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## Policy issues for Turkish entrepreneurs

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**Abstract:** While it is becoming clear that there is a positive relationship between entrepreneurship and economic development, the topic of entrepreneurship in developing countries has been neglected in the literature. This paper assesses the problems and expectations of entrepreneurs in Turkey. Its main findings are as follows:

- Turkey underutilises youth and women entrepreneurial resources
- there exists a large informal economy that tends to support self-employment rather than entrepreneurship per se
- entrepreneurs do not have the kinds of ties with organisations that might be helpful when they are first starting out
- entrepreneurs see as their main problems bureaucracy and unstable state policies.

Based on these findings, the paper concludes with a policy discussion regarding the development of entrepreneurship in Turkey.

**Keywords:** entrepreneurship; economic development; Turkish entrepreneurs.

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**Biographical notes:** Dilek Cetindamar received her BS degree from the Industrial Engineering Department in 1989, her MA degree from the Economics Department in 1992. She obtained both from the Boğaziçi University and her PhD degree from the Management Department at the Istanbul Technical University in 1995. Before her appointment to the Graduate School of Management at Sabanci University in 1999, she had worked in the following universities: Boğaziçi University, Case Western Reserve University (USA), Portland State University (USA), and Chalmers University of Technology (Sweden). She participated in many international projects, including United Nations and European Union projects. She received an encouragement award from Turkish Science Academy in 2003. Her main interest and research topics are technology management, strategy management, development economics, entrepreneurship and industrial economics. She has memberships in the following associations: Technology Management Association, International Association for Management of Technology, Schumpeterian Society, and Academy of Management.

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## **Introduction**

The role of entrepreneurship in economic development is becoming ever more critical. Considering that the difference between economic success and failure is increasingly determined by the existence and utilisation of technology and innovation (OECD, 2001a; Acs et al., 1999), it is no surprise that countries with extensive entrepreneurship activities grow at an above average rate (GEM, 2001; Carree et al., 2002).

Although a substantial number of studies have been done on the subject of entrepreneurship (Drucker, 1985; Swedberg, 2000; Westhead and Wright, 2000; Bruyat and Julien, 2001), they focus mainly on the USA and other industrialised countries and, by and large, ignore developing countries (DCs) (Yu, 2000; Kantor, 2002; Trulsson, 2002). These studies show that there is a close correlation between economic development and entrepreneurship (Wennekers and Thurik, 1999; Audretsch and Keilbach, 2003) and, hence, indicate the potential utility of entrepreneurship for DCs. As studies about entrepreneurship in DCs are scarce, this paper hopes to make a contribution to the empirical literature by focusing on entrepreneurship in Turkey. Due to the importance of entrepreneurship in economic growth, policy discussions concentrate on the role of government in entrepreneurship (Karlsson and Karlsson, 2002). Therefore, this policy-oriented paper aims to understand the problems of Turkish entrepreneurs and what they expect from government. This will help to suggest policies for the development of entrepreneurship in Turkey. The case of Turkey makes it easier to understand how entrepreneurship can be improved in DCs that are similar to Turkey, e.g., those that are highly populated and have an intensive manufacturing infrastructure.

The paper consists of 4 Sections. In Section 1, the role of entrepreneurship in economic development is discussed. This is followed by an attempt to determine the level of entrepreneurship in Turkey. Methodology and survey results where Turkish entrepreneurs have been analysed are presented in Section 3. The paper concludes with a policy discussion in Section 4.

### **1 The role of entrepreneurship in economic development**

It is widely acknowledged that the rapid economic growth in the USA in the late 1990's was the result of technological investments, particularly in information technologies (OECD, 2001a; Drucker, 1985; Farrell, 2003). Further, the example of the European Union (EU) clearly shows that industry is becoming increasingly dominated by high technology. Between 1995 and 1999, employment in high technology industries in the EU grew by an annual average of 0.9%, compared to a total manufacturing growth rate of just 0.3%. During the same period, jobs in knowledge-intensive services grew by an annual average of 2.9%, compared to a growth of 1.8% for the service sector as a whole. In 1999, the share of manufacturing output based on high technologies was, on average, 38% of all manufacturing output in the EU, while this share was almost half (48%) in service industries (Eurostat, 2001). Therefore, it can be concluded that new technologies are the driving force behind modern-day economic growth.

