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# A Cross-Country Assessment of Government Intervention and Entrepreneurial Activity

Maria Minniti

**R**ecent studies have shown that the contribution of small firms to employment and GDP is increasing. A large amount of work has also established the significance of social and economic variables for entrepreneurial decisions. Very little is known, however, about how government policies and programs influence entrepreneurial activity, and whether these effects are consistent across countries. Using original data from a representative sample of 10,000 individuals and from more than 300 open-ended interviews in 10 countries, this article provides some suggestive evidence that government intervention aimed at enhancing the underlying environment of entrepreneurial decisions may be more effective than intervention designed to provide safety nets.

In recent years, several studies have provided significant evidence on the ability of smaller and entrepreneurial firms to create employment and contribute to economic development and growth (Acs et al. 1999; Baumol 2002; Birch 1987). New and small firms constitute more than 99 percent of all firms in almost all advanced countries, and their share of employment and contribution to the Gross Domestic Product is increasing (OECD 1996; Carree and Thurik 2003). Acs et al. (1999) and Wennekers and Thurik (1999), among others, have shown that, in recent years, the role played by entrepreneurship in productivity and GDP growth has expanded significantly. In fact, entrepreneurship is now acknowledged as a major source of economic growth and many governments and international organizations have launched initiatives for the support and development of the entrepreneurial sector.<sup>1</sup>

Within this context, a sizable amount of empirical work has established the significance of both social and economic variables in determining entrepreneurial decisions. Among others, Evans and Jovanovic (1989), Evans and Leighton (1989), and Kihlstrom and Laffont (1979) have discussed the importance of financial resources and constraints on entrepreneurial decisions. Iyigun and Owen (1998), Murphy et al. (1991), and Otani (1996) have discussed issues related to the allocation of human capital. Bogenhold and Staber (1991), Blanchflower and Oswald (1988), and Hamilton (2000) have studied the importance of employment status and labor markets on entrepreneurial decisions. Finally, Amit et al. (1995) have focused on individuals' opportunity costs when choosing between alternative income-producing activities. The

complementarities between many of these works have drawn attention to the fact that entrepreneurial decisions are the outcome of a multilayered and complex process and that understanding the sequence of actions required to start a new firm is, to a large extent, contingent upon the context in which they are taken (Jacks and Anderson 2002).

Very few studies, however, have tried to establish how, if at all, government policies and programs influence the level of entrepreneurial activity. Some significant exceptions are Brenner (1987), Holcombe (2003), Maggioni et al. (1999), Porter (1990), Spencer et al. (2005), and Wren and Storey (2002). In 1990, Porter argued that a nation's competitiveness depends on the capacity of its industry to innovate and upgrade. By focusing on innovation, he indirectly brought attention to the importance of the entrepreneurial sector on economic growth and to the possible role of the government in fostering entrepreneurship. Brenner (1987) posed more precisely the broad issue of the role of the statesman with respect to entrepreneurship policy. In his view, entrepreneurial ventures are often the outcome of a desire to overcome adverse social or economic handicaps. Thus, he argued, policy-makers need to encourage free trade while, at the same time, recognize the concerns of those in danger of being left behind. Along complementary lines, and building on Kirzner (1973), Holcombe (2003) provided a taxonomy of the origins of entrepreneurial opportunities, including factors that disequilibrate the market and factors that enhance production possibilities. His line of reasoning led directly to policy implications regarding the economic environment more conducive to entrepreneurial discovery and to the role of government in research and development. Spencer et al. (2005), instead, suggested the existence of a relationship between a government's interest in the maximization of power and its willingness to support the creation of new industries. At a more applied level of analysis, using the case of Italy, Maggioni et al. (1999) evaluated the impact of public entrepreneurial policies on the postentry performance of new businesses and showed the existence of mixed effects. In fact, government aid was shown to allow firms to have higher levels of technology. However, the same government aid was also found to support inefficient firms. Finally, using the UK example, Wren and Storey (2002) assessed the impact of publicly provided soft subsidies on the performance of small and medium enterprises. They found no effect on smaller firms but a positive and signifi-

cant effect on survival rates and growth rates for mid-range SMEs.

Overall, although some studies exist on the effects of government policy on entrepreneurship, very little has been done to determine whether these effects are consistent across countries. The relative lack of comparative studies on the implications of policy action for entrepreneurs is due, at least in part, to the paucity of reliable information and, in particular, to the difficulty of obtaining relevant data. The purpose of this article is to contribute to the elimination of this gap by providing some initial answers on this important question. Specifically, the article discusses the extent to which government policies, such as those concerning taxes, regulations, and procurements, are either size-neutral or encourage new and growing firms. In addition, the article tries to assess the effectiveness of government programs and initiatives aimed at directly assisting new and growing firms. The article's overall goal is to generate discussion and further research on the role played by government on entrepreneurial activity by showing that, although, entrepreneurial policies need to be fitted to their local context, it appears that cross-cultural (universal) phenomena are also at play and should be taken into account by policy-makers.

Government policies and programs mold institutional structures for entrepreneurial action, encouraging some activities and discouraging others (Dobbin and Dowd 1997). Public policy shapes the rules of competition and creates niches where investment and entrepreneurial activities are perceived as being more or less attractive (Boettke 1993; Boettke and Coyne 2003). Finally, the nature of political interventions influences alertness (Harper 1998). Thus, policies and programs that improve transparency and entitlement tend to increase the subjective perception of the link between actions and outcome. Harper, for example, argued that "an environment of freedom is more likely than other environments to generate internal locus of control beliefs and acute entrepreneurial alertness" (1998, p. 253).

