-sufficient behaviors in a public setting for personal gain.

	Differences	Common themes
More entrepreneurial activity	Encourage women and minorities to be more entrepreneurial Create mindset of creativity and innovation	Increase respect for entrepreneurs
Less entrepreneurial activity	Need for role models take over. Instill elementary aspects of entrepreneurial mindset	Lower fear of failure Modify perception of wealth creation

Table I.03 Experts' Evaluations: Cultural and Social Norm Themes by Level of Entrepreneurial Activity

Entrepreneurially more active countries seem to encourage a mindset of creativity and innovation to accelerate the entrepreneurship process; less entrepreneurially active countries are trying to instill the elementary aspects of the entrepreneurial mindset that are more rooted in the culture, such as overcoming a lack of emphasis on self-reliance and a dependent social culture. Social cultures that are too dependent upon handouts tend to stagnate initiative and decrease the overall levels of entrepreneurial activity. More entrepreneurially active countries, on the other hand, try to get their people to act independently and to explore greater levels of opportunistic entrepreneurship.

More entrepreneurially active countries recognized and celebrated the role of women in fostering greater levels of entrepreneurship. Experts from countries less entrepreneurially active perceived that women are directly and intentionally blocked from opportunities, are not encouraged to be independent, and are generally not supported in their entrepreneurial efforts.

Common Themes

While experts from all countries commented about a general lack of respect for entrepreneurs, those from more entrepreneurially active countries felt the lack of respect stemmed from years of exploitation and get-rich-quick scenarios – distrust from exposure. Experts from less entrepreneurially countries felt there was a much stronger cultural dimension in terms of the way people were concerned about income dispersion and the creation and distribution of wealth.

Experts from all countries also expressed a shared concern over the idea of wealth accumulation and the widespread appeal of creating and pursuing new wealth. Even those from countries with higher levels of entrepreneurial activity argued that when one group within society earns substantially more than another it could create problems in a society. Experts from the more active countries say you are allowed to be tall but not too tall – society is unforgiving. Those from less active countries argued that an entrepreneur's wealth is looked at as a negative thing in society. Even though in many of these countries, societal position is determined by wealth, the explicit pursuit of wealth is a negative thing. None of the experts mentioned the positive aspects of wealth creation such as redistribution through philanthropic efforts.

FINANCIAL SUPPORT

Differences

Banking and access to debt capital was a special concern to experts in the countries with relatively low levels of entrepreneurial activity, as illustrated in Table I.04. These concerns included the impersonal nature with which the banking industry evaluates investments in new start-ups, the strong reliance on asset-based lending, and the widely shared risk-averse investment philosophy. Of particular concern among the experts in these countries was the inability of banks to appropriately evaluate business deals. In one country this was viewed as the most significant issue facing the capital gap for new and promising start-ups, particularly in combination with the "zero tolerance rule" that any terminated business was viewed as a major banking failure.

	Differences	Common themes
More entrepreneurial activity	Improving risk investment culture in the financial community	Improving ability of lending institutions and equity investors to assess entrepreneurial opportunities
Less entrepreneurial activity	Improving banking and access to debt capital	Lower cost of capital for entrepreneurs
	Improving entrepreneurs' ability to assess capital needs	Modify inadequate regulation by government of the supply of capital

Table I.04 Experts' Evaluations: Financial Support Themes by Level of Entrepreneurial Activity

Underdeveloped equity markets is a serious deterrent for entrepeneurship in the less entrepreneurial countries.

Another key difference is the role that the performance of new ventures plays in creating the mindset and investment culture of a country. Experts from the countries with high levels of entrepreneurial activity are clearly concerned with the ability to provide investors with an exit mechanism and the ability to earn money on investments when the deals are initially overvalued. The experts from the less entrepreneurially active countries argue that there should be more formal controls over the entrepreneurial firms to improve performance. The default of a company or the poor performance of a fund leads investors to be cautious of future entrepreneurial requests. These experts believe that the investment community expects start-up firms' performances to be more stable but is unwilling or unable to provide the management expertise that the investment community can provide in the highly entrepreneurial countries. The lower returns that are achieved leads to the impression that new ventures are risky; reduces the supply of start-up funding; and increases calls for more controls over these new firms. The inability to establish effective exit mechanisms was a clear issue with experts in countries with lower levels of entrepreneurial activity.

In less entrepreneurial countries, the experts blame the inability of financial resources to make a difference for entrepreneurs on the entrepreneurs themselves. The experts in these countries are generally negative about the ability of the entrepreneur to assess capital needs, to identify potential sources of funds, and negotiate an appropriate deal. They claim entrepreneurs are ignorant of the investment process, don't know how to assess their needs, and are reluctant to share equity.

Entrepreneurs are, in contrast, considered more sophisticated in the countries with a more active entrepreneurial sector and the blame for poor performance is placed on the investment community. Experts suggest that it is unable to supply the appropriate capital at the appropriate time to take advantage of the best opportunities and has a limited ability to close and profit from the deals being made.

Common Themes

Access to capital and the ability of entrepreneurs to locate financial resources was recognized by both high and low entrepreneurial activity countries. Most felt that even where the supply was adequate, the speed with which it moved and the costs associated with acquiring the capital was prohibitive.

For countries with relatively high levels of en-

trepreneurial activity, one of the issues of greatest concern among the experts was the inability of the investment community to understand how to locate, price, and develop deals. Clearly experts around the world believe that the burden of proof is on the investment community to efficiently track and do deals. The entrepreneurs in these countries, while they would prefer easier, quicker, and cheaper access to funds, believe the investment community (equity and debt) has difficulty assessing risk in early-stage deals. The traditional approach is not appropriate for a lot of "new economy" deals. The investment community needs more effective ways of evaluating and doing deals, as well as a need to explore issues of minimum capital requirements, exit strategies, and overreliance on debt and unwillingness in general of entrepreneurs to share equity.

Experts from all countries consider the cost of capital is generally too high. Rather than lowering the cost of capital directly, experts from countries with high levels of entrepreneurial activity expressed an interest in seeing more direct tax relief measures that would keep the earnings of the business in the business during its growth phase. Experts from the countries with lower levels of activity expressed greatest concern about costs of capital itself. Across all countries there was a general concern among the experts that each country lacked an investment philosophy that rewarded and encouraged savings and wealth accumulation. All experts expressed equal concern about weakening equity markets around the world and the impact it would have on the entrepreneurial sector. All considered the funding gaps between $50,000 and $2,000,000 as very real, and a major problem to solve was the improvement of the survival rate of newly created businesses.

In all countries, government programs to support venture financing are believed to be woefully inadequate. The experts argue that government programs are more inclined to support deal assessment than to directly fund venture opportunities. The regulation of the supply of capital in some of the less entrepreneurial countries results in an undersupply of capital for the start-up enterprises, and while intended to protect entrepreneurs, ends up hurting entrepreneurship. The administrative costs in applying for government funds, even in the more entrepreneurial countries, can be daunting. Many of the experts, even from the most aggressive entrepreneurial countries, believe that government programs are inordinately too complicated, inaccessible, and time consuming. To many, the payoff is not worth the effort.

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GOVERNMENT POLICIES

Differences:

One of the more notable differences in perspectives across the entire sample included the different perspectives that experts maintained regarding the long-term orientation of the government's efforts to support entrepreneurship, presented in Table I.05. In countries with more entrepreneurial activity, the experts contend that government lacks a long-term focus and could benefit from a more strategic approach to policy planning. The experts from less entrepreneurial countries contend that government policies need to be more closely aligned to the immediate situation and that there needs to be better coordination between programs. The focus for experts from countries with low levels of activity was on what government is doing; the focus of those from high activity countries was on the underlying philosophy or strategic approach to government's role in entrepreneurship. Experts in the more entrepreneurially active countries expressed concern about the permanence of government political power and economic stability in general and the general lack of economic and business skills in the government ranks; experts from the less entrepreneurial countries worried about better coordination between various regions and programs.

	Differences	Common themes
More entrepreneurial activity	Increase long-term focus in government support of entrepreneurship Deepen government understanding of entrepreneurship	Reduce administrative burden of regulatory compliance
Less entrepreneurial activity	Increase coordination in governmental support initiatives	Increase fiscal incentives to stimulate entrepreneurial initiatives
	Change government negative perception of entrepreneurship	

Table I.05 Experts' Evaluations: Government Policy and Program Themes by Level of Entrepreneurial Activity

While experts in both countries agreed that government needed to deepen and extend its understanding of entrepreneurship and its impact on the economy, they differed in terms of the focus of these comments. Experts from less entrepreneurial countries argued that government needed to deepen its understanding of entrepreneurship in order to change its attitude toward the entrepreneurial sector. Experts from the highly entrepreneurial countries were much more concerned with the government's understanding of the impact of current policies on entrepreneurial activity. These experts argued that government needs more understanding of innovation policy and tax policy as it provides support for entrepreneurs. Experts from less entrepreneurial countries suggested that government needs to promote entrepreneurship more aggressively. For experts in the less entrepreneurial countries the issue is image and awareness, attempting to overcome the general sense of dishonesty policy makers have for

entrepreneurs. For experts in the more entrepreneurial settings the issue is more policy effectiveness, including policies that reduce the barriers to growth for young emerging entrepreneurial companies.

Common Themes

As mentioned above, the single greatest issue with government policies that countries of all levels of entrepreneurial activity recognize is the administrative burden of regulatory compliance. All experts agree that governments need to minimize the compliance burden on small and entrepreneurial firms, including complex administrative obligations, red tape, and costs for a wide variety of regulations including tax, welfare, environment, employment, safety, bankruptcy, and health care. In addition, all experts agree that the laws are generally difficult to understand and overly complex. Efforts to minimize the confusion would go a long way in supporting entrepreneurial activities. All experts agree that the regulations governing bankruptcy have important implications for entrepreneurship.

Experts from all countries agree that governments can play an extremely important role in stimulating higher levels of start-up and growth entrepreneurial activity. Most experts feel there is generally not enough fiscal incentive for people to launch new businesses and the government direct support for entrepreneurs could be enhanced. Others contend that governments can do more to stimulate basic research and to transfer the developing technologies to the entrepreneurial sector. At the same time, they feel that the governments generally lack a sufficient understanding of what role entrepreneurship plays in stimulating economic growth and what role governments can play in stimulating entrepreneurial activity.

COUNTRY SUMMARIES

Summaries of the situation in each GEM 2001 country are provided in the next section, J. These summaries provide an excellent overview of the entrepreneurial activity levels, the unique national features, and the key issues each county faces in building and supporting its entrepreneurial climate. The national summaries are provided in alphabetical order.

Section J

National Assessments: Country Summaries

Despite similarities in the level of entrepreneurial activity, the climate for entrepreneurship is quite different from country to country. GEM provides a brief summary of the *State of Entrepreneurship* for most of the countries participating in the 2001 assessment. Each country summary (presented in alphabetical order) provides an excellent overview of (a) the level of entrepreneurial activity, (b) the unique national features that influence the overall business climate, and (c) the key issues challenging the effort to build an entrepreneurial support infrastructure.

ARGENTINA

Level of Entrepreneurial Activity

- The level of entrepreneurial activity in Argentina is just above the average for the GEM 2001 countries and is slightly higher in 2001 than in 2000. A significant minority (42.5 percent) of entrepreneurs is motivated by necessity – one of the highest proportions among the 29 GEM countries.
- The prevalence of informal angel investors, at 1.9 percent of the adult population, is substantially below the GEM 2001 average of 3.1 percent.
- The ratio of female to male entrepreneurs in Argentina is below the GEM 2001 average with just over 1 woman to every 3 men involved in some form of entrepreneurial activity.

Unique National Features

- Argentina, as Latin America's second largest economy, has experienced a period of recession and slow growth over recent years. This has raised particular concern over the ability of the country to service its hard currency debt.
- The government is trying to restore confidence by means of drastic cuts to public spending. Reform of the tax system and continued deregulation of the labor market are also designed to further ease structural constraints on competitiveness.
- The volume of venture capital, especially for Internet and technology businesses, rose sharply in 1999 and 2000. Since the summer of 2000, however, it has all but disappeared.

Key Issues

- Government policy is the most important issue facing entrepreneurship. Employment regulation, the tax structure, and the lack of a supportive environment for new businesses are all identified as main impediments to entrepreneurial activity. Government policies toward entrepreneurship should include regulations to reduce the high level of tax evasion and to lower the tax, legal, and administrative burden on start-ups.
- Financing remains a major obstacle. This includes a shortage of risk capital available for new ventures, its high cost, and the lack of expertise of entrepreneurs in raising external capital and of investors in evaluating new ventures.
- Education and training specifically related to entrepreneurship is critical. Substantial change is required throughout the education system to improve understanding of entrepreneurship, and inspire and guide future entrepreneurs. There are a number of private initiatives in this direction, at high school and university level, in response to growing interest among younger people in starting their own businesses.

AUSTRALIA

Level of Entrepreneurial Activity

- In 2001, Australia maintained its position among countries with the highest levels of entrepreneurial activity, ranking second with New Zealand, both coming only after Mexico. There was an increase in entrepreneurial activity between 2000 and 2001. A very high proportion of Australian entrepreneurs (77 percent) is motivated by opportunity rather than necessity.
- Australia also has a high level of informal angel investment activity, with 3.8 percent of the adult population investing in start-ups.
- Australia ranks higher in terms of entrepreneurial activity among men than in does among women.