However, even though the basis of technological development is inventions and new technologies, they are insufficient by themselves. To act as an impetus to development, they need to be successfully commercialised (Timmons, 1999). Anticipating the opportunities offered by emerging technologies, entrepreneurs act upon them by doing

everything they can to turn those new technologies into commercial success stories. They do this by taking risks (Casson, 1995; Foss and Klein, 2002). It is the entrepreneurs who are the economic actors in transforming technologies into economic value. For example, Microsoft was established in 1980 with only 38 employees and US\$ 8 million in revenue. By 2002, this company had reached a size of 50,600 employees and US\$ 28.4 billion in revenue.

The contribution of entrepreneurship to economic welfare is accomplished in three major ways (OECD, 2001a; Acs et al., 1999; Swedberg, 2000; Foss and Klein, 2002):

- by increasing employment
- creating and diffusing new technologies
- developing new and different business models, processes, and techniques that form the basis of the structural transformation in an economy.

While each innovation is important, radical innovations are what bring the most benefits to companies and economies: the higher the level of new developments and/or innovations, the higher the economic outcomes will be (Bruyat and Julien, 2001). Entrepreneurship based on new technologies and radical innovations brings more benefits because it encourages the emergence of new growth industries. It also increases productivity not only in technology-based industries but also in industries using the new technologies (OECD, 2001a; Timmons, 1999). This type of entrepreneurship comes from Schumpeterian entrepreneurs (Ucbasaran et al., 2001; Schumpeter, 1934). There are also routine and imitator entrepreneurs. Routine entrepreneurs are involved in coordinating and carrying on well-established production functions and clearly defined markets. Imitative entrepreneurs put new ideas into use. These two types of entrepreneurs might also contribute significant value addition to the economy (Yu, 2000), since Kirzner (1973) mentions that entrepreneurial alertness is not limited to the exploration of opportunities (in other words, Schumpeterian innovations) but also consists of exploitation of opportunities. This is clearly observed in the case of Hong Kong, where an economic development model based on imitative entrepreneurship has shown a great success (Yu, 2000).

Even though Schumpeterian entrepreneurship, based as it is on innovations and scientific breakthroughs, might contribute to economic development more than any other startup activity, DCs do not have the luxury of investing in or supporting only this type of entrepreneurship. This is mainly due to a limited availability of human and financial resources. DCs should follow policies that will create an economic development utilising all sorts of entrepreneurship, namely, routine, imitator and Schumpeterian entrepreneurs (Yu, 1998). Another model might be a stage-based model where DCs start with routine entrepreneurship, then move to imitative entrepreneurship and, over time, become Schumpeterian (Kim, 1997). Self-employment and focusing on the exploitation of opportunities might be a first step in transforming an economy into an entrepreneurial one since the accumulation of experience, networks, and resources might help DCs to move along the development path (Schmitz, 1989).

Whatever the type of entrepreneurship exists in a developing country, it will contribute to economic growth, though not necessarily through employment generation. Also important are the productivity gains experienced as a result of entrepreneurs taking the lead in shifting resources from low productivity to high productivity areas. Entrepreneurs do this in three basic ways (Acs et al., 1999; Schumpeter, 1934): They

- combine the existing production resources in such a way that the old redundant resources are used
- increase the production by new and/or different uses of resources and inputs
- accelerate the implementation and diffusion of new ideas.

From the perspective of DCs, even the smallest improvements can offer cost reductions and productivity gains that might increase their competitiveness in the long run.

Given the importance of entrepreneurship for economic development, DCs should come up with policies that will support entrepreneurship in their countries. International studies and policy-making bodies emphasise that entrepreneurship in a country is affected not only by infrastructure but also by government programmes (GEM, 2001; OECD, 1998; Dana, 2000). Therefore, DCs can establish special government programmes to facilitate the structural transformation of their economies into entrepreneurial ones similar to what many advanced countries have done already (OECD, 1998, 2001a). This task necessitates having an understanding of their entrepreneurs and their problems so that policies created will be sound and helpful in solving these problems. This paper attempts to do this by analysing the state of affairs in Turkey.