Furthermore, government policy and programs also influence the fate of organizations by disrupting established ties between firms and resources (Carroll et al. 1988; Stinchcombe 1965). Baumol (1990) argued that institutional arrangements affect the quantity and type of entrepreneurial efforts and that "... the exercise of entrepreneurship can sometimes be unproductive or even destructive, and that whether it takes one of these directions or one that is more benign depends heavily on the structure of payoffs in the economy—the rules of the game" (Baumol 1990, p. 899). In general, government policies and programs may be crucial in determining the quantity and quality of entrepreneurial behavior as they define the incentives for individuals to transform perceived opportunities into actions and contribute to determining the extent to which the environ-

ment is supportive of and conducive to entrepreneurial behavior.

The overriding goal of this article is to provide some initial cross-country evidence of the role played by government in shaping entrepreneurial behavior and, hopefully, to initiate a much needed debate on best and worst practices and on the general ability of governments to influence entrepreneurial behavior.

## **Variables and Data**

Data used in this study are from the Global Entrepreneurship Monitor (GEM) project. Started in 1999, the GEM project is an ongoing, large-scale international study designed to understand the relationship between entrepreneurship and economic activity.<sup>2</sup> All data used in this article are original and were collected simultaneously with standardized procedures during winter 1999 in Canada, Denmark, Finland, France, Germany, Italy, Israel, Japan, United Kingdom, and United States. The 10 countries in the sample share several relevant social and economic characteristics.<sup>3</sup> Differences across their entrepreneurship rates may be attributed, to some extent, to factors other than socioeconomic circumstances. As a result, the selected countries provide a good sample for studying the influence that variables, such as government policy and programs, have on entrepreneurial activity.

The timing of the data collection is not relevant for the argument in the article. The point of this research is neither to evaluate any particular policy nor to propose benchmarking or best practices. Also, the evidence emerging from the 10 countries considered here is suggestive, and the article contains no attempt to generalize these results to other countries or to compare the relative performances of different groups of countries. This article presents a discussion, and its goal is to initiate a debate about the ability of governments to influence (positively or negatively) entrepreneurial behavior.

The GEM project includes the collection of three types of data. First, a survey is administered simultaneously in each country to a representative stratified random sample of the population. In 1999, surveys were stratified geographically and household sample selection was based on random direct dialing or using listed numbers. All surveys were conducted by phone, except in Japan where they were conducted face to face. Also, in 1999, the sample size was of at least 1,000 people per country for a total of 10,422 individuals.<sup>4</sup> In the survey, entrepreneurship is defined as: "Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business (Reynolds et al. 1999, p.3)."<sup>5</sup> Although this definition does not allow for a clear distinction between entrepreneurial behavior motivated by growth strategies and entrepreneurial behavior motivated by self-sufficiency, still it

has a wide range of applicability and is consistent with well-established literature on the subject (e.g., Gartner 1985, 1990). An interesting feature of the GEM dataset is that it does not focus, as most studies do, on the existing number of small firms or on firm birth and death rates. Rather, GEM data capture the entrepreneurial mindset of individuals in different countries. In this sense, the data are very suitable for the study of how policies and programs influence individuals' decisions since they are not affected by hindsight or survival biases.

Items in the survey focused primarily on providing an estimate of the percentage of the adult population (18–64 years of age) actively involved in starting a business. In each of the 10 countries, adults participating in the survey were asked a series of questions about their involvement in entrepreneurial activities, including whether they were currently starting a firm on their own or on behalf of their employer as part of their job. Those who responded yes to either or both questions were considered nascent entrepreneurs if, in addition, they were also expecting to own part of the new firm and if the initiative was not an operating business at the time of the interview. Figure 1 provides a detailed description of questions and procedures used by GEM to classify respondents as being involved in entrepreneurial activity.<sup>6</sup>

In addition to the survey, in each country, GEM researchers conducted face-to-face interviews to gain information about nine preselected factors. The list of nine factors was compiled on the basis of existing literature that had shown their relative importance for entrepreneurial decisions. The list of constructs included:

1. *Government policies*: The extent to which government policies reflected in taxes, regulations, procurements, or the application of any are either size-neutral or encourage new and growing firms.
2. *Government programs*: The presence of programs and initiatives to assist directly new and growing firms at all levels of government (national, regional, municipal).
3. *Financial support*: The availability of financial resources, equity, and debt, for new and growing firms including grants, collateral, and subsidies.
4. *Education and training*: The extent to which training in creating or managing small, new, or growing business is incorporated within the educational and training systems at all levels.
5. *Research and development transfers*: The extent to which national research and development will lead to new commercial opportunities and whether these are available for new, small, and growing firms.
6. *Commercial and professional infrastructure*: The presence of commercial, accounting, and other legal services and institutions that encourage and support the emergence of new, small, or growing businesses.

7. *Internal market openness*: The extent to which commercial arrangements undergo constant change and redeployment as new and growing firms compete and replace existing suppliers, subcontractors, and consultants.

8. *Access to physical infrastructure*: Ease of access to available physical resources (communication, utilities, transportation, land, or space) at a price that does not discriminate against new, small, or growing firms.

9. *Cultural and social norms*: The extent to which existing social and cultural norms encourage, or do not discourage, individual actions that may lead to new ways of conducting business or economic activities and may, in turn, lead to greater dispersion in personal wealth and income.