Unique National Features

- Following financial deregulation in the 1980s, the Australian economy has opened to international capital markets. In 2001, the Australian dollar fell to the lowest value ever against the US dollar. In this climate of global exposure, the pressure to develop world-class entrepreneurial ventures is greater than ever.
- Cultural attitudes are viewed as the biggest impediment to entrepreneurship in Australia. These include the social legitimacy of entrepreneurship and aversion to risk. Negative perceptions are becoming less prevalent, but positive perceptions are slow to emerge. A career as an employee in a large corporation or professional firm is still more valued than starting a business. The consequences of failure remain a major disincentive. Success, rather than meeting with social approval, often attracts envy.

Key Issues

- Culture, education, and government support are regarded as being the most important impediments to entrepreneurial activity in Australia.
- There is concern over a decline in the quality of education generally and over the lack of skills needed to turn an idea into a viable business in particular. Education is considered important in developing these skills, particularly through specialized skills training, celebration of positive role models, and involving more successful entrepreneurs in mentoring.
- Government awareness of the importance of entrepreneurship has increased dramatically. The question remains as to whether this is permanent and whether governments really understand the entrepreneurial process.
- Following a record year for venture capital investment and further government programs to stimulate investment, shortage of capital is considered less of an impediment in 2001. However, access to early stage capital remains a concern, especially in light of the recent problems in the technology sector.

BELGIUM

Level of Entrepreneurial Activity

- At 4.5 percent, entrepreneurial activity in Belgium remains low compared with other GEM 2001 countries. Only 1 out of every 125 adults in Belgium starts a business out of necessity, partly due to the country's extensive welfare system.
- Only 2 percent of Belgian adults invest personal funds in new business start-ups. This is significantly higher than in 2000, but below the GEM 2001 average of 3.1 percent.
- The entrepreneurial activity rate in Belgium is low for both men and women, with the ratio of women to men similar to the 1:3 average for the GEM 2001 countries.

Unique National Features

- Belgium is a country with an open economy, characterized by high levels of international trade and foreign direct investment. Experts agree that this contributes to the low level of entrepreneurial activity.
- Belgium has a complex federal political system. Both regional and national governments have responsibility for parts of the entrepreneurial process. This can lead to inconsistencies between regulations at the different levels.
- Belgium's generous welfare system has suppressed entrepreneurial activity among those who benefit from it by raising the cost of moving outside the social security system.

Key Issues

- Lack of financial support is regarded as the main impediment to entrepreneurship in Belgium. This includes both equity and debt financing and applies to technology and non-technology businesses. There also appears to be reluctance among entrepreneurs to raise equity from third parties.
- Lack of coherent government policies is also considered an important barrier. Starting a business remains complex, time consuming, and expensive, despite efforts from local government to decrease the administrative burden.
- Cultural norms are not conducive to entrepreneurship. Failure as an entrepreneur continues to be stigmatized in Belgium despite recent reforms to the bankruptcy laws. Starting a new business after a previous failure is not only difficult but is also regarded as suspicious.
- Entrepreneurship training programs are emerging at the undergraduate and graduate levels, but pre-university education lags behind. It is not seen as stimulating attitudes that are conducive to an entrepreneurial mindset and fails to address specific entrepreneurship issues.

BRAZIL

Level of Entrepreneurial Activity

- Brazil has a relatively high level of entrepreneurial activity. At 14.4 percent, Brazil's rate is equal to that of the US. However, a higher proportion of entrepreneurs (41 percent) are involved through necessity rather than opportunity.
- Investment by individuals in start-ups is very low. Brazil's business angel rate of 0.9 percent is the lowest of all the GEM 2001 countries.
- Women are relatively active as entrepreneurs in Brazil. The proportion of women among entrepreneurs, at 38 percent, is among the highest among the 29 countries.

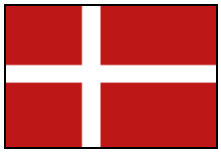
Unique National Features

- A high level of government intervention in Brazil is regarded as a double-edged sword. The overarching presence of government has changed for the better in recent decades, but government intervention manifests itself in bureaucratic procedures.
- The availability of capital in Brazil has improved. But many Brazilian entrepreneurs still view capital as costly and cumbersome to obtain. In addition, funding programs are not well publicized.
- The country's extensive and diverse geography calls for decentralized and locally designed programs. Regional differences in culture and infrastructure also necessitate a localized approach to venture capital provision and education.

Key Issues

- Lack of a tradition of venture capital and access to capital continue to be seen as the main impediment to entrepreneurial activity in Brazil. There is an urgent need to nurture a local venture capital culture and practice.
- Inadequate physical infrastructure and an insufficient pool of professional workers have hampered programs designed to foster new businesses outside the main urban areas.
- The economic and political environment has raised the level of risk and uncertainty over future stability and growth.
- There is a need for further improvements to the general education system that foster an entrepreneurial culture among younger adults. Existing programs are seen as detached from reality, with little integration with graduate and undergraduate study.
- Inadequate legal protection of intellectual property rights, high costs of patent registration at home and abroad, and poor technology transfer mechanisms add to a dependence on imported technology and impede indigenous efforts. Universities remain isolated from the entrepreneurial community and engage in projects of little commercial relevance.

DENMARK



Level of Entrepreneurial Activity

- Entrepreneurial activity in Denmark, at 8.4 percent, is below the most active GEM 2001 countries. However, it is above the average for European countries.
- A relatively high proportion of those engaged in entrepreneurial activity in Denmark (76 percent) do so because of perceived business opportunities. Only 7 percent are involved for reasons of necessity.
- Denmark ranks higher among the GEM 2001 countries in terms of involvement in entrepreneurial activity by men than it does for its level of female participation. More than twice as many men are involved than women.

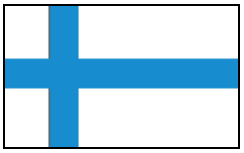
Unique National Features

- There are signs of changing social values among young Danes in particular. Entrepreneurship is accorded a higher status than has traditionally been the case. A desire for autonomy and lower levels of concern over income differentials are leading to changes in both employment conditions and interest in entrepreneurial activity.
- Danes generally have a desire to retain control over ideas that they perceive as their own. There is a reluctance to raise finance from professional investors with their interest in influencing the start-up process.
- Denmark has suffered a "brain drain." As a small country with a high level of general education, many people go abroad to pursue greater opportunities and gain wider experience. This has reduced the pool of potential entrepreneurs.

Key Issues

- The venture capital market in Denmark has become more cautious. A string of failed investments has reduced the level of financial support for start-ups. Proposals at all stages are now subject to more stringent assessment by investors.
- A high administrative burden and high levels of taxation continue to act as disincentives to new business creation.
- The Danish education system prepares people for employment rather than entrepreneurship and is often criticized for a number of shortcomings. These include (a) a lack of focus on entrepreneurship, (b) a concentration on large firms, and (c) a tendency to teach discrete subject areas rather than taking a more integrated approach. However, there have been recent improvements in these areas.

FINLAND



Level of Entrepreneurial Activity

- The entrepreneurial activity rate in Finland is 9.6 percent, just above the average of all GEM 2001 countries. The rate recorded in 2001 is lower than that for 2000, indicating a fall in entrepreneurial activity.
- As in other Scandinavian countries, opportunity rather than necessity is the motive for the vast majority of entrepreneurs in Finland. Only 8 percent of those involved in entrepreneurial activities do so out of necessity.
- Investment by individuals in new start-up businesses is more prevalent in Finland than in the other European GEM 2001 countries.

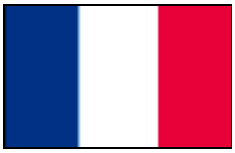
Unique National Features

- Finland consistently ranks among the top countries in international competitiveness surveys. Led by Nokia, it has a strong position in many information and communication technologies and enjoys a strong technology infrastructure, especially in mobile telephony.
- The Finnish Government has made the promotion of entrepreneurship a top priority. In an effort to raise the level of awareness, it launched an "Entrepreneurship Initiative" in 2000. This has brought together nine ministries and other interest groups to promote entrepreneurship through various policy programs ranging from financial packages to help-lines and promotional courses.
- High tax rates and an extensive social security system continue to hinder the overall level of new business creation.

Key Issues

- A lack of experienced entrepreneurial teams is emerging as a key bottleneck for growth in the entrepreneurial sector in Finland. Teams with experience in managing international growth are in short supply.
- With a relatively small home market, technology start-ups in Finland tend to expand internationally quite rapidly. This requires expertise and strong international networks. It represents a demanding challenge for the Finnish support system.
- Strengthening the entrepreneurial culture remains a key challenge for the more peripheral regions in Finland. The task is made harder by the fact that different municipalities and regions often compete for EU and government funds.
- Fostering an entrepreneurial mindset and culture remains a key challenge for the Finnish educational system at all levels.

FRANCE



Level of Entrepreneurial Activity

- At 7.2 percent of the adult population, entrepreneurial activity in France is below the average for the 29 GEM 2001 countries. An increase of 2 percentage points over 2000 indicates a rise in entrepreneurial activity.
- Only 1 in 90 individuals in France invest personal funds in new start-ups. Although a higher proportion than in 2000, this remains among the lowest of the GEM 2001 countries.
- France shares the same rank among GEM 2001 countries in terms of entrepreneurial activity of men and women. While low, this represents an improvement in the involvement of women over 2000.

Unique National Features

- In 2001 the French Government instituted a number of measures to facilitate entrepreneurship. These included new legislation to ease the capital requirements for new business formation and reductions in the top rate of income tax and the rate of corporation tax for small and medium-sized enterprises. These broad initiatives testify that entrepreneurship is high on the political agenda.
- France is nevertheless also characterized by a strong regulatory framework in certain areas such as labor. This tends to impede the growth of new businesses.

Key Issues

- Socio-cultural norms continue to act as a barrier to entrepreneurship in France. There have been improvements recently, in part due to the New Economy boom. The image of the entrepreneur has improved, and entrepreneurship has become a popular topic among politicians, commentators, students, and academics. Negative attitudes toward business failure persist. Starting a business is still considered an unusual career choice.
- There is an abundant supply of funds seeking good investment opportunities and interest rates are low. Venture capital investors still have large funds at their disposal but are more cautious in selecting investments, particularly in technology sectors.
- The education system does not promote entrepreneurial values such as creativity, risk taking, and personal responsibility. There is a need to heighten the young's awareness of entrepreneurship, especially at primary and secondary school levels.

GERMANY

Level of Entrepreneurial Activity

- Entrepreneurial activity in Germany, at 7.2 percent, is below the GEM 2001 average and significantly below comparable countries such as the US, Canada, and Italy. Compared to other GEM countries, the share of necessity-based entrepreneurship is relatively high.
- At 3.2 percent of the population, business angel activity in Germany is just above the average of 3.1 for the GEM 2001 countries. It is among the highest in Europe.
- Entrepreneurial activity among women in Germany is below that of men, but is broadly in line with the GEM 20001 average.

Unique National Features

- Germany is generally regarded as a highly regulated country. However, opinion is divided as to the extent to which this applies to business start-ups. Some regard regulations as a major barrier to new business creation. Others consider perceptions of regulations to overstate their actual impact.
- Germany is unique among the 29 GEM 2001 countries in having a relatively comprehensive and effective network of support agencies for start-ups. Professional support services of a high quality are available, but market transparency is low. Many entrepreneurs are unwilling to spend time and resources on these services.
- Although the finance available for start-ups has improved, venture capital companies and banks are now more cautious. Financing is particularly difficult for smaller businesses because banks are reluctant to make small loans.

Key Issues

- The framework conditions for entrepreneurship in Germany have generally improved in recent years. However, attitudes toward entrepreneurship are more realistic in 2001 than in 2000. Both investors and entrepreneurs are now more cautious. There are concerns that the decline in the New Economy may adversely affect entrepreneurship in general.
- Federal and state government could do more to support entrepreneurship. Although small business support is on the agenda of every political party, there is no coherent approach to entrepreneurship, and some recent political changes are perceived as negative for entrepreneurship.

HUNGARY

Level of Entrepreneurial Activity

- The entrepreneurial activity rate in Hungary, at 11.6 percent, is higher than the average of the GEM 2001 countries and the highest of all European countries. At 29 percent, necessity entrepreneurship is higher in Hungary than all other European GEM 2001 countries except Poland.
- Approximately 2.2 percent of the adult population invest in new businesses. This is below the GEM 2001 average but not significantly different from that of other European countries.
- The participation of men in entrepreneurial activity is higher than that of women, but the female participation rate is higher than the GEM 2001 average.

Unique National Features

- From 1948 to 1989, Hungary had a centrally planned economy, which favored large firms and public forms of ownership. Reforms following the New Economic Mechanism of 1968 provided the basis for the transition toward a market economy. This began in earnest after 1989, and, since then, the small business sector has flourished.
- Hungary has created a business environment that is supportive of inward investment in manufacturing, banking, and retailing. Exports from these companies fuel Hungary's economic growth.
- Hungary has an industrious, educated, talented population. Business culture and management skills are less developed among small businesses, hindering entrepreneurship.
- The small business sector is characterized by a large number of firms that have neither the desire nor the capacity to become entrepreneurial, high-growth businesses.

Key Issues

- Despite private sector growth, Hungarian culture still does not fully support entrepreneurship. Respect, however, for entrepreneurs is improving.
- There is a shortage of capital available to entrepreneurial businesses in Hungary, with limited access to equity capital from venture capital firms and business angels. Banks supply loans to the business sector, but most new businesses are either ineligible or unable to afford them.
- Over the last few years, numerous government programs have been created with the objective of supporting entrepreneurship. However, these programs have had limited success and have not successfully promoted new business creation.
- Because of the lack of business skills and experience, there is a need to develop entrepreneurship education at all levels of society.