## 2 The level of entrepreneurship in Turkey

There are two main reasons why Turkey might benefit from entrepreneurship. The first is that given its large economy, if entrepreneurship could be developed, Turkey might be able to transform it into a real economic benefit. Turkey is the 17th largest economy in the world, having achieved a gross national product (GNP) of US\$ 459 billion (purchasing power parity value) in 2000 (UNDP United Nations Development Program, 2002). In addition to a formal economy, Turkey has a large informal one that reached 45% of the average GNP for the period of 1968–2001 (Ilgın, 2002). The second reason why entrepreneurship might be beneficial to Turkey has to do with its high rate of unemployment, which is close to 20%. Actively pursued, entrepreneurship might reduce this figure since entrepreneurship tends to create employment. As one of the 20 most populous countries in the world with a population of 69 million increasing at an annual rate of 1.6% – the highest among the Organization for Economic Cooperation and Development (OECD) countries (SPO, 2000), Turkey stands to benefit from any employment-generating effects of entrepreneurship.

Nevertheless, despite the contributions that entrepreneurship might make to economic development, Turkey does not show a high entrepreneurial performance. In this study, the level of entrepreneurship in Turkey is indicated by two sets of data:

- the number of entrepreneurs
- the number of self-employed (OECD, 1998; Hisrich and Peters, 1998).

The Global Entrepreneurship Monitor (GEM) Index uses the number of entrepreneurs who establish companies per 100 adults as an indication of a country's entrepreneurship. This number in Turkey is 4.6, less than any other country listed in the GEM study (a total of 29 countries in the 2001 study). Mexico has the highest number of entrepreneurs per 100 adults with its 18.7, which is almost 60% more than that found in the USA (see Table 1).

**Table 1** The number of entrepreneurs per 100 adult population

<i>Turkey*</i>	<i>Japan</i>	<i>Israel</i>	<i>England</i>	<i>USA</i>	<i>Ireland</i>	<i>Korea</i>	<i>Mexico</i>
4.6	5.1	6	7.7	11.7	12	15	18.7

\*Our own calculation from the Annual Statistics of State Institute of Statistics (SIS), Ankara.

Source: GEM (2001) and SIS (2001) data.

Turkey cannot utilise the major part of its population of potential entrepreneurs, particularly its women and its youth. Although self-employed women correspond to approximately 10% of all employed women as shown in Table 2, the share of women entrepreneurs in the total entrepreneurs is only 3.3%. In contrast, the number of male entrepreneurs is double the size of female entrepreneurs, which is the average among the 29 countries presented in the GEM study (2001). With respect to the youth of Turkey, unfortunately 64% of people under the age of 30, who might otherwise be potential entrepreneurs, are unemployed.

**Table 2** Data on entrepreneurs and self-employed

<i>Year</i>	<i>Total</i>	<i>Entr.</i>	<i>% of entr.</i>	<i>% of women in total entr.</i>	<i>Self-employed</i>	<i>% of self-employed</i>	<i>% of women in self-employed</i>
1989	19,002	651	3.4	2.6	4,836	25.4	7.3
1990	18,698	704	3.8	2.0	4,736	25.3	6.3
1995	20,834	1,038	5.0	3.2	5,197	24.9	7.8
1999	22,050	1,019	4.6	3.3	5,464	24.8	9.2

Entr. – Entrepreneurs.

The number of employer is used as a proxy to measure the number of entrepreneur.

Source: SIS (State Institute of Statistics) data (2001).

Interestingly, the number of self-employed in Turkey is high compared to many countries in the OECD. One quarter of the working population is engaged in some sort of revenue-generating activity making income available to both individuals and their families. As shown in Table 3, Mexico and South Korea follow Turkey in terms of the number of self-employed. The high ratio of self-employment in Turkey can, for the most part, be attributed to the limited availability of jobs in the economy, which compels individuals to create their own bases for income generation. In other words, necessity-based entrepreneurship is high in Turkey (GEM, 2001), which is one factor explaining the large size of the informal economy.

Simply looking at the number of both entrepreneurs and self-employed, it might seem that we have conflicting results for the level of Turkish entrepreneurship. However, economic growth generated in advanced countries is based on entrepreneurs who generate employment not only for themselves alone but also for others (Timmons, 1999). Self-employment is good for solving the unemployment problem for individuals, but economic policies cannot just rely on self-employment for sustainable growth (Acs et al., 1999). In the catch-up process, DCs need more than just a survival level of economic activities to transform their economic structure. Thus, we can conclude that the level of Turkish entrepreneurship is low compared to many countries included in the GEM study.