Relevant literature addressing the role played by *government policy* and *programs* has been discussed in the introduction to this article. Within this context, however, it is worth recalling that although most scholars now agree that governments have the ability to influence the entrepreneurial sector, no general agreement exists yet on exactly what this role ought to be and whether a proactive and specific approach to entrepreneurial policy ought to be preferred. Investigating this issue is the goal of this article. With respect to *financial support*, Audretsch and Elston (2002), Evans and Jovanovic (1989), Hamilton (2000), and Kihlstrom and Laffont (1979) are just a few examples of works that have discussed the importance of financial resources and constraints on entrepreneurial decisions. Overall, they have shown that entrepreneurs are constrained by lack of resources and that a positive correlation exists between an individual's wealth and income and his probability of getting involved in starting a business. The importance of *education and training* for entrepreneurial decision has been the object of much debate in light of the increasing number of programs focusing on entrepreneurship education. In general, the relationship between education and new firm formation is uncertain, except for richer countries where post graduate training has been shown to have some positive effects on high-tech start-up rates (Blanchflower 2004).

Because of the increasing importance of high-tech startups, *research and development transfers* have been the subject of several studies (Degroof and Roberts 2004; Markman et al. 2005; Peters et al. 2004). Overall, this literature has established the importance of incubators, university patenting, and spin-off activities, as well as investigated the role played by alternative arrangements with respect to property rights and their effect on entrepreneurial incentives. Less work has been devoted, instead, to studying the importance of *commercial and professional infrastructure* and of *access to physical infrastructure*. Van de Ven (1993) and Venkataraman (2004) emphasized the importance of



All respondents were asked three basic questions:

1a. Are you, alone or with others, currently trying to start a new business, including any type of self-employment? (yes, no, don't know, refuse)

1b. Are you, 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? (yes, no, don't know, refuse)

1c. Are you, alone or with others, the owner of a company you help manage? (yes, no, don't know, refuse)

#### **Nascent Entrepreneurs**

Respondents who answered "yes" to items 1a or 1b, were then asked:

2a. You mentioned that you are trying to start a new business. Over the past 12 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, refuse)

2b. Will you personally own all, part, or none of this business? (all, part, none, don't know, refuse)

2c. 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)

Respondents were coded as "nascent entrepreneur" if, in addition to 1a and 1b, they answered "yes" to 2a and 2b, and "no" to 2c.

#### **New Businessowners**

To make the distinction between individuals involved in starting a new business (nascent entrepreneurs) and those involved in managing a very young business (baby businessowners), respondents who answered "yes" to question 1c were asked:

3a. You said you were the owner or manager of a company. Do you personally own all, part, or none of this business? (all, part, none, don't know, refuse)

3b. What was the first year the owners received wages, profits, or payments in kind? (4-digit year, or no profits yet, don't know, refuse)

Respondents who classify as full or part owners of the business and had received wages or salaries paid up to 42 months were coded as "baby business owners."

### **Figure 1. Questions and Procedures Used to Classify Respondents**

sound legal systems, transparent capital markets, advanced transportation and telecommunications, etc. Venkataraman (2004) also emphasized the importance of *internal market openness* as one of the conditions necessary for government intervention to produce tangible results. Due to the high level of development of all countries included in the sample, market openness and quality of infrastructure turned out to be less important than the other constructs. Most likely, the results with respect to those variables would have been significantly different with a group of developing countries.

Finally, a growing body of literature has established the importance of *cultural and social norms* for entrepreneurial behavior. In addition to the embedded nature of much entrepreneurship (Jacks and Anderson 2002), and building on Hofstede's conceptualization of national culture, these works have shown that the level of economic development, culture, and institutions all influence the demand for entrepreneurship by creating opportunities available for start-ups.

In addition, these works suggested that cultural and institutional conditions have an impact on the supply of entrepreneurship because of their ability to influence the skills, resources, and preferences of individuals within the population (Hayton et al. 2002; Frederking 2004).

Between 35 and 50 open-ended, standardized face-to-face interviews were conducted in each country (at least three individuals per country for each of the nine constructs listed above) for a total of 338 interviews across the 10 countries in the sample. Interviewed individuals, called *key informants*, were entrepreneurship experts selected among academics, government officials, venture capitalists, and other well-known individuals with significant expertise in one of the nine areas listed above. In each country, a special effort was also made to select key informants so as to represent geographical, ethnical, and gender differences adequately.<sup>7</sup> During the interviews, each informant was asked to identify and discuss the factor he or she considered to be most rele-

vant for the future of entrepreneurship in that country. The selected factor, called the *main issue*, identified the dominant issue influencing entrepreneurial decisions in that country at the time of the interview according to the person interviewed. In addition to the main issue, each key informant was asked to select at least three *discussion issues*; that is three factors he or she considered to be particularly relevant, though not dominant, for the future of entrepreneurship in that country from the list of nine pre-selected factors.<sup>8</sup> Responses from the key informants allowed an initial assessment of the relative importance, in each country and across countries, of each of the nine selected factors.

Finally, at the end of the interview, each key informant was given a 10-page questionnaire from which the third type of data was obtained. In addition to demographic information, questionnaires contained a minimum of five questions for each of the nine preselected factors. Each question was presented as a standardized fixed-response item. Responses were then combined and used to calculate multiitem indices for each of the nine selected factors.<sup>9</sup> Results presented in this article rely primarily on questionnaires and interview data, while survey data were used only to report entrepreneurial propensity rates in each of the 10 countries. All data used in this article are GEM data and were collected in all countries during the spring and summer of 1999.