INDIA

Level of Entrepreneurial Activity

- The level of total entrepreneurial activity in India, at 11.9 percent, is high relative to other GEM 2001 countries. Approximately two-thirds of this activity is driven by necessity.
- Less than 1 percent of the adult population invests in start-up businesses. This is among the lowest of the GEM 2001 countries.
- Entrepreneurial activity in 2001 among men is more than twice that of women, a similar pattern to that observed in 2000 and similar to the average for all GEM 2001 countries.

Unique National Features

- The economic reform process set in motion a decade ago continues and small firms are still adjusting to changes in the business environment. Government support for the small firm sector – funding, infrastructure, and protection from competition – has been withdrawn.
- An unwieldy and inefficient administrative machinery and poor regulatory enforcement further compound the problems facing the entrepreneur.
- Social and cultural norms in India favor stability and security. Risk-taking in general is not encouraged. However, there is considerable regional variation in this respect.
- India, well endowed in human capital, is competitive in knowledge-intensive industries such as software and information technology despite an inadequate infrastructure, high cost of equipment, restricted access to foreign resources, and limited domestic demand.

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Key Issues

- Access to capital, particularly for early stage development, is a major hurdle faced by entrepreneurs in India. Growth is hampered due to the scarcity and high cost of working capital. Financial institutions do not appreciate the specific nature of entrepreneurs' needs.
- Government is beginning to play a more supportive role but is doing so only slowly. There is a lack of coordination between the various arms of central and regional government and very often the administration hinders rather than helps the entrepreneurial process.
- The physical infrastructure in the country is inadequate, as is the supply of professional and commercial services. This has improved in some regions, but the pattern is uneven.
- There is a need to incorporate skill-based learning and the principles of the market economy early in the education cycle. While government agencies and educational institutions carry out quality research and development, there is little focus on the commercial aspects of business. Industry investment in research and development is low.

ISRAEL

Level of Entrepreneurial Activity

- The entrepreneurial activity rate in Israel in 2001 (6.3 percent) is below the average for GEM 2001 countries. It is slightly lower than the rate in 2000.
- The proportion of individuals investing in new businesses is among the highest of the GEM 2001 countries and is similar to the proportion in the US.
- Entrepreneurial activity in Israel among men is twice the rate among women, which is broadly consistent with the GEM 2001 average.

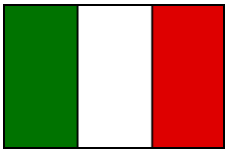
Unique National Features

- Israel's competitive advantage lies in its technology sector, which has experienced rapid growth characterized by many technology start-ups and new venture capital funds.
- Increasingly, violent conflict with the Palestinian National Authority (PNA) has destabilized the region. This has increased the perceived risk and reduced feelings of personal security. Tourism, foreign trade, and overall economic performance have suffered.
- The marked downturn in information and communication technology markets and share prices has had an impact on Israel's technology sector. A large number of start-ups have been unable to raise additional capital and have been forced to close down or lay off staff.

Key Issues

- The ongoing conflict in the region causes continued feelings of personal threat and uncertainty in starting new businesses. It also diverts government attention to defense and to social and economic issues outside the entrepreneurial process. The Israeli Government is criticized for a focus on short-term interventions rather than long-term solutions.
- Rising public expenditure, the growing fragmentation of the public administration, and its heavily bureaucratic nature are believed to discourage entrepreneurship. These factors are also likely to delay reforms that are needed in the taxation system.
- Adverse movements in financial markets in 2000 and 2001 are unfavorable for entrepreneurship. The volume of capital flowing into Israel's technology sector has fallen dramatically from the record levels in 2000. Venture capital funds in Israel are concentrating on supporting existing portfolio companies or less risky later stage ventures.
- Education continues to be an important issue, although it is felt unlikely that real reform will materialize given current government priorities. However, the government continues to invest in R&D as a long-term investment policy.

ITALY



Level of Entrepreneurial Activity

- An entrepreneurial activity rate of 11 percent places Italy seventh among the 29 GEM 2001 countries, well ahead of all other European countries except Hungary. It also represents a significant increase over 2000.
- Italy's business angel rate, at 2.8 percent, is below the GEM 2001 average (3.1 percent).
- Women are particularly active as entrepreneurs in Italy. The country has the highest proportion of women entrepreneurs among the GEM 2001 countries and is unique in having as many women entrepreneurs as men.

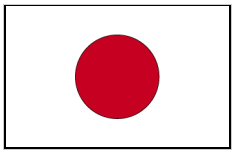
Unique National Features

- Italy has a well-rooted entrepreneurial tradition, especially in those sectors such as textiles, telecommunications, and the automotive sector, where is has been competitive on an international scale.
- Geographical discrepancies continue to characterize Italy's entrepreneurial landscape. However, there is increasing acceptance of entrepreneurship as a respectable, even desirable, occupation in all regions.
- A greater sense of creativity and entrepreneurial spirit among younger Italians is a notable example of this more supportive social environment. A further example is provided by the re-election of Silvio Berlusconi, a well-known entrepreneur, as Prime Minister in May 2001.

Key Issues

- Insufficient mechanisms to promote technology transfers to new firms and poor commercialization of research are key factors hindering the development of technology businesses in particular.
- Shortage of capital, from early stages through to an initial public offering (IPO), is an important constraint, especially for businesses in technology sectors. It is blamed for encouraging many Italian start-ups to achieve financial self-sufficiency rather than maximize potential growth.
- Inflexibility in the labor market and the high cost of full-time labor act as further constraints. This problem has been exacerbated by labor shortages in the north of the country.
- There is growing concern over the lack of emphasis on creativity and independence in Italy's primary and secondary education system.

JAPAN



Level of Entrepreneurial Activity

- Japan has the second lowest rate of entrepreneurial activity (5.3 percent) among the GEM 2001 countries. There is a relatively low proportion of opportunity-based entrepreneurs and a correspondingly higher proportion of entrepreneurs driven by necessity.
- Consistent with the relatively low level of entrepreneurial activity, there are relatively few business angels in Japan. Only 1.4 percent of the adult population invests in new business start-ups, compared with the GEM 2001 average of 3.1 percent.
- The involvement of Japanese women in entrepreneurial activities is also low. The ratio 1 woman to every 2.4 men is lower than the GEM 2001 average of 1 to 2.

Unique National Features

- Japanese culture is generally not supportive of entrepreneurship. Recently, however, young people have been more motivated to start new businesses rather than opting to work in large established companies or in the public sector.
- Adverse market and share price developments in 2000 and 2001 have increased the level of risk for many young companies as a result of lower sales growth and stronger competition.

Key Issues

- Because of significant structural changes undergoing the financial sector in Japan, many banks are reluctant to lend to entrepreneurs. In addition, banks often lack the capability to assess new business ventures.
- The tax system and regulatory structure in Japan tend to discourage entrepreneurship. The high rate of taxation on capital gains and stock options penalize entrepreneurial success.
- Continued active involvement by government agencies in several business sectors, such as postal services, limits the opportunities for new business ventures in those sectors.

KOREA

Level of Entrepreneurial Activity

- Korea has the fourth-highest level of entrepreneurial activity among the GEM 2001 countries. An entrepreneurial activity rate of 15 percent places Korea behind Mexico, Australia, and New Zealand. There is a modest reduction from the prevalence rate in 2000. A relatively high proportion (38.7 percent) of entrepreneurial activity is motivated by necessity.
- Consistent with the high level of entrepreneurship, business angel activity is also relatively prevalent in Korea, with 3.8 percent of individuals investing in start-ups.
- Entrepreneurial activity is particularly high among men. The proportion of women entrepreneurs remains below the GEM 2001 average.

Unique National Features

- The Asian financial crisis of 1997 led to concerted efforts by the Korean Government to overcome the country's foreign exchange problems and restructure the economy. It initiated reforms designed to instill market mechanisms throughout the economy and reduce reliance on the small number of large conglomerates. These included specific measures to promote new businesses and touched many areas from research and development to direct support for new businesses and tax concessions to investors.
- However, the Korean economy is currently experiencing a slowdown, owing to the global downturn and uncertainties over ongoing restructuring.
- The information technology sector, including semiconductors, was instrumental in the export-driven recovery that took place after 1997. However, the sector recorded a 7.2 percent decline in the first quarter of 2001.

Key Issues

- Falling interest rates have not improved the financial constraints faced by start-up businesses. Venture capital investment in new ventures fell sharply in 2001. In the current climate banks are also showing a strong preference for lending to low-risk clients. Businesses with low credit ratings are expected to have difficulties in obtaining bank financing.
- In the face of slower growth and declining exports, the government is being urged to come up with comprehensive monetary and fiscal policy measures to boost exports, while stepping up efforts to continue corporate and financial restructuring.
- A strong university education system has left little room for entrepreneurship. The growing popularity of entrepreneurship among students has faltered, with employment in larger corporations or financial institutions now being preferred to new ventures as uncertainty continues and conditions in the labor market weaken.

MEXICO

Level of Entrepreneurial Activity

- The level of entrepreneurship in Mexico is the highest of the GEM 2001 countries. A little over 1 in every 5 adults is involved in entrepreneurial activity. Levels of both opportunity and necessity entrepreneurship are high. Although the proportion of necessity entrepreneurs is lower than other developing countries.
- The proportion of adults who invest in start-up businesses is also high. Mexico's business angel rate of 4.3 percent compares favorably with the GEM 2001 average of 3.1 percent.
- Involvement in entrepreneurship is particularly prevalent among Mexican men. Just less than 1 in every 3 men is involved in some way, compared with 1 in every 7 women.

Unique National Features

- Over the last 50 years the Mexican economy has shifted away from the once dominant sectors of agriculture and mining toward more industrial activities, especially in the major urban centers of Mexico City, Monterrey, and Guadalajara where entrepreneurs have concentrated. With this shift, a new class of entrepreneurs arose with the support of the government.
- This support took the form of financial incentives, protectionist economic policies, and a rigid legislative framework. Government, however, expected support from entrepreneurs in return, which led to a growing level of distrust.
- From 1986, the Mexican economy has been opened to international competition. Public and private monopolies, however, remain in sectors such as steel, glass, telecommunications, and construction. These monopolies subcontract much of their work to small independent businesses.

Key Issues

- The education system in Mexico has prepared students for employment rather than encouraging creativity and entrepreneurship. Research and development has been the preserve of larger corporations and most technology is imported. As a result, Mexican firms largely depend on other countries for new technology.
- The large and complex bureaucracy facing those starting a business is a challenge even for those with ample motivation and financial resources. Several governmental programs to support start-ups exist but were poorly designed. They are generally regarded as wasting resources and offering little real support.
- However, there is a common perception that the new federal government will bring the changes needed for a renewed entrepreneurial environment.

THE NETHERLANDS

Level of Entrepreneurial Activity

- Approximately 1 in 16 adults in the Netherlands (6.4 percent) is involved in entrepreneurial activity. This is below the GEM 2001 average, but is comparable to most other European countries. The Netherlands has a high proportion of entrepreneurs motivated by the pursuit of opportunity.
- Angel investment activity in the Netherlands is the lowest of the European GEM 2001 countries. Only 1 in every 123 adults invests funds in someone else's new business.
- With a ratio of women to men involved in entrepreneurial activity of around 1 to 2, the level of participation of women in the Netherlands is broadly in line with the GEM 2001 average.

Unique National Features

- In the past decade, the Netherlands has successfully worked on improving its business environment. Attitudes toward entrepreneurship are also more positive than ten years ago. Over this period, the number of enterprises has grown by nearly 50 percent.
- The shift from traditional toward more advanced technology sectors and the high rate of economic growth from 1995 to 2000 has led to a widespread shortage of skilled labor.
- The Netherlands is characterized by a strong, generous social security system and a highly protected employee status. This may provide an additional explanation for the relatively low number of nascent, necessity-based entrepreneurs in the Netherlands.
- Between 1995 and 1999, venture capital investment at the early and expansion stages as a percentage of GDP was third highest among OECD countries. However, the Dutch venture capital market needs to become more transparent, particularly with respect to start-ups.

Key Issues

- Dutch economic policy over the past decade has been generally successful in increasing competition and lowering barriers to entrepreneurship. Crucial points of attention are now to (a) evaluate existing programs and make them more focused, transparent, and consistent, (b) lower the legal and administrative barriers for start-ups, and c) improve knowledge transfer from universities to new and small businesses.
- Education still pays little attention to entrepreneurship at most stages and lacks practical application. In 2000, the Ministry of Economic Affairs and the Ministry of Education, Culture and Science launched a Commission on Entrepreneurship and Education. Education is now a major part of the government's entrepreneurship policy.
- There is a lack of good locations for new enterprises in some areas, particularly in the western part of the Netherlands.

NEW ZEALAND

Level of Entrepreneurial Activity

- New Zealand has the second highest rate of entrepreneurial activity of the GEM 2001 countries. Around 1 in every 6 adults is engaged in some form of entrepreneurial activity and the country has the highest proportion of opportunity entrepreneurs.
- New Zealand also has the highest level of business angel activity among the GEM 2001 countries. More than 1 person in 20 invests in the start-up businesses of other people.
- New Zealand also ranks very highly in terms of women entrepreneurs, senior entrepreneurs, and the intensity of corporate venturing.

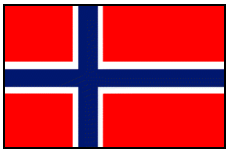
Unique National Features

- New Zealand's high entrepreneurship rate may be due to the country's isolation and a resulting "can-do" attitude as well as selective immigration of highly entrepreneurial indigenous Maoris and Europeans.
- Fifteen years of reform have led to a high degree of privatization, liberalization, and deregulation of the economy. The commercial and professional infrastructure and the physical resources that entrepreneurs require are abundant and inexpensive.
- There is a high level of government awareness of the needs of entrepreneurs and there is a growing interaction between government and entrepreneurial leaders.
- Due to New Zealand's extreme geography, there are regional disparities in access to capital, R&D transfer, commercial and professional services, and physical infrastructure.