**Table 3** The share of self-employed in total employment (excluding agriculture employment)

<i>Country</i>	<i>1980</i>	<i>1990</i>	<i>1994</i>
Turkey	–	26.6	26.4
Mexico	14.3	19.9	24.7
South Korea	–	21.8	23.1
Ireland	10.2	13.4	13.6
UK	7.1	12.4	12.5
Japan	13.7	11.5	10.1
Finland	6.0	8.8	9.9
Sweden	4.5	7.3	9.0
USA	7.3	7.6	7.4

*Source:* OECD (1998).

In Section 3, we attempt to determine some of the characteristics as well as problems of Turkish entrepreneurs so that policies can be developed to tackle their problems and bring about an increase in the number of entrepreneurs in Turkey.

### 3 Turkish entrepreneurs

#### 3.1 Data collection

Entrepreneurship is one of the least studied research areas in Turkey. Hence, it is hard to find data about the characteristics of Turkish entrepreneurs as well as the general infrastructure that hinder or support entrepreneurship in Turkey. This is slowly changing due to the increased interest in entrepreneurship both at the academic and governmental levels. There are, for example, a few university graduate level studies (such as Çavdaroğlu, 1996) and some surveys supported by government institutions (KSSGM, 2000). In addition, businessmen associations are initiating entrepreneurship studies (Cetindamar, 2001, 2002).

This study is based on primary data collected through two surveys covering a total of 185 entrepreneurs. The first survey was conducted for a study during the months of June and July in 2002 whose data are partially used in a report (Cetindamar, 2002). The second survey was conducted for the Women Entrepreneurship Association (KAGİDER) during the months of May and June 2003.

In the first survey, a total of 2,850 surveys were sent randomly to the members of Ankara, Bursa, Istanbul, and Kocaeli Chambers of Industry who agreed to participate in the study. 2,150 surveys were sent through email and the remaining ones through fax. In total, the survey sent to 35% of Ankara, 25% of Bursa, 18% of Istanbul, and 32% of Kocaeli Chamber of Industry members. In addition to Chambers, 247 surveys were sent to members of TÜSİAD (Turkish Industrialists' & Businessmen's Association). In total, the survey reached a total of 3,050 firms. Even though a second call has been made for 1,000 of these firms, only a total of 188 responses were obtained. Of these 188 surveys, 174 were complete. Although the rate of return (6%) is low, it is indicated that a return rate ranging from 5% to 10% is a frequently experienced rate in internal surveys

conducted by the Istanbul Chamber of Industry, the largest Chamber in Turkey. It is also important to remember that the survey was conducted during summer months, when entrepreneurs might be likely on holiday. The fact that the survey could not be completed by anyone other than the entrepreneur was another factor making it difficult to receive higher response rates.

The second survey was conducted among 55 members of KAGIDER, having a response rate of 20% (11 returns). By adding these two surveys, it became possible to have 28 women represented in the sample, making it possible to analyse the characteristics of men and women entrepreneurs in a comparative manner. This analysis is particularly important given the low numbers of female entrepreneurs in Turkey.

As we obtained a total of 185 responses from a limited number of cities, it will not be appropriate to generalise the results and assessments to all entrepreneurs in Turkey. Even so, 185 entrepreneurs is a rather substantial number for the purposes of statistical analysis. Furthermore, the majority of surveys are from the two most important cities in terms of entrepreneurship in Turkey, i.e., Istanbul and Kocaeli – two cities from which general observations about Turkish entrepreneurs can be made. Moreover, the results of some other secondary surveys show many parallel findings (KSSGM, 2000).

As this paper is focused on policy issues, we investigated the literature and decided to collect data to answer the following three areas of concern: what entrepreneurs need in their startup phase, what problems they encounter, and what they expect from government (Carree et al., 2002; Foss and Klein, 2002; Lee and Osteryoung, 2001; Davidsson and Wiklund, 2001). As many studies highlight the special entrepreneurial problems in the startup phase, we included them in our study in addition to an open question inquiring the problems that entrepreneurs face. So, the survey consists of questions regarding these three issues plus some general questions designed to identify the general characteristics of entrepreneurs and enterprises.