### Some Cross-country Evidence on Government Policy and Programs

Data collected through the adult population surveys were used to estimate what percentage of individuals were involved in starting a business in 1999. Raw data were weighted to be representative of the entire population. Table 1 shows that rates of entrepreneurial propensity for each country and the corresponding confidence levels. Such rates

varied between countries from 1.4 percent in Finland to 8.4 percent in the United States (Reynolds et al. 1999).<sup>10</sup> The spread in entrepreneurial prevalence rates is quite large, ranging from more than 1 in every 12 individuals in the United States (e.g., 8.4% of the adult population), to less than 1 in every 67 individuals in Finland.

The results above suggest that even across countries with relatively similar socioeconomic environments, such as the 10 countries in the sample, the rates of entrepreneurial propensity differ significantly. But what causes these differences? Data from the key informants' questionnaires were used to construct multiitem indices for each of the nine factors identified as being relevant for entrepreneurial decisions.

For each of the nine factors, and for each country, the values across the relevant five answers on the questionnaires of all key informants were averaged to compute that country's index. The weighted average value of each set of indices across countries was then computed to obtain the cross-country index for that issue. Table 2 shows the correlation between entrepreneurial propensity and the indices representing the nine entrepreneurial factors as well the Chronback Alphas for each index.<sup>11</sup> Favorable cultural and social norms, availability of financial support, and ease of R&D transfers are shown to be positively and significantly correlated with the rates of business start-ups. Access to commercial and professional infrastructure and the existence of relevant education and training are shown to be also somewhat relevant. Correlation is weak or absent, instead, between start-up rates and internal market openness. As mentioned earlier, this result is not surprising since all 10 countries in the sample are relatively well developed and have democratic and stable institutions. In such environments, market openness is often taken for granted and its value

underestimated. More surprising, instead, is the very weak correlation between start-up rates and government policies and programs. While Table 2 suggests a low positive correlation between government policy and entrepreneurial propensity, government programs are shown to be virtually uncorrelated to it.

In addition to filling out the questionnaire used to construct Table 2, key informants were also interviewed and data from the interviews were coded to analyze the experts' evaluations of the nine relevant factors. Tables 3 and 4 were constructed using data from the interviews. The similarities in the answers across Tables 2, 3, and 4 provide some suggestive support for the reliability of the data. Tables 3 and 4 show the relative frequency of each of the nine factors for entrepreneurial decisions according to the key informants'

**Table 1. Percentage Rates of Entrepreneurial Propensity by Country (95% Confidence Level)**

	<i>Low</i>	<i>High</i>	<i>Mean</i>	<i>SE</i>
Finland	0.62	2.18	1.40	0.40
Japan	0.85	2.35	1.60	0.40
France	1.02	2.58	1.80	0.40
Denmark	1.22	2.78	2.00	0.40
United Kingdom	2.12	4.48	3.30	0.60
Italy	2.22	4.58	3.40	0.60
Germany	2.92	5.28	4.10	0.60
Israel	4.03	6.77	5.40	0.70
Canada	5.23	8.37	6.80	0.80
United States	6.64	10.16	8.40	0.90

**Table 2. Correlation Between Start-up Rate and Factors Relevant for Entrepreneurial Decisions**

<i>Cross-country Index</i>	<i>Correlation with Entrepr. Propensity</i>	<i>Chronbach Alpha</i>
Government Policies Helpfulness Index	0.35	0.42
Government Program Helpfulness Index	-0.10	0.67
Importance of Financial Support Index	0.76*	0.60
Importance of Education and Training Index	0.67	0.77
Ease of R&D Transfer Index	0.71*	0.54
Importance of Commercial Infrastructure Index	0.60	0.69
Importance of Internal Market Openness Index	-0.05	0.87
Importance of Physical Infrastructure Index	0.50	0.71
Favorable Cultural and Social Norms Index	0.83*	0.68

\*Statistical significance 0.01

interviews. The relative importance shown in Tables 3 and Table 4 does not necessarily imply a negative evaluation of the influence of each specific issue on entrepreneurial propensity but simply indicates that, according to the key informants, those issues are somewhat important. Table 3 shows the relative frequency with which each of the nine factors was identified as the *main issue* by a key informant. That is, it shows what factor among the nine considered is viewed as having the strongest impact on entrepreneurial propensity. For example, the first cell in Table 3 indicates that 19 percent of the Canadian key informants identified government policies as being the main issue for entrepreneurial decisions in their country at the time of the interview. The first cell of the bottom row of Table 3, instead, indicates that, across the 10 countries in the sample, 10 percent of all key informants identified government policies as being the main issue for entrepreneurial decisions as opposed, for example, to cultural and social norms that, instead, were identified as the main issue by 25 percent of key informants across the 10 countries. Of course, as the last two columns before the total one in Table 3 show, several key informants chose as the main issue a factor not listed among the selected nine, while a few others chose not to identify any main issue.

Similarly to the results shown in Table 2, across all 10 countries, several key informants identified cultural and social norms, the availability of equity funding, and the availability of appropriate education and training, as the main issues for entrepreneurial decisions. Fewer key informants identified R&D as the main issue, while virtually no one iden-

tified physical infrastructure, market openness, and commercial and legal infrastructure as the main issue facing entrepreneurship in their country. The results for government policy and programs are similar to those reported in Table 2, though the relative importance attributed to the two factors diverges significantly. The first two columns of Table 3 show, for each country, the percentage of key informants who identified government policy and programs, respectively, as the main issue for entrepreneurship in their country. In general, it appears that key informants believe that an entrepreneur's decision to start a new venture is not affected by government programs. This conclusion is consistent across the 10 countries in the sample with the exception, perhaps, of Denmark. Government policies, on the other

hand, are identified as the main issue for entrepreneurial decisions by 10 percent of all key informants. Unlike programs, which are insignificant almost everywhere, government policies are clearly much more important in some countries (e.g., Canada, France, Germany, and Israel) than in others.