Key Issues

- Widespread cultural and social attitudes hinder the growth of entrepreneurship in New Zealand. The media and the public regard entrepreneurs as dishonest and opportunistic. For such a large minority, New Zealand's entrepreneurs and their needs are largely invisible. New Zealanders severely punish failed entrepreneurs. Fear of failure is listed as a major reason for not becoming an entrepreneur.
- Although New Zealand has a conservative financial sector, there has been considerable growth in the amount of venture capital available. At issue is not the availability of capital so much as the paucity of investment-ready companies.
- New Zealanders generally undervalue education. Entrepreneurship is not part of the compulsory curriculum, while standard tertiary business education focuses more on employees and managers than on employers and job creators. Universities are generally not entrepreneurial and do not focus on the needs of entrepreneurs.

NORWAY



Level of Entrepreneurial Activity

- The proportion of the adult population involved in entrepreneurial activity in Norway (8.9 percent) remains relatively high compared with other European countries, but is below the GEM 2001 average. It is also lower in 2001 than in 2000.
- Entrepreneurship in Norway is almost entirely opportunity driven. The country has the lowest rate of necessity entrepreneurship among the GEM 2001 countries. Business angel activity is close to the average of all 29 countries.
- The involvement of women in entrepreneurship is relatively low in Norway, with the proportion of women slightly below the GEM 2001 average.

Unique National Features

- Norway has experienced considerable improvement in living standards in recent years. By 2001, the country had risen to the top of the United Nations' rankings of standards of living.
- Norway's increased wealth is, to a large extent, due to North Sea oil activities. Non-resident multinational oil companies account for a large proportion of the revenue from the oil industry in Norway. Whether or not a greater proportion of this income should be spent domestically is a subject of intense political debate in Norway.
- Attitude surveys have revealed a marked aversion to self-employment in Norway. While the proportion of self-employed in the workforce has increased slightly since 1996, Norway still has the lowest proportion of self-employed workers among OECD countries.

Key Issues

- Norway shares the problems that have affected information and communication technologies with accompanying declines in share prices and company valuations.
- There now seems to be a political willingness to change the taxation regime that has disadvantaged those who own more than two-thirds of their businesses. However, stock options are still heavily taxed and there are few incentives for private investors.
- Norway's rate of unemployment (2.6 percent) is very low by international standards. There is a shortage of skilled labor in many professions. At the same time, entrepreneurship and the principles of the market economy receive little attention in the education system.
- The partial privatization of large government-controlled companies such as Telenord and Statoil, and the increased willingness to purchase welfare and others services from the private sector is likely to create new entrepreneurial opportunities, as is the increased emphasis on aquacultural research.

PORTUGAL

Level of Entrepreneurial Activity

- In Portugal, 7.3 percent of the adult population is involved in entrepreneurial activity, placing the country among the least active of the GEM 2001 countries. The rate, however, is relatively close to those of Portugal's nearest European neighbors.
- Portugal has relatively few business angels. Only 1.4 percent of the adult population invests in new ventures, a rate that, among European GEM countries, is only higher than the Netherlands.
- Less than 5 percent of women in the adult population are involved in the creation of new businesses, in comparison to more than 10 percent of men. The ratio of women to men is lower in Portugal than in most GEM 2001 countries.

Unique National Features

- Portugal's accession to the European Union has brought the participation of external interests in the country's economic stability and development. This is a positive step toward establishing consistency in public and economic policy.
- Although isolationist policies came to an end in the 1970s, some of the same cultural mindset persists. The ability to compete and innovate in a global business environment is still lacking. The problem is enhanced by the country's peripheral position in Western Europe and its small domestic market.

Key Issues

- The prevailing social attitude in Portugal is one of dependence upon established corporations and the public sector for jobs and security. Entrepreneurship is neither an expected nor respected career choice, and failure is deemed unacceptable.
- A financial system that can provide sufficient support for entrepreneurship continues to develop, but further progress is needed. Risk aversion still dominates the banking industry, which has traditionally controlled the supply of venture capital in Portugal. The financial sector is generally not an accessible source of seed capital for entrepreneurs.
- The educational system is widely regarded as key to shifting cultural attitudes in Portugal. It is believed that improved education will remove many of the social, political, and structural obstacles to new business creation.

SINGAPORE

Level of Entrepreneurial Activity

- Singapore had one of the lowest rates of entrepreneurial activity among the GEM 2001 countries (5.6 percent). Rates were lower only in Belgium and Japan. The country ranked significantly higher, however, in terms of the proportion of entrepreneurs motivated by opportunity.
- Business angel activity among the adult population, at 1.8 percent, is significantly below the GEM 2001 average of 3.1 percent.
- The balance between men and women involved in entrepreneurial activities is very similar to the average for the GEM 2001 countries.

Unique National Features

- Singapore's economy experienced recession in the first half of 2001, due to a sharp fall in manufacturing exports, especially electronics exports to the US. As a result, unemployment among the less skilled has increased.
- In 2001, the Singapore Government continued to promote technology entrepreneurship through the Technopreneurship 21 initiative, launched in 2000, and a new Life Science program aimed at promoting the development of the life sciences sector.
- Falling share prices and sluggish growth in the US and world economy has dampened enthusiasm in technology start-ups. Although a significant amount of venture capital was raised in 2000 and 2001, venture capital funding to new start-ups has fallen sharply.
- The small size of Singapore's domestic market, and the general weakness in the economies of the region has made it more difficult for start-ups to grow without exporting. Those seeking funding therefore have to demonstrate an ability to penetrate global markets.

Key Issues

- The business angel prevalence rate in Singapore remains low despite the high household savings rate and availability of venture capital. Government policy has promoted the development of formal venture capital and should now focus on informal investments.
- The bursting of the Internet bubble has highlighted the need for Singapore not only to encourage entrepreneurship in general but entrepreneurship based on real technological innovation. The ratio of R&D expenditure to GDP has increased steadily to over 1.8 percent. However, a large proportion is dedicated to incremental development rather than basic research and the development of intellectual property.
- At the same time, management and global marketing capabilities of start-ups need to be strengthened to enable start-ups from Singapore to compete globally.

SOUTH AFRICA

Level of Entrepreneurial Activity

- In terms of the proportion of adults engaged in entrepreneurship, South Africa ranks in the middle among GEM 2001 countries. A relatively high proportion of entrepreneurship (30.5 percent) is motivated by necessity.
- More than 1 person in 25 has invested in a startup business in South Africa. This is a relatively high proportion and ranks third among the GEM 2001 countries.
- The ratio of women to men involved in entrepreneurial activity in South Africa is very similar to the GEM 2001 average.

Unique National Features

- South Africa's economy has been dramatically liberalized following several decades of isolation and protection. Although the economy is stable, growth remains weak.
- Historically, the economy has been highly concentrated, dominated by a handful of large state-owned enterprises and corporations, and relying heavily on commodities in mining and agriculture. Until the 1990s, policy makers largely neglected smaller entrepreneurial enterprises.
- South Africa is a country of stark contrasts, socially, economically, and geographically. In urban areas, sophisticated industrial centers contrast with informal settlements. In rural areas, commercial agriculture contrasts with communities lacking the most basic services and relying on remittances from migrant workers. A highly educated, globally mobile minority contrasts with the majority who face poverty and high unemployment.

Key Issues

- Previous apartheid policies prevented black people from owning and running businesses and many black South Africans have little business experience. Despite a recent explosion of entrepreneurial activity, successful entrepreneurs do not receive wide recognition. Professional or corporate careers are held in greater esteem than business ownership.
- In the past, the education system and an authoritarian society actively discouraged creativity and independence leading many South Africans to have a negative view of their ability to succeed on their own. The new school curriculum has a strong focus on entrepreneurship and management skills. However, lack of basic literacy and numeracy, as well as more technical skills, continues to exert a serious constraint.
- Access to micro-enterprise finance is limited. Poverty, a lack of resources, and a lack of business skills and experience make it difficult for many potential entrepreneurs to access financial resources.
- The administrative burden placed on small firms by the requirements of legislation is substantial and discourages many entrepreneurs from formalizing their businesses.

SPAIN

Level of Entrepreneurial Activity

- At 7.8 percent, the level of entrepreneurial activity in Spain is around the average of the European GEM 2001 countries. There is a greater prevalence in Spain than in most other European countries of entrepreneurs who are involved through necessity.
- A relatively high and growing proportion of individuals in Spain (3.6 percent) invest in new start-up businesses.
- Entrepreneurship among women is high in Spain relative to that of men. Whereas, on average, twice as many men are involved in entrepreneurial activities, in Spain 2 women are involved for every 3 men.

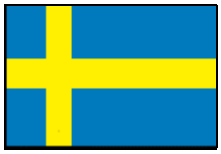
Unique National Features

- It was not until the late 1990s that an entrepreneurial culture really began to take root in Spain, especially among young adults. However, there continues to be a high level of risk aversion and a preference for a stable income in a state-owned company or in the public sector.
- Social and cultural norms continue to hinder entrepreneurship. There is still little acceptance of entrepreneurial success.
- Government policies in Spain are becoming more conscious of the importance of entrepreneurship. But short-term attitudes within both government and the financial system still hinder the development of an entrepreneurial culture.

Key Issues

- Access to finance continues to act as a restraint on entrepreneurial activity in Spain. Retail and savings banks, in particular, are criticized in this respect.
- Government policies still concentrate on the short term, often neglecting longer-term issues such as the fostering of entrepreneurship. There has been a recent improvement in the degree of support for entrepreneurship, but an excessive regulatory burden and differences between regional governments persist.
- University education in Spain is criticized for its failure to address real business issues in general and for its lack of focus on entrepreneurship in particular.

SWEDEN



Level of Entrepreneurial Activity

- Approximately 1 in 14 adults (6.9 percent) is engaged in entrepreneurial activities in Sweden, somewhat below the GEM 2001 average. Almost 83 percent of Swedish entrepreneurs are opportunity driven.
- Sweden's business angel rate of 3 percent is close to the GEM 2001 average and similar to the levels seen in the other Scandinavian countries of Denmark, Finland, and Norway.
- The level at which women are involved in entrepreneurial activities relative to that of men is higher in Sweden than the majority of GEM 2001 countries.

Unique National Features

- The Swedish economy continues to depend strongly on exports. It is very open and influenced by changes in global economic conditions. The slowdown in the world economy and the adverse movement in share prices, especially in information and communications technologies, have put pressure on the Swedish currency.
- The public sector in Sweden accounts for a significant proportion of GDP. This can act as a barrier to entrepreneurial activity, especially among women who are more highly represented in the public sector workforce than in the private sector.
- Sweden's business environment is generally favorable. However, the climate for entrepreneurs is less positive due to factors such as the high level of personal income tax.

Key Issues

- There are a number of historical impediments to entrepreneurship in Sweden. Notable among them are (a) owner-managers' reluctance to share equity, (b) the lack of attention given to entrepreneurship in education, (c) negative attitudes toward entrepreneurial failure and a lack of positive role models, and (d) an egalitarian bias reflected in sustained efforts to narrow income differentials.
- Structural constraints include high income tax rates and high wage costs, excessive regulation, and the existence of a strong social security system that provides better support for employees than it does for entrepreneurs.
- Entrepreneurship education has become more common at all levels in the Swedish education system. Many initiatives have been launched in recent years at both high school and college levels. However, many students still do not have the opportunity to take any entrepreneurship courses.

UNITED KINGDOM

Level of Entrepreneurial Activity

- The United Kingdom has a level of entrepreneurial activity (7.8 percent) that is slightly below the average for the 29 GEM 2001 countries and little changed from the level in 2000.
- In the United Kingdom, 2.6 percent of the adult population invests in start-up businesses. This is below the GEM 2001 average of just over 3 percent.
- The participation of women in entrepreneurial activities relative to that of men is low in the United Kingdom. The rate for women is less than one-third that for men.

Unique National Features

- In terms of the general business and regulatory environment, conditions in the United Kingdom are conducive to entrepreneurship. The United Kingdom ranks lowest in the OECD index of barriers to entrepreneurship, which measures factors such as permits, licenses, the complexity of rules, and administrative burdens.
- The United Kingdom has the most highly developed venture capital market in Europe, representing 37 percent of total funds raised in Europe.
- The government has put entrepreneurship at the heart of its business policy agenda with a focus on reducing regional disparities in start-up rates and removing barriers so that opportunities are available to all regardless of background. Policy proposals include reform of bankruptcy and insolvency laws, changes to capital gains tax, and the encouragement of entrepreneurship through education.
- There remain relatively wide regional variations in entrepreneurial activity throughout the United Kingdom.

Key Issues

- The main issue of concern expressed by industry experts is that of cultural and social attitudes to entrepreneurship. Despite an improvement over recent years, partly due to the “dot-com” phenomenon and positive government rhetoric, prevailing attitudes remain negative toward wealth creation, self-employment, and business failure.
- Other barriers to entrepreneurship are the availability of financing, particularly for certain groups in society, individual risk aversion, and government regulation. There is also concern over a lack of skills and growth aspirations among entrepreneurs, a non-supportive education system, and low levels of basic education.
- Areas in which the United Kingdom is seen as successfully supporting entrepreneurship are the development of the venture capital industry, macroeconomic stability,and increasing levels of technology transfer from universities.