Each key informant was also asked to select at least three discussion issues among the nine listed factors. If we take the number of times that government policies and programs were discussed during all interviews as an indicator of their significance, their relative importance increases. Table 4 shows the relative frequency with which the nine entrepreneurial factors were identified by the key informants as *discussion issues*. That is, it shows what entrepreneurial factors among the nine considered are viewed as having a strong impact without being the dominant concern for entrepreneurial decisions. Across the 10 countries, government policy and programs represented 14 and 11 percent, respectively, of all issues discussed. With policy issues representing as much as 18 percent of all issues in Italy and Finland, and programs accounting for as much as 19 percent of discussion topics in Denmark.

A qualitative examination of the specific aspects of government policy and programs discussed during the interviews revealed that key informants believed that governments can indeed influence the likelihood of success of new ventures but only indirectly by creating appropriate underlying conditions. Table 5a lists the aspects of government policy that were identified by key informants as being the

**Table 3. Relative Frequency of Factors Influencing Entrepreneurial Decisions Identified as Main Issues**

	<i>Govvern. Policy</i>	<i>Govvern. Programs</i>	<i>Financial Support</i>	<i>Educ. &amp; Training</i>	<i>Research. &amp; Dev.</i>	<i>Commer. Infrastruc.</i>	<i>Market Openess</i>	<i>Physical Infrastruc.</i>	<i>Social &amp; Cultural Norms</i>	<i>Unlisted Main Issue</i>	<i>No Main Issue</i>	<i>Total</i>
Canada	0.19	0.08	0.25	0.11	0.03	0.08	0.03	0.00	0.19	0.03	0.00	1.00
Denmark	0.00	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.33	0.44	0.00	1.00
Finland	0.05	0.00	0.14	0.14	0.00	0.00	0.00	0.00	0.43	0.14	0.11	1.00
France	0.17	0.00	0.06	0.19	0.03	0.03	0.03	0.00	0.42	0.08	0.00	1.00
Germany	0.14	0.02	0.16	0.23	0.02	0.00	0.00	0.00	0.28	0.09	0.05	1.00
Israel	0.21	0.05	0.08	0.13	0.21	0.03	0.00	0.00	0.05	0.08	0.18	1.00
Italy	0.07	0.00	0.27	0.00	0.20	0.10	0.03	0.03	0.03	0.13	0.13	1.00
Japan	0.03	0.06	0.58	0.06	0.00	0.00	0.00	0.00	0.27	0.00	0.00	1.00
UK	0.00	0.00	0.00	0.29	0.05	0.03	0.00	0.00	0.45	0.05	0.13	1.00
US	0.08	0.05	0.24	0.19	0.05	0.03	0.00	0.03	0.05	0.16	0.11	1.00
All Countries	0.10	0.03	0.19	0.15	0.06	0.03	0.01	0.01	0.25	0.09	0.08	1.00

**Table 4. Relative Frequency of Factors Influencing Entrepreneurial Decisions Identified as Discussion Issues**

	<i>Govvern. Policy</i>	<i>Govvern. Programs</i>	<i>Financial Support</i>	<i>Educ. &amp; Training</i>	<i>Research &amp; Devel.</i>	<i>Commer. Infrastru.</i>	<i>Market Openess</i>	<i>Physical Infrastruc.</i>	<i>Social &amp; Cul. Norms</i>
Canada	0.15	0.12	0.26	0.10	0.08	0.06	0.06	0.02	0.15
Denmark	0.17	0.19	0.15	0.16	0.04	0.04	0.00	0.00	0.24
Finland	0.18	0.12	0.26	0.08	0.04	0.02	0.07	0.02	0.21
France	0.13	0.13	0.15	0.19	0.06	0.10	0.06	0.06	0.13
Germany	0.11	0.12	0.18	0.14	0.12	0.09	0.04	0.06	0.14
Israel	0.08	0.06	0.32	0.17	0.06	0.02	0.07	0.05	0.16
Italy	0.18	0.06	0.23	0.12	0.18	0.13	0.01	0.03	0.06
Japan	0.12	0.02	0.30	0.17	0.08	0.04	0.04	0.03	0.19
UK	0.15	0.14	0.15	0.15	0.10	0.05	0.04	0.05	0.18
US	0.14	0.08	0.16	0.09	0.13	0.12	0.06	0.05	0.17
All Countries	0.14	0.11	0.22	0.13	0.09	0.06	0.05	0.04	0.17



**Table 5. Influence of Government Policy**

<i>5a. Most Important Aspects of Government Policy Identified by Key Informants as Main Issues</i>		<i>Countries*</i>
1. Need for cross-training and sharing of information between government and growing businesses		CA, IL, IT, JP, US
2. Tax burden is too heavy and is often skewed against smaller firms		CA, FR, IT, US
3. Burden of compliance with taxes and regulation is high and hinders new firm formation		FI, GE, IT, US
4. There exist no incentives for developing partnerships between established and new firms, and foreign investors and new firms		CA, FR, IT
<i>5b. Most Important Aspects of Government Policy Identified by Key Informants as Discussion Issues</i>		<i>RI(1)**</i>
1. Tax burden is too heavy and is often skewed against smaller firms		<i>RI(2)***</i> 2%
2. Burden of compliance with taxes and regulation is high and hinders new firm formation		15%
3. Need for cross-training and sharing of information between government and growing businesses. In general, governments are sympathetic to entrepreneurs but operate with a very different mindset		15% 14%
4. Employment regulation is rigid and has a negative impact on new firms growth		8%
5. Other issues		48% 1% 7%

\*Country List: CA=Canada, DK=Denmark, FI=Finland, FR=France, GE=Germany, IL=Israel, IT=Italy, JP=Japan, UK=United Kingdom, US=United States.  
 \*\* The RI(1) column shows the relative importance across countries of that particular topic among all government policy and programs issues, respectively.  
 \*\*\* The RI(2) column shows the relative importance of that particular topic across countries and all nine selected factors.