UNITED STATES

Level of Entrepreneurial Activity

- In the US, 13.8 percent of the adult population is involved in the creation and growth of start-up businesses, lower than the rate in 2000 but still among the highest of the GEM 2001 countries. The United States has the highest proportion (85 percent) of opportunity-based entrepreneurs.
- Business angel activity is high in the US, with 5.3 percent of adults investing informally in start-ups.
- Women entrepreneurial activity in the United States is among the highest of the GEM 2001 countries.

Unique National Features

- American culture embraces change and opportunity seeking. Entrepreneurship is an accepted occupation. Failure is accepted as a learning experience and entrepreneurs often repeat their efforts to launch new businesses.
- The sudden and sharp decline in information and communications technology sectors is having a severe negative effect on entrepreneurs seeking venture capital in those sectors.
- Venture capital funding, particularly in technology sectors, declined dramatically between 2000 and 2001. Total venture capital investment through the second quarter of 2001 was $22.8 billion, 58 percent below the same period in 2000.
- Women are increasingly active in entrepreneurship in the US and there are a variety of initiatives underway to enhance the managerial and leadership skills of female entrepreneurs.

Key Issues

- There is growing concern over gaps in the range of funding available for start-ups. Experts indicate that it is becoming increasingly difficult to fund projects between $500,000 and $5 million. There may therefore be just cause for expanding the business angel network to fill the gap. Given the recent slowdown in the economy, equity resources have tightened, exacerbating the seed capital gap.
- Women and minorities continue to have difficulty in raising capital. This is most prevalent in many “non-traditional” and service industries. Women create 70 percent of jobs and own 26 percent of privately held companies, but they receive only 4.4 percent of venture capital.
- There may exist an underlying distrust level between the scientific and business communities to the detriment of the technology transfer process.
- Rural areas need improvements in the communications infrastructure. Without such an infrastructure, the divide between urban and rural entrepreneurship will increase.

Section K

Implications for Public Policy

Major findings in the third GEM cross-national analysis of entrepreneurship completed in 2001 were as follows:

- A systematic harmonized assessment of the level of entrepreneurial activity in 29 diverse countries has been completed.
- The national patterns, both the absolute level and relative rank among countries, indicate considerable national stability in entrepreneurial activity from 2000 to 2001.
- Opportunity and necessity entrepreneurship were identified as distinctly different activities in the entrepreneurial sector; there was much greater diversity among countries in the prevalence rate of necessity entrepreneurship.
- The prevalence rate of opportunity entrepreneurship in 2001 was unrelated to national economic growth in the previous, current, and future years.
- The prevalence rate of necessity entrepreneurship in 2001 was positively associated with national economic growth for both the current year and projected growth in year 2002.
- Growth-potential firms were located in all national economies, and while they were found in all economic sectors there was an increased emphasis in business service, especially in computer-related niches.
- Assessment of individual factors found systematic distinctions between those involved in necessity and opportunistic entrepreneurship, although all groups of people were involved in both types of activities.
- A number of national contextual factors were associated with higher prevalence rates of opportunity and necessity entrepreneurship:
  - o Both were higher where there was greater income inequality and where adults expected the national economic situation to improve.
  - o Opportunity entrepreneurship was higher where there was a reduced national emphasis in manufacturing; less complicated new firm registration procedures; higher prevalence of informal investors; perhaps more financial support from the venture capital community; and there was greater community acceptance of entrepreneurial activity.
  - o Necessity entrepreneurship was higher in countries where they had lower levels of development; were less involved in international trade; had greater emphasis on agriculture and less on customer service sectors; did not have extensive government programs to enhance personal economic security; had more young adults in the population; had women who were less “empowered” in the economy; and had government that had a reduced role in the economy.
- An assessment of the issues and challenges associated with entrepreneurship in each country based on over 950 interviews with national experts reflects wide diversity from one GEM nation to another. While most emphasized supportive cultural norms, appropriate financial support, and relevant government policies and programs as major factors affecting entrepreneurship in their country, the exact form varied among countries. This variation seemed to be related, in part, to the level of national entrepreneurial activity present in the country.

It is clear that entrepreneurial activity is an important feature of modern economic life, through contributions to economic growth and adaptation. The evidence that new firms are a major source of net job creation in developed countries makes clear

that the entrepreneurial process provides a continuing, systematic contribution. But what can national governments do to facilitate the entrepreneurial process in their own country?

Development of issues and recommendations for national policy is complicated by several major findings. First, many of the factors associated with higher levels of entrepreneurial activity are difficult for any country to effect. For these, the appropriate response is to adapt programs to take such features into account. Second, the factors associated with higher levels of opportunistic and necessity entrepreneurship have a complicated set of interrelationships: some have the same association with both, some affect one but not the other, and a few have the opposite relationship to the two types of entrepreneurial activity. Finally, policy implications may be different for countries at different levels of economic development.

This is particularly complicated by the high level of association of a number of factors associated with national economic development, which have a negative association with the prevalence of necessity entrepreneurship. Many developed countries have very low necessity entrepreneurship prevalence rates. This does not suggest that development should be reversed to increase necessity entrepreneurship. For example, it would not be wise to shrink the educational infrastructure and reduce educational attainment in the hope that necessity entrepreneurship might then increase.

Many factors are difficult to change in the short run, but the situation can be monitored and policy responses developed. The following suggestions would seem to apply to all countries:

- Enhance education, general and entrepreneurship specific: A strong educational emphasis, related to both general and entrepreneurial education is clearly justified. Not only are those with limited education not likely to participate in entrepreneurial initiatives, they tend to match their business aspirations to their skill potential and, as a consequence, emphasize less ambitious and less complex business activities, initiatives that may make little contribution beyond their own employment. There has consistently been a high level of association between educational attainment, confidence in one's skills to implement a start-up business, and the presence of entrepreneurial ventures. No factor has shown higher levels of association with individual entrepreneurial efforts than a strong general education and confidence that one has the skills to implement a new firm.

- Reduce government role in the national economy: This refers, of course, to the production of goods and services in competition with the private economy. The greater the scope of the economy managed by non-government entities, the greater the range of opportunities for entrepreneurial efforts to provide goods and services.

- Simplify new business registrations: The costs and time required to register a new firm seems to have a strong negative association with prevalence of opportunistic entrepreneurship. If such requirements are a mechanism for protecting established firms from competition, they have a social cost in reducing entrepreneurial activity.

- Moderate economic security benefits: There is a strong negative association between the level and duration of unemployment benefits and the prevalence of necessity entrepreneurship. National governments should carefully consider the most appropriate balance between an appropriate cushion for the unemployed and the national bene-

fits from more necessity entrepreneurship.

- Promote portable retirement and health benefit programs: Most people that initiate new ventures, particularly nascent firms, are employed while they enter the entrepreneurial process to create the new venture. They leave their job for a full-time commitment to the entrepreneurial venture after it is clear that the new venture may succeed. Retirement and health-care programs that are not "vested' in the individual and where there is a major loss of benefits upon termination of employment may reduce incentives for pursuing entrepreneurial career choices. This may be a detriment to the national interest.

- Recognize formal and informal financial support for entrepreneurship: While most governments are aware of and recognize the formal support provided to dozens or hundreds of high potential new firms by the venture capital sector, there is little recognition, official endorsement, or encouragement of the massive flow of informal invested funds into hundreds of thousands of entrepreneurial ventures, many with growth potential.

- Compensate for gaps in the population age structure: Countries with a relative shortage of mid-career adults may wish to encourage older citizens, or more women, to be active in entrepreneurial efforts.

- Facilitate female participation in entrepreneurship: Women participate in entrepreneurship at about one-third the rate of men in all countries. Their participation is reduced, however, in many developed countries, perhaps because they take work careers in public or service sectors with reduced opportunities for entrepreneurial ventures. Special efforts to provide women with the training and resources to pursue entrepreneurial initiatives may be justified.

- Anticipate and accept change in the national economic structure: National shifts in the economic structure are reflected in shifts in entrepreneurial initiatives. Countries with a strong agriculture emphasis seem to have a higher emphasis on consumer-oriented sectors among their entrepreneurial ventures. National governments should be prepared to accept the transitions between sectors and, perhaps, help to reduce the burden of the change borne by those involved, particularly workers in transition.

A more difficult, but important task would be to increase the social acceptance of entrepreneurial activity and some of the associated features. This may be done by:

- Emphasize economic adaptation as a collective responsibility: Accept and promote the view that all citizens share responsibility for change in the economic system. Such change involves churning and turbulence in jobs and firms as inefficient firms are replaced by more efficient or viable firms. Modern societies are too complex and change too quickly for any centralized coordination mechanism to provide timely adaptation. The role of government may be to supervise the adaptive process, carried out by private initiatives.

- Encourage toleration of diversity in income and wealth: Greater disparity in household and personal income is consistently associated with higher levels of entrepreneurial activity. As long as this diversity reflects appropriate contributions to national economic growth, it should be recognized and accepted. Envy of success and resentment of wealth should not be so strong as to discourage those that may choose to contribute to national economic adaptation by implementing a new firm. A tax structure that drives those with successful firms out of the country does not reflect a positive climate in this regard.

- Improve acceptance of entrepreneurship as a career choice: Take steps to ensure that all citizens consider an entrepreneurial career option both acceptable and a major contribution to national economic adaptation and growth.

A key feature of such a shift in social norms is

acceptance of start-up terminations and business closures as a normal, appropriate feature of modern societies. Business failure should not be considered a personal failure.

- Facilitate career, economic sector, and geographical transitions: Government support should facilitate transition in the economy – both personal transitions from one career to another, training and funding for sector transitions, and perhaps geographic transitions to reduce regional labor shortages or disparity in unemployment rates.

Developing countries appear to have a special set of circumstances. First, the prevalence of entrepreneurial activity is quite high in most developing countries. Much of this activity reflects much higher prevalence of necessity entrepreneurship. It is safe to assume that entrepreneurship is a widely accepted career option in most developing countries. Second, most of the other factors, listed above for all countries, may be considered for adoption in developing countries.

But developing countries have another, more unique problem. Many of the features of a developing country, reflected in its emerging status, are associated with higher levels of necessity entrepreneurship. Perhaps a unique policy response for developing countries would reflect the strong association between necessity entrepreneurship and national economic growth. Specifically, the following might be considered:

- Recognize all forms of entrepreneurship: Formal recognition should be given to the important role that street-level entrepreneurship, even if based on desperation, may contribute to adaptation of the economic structure. This could balance the existing attention to high-growth firm start-ups.
- Provide small seed money loans: A major disadvantage of an extensive social network for those with low income is that most of their family, relatives, work colleagues, neighbors, and the like have very limited income and personal wealth. Micro-loan programs can help to compensate for this disadvantage.
- Provide basic training in starting and managing businesses: Many people that engage in necessity entrepreneurship have limited general education and no formal training in creating and managing a business. Workshops, seminars, training, etc. can help ordinary individuals in the fundamentals of identifying business opportunities, organizing a start-up firm, and managing a new or small business. A network of grass roots "entrepreneurial agents," similar to "agricultural agents" that assist small farmers, may be appropriate for some regions.

It would appear that all countries confront a major dilemma as they become more developed. Necessity entrepreneurship has a strong association with national economic growth. However, one thing that ordinary people dislike is uncertainty about their own economic situation. As a consequence, one of the major government initiatives that emerges when countries develop sufficient national wealth are programs that reduce uncertainty about individual and household economic well-being. To reduce this economic insecurity, government programs may provide substantial unemployment benefits. In some cases these programs are developed so individuals unable to find work will NOT need to create a new business entity. But the process of providing economic security essentially reduces the level of necessity entrepreneurship and, in the process, may substantially undermine one of the major factors that leads to economic growth in the first place.

Hence, all governments in developing and

developed countries may need to determine the optimum policy that is best for their national interest, balancing a desire for economic security with a national need for continual economic adaptation and growth. This may result in different combinations of policies across similar countries.

Section L

Conclusions: Assessments and Future

The Global Entrepreneurship Monitor program is organized to respond to three issues:

- Are there differences among countries in the level of entrepreneurial activity?
- Are these differences related to national economic growth?
- What national features are related to differences in the level of entrepreneurial activity?

As a guide for the design of data collection and analysis of these issues, a conceptual scheme was developed, presented again in Chart L.01, that was extremely useful for GEM 1999 and GEM 2000.

Data from harmonized surveys across countries are used to measure differences in national entrepreneurial activity. Data from standard international sources are utilized as measures of national economic growth. Data from national adult population surveys, standard international sources, and detailed interviews completed with experts on the entrepreneurial sector in each country are used in assessments of factors that may affect differences in levels of entrepreneurial activity.

The 1999 GEM assessment based on 10 countries illustrated the value of the research strategy and the strong interest in the report indicated the significance attached to the primary issues.