**Table 6. Influence of Government Programs**

<i>6a. Most Important Aspects of Government Programs Identified by Key Informants as Main Issues</i>		<i>Countries*</i>
1. Need for coordination, stability, and transparency of government programs		CA, FR, GE, IL, IT, JP, US
2. Need to train government officials to better understand the needs of entrepreneurs so they can design more meaningful programs and provide more useful services and advice		CA, GE, US
<i>6b. Most Important Aspects of Government Programs Identified by Key Informants as Discussion Issues</i>		<i>RI(1)**</i>
1. Too many programs exist. No effectiveness evaluation process exists. As a result, ineffective or redundant programs are perpetuated and scarce resources wasted		<i>RI(2)***</i> 3%
2. Government officials do not know the needs of entrepreneurs. As a result, they are often unable to design meaningful programs and provide useful services and advice. In addition, vehicles for delivering programs often lack sufficient competence		28% 12%
3. Decentralization of program delivery works well but there is not enough of it		7%
4. Programs are too often based on political interests. As a result, they tend to be unstable and lacking transparency		5%
5. Other issues		48% 1% 5%

\* Country List: CA=Canada, DK=Denmark, FI=Finland, FR=France, GE=Germany, IL=Israel, IT=Italy, JP=Japan, UK=United Kingdom, US=United States.  
 \*\* The RI(1) column shows the relative importance across countries of that particular topic among all government policy and programs issues respectively.  
 \*\*\* The RI(2) column shows the relative importance of that particular topic across countries and all nine selected factors.

*main issue* for entrepreneurship in a given country and the countries where the issue was raised. Surprisingly, the primary policy concerns among key informants with respect to policy is the lack of interaction between government and growing businesses. In addition, taxes and the compliance with various regulations and tax laws were considered main issues in four countries. Specifically, Italian and Canadian informants commented not only on the height of the tax rates but also on their distribution across firms of different sizes. Size-related complaints were also raised with respect to regulation compliance being too labor intensive and costly.<sup>12</sup> Finally, the lack of adequate laws on incorporation, initial private offerings and stock options were blamed in three countries for reducing growth incentives for smaller and newer firms.

In addition to the ones listed in Table 5a, other *main policy issues* were identified but only in one or two countries. In Italy and France, for example, key informants identified the main policy issue for the entrepreneurial sector with the fact that institutions that could assist in fostering entrepreneurship suffered from equal representation in their committees of parties that stand on opposite positions regarding new and growing firms. While, in Israel, several key informants identified the broadening of supportive policies, from high-tech start-ups to all new firms, as a necessary condition for the long-term growth of entrepreneurial activity in the country.

The list of aspects of government policy that were identified by key informants as *discussion issues* for entrepreneurship in a given country mirrors that of *main issues*. Table 5b shows that, at about 15 percent each, the top three policy topics listed as main issues are also the three topics more discussed in general across countries. However, when all discussion issues are considered, the rigidity of employment laws becomes relatively more important. The countries where this issue was raised more often were Canada, Finland, Germany, Italy, and the United States. In particular, the cost of labor was the main complaint in Finland and Italy, the rigidity of hiring and firing decisions was the main complaint in Canada and the United States, and restrictive policies in the hiring of foreign workers was the main complaint in Germany.

In this article, government programs refer to the existence, at all levels of government, of initiatives designed to assist new and growing firms. Table 6a shows that, among *main issues*, the primary concerns regarding governmental programs revolve around information about and implementation of programs. In other words, most key informants agreed that although plenty of programs exist, information about them is lacking. Most entrepreneurs are unaware of existing programs and of how to find out about them. Also, a lot of redundancy exists across programs and it is difficult to know when one qualifies. Finally, being delegated to officials who

have no adequate background, the implementation of the programs is often unsatisfactory.<sup>13</sup>

Table 6b shows the list of aspects of government programs identified by key informants as *discussion issues*. As in the case of government policy, this list follows closely that of the *main issues*. At 28 percent, the proliferation of programs is identified, by far, as an important problem and a significant source of inefficiency.<sup>14</sup> Also, many of the key informants felt that a more rigorous evaluation of the effectiveness of government programs would be a useful step in eliminating such redundancy. Without an appropriate evaluation process, programs are funded indefinitely, even as new programs with similar services are initiated. Key informants in Germany, Italy, and the United States commented that not enough decentralization of program delivery exists. In addition key informants in Italy and France commented on the lack of transparency and on the connection between politics and programs that makes the latter unstable especially at the local level. In general, the evidence suggests that potential entrepreneurs who are successful in making contact with such programs are more likely to implement a new business, and that those new businesses that make contact for assistance have a higher survival rate and tend to report more growth.<sup>15</sup>

To summarize, government policy and programs seem to be only weakly connected to individuals' entrepreneurial propensity. According to detailed interviews with key informants, they represent only 10 and 3 percent, respectively, of the issues identified as most important (main issues) for entrepreneurship by the 338 key informants. Government policy and programs, however, received more attention as secondary (discussion) issues, where they represent 14 and 11 percent, respectively, of all issues discussed. Among different aspects of government policy, key informants identified the burden of taxation and the high cost of compliance with regulation to be two very important factors. With respect to government programs, instead, key informants indicated redundancy and lack of transparency as being very important. Finally, with respect to both government policy and programs, key informants identified the lack of interaction between governments and growing businesses as a major concern for entrepreneurial activity. That is, differences in information and mindsets between entrepreneurs and public employees were identified as being the main problem hindering the useful deployment of public resources in the entrepreneurial sector. No expert, in any country, suggested or advised the creation of new programs or increased public involvement. Thus, the tendency seems to be that of seeing governments as creators and guarantors of underlying conditions conducive to an entrepreneurial environment rather than as active promoters of entrepreneurial activities.