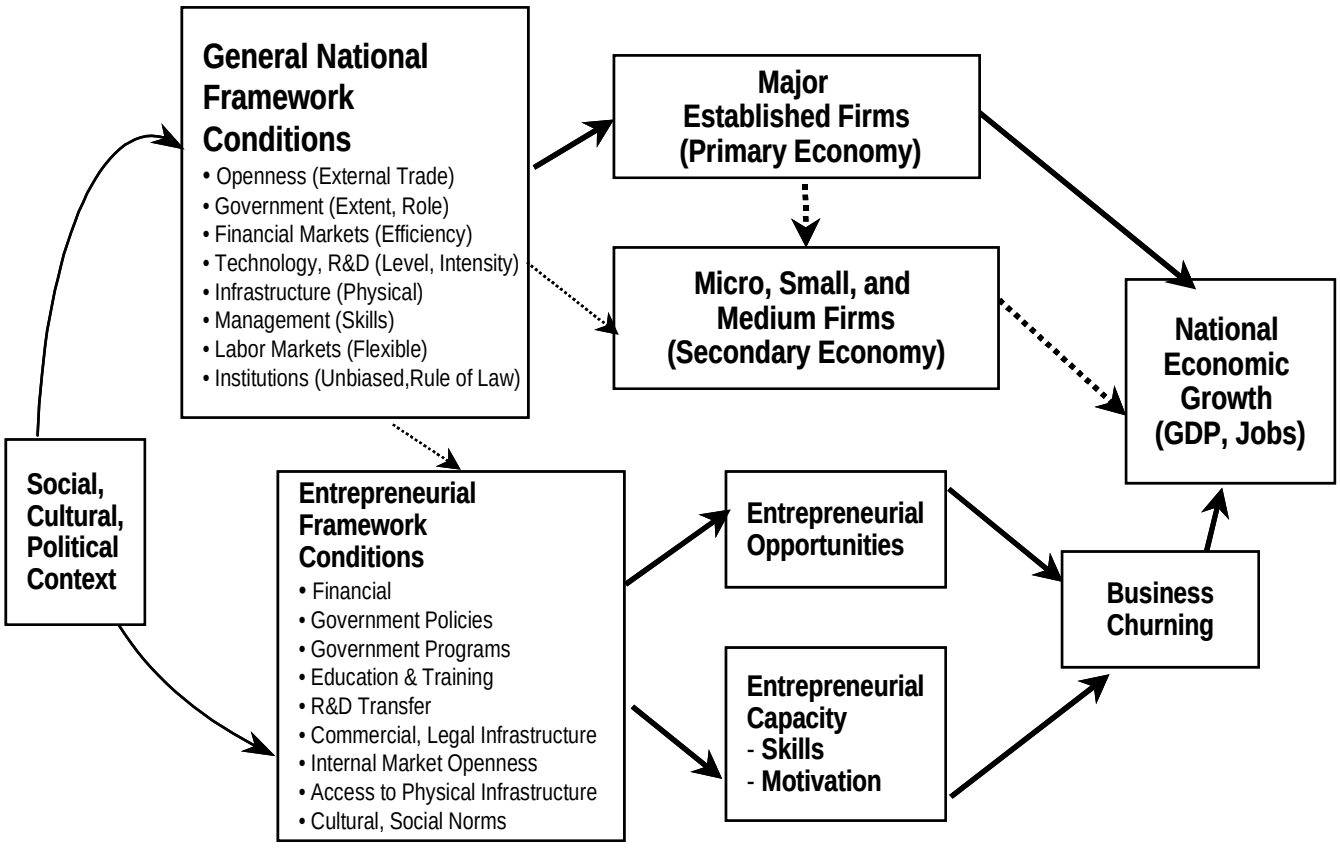


Chart L.01 Existing GEM Conceptual Model

The 2000 assessment, involving 21 countries, based on improved data collection schemes, provided further evidence in the value of the approach and, in particular, the more sophisticated portrayal possible when a distinction was made between nascent firms, or start-up initiatives, and new firms, those less than 42 months old. The 2001 assessment, involving 29 countries, was based on a further improved data collection strategy. Enhanced interview schedules allowed for a difference between opportunity and necessity entrepreneurship, as well as nascent and new firms. Adjustments were also made in the processing of adult survey data to provide a more accurate measure of the level of activity among ordinary adults and more consistency across procedures by survey firms. The result was higher prevalence rates for all countries, although there were few changes in the rank order of countries. These adjustments are described in more detail in the operations manual.

The capacity to measure, in a reliable fashion, the level of entrepreneurial activity at the national level has improved substantially. It is now possible to provide more subtle and detailed portrayals of the differences between countries – differences that continue to be substantial.

The relationship between the level of entrepreneurial activity and national economic growth has become more complex. Most countries involved in GEM 1999 and GEM 2000 were in periods of growth as the assessments were completed. There were, generally speaking, positive associations between the level of entrepreneurship and national economic growth in these periods. In GEM 2001 growth had slowed for many GEM countries and no association was found between 2001 opportunity entrepreneurship and measures of 2000, 2001, and 2002 national economic growth. There was, however, a significant positive association between 2001 necessity entrepreneurship and national economic growth for 2001 projected for 2002.

This indicates that, indeed, growth may attract entrepreneurial activity at the same time entrepreneurial activity may contribute to national economic growth. But these may be different types of entrepreneurial initiatives. Determining the relative impact of these two mechanisms requires longitudinal data – over the full economic cycle – with a substantial number of countries – more than 50 would be convenient. It will be several years before such a data set is available.

Given the available data and the number of countries involved, it has only been possible to develop suggestive patterns related to the final issue, what leads to more entrepreneurship? A number of themes, based on an association with entrepreneurial activity, have been consistent across the three annual assessments: the age structure of the population, general and entrepreneurial education and training, the availability of financial resources, tolerance for income disparity, cultural acceptance

of entrepreneurship, reductions in government presence as well as administrative requirements, and special assistance for women have continued to emerge as major issues – year after year. Again, a broader range of countries as well as longitudinal data is required before efforts to establish the causal relationships can be undertaken with confidence.

The complexity of the relationships developed in completing the GEM 2001 analysis has made it clear that the original conceptual scheme is inadequate. Two major patterns have emerged to encourage revision of the model. First, the finding that necessity and opportunity entrepreneurship – either at the individual level or representing national prevalence rates – are somewhat different phenomena, albeit both related to new firm creation. Second, the finding that opportunity entrepreneurship among the 29 GEM 2001 countries was unrelated to national economic growth, while at the same time necessity entrepreneurship has a significant relationship, was not envisioned in the original conceptual model.

If the conceptual model could be revised to allow for further exploration of distinction mechanisms related to these patterns, it would be substantially more useful.

Such a revised model is proposed and presented in Chart L.02. There are three major changes, represented by four additional concepts (or stages in the processes). First, the "national level of economic development" is placed adjacent to the "social, cultural, and political context" to the far left of

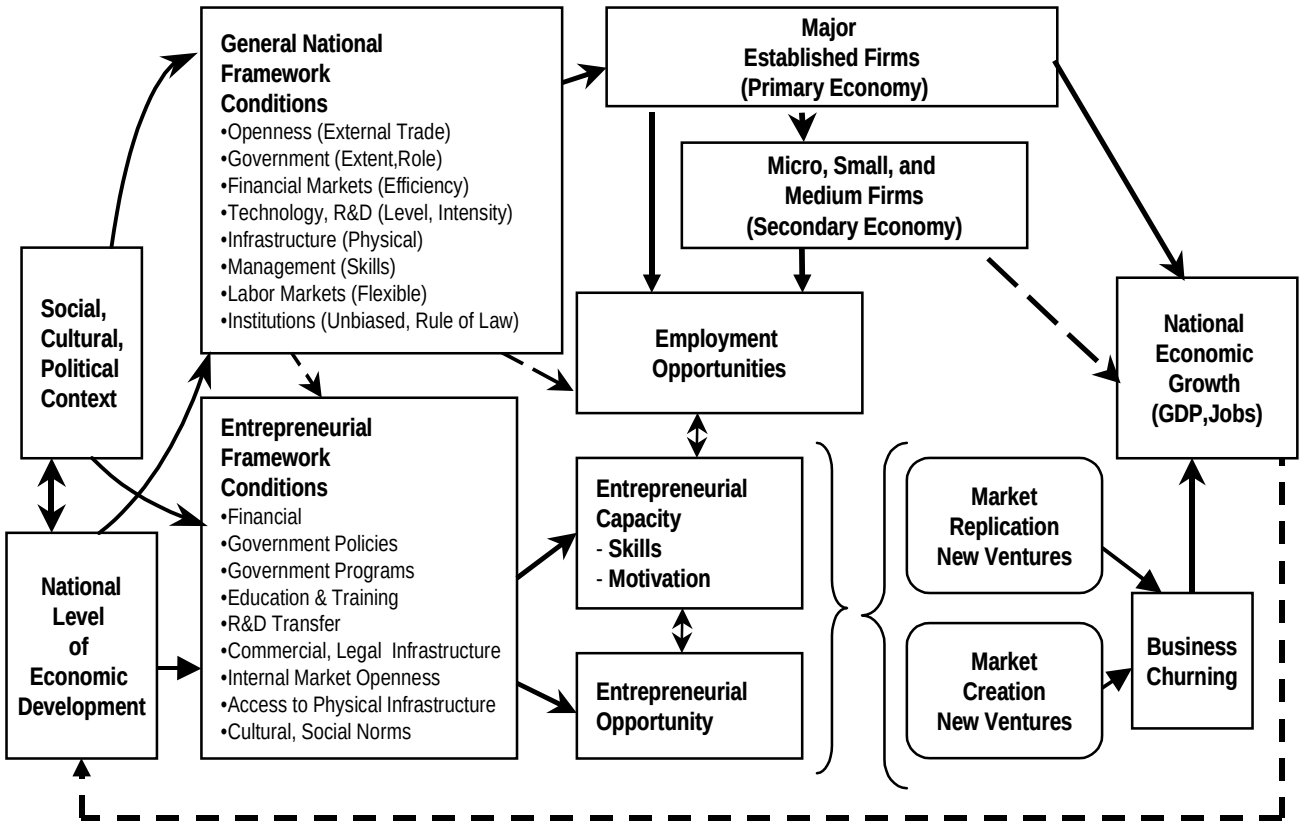


Chart L.02 Revised GEM Conceptual Model

the presentation. A dotted line from "national economic growth" on the far right to "national level of economic development" on the far left indicates the expectation of a feedback process. National economic growth is expected to lead to further national economic development.

Second, the presence of necessity entrepreneurship in less developed countries where there are major shortages of employment opportunities, or jobs, leads to the placement of "Employment Opportunities" in the middle of the chart. The absence of jobs is expected to affect the motivation to participate in new firm creation, increasing the level of necessity entrepreneurship. It is expected that such jobs would be provided by major established firms as well as small and medium enterprises.

But perhaps most important is the specification of two types of new ventures: market replication and market creation. This distinction is designed to capture the different types of impacts a new business may have on the existing market structure. As both may affect "business churning", they are placed between the features of the entrepreneurial sector—capacity and opportunity—and business churning. The exact nature of the relationship cannot be specified at this time.

"Market replication" refers to firms that are replicating or duplicating existing business activity—another restaurant, another apartment house, or another construction firm—that is designed to respond to increased demand for established goods or services. The new market replication firm may provide direct competition for existing firms, but there will little adjustment in the nature or mix of the market sectors. Customers will have pretty much the same options, just more firms to choose from.

"Market creation" would refer to a firm providing a new, unprecedented good or service for the customers. It may not be in direct competition for existing businesses but could provide indirect competition by offering customers a new range of options. Market creation new firms are emphasized in discussions of "creative destruction" and may expand the total amount of economic activity by creating entirely new markets and industries for new goods and services.

Most new business activity, perhaps more than nine in ten[1], will probably be market replication, but the minority that emphasize market creation may provide major contributions to economic growth and adaptation. Market creation entrepreneurship would be expected to reflect the creative and innovative efforts of the start-up team and their efforts to launch the new product or service to maximum advantage to themselves and their investors. Start-up equity investors may favor the high potential returns of market creation entrepreneurship and willing to accept the higher risk associated with an unknown level of demand in the "yet to be defined" market.

There has not been, to date, a direct meas-

ure of start-up and new firm activity that would distinguish between these two forms in the GEM interviews. The distinction based on motives added in GEM 2001, between necessity and opportunity entrepreneurship, may be related to the emphasis on market replication or market creation, but there is no reason to expect all necessity entrepreneurship to lead to market replication new businesses or all opportunity entrepreneurship to lead to market creation new businesses. In fact, most opportunity entrepreneurship is a response to increased demand for existing goods and services, and should be considered as market replication activities. Those driven to entrepreneurial activity out of necessity may well elect to implement a market creation new venture. The relationship between these two aspects of the firm creation process has yet to be established.

As no direct measure of "market replication" versus "market creation" new ventures is available for GEM 2001, no relevant analysis is possible. This should be corrected in future GEM data collection cycles. A more precise delineation of the level of sector creation entrepreneurship—and its relationship to motivation--should be of substantial benefit in sorting out the causal interactions between national economic growth and the creation of all types of new firms.

In sum, the trajectory of the GEM project is quite strong, both in terms of intellectual advances, scope of coverage, and relevance to government policy. The number of countries with participating teams continues to expand; the 40 or more countries expected in 2002 will represent half of the world's population. A widening circle of policy makers, scholars, and practitioners now use and refer to the results.

ENDNOTES SECTION L

1. A similar distinction is under development, based on comprehensive assessment of a panel of those in the start-up process in Sweden, between "equilibrium venture opportunities" and "innovative venture opportunities." Innovative venture opportunities were found to be about 15% of all startups and there were a number of differences between the nature of the two types of new firms. Samuelsson, Mikael. 2001. "Modeling the Nascent Venture Opportunity Exploitation Process Across Time." Jonkoping, Sweden: Babson-Kauffman Entrepreneurial Research Conference.