## Discussion

Entrepreneurs are concerned with the exploitation of profit opportunities. Such opportunities exist in the form of market niches, new ways of producing existing goods, or the introduction of new goods. According to economic literature, entrepreneurship is possible because information is asymmetrically distributed across individuals (Knight 1921) and the entrepreneur is an individual exhibiting above-average alertness (Kirzner 1973, 1979). Thus, by definition, entrepreneurs are individuals who deviate from the mean. They possess a competitive advantage with respect to new methods or products and are, in a sense, ahead of the curve. As a result, the actions of governments with respect to entrepreneurial intervention appear particularly difficult since the number and types of variables that enter the entrepreneurial environment are always changing. These observations are consistent with the results presented in Table 5 and, in particular, Table 6.

A more radical critique on the feasibility of effective government intervention on entrepreneurship would state that it is impossible for governments to gather all the necessary data to begin with, because the necessary information exists in know-how of potential entrepreneurs and is not available to others. In fact, if information were known, superior alertness would not be necessary to exploit profit opportunities. Profit opportunities would be known to everyone and would be immediately eliminated. This is why government intervention and entrepreneurial policy and programs are so difficult to identify. As mentioned by the key informants, entrepreneurs and public officials have different mindsets. The entrepreneurial process underlying entrepreneurial behavior is complex in nature and unpredictable. To a large extent, government policy and programs are variables exogenous to the entrepreneurial process and, given what entrepreneurs do, governments suffer by definition of an informational and mindset disadvantage.

Recent findings on national systems of innovation are consistent with the argument that government intervention with respect to entrepreneurship is extremely hard to plan. A national system of innovation is defined as the web of institutions and economic structures affecting the rate and direction of innovative activities in the economy (Edquist and Lundvall 1993). Much of the research on this subject has shown the bulk of the innovative effort to be endogenous to the economy and sustained by the firms themselves (Nelson 1993). If this argument is accepted, then, with respect to the entrepreneurial sector, governments should promote self-organized and endogenous innovation rather than engage in extensive planning or even selective nurturing. Along these lines, Clark (1988) adopted an evolutionary perspective to discuss forms of public policy that may be appropriate for and conducive to more innovation. Clark's evolutionary argu-

ment relied on the observation that the market system is complex and constantly changing and that governments lack information beyond that possessed by entrepreneurs and that, as a result, government policies may not deliver a net positive effect.

Yet, governments do play a crucial role in enhancing the ability of individuals to act entrepreneurially. Although suggestive, results presented in this article support and complement arguments according to which governments need to implement policies that increase market openness and legal transparency (e.g., see Boettke 1993; Brenner 1987; Harper 1996; and Holcombe 1998, 2003). In fact, even if such features of the economic system are important for all businesses, regardless of newness and size, they are particularly important for smaller and newer firms that have lower lobbying power and may not be capable of creating monopolistic rents. Results also suggest that government policy and programs are more effective when capable of enhancing the underlying pool of resources from which potential entrepreneurs draw their inputs than when providing selective safety nets. In fact, the rules and practices that favor innovation and the creation of new markets cannot be imposed by external agencies, but are created, refined, and transmitted effectively over time only if the appropriate institutions and values are transferred across generations. In general, government interventions may be distinguished between proactive government actions specific to entrepreneurship and incentive boosting interventions not necessarily specific to entrepreneurship. Proactive interventions aim at helping those engaged in starting a business and at removing obstacles for their endeavors. Implicitly, proactive interventions assume that perceived or actual barriers discourage prospective entrepreneurs, and that more people would start a business if the process were made easier. Thus, the aim of proactive government intervention is to ease the start-up process and minimize the risk of failure. Incentive type interventions, on the other hand, operate on the principle that entrepreneurs are deterred from entrepreneurship because the expected rewards are not commensurate with the risks, both financial and social.

Although purely suggestive, the results presented in this article indicate that government policy and programs have limited influence on entrepreneurial decisions. Specifically, policy and programs represent only 10 and 3 percent, respectively, of the issues identified as most important (main issues) for entrepreneurship by the 338 key informants. They received, however, more attention as secondary (discussion) issues, where they represented 14 and 11 percent, respectively, of all issues discussed. Among different aspects of government policy, key informants identified the burden of taxation and the high cost of compliance with regulation to be two very important factors. With respect to govern-

ment programs, instead, key informants indicated redundancy and lack of transparency as being very important. With respect to both government policy and programs, key informants identified the lack of interaction between governments and growing businesses; that is, differences in information and mindsets, as being the main problem hindering the useful deployment of public resources in the entrepreneurial sector. No expert, in any country, suggested or advised new programs or increased public involvement. Thus, the tendency seems to be that of seeing governments as creators and guarantors of underlying conditions conducive to an entrepreneurial environment rather than as active promoters of entrepreneurial activities.