Appendix I

Entrepreneurship, Economic Growth, and the Significance of the GEM Project

(Roy Thurik and Sander Wennekers)[1]

ENTREPRENEURSHIP MATTERS

Entrepreneurship and small business are related but certainly not synonymous concepts. On the one hand, entrepreneurship is a type of behavior which concentrates on opportunities rather than resources (Stevenson and Gumpert, 1991). This type of behavior can happen in both small and large businesses but also elsewhere. On the other hand, small businesses can be a vehicle for both Schumpeterian entrepreneurs introducing new products and processes that change the industry and for people who simply run and own a business for a living (Wennekers and Thurik, 1999). The latter group includes many franchisees, shopkeepers and people in professional occupations. They belong to what Kirchhoff (1994) calls 'the economic core'. That both entrepreneurship and small businesses matter is not a new observation. In particular, they are important where they overlap. This is in the area of new small and often fast growing businesses. However, the way in which they matter has evolved over time. During the first decades of the last century, small businesses were both a vehicle for entrepreneurship and a source of employment and income. This is the era in which Schumpeter (1912) conceived his *Theory of Economic Development*. Here Schumpeter emphasizes the role of the entrepreneur as prime cause of economic development. He describes how the innovating entrepreneur challenges incumbent firms by introducing new inventions that make current technologies and products obsolete. This process of creative destruction is the main characteristic of what has been called the Schumpeter Mark I regime.

During the post-war years small business still mattered, but increasingly less on the grounds of economic efficiency, and more for social and political purposes. In a time when large firms had not yet gained the powerful position of the 1960s and 1970s, small businesses were the main supplier of employment and hence of social and political stability. Scholars, such as Chandler (1977), Galbraith (1967) and Schumpeter (1942), had however convinced the economists, intellectuals and policy makers of that era that the future was in the hands of large corporations and that small business would fade away as the victim of its own inefficiencies. Policy in the United States was divided between allowing for the demise of small business on economic grounds, on the one hand, and preserving at least some semblance of a small-enterprise sector for social and political reasons, on the other. Small business, it was argued, was essential to maintaining American democracy in the Jeffersonian tradition.

Certainly, passage of the Robinson-Patman Act (Foer, 2001), which has been accused of protecting competitors and not competition (Bork, 1978), and creation of the United States Small Business Administration were policy responses to protect less-efficient small businesses and maintain their viability. These policy responses are typical for a Schumpeter Mark II regime. In *Capitalism, Socialism and Democracy*, Schumpeter (1942) focuses on innovative activities by large and established firms. He describes how large firms outperform their smaller counterparts in the innovation and appropriation process through a strong positive feedback loop from innovation to increased R&D activities. This process of creative accumulation is the main characteristic of what has been called the Schumpeter Mark II regime.

The aim of the present short contribution is to show that since the 1970s the world has changed considerably, and that this change has had consequences for the current policy debate. Our paper deals with some aspects of the recent scientific literature on the relation between entrepreneurship and small business, on the one hand, and economic growth, on the other. In particular, it gives a summary of some work of the EIM/CASBEC research group in the Netherlands. It refers to scientific analyses showing that countries that are lagging behind in the process of restructuring will pay a penalty in terms of forgone growth. It also pays attention to the Global Entrepreneurship Monitor (GEM), a new and large multinational project focusing on the collection and analysis of internationally comparable data on the rate of entrepreneurial activity.

THE WORLD CHANGES

In today's world small businesses, and particularly new ones, are seen more than ever as a vehicle for entrepreneurship contributing not just to employment and social and political stability, but also to innovative and competitive power (Wennekers and Thurik, 1999). In short, the focus has shifted from small businesses as a social good that should be maintained at an economic cost to small businesses as a vehicle for entrepreneurship. With this shift came the renewed perception of the important role of entrepreneurship. Indeed, recent econometric evidence suggests that entrepreneurship is a vital determinant of economic growth (Audretsch and Thurik, 2000; Audretsch, Carree, van Stel and Thurik, 2002; Carree and Thurik, 1999; Carree, van Stel, Thurik and Wennekers, 2001; Audretsch, Carree and Thurik, 2001). According to Audretsch, Carree, van Stel and Thurik (2002), a cost in terms of forgone economic growth will be incurred from a lack of entrepreneurship. The positive and statistically robust link between entrepreneurship and economic growth has now been verified across a wide spectrum of units of observation, spanning the establishment, the enterprise, the industry, the region, and the country.

Thus, while small business has always mattered to policy makers, the way in which it has mattered has drastically changed. Confronted with rising concerns about unemployment, job creation, economic growth and international competitiveness in global markets, policy makers have responded to this new evidence with a new mandate to promote the creation of new businesses, i.e., entrepreneurship. See Reynolds, Hay, Bygrave, Camp and Autio (2000). Initially, European policy makers were relatively slow to recognize these links but since the mid-1990s have rapidly built momentum in crafting appropriate approaches. See EIM/ENSR (1993 through 1997) and Audretsch, Thurik, Verheul and Wennekers (2002). Yet, without a clear and organized view of where and how entrepreneurship manifests itself, policy makers are left in unchartered waters without an analytical compass. This explains the variation in their responses (European Commission, 2000 and 2001).

EVIDENCE OF THE CHANGE

There is ample evidence that economic activity moved away from large firms to small firms in the 1970s and 1980s. The most impressive and also the most cited is the share of the 500 largest American firms, the so-called Fortune 500. Their employment share dropped from 20 per cent in 1970 to 8.5 per cent in 1996 (Carlsson, 1992 and 1999). European data dealing with the size distribution of firms were not available in a systematic manner until recently. However, Eurostat has begun publishing yearly summaries of the firm size distribution of (potential) EU-members at the two-digit level for the entire business sector. The efforts of Eurostat are supplemented by the European Network of SME Research (ENSR), a cooperation of 19 European institutes. This organization publishes a yearly report of the structure and the developments of the small business sectors in nineteen European countries. See EIM/ENSR (1993 through 1997) and European Commission (2000). Additionally, the annual GEM project mentioned before will contribute to our view on the size and significance of the change because it assembles unique data on new business start-ups in a large and increasing number of countries across various phases of economic development. See Reynolds, Hay, Bygrave, Camp and Autio (2000).

Lastly, there is the COMPENDIA data set of EIM of business ownership rates of 23 OECD countries in the period 1974-1998 (Audretsch and Thurik, 2000 and Audretsch, Thurik, Verheul and Wennekers, 2002). It shows that there has been considerable disparity among OECD countries in business ownership rates both across countries and over time. It also shows that the countries with the lowest rate of business ownership are Luxembourg, Denmark, Norway, Austria, Sweden and Finland. For these countries, several of which are Scandinavian, the rate of business ownership is below 8.5% in 1998.

By comparison, the weighted sample average in 1998 is approximately 11%. By contrast, in four countries, Greece, Italy, Portugal and Australia, the business ownership rate exceeds 15%. Note that the majority of these countries are Mediterranean. Taken as a whole the number of business owners in the 23 countries grew from about 29 million in 1972 to about 45 million in 1998. The proportional growth of the labor force has been lower in this period so that the rate of business ownership increased from 10% to 11%. Clearly, the United States is the country with the highest number of business owners: about 32% of the total 45 million business owners in the 23 countries in 1998 are situated within the United States, about the same percentage as in 1984. Countries that increased in business ownership rate by more than 3 percentage points in the period of 1984 through 1998 include Ireland, Canada, New Zealand, Portugal and Iceland. The former three countries experienced a growth of the business ownership rate in the period prior to 1984. There are four countries suffering a decline in the business ownership rate in both periods: Denmark, France, Luxembourg and Norway. Although Japan only had a decline in business ownership in the second period (1984-1998), this decline is particularly noteworthy since its share in total business owners dropped from more than 20% in 1972 to 15% in 1998.

CAUSES OF THE CHANGE

Acs and Audretsch (1993) and Carlsson (1992) provide evidence concerning manufacturing industries in countries in varying stages of economic development. Carlsson advances two explanations for the shift toward smallness. The first deals with fundamental changes in the world economy from the 1970s onwards. These changes relate to the intensification of global competition, the increase in the degree of uncertainty and the growth in market fragmentation. The second explanation deals with changes in the character of technological progress. Carlsson shows that flexible automation has various effects resulting in a shift from large to smaller firms. The pervasiveness of changes in the world economy, and in the direction of technological progress result in a structural shift affecting the economies of all industrialized countries. Also Piore and Sable (1984) argue that the instability of markets in the 1970s resulted in the demise of mass production and promoted flexible specialization. This fundamental change in the path of technological development led to the occurrence of vast diseconomies of scale.

This shift away from large firms is not confined to manufacturing industries. Brock and Evans (1989) show that this trend has been economy-wide at least for the United States. They provide four more reasons why this shift has occurred: the increase of labor supply leading to lower real wages and coinciding with an increasing level of education;

changes in consumer tastes; relaxation of (entry) regulations and the fact that we are in a period of creative destruction. Loveman and Sengenberger (1991) stress the influence of two trends of industrial restructuring: that of decentralization and vertical disintegration (the breaking up of large plants and businesses) and that of the formation of new business communities. These intermediate forms of market coordination flourish owing to declining costs of transaction. Furthermore, they emphasize the role of public and private policies promoting the small business sector. Audretsch and Thurik (2000) point at the necessary shift towards the knowledge based economy being the driving force behind the move from large to smaller businesses. In their view globalization and technological advancements are the major determinants of this challenge of the Western countries. See Loveman and Sengenberger (1991), Acs, Carlsson and Karlsson (1999) and Carree et al. (2001) for a further documentation of industrial changes and their causes.

CONSEQUENCES OF THE CHANGE

The causes of this shift are one thing. Its consequences cover a different area of research. Acs (1992) began the discussion. He distinguishes four consequences of the increased importance of small firms: a vehicle for entrepreneurship, routes of innovation, industry dynamics and job generation. His claims are that small firms play an important role in the economy serving as agents of change by their entrepreneurial activity, being the source of considerable innovative activity, stimulating industry evolution and creating an important share of the newly generated jobs. Baumol (1993) amply deals with the role of entrepreneurial activities and the different effects it may have. The role of smallness in the process of innovative activities is investigated extensively by Acs and Audretsch (1990) and Audretsch (1995). The discussion of the relation between the role of small firms and industry dynamics is spread out: examples can be found in Audretsch (1995). Cohen and Klepper (1992) focus on the role of the number of firms and diversity for obtaining progress. Audretsch and Thurik (2001) observe that the change is of major importance and talk about the shift from the managed to the entrepreneurial economy.

Clearly, there are many more consequences of the increased share of small firms than the four mentioned by Acs (1992). For instance, an increase in the share of small firms may lead, ceteris paribus, to a lower orientation towards exports, a lower propensity to export employment, a qualitative change in the demand for capital and consultancy inputs, more variety in the supply of products and services or in the manner and aims of conducting research and development. The literature of the consequences of smallness is complemented by some empirical exercises by Carree and Thurik (1998 and

1999) for some European countries. They show that a rise in the share of smallness in a certain economy, respectively a high share of smallness in a certain industry generates additional output in the entire economy, respectively industry. Schmitz (1989) provides a theoretical model with a similar result. Audretsch and Thurik (2000) show that an increase of the rate of entrepreneurship (number of business owners per labor force) leads to lower levels of unemployment in 23 OECD countries in the period 1984 through 1994.

The relationship between growth and entrepreneurship has been shrouded with ambiguity. There is assumed to be a two-way causation between changes in the level of entrepreneurship and that of the level of economic development: a "Schumpeter" effect of entrepreneurship enhancing growth and a "refugee" or "shopkeeper" effect of low growth levels stimulating self-employment. Audretsch, Carree and Thurik (2001) try to reconcile the ambiguities found in the relationship between unemployment – as the inverse of economic growth - and entrepreneurship. In Reynolds, Hay, Bygrave, Camp and Autio (2000) a more direct approach is taken correlating growth and entrepreneurial activity. The latter approach is simpler in a methodological sense but more sophisticated in that a wider variety of countries is observed and that entrepreneurial activities are measured appropriately. Despite their entirely different approaches both studies show a positive correlation between entrepreneurship and economic growth.

THE GROWTH PENALTY

In short, a series of studies has identified that the industry structure of many sectors is generally shifting towards an increased role for small enterprises. However, the extent and timing of this shift is anything but identical across countries. Rather, the shift in industry structures has been heterogeneous and apparently shaped by country-specific factors (Carree, van Stel, Thurik and Wennekers, 2001). Apparently, institutions and policies in certain countries have facilitated a greater and more rapid response to globalization and technological change, along with the other underlying factors, by shifting to a less centralized industry structure than has been the case in other countries (Audretsch, Thurik, Verheul and Wennekers, 2002). An implication of this high variance in industry restructuring is that some countries are likely to have industry structures that are different from "optimal".

But what determines this "optimal" industry structure? It is beyond the scope of this note to define or even discuss this in detail (Audretsch, Carree, van Stel and Thurik, 2002). For preliminary evidence we have to refer to the field of industrial organization. There is a long-standing tradition in this field devoted towards identifying the determinants of industry

structure. As early as 1948, Blair(1948) stated that technology is the most important determinant of industry structure. Scherer and Ross (1990) and Chandler (1990) expand the determinants of optimal industry structure to include other factors as well as the underlying technology. Dosi (1988, p. 1157), in his systematic review of the literature in the *Journal of Economic Literature*, concludes that "Each production activity is characterized by a particular distribution of firms." When the determinants of the underlying industrial structure are stable, the industry structure itself would not be expected to change. However, a change in the underlying determinants would be expected to result in a change in the optimal industry structure. Certainly, Chandler (1990) and Scherer and Ross (1990) identified a shift in optimal industry structure towards increased centralization and concentration throughout the first two-thirds of the previous century as a result of changes in the underlying technology along with other factors.

While the evidence suggests that the restructuring paths of industry vary considerably across countries and sectors, virtually nothing is known about the consequences of lagging behind in this process. Do countries with an industry structure for major sectors that deviates considerably from the optimal industry structure forfeit growth more than countries deviating less from the optimal industry structure? This question is crucial to policy makers, because if the opportunity cost, measured in terms of forgone growth, of a slow adjustment towards the optimal industry structure is low, the consequences of not engaging in a rapid adjustment process are relatively trivial. However, if the opportunity cost is high the consequences in terms of foregone economic growth are more alarming. Audretsch, Carree, van Stel and Thurik (2002) try to identify the impact of deviations in the actual industry structure from the optimal industry structure on growth. They use a data base linking industry structure to growth rates for a panel of 18 European countries spanning five years to test the hypothesis that deviations from the "optimal" industry structure result in reduced growth rates. They find that deviations from the optimal industry structure, measured in terms of the relative importance of small firms, have had an adverse effect on economic growth rates. This evidence suggests that those countries that have shifted industry structure towards a larger share of small firms in a more rapid fashion have been rewarded by higher growth rates.

In other words, the evidence shows the importance of initiatives like the EIM/CASBEC research program and the Global Entrepreneurship Monitor in supporting the policy debate to focus more and more on the role of entrepreneurship for economic growth. Despite various research initiatives "…remarkably little is known about the relationship between entrepreneurship and economic growth, including how it works, what determines its strength and the extent to

which it holds for diverse countries" (Reynolds, Hay, Bygrave, Camp and Autio, 2000, p.11). The richness of the newly arising data material in terms of the variety of countries, the variety with which entrepreneurship can be measured and the large amount of explanatory variables will in due time provide policy makers with indispensable insight in macroeconomic policies and instruments needed to foster solid economic growth.

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ENDNOTES APPENDIX I

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Appendix II

Data Collection

Four types of data have been assembled for the GEM 2001 assessments: representative population surveys of adults in each GEM 2001 country; detailed personal interviews with national experts on entrepreneurship; standardized questionnaire completed by each expert; and assembly of standardized data on each country. More details on the entire procedure and analysis are provided in the GEM 2001 Operations Manual (Reynolds, Hunt *et al*, 2001).

Adult population surveys were completed by established survey research firms in each country. These firms and the size of each sample are presented in Table A2.01. Four international survey research firms supervised a number of countries, about half involved direct supervision by the GEM coordination team.

Sampling procedures varied somewhat, but all firms were able to provide samples that, when adjusted with proper weights, were representative of the adult population in each country, urban and rural. Telephone interviews were utilized in most developed countries, where most households have a telephone, and face-to-face interviews in most developing countries, to minimize bias by omitting lower income households.

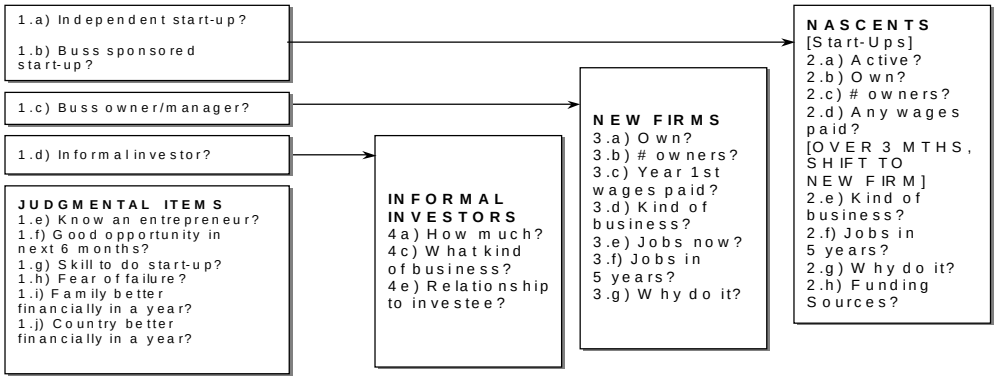
The actual GEM interview takes an average of less than two minutes, with a range of 60 seconds to 15 minutes, depending on how much the respondent is involved in entrepreneurial behavior. The interview schedule flow chart is summarized, with truncated items, in Figure A2.01. The wording of all items is presented in Table A2.02.

For most respondents the interview consists of eight "yes/no" items and two three-choice items. The first four GEM items are related to participation in entrepreneurial activities – starting a new firm, owning and managing a new firm, or informally investing in another's new firm. Anyone engaged in any of these activities (usually less then 20 percent of the respondents) is asked about selected details of these activities. The last six items are related to attitudes toward and knowledge of the entrepreneurial climate. All national teams participated in an open discussion of the schedule; each national team approved the translation into the national languages prior to survey administration. All survey vendors provided data on respondent age and gender; the additional socio-demographic items varied considerably among survey firms.

The actual processing of the data files and application of criteria to determine which respondents qualified as actively involved in the start-up process for a venture they may own, or actively manage a new firm in which they have some ownership, is relatively complicated, reflecting a wide

Country	Data Collection	Coordinated by	Sample Size
Argentina	MORI Argentina	GEM Coordination	2,000
Australia	AC Nielsen	AC Nielsen, International	2,072
Belgium	Taylor Nelson Sofres	Taylor Nelson Sofres	2,038
Brazil	Instituto Bohilha	GEM Coordination	2,000
Canada	Market Facts, Canada	TeleNations Global	2,016
Denmark	GfK Danmark A/S	TeleNations Global	2,022
Finland	Taylor Nelson Sofres-MDC	Taylor Nelson Sofres	2,001
France	AC Nielsen	AC Nielsen, International	1,992
Germany	Taylor Nelson Sofres EMNID	Taylor Nelson Sofres	7,058
Hungary	MEMRB, Hungary	MEMRB Worldwide	2,000
India	AC Nielsen	AC Nielsen, International	2,011
Ireland [1/2]	Taylor Nelson Sofres:	GEM Coordination	1,000
Ireland [2/2]	Irish Marketing Surveys	GEM Coordination	1,000
Israel	Bandman	GEM Coordination	2,055
Italy	Nomesis	GEM Coordination	2,002
Japan	Nippon Research Ctre	GEM Coordination	2,000
Korea	Hankook Research	GEM Coordination	2,008
Mexico	ORC International	GEM Coordination	2,014
Netherlands	Survey@	GEM Coordination	2,013
New Zealand	DigiPoll	GEM Coordination	2,000
Norway	TeleNations Global	TeleNations Global	2,874
Poland	MEMRB, Poland	MEMRB Worldwide	2,000
Portugal	Metris	GEM Coordination	2,000
Russia	MEMRB, Russia	MEMRB Worldwide	2,012
Singapore	Joshua Research Consultants	GEM Coordination	2,004
South Africa [1/2]	Markinor	GEM Coordination	1,999
South Africa [2/2]	A.C. Nielson, SA	AC Nielsen, International	3,284
Spain	Dympanel	Taylor Nelson Sofres	2,016
Sweden	SKOP	GEM Coordination	2,056
UK: All	Taylor Nelson Sofres	Taylor Nelson Sofres	5,528
US	Market Facts	TeleNations Global	3,012
Total interviews			72,087

Table A2.01 GEM 2001 National Survey Research Firms and Sample Size



Structure of GEM 2001 Adult Population Interview Schedule

Figure A2.01 GEM 2001 Adult Population Survey Interview Schedule

range of practices among the survey research firms, diversity of languages used in the actual interviews, and a considerable lack of consensus on what constitutes a "start-up" versus a "new business."

Expert informants were chosen by reputation and referrals to represent the nine entrepreneurial framework dimensions, 36 or more for each new team, and at least 18 for teams repeating a national assessment. Four (or two) with substantial career experience were selected to represent each of the arenas of finance, government policies, government programs, education and training, research and development transfer, commercial and legal infrastructure, internal market openness, and access to physical infrastructure. Over 950 interviews were completed and the national experts' judgments about the most severe problems with their countries' entrepreneurial sector used to summarize their perspective.

Expert self-completed questionnaires, translated into the national languages, consisted of the adult population survey items, 69 five-point scale items covering 13 topics, and socio-demographic items. Sixteen multi-item scales were developed from the 69 fixed response items, all with acceptable levels of reliability. These were used for measures of topics not in the standardized international data sets.

Standardized cross-national data on a variety of national characteristics and attributes, growth in GDP being the most important, were assembled from a wide range of harmonized international sources, such as the UN, Eurostat, ILO, US Census International Data Base, World Bank, International Monetary Fund, etc.

Data set consolidation was completed by the GEM coordination team of both the adult population survey data and all data sets. In all cases data were consolidated such that a single indicator represented each item for each of the 29 countries, approximately 800 such items were developed for GEM 2001. This material was then distributed to the national teams for their use in preparing the individual national reports.

1. Which of the following would apply to you? [Yes, No, Don't Know, Refused]
   a. You are, alone or with others, currently trying to start a new business, including any type of self-employment
   b. You are, alone or with others, trying to start a new business or a new venture with your employer – an effort that is part of your normal work
   c. You are, alone or with others, the owner of a company you help manage
   d. You have, in the past three years, personally provided funds for a new business started by someone else – this would not include buying publicly traded shares or mutual funds
   e. You know someone personally who started a business in the past two years
   f. In the next six months there will be good opportunities for starting a business in the area where you live
   g You have the knowledge, skill, and experience required to start a new business
   h Fear of failure would prevent you from starting a business
   [For i and j only, record Better, Same, Worse, Don't Know, Refused]
   i. Looking ahead, do you think that a year from now you and your family with you will be better off financially, or worse off, or about the same as now?
   j. In a year from now, do you expect that in the country as a whole business conditions will be better, or worse than they are at the present, or just about the same?

ASK QU. 2a-f IF "YES", "DK", or "R" TO Q. 1a OR 1b; OTHERWISE, SKIP TO Q. 3a.

IF THERE IS MORE THAN ONE START-UP, SELECT THE ONE THE RESPONDENT CONSIDERS MOST LIKELY TO BECOME OPERATIONAL.

2a. You mentioned that you are trying to start a new business. Over the past twelve months have you done anything to help start this new business, such as looking for equipment or a location, organizing a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business? [Yes, No, Don't Know, Refused]

2b. Will you personally own all, part, or none of this business?
[If All, skip to Q. 2d.]

2c. How many people, including yourself, will both own and manage this new business?

2d. Has the new business paid any salaries, wages, or payments in kind, including your own, for more than three months? [Yes, No, Don't Know, Refused]
[If YES, Q. 3.c]

2e. What kind of business is this? (PROBE:) What will it be selling? How would it be listed in a business directory, such as the phone book yellow pages?

2f. How many people will be working for this business, not counting the owners but including all exclusive subcontractors, when it is five years old? By exclusive subcontractors, we mean only people or firms working ONLY for this business, and not working for others as well.

2g. Are you involved in this start-up to take advantage of a business opportunity or because you have no better choices for work? (ENTER SINGLE RESPONSE.)
[Take advantage of business opportunity; No better choices for work; Combination of both of the above; Have a job but seek better opportunities; Other; Don't know; Refused]

2h. Have you received or do you expect to receive money – loans or equity investments – from any of the following to start this business? [Record Yes, No, Don't Know, Refused for each of the following]
1) Yourself, either savings or income; 2) Close family member, such as a spouse, parent, or sibling; 3) Other relatives, kin, or blood relation; 4) Work colleagues;
5) Employer; 6) Friends or neighbors; 7) Banks or other financial institutions; 8) Government programs; 9) Any other source (SPECIFY)

Table A2.02 GEM 2001 Adult Survey Interview Schedule [1/2]

ASK Q. 3a-b IF "YES" , "DK", or "R" TO Q. 1c.

IF THERE IS MORE THAN ONE BUSINESS, SELECT THE ONE THAT PROVIDES THE MOST JOBS.

3a. You said you were the owner and manager of a company. Do you personally own all, part, or none of this business? [All, Part, None, Don't Know, Refused]

ASK QU. 3c-f IF "OWN ALL/PART" TO Q. 3a OR "YES", "DK", OR "R" TO Q. 2d; OTHERWISE, SKIP TO Q. 4a.

3b. How many people both own and manage this business?

3c. What was the first year the owners received wages, profits, or payments in kind?
[Enter four digits; no payments yet = "9997"; don't know = 9998; refused = 9999]

3d. What kind of business is this? (PROBE:) What is it selling? How would it be listed in a business directory, such as the phone book yellow pages?

3e. Right now how many people, not counting the owners but including exclusive subcontractors, are working for this business? By exclusive subcontractors, we mean only people or firms working ONLY for this business, and not working for others as well.

3f. Five years from now how many people, not counting the owners but including all exclusive subcontractors, will be working for this business? By exclusive subcontractors, we mean only people or firms working ONLY for this business, and not working for others as well.

3g. Are you involved in this firm to take advantage of a business opportunity or because you have no better choices for work? .(ENTER SINGLE RESPONSE.)
[Take advantage of business opportunity; No better choices for work; Combination of both; Other; Don't know; Refused]

ASK QU. 4a-c IF "YES", "DK", or "R" TO QU. 1d; OTHERWISE, EXIT INTERVIEW.

4a. You mentioned previously that you have personally provided funds for a new business start-up other than your own. Approximately how much, in total, have you personally provided to these business start-ups in the past three years? (RECORD AMOUNT IN NATIONAL CURRENCY; DON'T KNOW=999,999,998; REFUSED=999,999,999)

4b. Considering only the most recent personal investment in a business start-up, what kind of business were you investing in? **(**PROBE:) What did it expect to be selling? How would it be listed in a business directory, such as the phone book yellow pages? (RECORD VERBATIM. PROBE FOR CLARIFICATION.)

4c. What was your relationship with the person that received your most recent personal investment? Was this a… (READ LIST. ENTER SINGLE RESPONSE.)
Close family member, such as a spouse, brother, child, parent, or grandchild; Some other relative, kin, or blood relation; A work colleague; A friend or neighbor; A stranger with a good business idea; Other (specify); Don't Know; Refused]

Table A2.02 GEM 2001 Adult Survey Interview Schedule [2/2]