Also, it should be noted that the data refers specifically to 1999. The fact that the data are from a specific year and that if interviewed again the experts might express different opinions is not relevant from a substantive point of view. This is a discussion aimed at generating a debate on structural issues of the economy at the global level. The point of the article is neither country specific nor to evaluate any particular policy or to propose best practices. Rather, the article attempts an evaluation of the ability of governments to influence (positively or negatively) entrepreneurial behavior in general. Within this context, the article does not pretend to offer specific policy prescriptions for any of the countries in the study but, rather, provides further evidence that market processes, as opposed to social constructionism, are more conducive to entrepreneurial behavior. This is consistent with recent stud-

ies showing that, when it comes to entrepreneurship, one size does not fit all (Acs et al. 2005) and that much more work is needed at the local and regional level. A very desirable extension of this article, for example, would include longitudinal country-specific studies focusing on the effectiveness (or lack thereof) of specific policy interventions or programs.

The descriptive evidence presented here, however, does support the neoclassical economic view according to which entrepreneurship may be better served by an environment where nascent entrepreneurs may hope in high rewards than by one offering a stronger safety net, and government policy toward entrepreneurship should place greater emphasis on underlying incentive measures rather than specific proactive measures. After all, by definition, entrepreneurship is concerned with the creation of new ventures for the purpose of profit, where the occasion for profit is generated by the entrepreneur's ability to innovate. In several countries, for example, a widespread entrepreneurial sector, capable of adjusting to changes in market conditions, had been one of the main strengths during the stagnation of the early 1990s. When significant changes in relative prices, technologies, and industrial relations exist, entrepreneurial firms demonstrate a remarkable capacity to adjust and innovate and are, therefore, particularly important in smoothing out the effects of the business cycle. It is hoped that governments at all levels will work to provide an environment in which the entrepreneurial spirit may flourish.

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## Endnotes

1. For example, in 1998 the OECD published the report *Fostering Entrepreneurship: A Thematic Review*. This report aims at understanding the state of entrepreneurship in all OECD countries and at identifying which policies might be most successful in fostering it. In 1998, the European Commission presented the report *Fostering Entrepreneurship: Priorities for the Future* to the Council of Ministers. The aim of this report was to simplify the start-up process and improve access to financing throughout the European Union. In addition, many programs including technological incubators, industrial parks, and networks of services have been established in France, Israel, Italy, the United Kingdom, and many other countries.
2. Details about the GEM project and dataset are available at [www.gemconsortium.org](http://www.gemconsortium.org).
3. Cross-country comparability is, of course, a complex and multilayered phenomenon. How and if countries may be considered comparable depends on the question asked. In this article, comparability refers to aggregate socioeconomic conditions. Thus, examples of relevant indicators include per capita GDP; literacy; mortality rate; life expectancy; educational attainments; legal, commercial, and physical infrastructures; technological levels; and market openness. Data from official international sources, such as the World Bank and the International Monetary Fund, show that the 10 countries in the sample have identical or comparable values for all standard indicators of development. Among others, relevant statistics may be easily obtained from Euromonitor (2005), OECD (2000), and World Bank (2004).
4. Survey respondents were distributed as follows: Canada 1,003; Denmark 1,002; Finland 1,001; France 1,000; Germany 1,008; Israel 992; Italy 1,000; Japan 1,384; United Kingdom 1,014; United States 1,018.



5. The collection of data in the GEM project has undergone significant changes and refinements over the years. The definitions and classifications presented in this article refer exclusively to the methods used in 1999 and should not be used to appraise later data and developments in the GEM project.
6. Reynolds et al. (2005) contains details on the methodology used for the construction and harmonization of the dataset.
7. Details about the selection process used to identify key informants in each country, as well as a list of questions posed to each interviewed individual and other details about the interview process and the data coding can be found in the 1999 *GEM Operation Manual*. The manual is available at [www.gemconsortium.com](http://www.gemconsortium.com) under the heading "1999 documents."
8. An example may clarify the procedure: An academic known for her work on entrepreneurial education could be selected to be a key informant with special knowledge regarding construct #4 (*education and training*). She would be asked to identify what factor, in her opinion, was the most relevant for the future of entrepreneurship in her country. The selected factor, called the main issue, could be education and training or any of the remaining eight constructs. She would then be asked to identify at least three *discussion issues* (i.e., three factors she considered to be particularly relevant, though not dominant, for the future of entrepreneurship in her country). She would then select, say, *financial support*, *culture and social norms*, and *internal market openness*. Thus, for each key informant, it was possible to identify the factor each of them believed to be the *main issues* for entrepreneurship plus three additional factors each thought important for entrepreneurship.
9. The complete 1999 GEM questionnaire administered to key informants can be found in the 1999 *GEM Operation Manual*, available at [www.gemconsortium.com](http://www.gemconsortium.com) under the heading "1999 documents."
10. The complete 1999 GEM Report can be downloaded from [www.gemconsortium.org](http://www.gemconsortium.org).
11. Noticeably, some of the reported Chronbach Alpha's coefficients are low. This is likely due to the fact that they were calculated from the subjective answers of a small number of respondents.
12. In the United States in 1992, for example, it was estimated that regulatory compliance cost small firms approximately \$5,000 per employee, versus \$500 to \$3,400 for larger firms (Zacharakis et al. 1999, p.28).
13. In the United Kingdom, for example, several key informants expressed significant dissatisfaction with the quality of services provided by the system of local agencies specializing in the support of smaller and newer firms.
14. For example, in the United States, in 1999, the state of Wisconsin alone had at least 400 programs providing more than 700 different services for small business, but the overall awareness of their assistance and their use was very low.
15. In Denmark, for example, some key informants identified government programs as a *main issue* and as having a huge positive effect on entrepreneurship in the last decade.

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