We have performed a crosstab analysis using SPSS software (version 11.5). The crosstab procedure produces several statistics that can be used to assess the existence of a relationship between two variables. The most commonly used statistic is the chi-square test of independence. In this study, chi-square tests were performed for eight parameters: the number of employees, gender of entrepreneur, previous employment experience, manufacturing capabilities, technology production, sector of firm (especially information technology (IT) firms), firm age, and debt situation. These parameters were selected from the literature (OECD, 2001a, 2001b; Yu, 2000; Trulsson, 2002; Lee and Osteryoung, 2001). For each parameter, a crosstab was run to see if there were significantly different results. For example, we observed whether entrepreneurs respond to each survey question differently according to their gender type. If so, we mention what this difference is. Only statistically significant (chi-square results with alpha  $\alpha$ - equal or less than 0.05) issues are brought into discussion in Section 3.2.

### *3.2 The analysis of Turkish entrepreneurs*

The survey results are presented under five groups: characteristics of entrepreneurs, characteristics of enterprises, resource requirements at startup, problems of entrepreneurs, and expectations of entrepreneurs from government.

### 3.2.1 Characteristics of entrepreneurs

Entrepreneurs in our sample consider 'gaining work independence' as the biggest motivation in new business venturing (48%). This is even more important for entrepreneurs working in technology-producing firms. The number of these entrepreneurs is 1.5 times the number of entrepreneurs working in non-technology producing firms who indicate gaining work independence as their primary goal in setting up a business. Other major motives indicated in the sample are the creation of employment opportunities (38%), high income (32%), and personal satisfaction (24%). Interestingly enough, more than half of the entrepreneurs who have more than 100 employees give the creation of employment opportunity as their major motive. This motive is indicated in only less than half of the entrepreneurs in small firms.

Female entrepreneurs, like their male counterparts, indicate both 'gaining work independence' and 'creation of employment opportunities' as the most important motive for their startup. However, their third motive is personal satisfaction. 40% of female entrepreneurs value the importance of personal satisfaction in their venture creation process, while only 21% of men entrepreneurs do so.

According to a survey conducted in the informal economy that covers 3,759 unregistered small enterprises (with a response rate of 17.9%), 73% of respondents in the SIS survey conducted among unregistered firms work on their behalf or as an employer (Mead and Liedholm, 1998). Their primary reason behind starting a new business is to create an employment opportunity either for themselves or for their family members. In other words, they became entrepreneurs due to necessity.

As shown in Table 4, the majority (61%) of entrepreneurs are between the age of 25 and 45. People over 45 years constituted 38% of the sample, whereas entrepreneurs between 18 and 24 constituted only 2%. 28 women, representing 15% of the sample, responded to the survey.

**Table 4** The distribution of sample by age and gender

		<i>Age</i>				<i>Total*</i>
		<i>0-17</i>	<i>18-24</i>	<i>25-45</i>	<i>45+</i>	<i>-</i>
Gender	Men	1	2	81	53	137
	Women	-	2	19	4	25
<i>Total*</i>		<i>1</i>	<i>4</i>	<i>100</i>	<i>57</i>	<i>162</i>

\*Total number does not match 185 since some respondents did not answer survey questions.

Eighty one percent of entrepreneurs are still the owners of their firms and 15% of them manage their family companies. The board of directors manages almost half of the firms, while professional managers manage only 15% of the firms. The owners still manage 36% of firms. This shows that entrepreneurs do not always continue as the manager of their firms.

Entrepreneurs over 45 leave management to professional managers more than the entrepreneurs between the age of 25 and 45. This ratio decreases from 1/4 to 1/10 among entrepreneurs under 45 years. As expected, a similar situation is observed in small firms. In 80% of the small firms where one to nine employees work, the owner makes decisions. This decreases to 33% in firms with more than 500 employees.



Except for one illiterate person in the sample, the level of education among entrepreneurs is fairly high (see Table 5): 59% of respondents have university education (15–16 years of schooling), with the remaining respondents (more than 30%) having masters and/or PhD degree. All the respondents from Bursa are university graduates, while 66% of the respondents from Istanbul have post-university education. In contrast to the high level of education in our survey, the educational level is quite low in the informal economy survey.

**Table 5** The education level of entrepreneurs in registered and unregistered firms

<i>Education level</i>	<i>Registered firms (%)</i>	<i>Unregistered firms (%)</i>
Masters and PhD	30	–
University	59	2
High school	9.5	13
Secondary school	–	14
Primary school	–	62
None	0.5	9

Entrepreneurs with masters and PhD degrees are mostly seen in the electronics sector (56%), while the majority of entrepreneurs with university education (77%) are in the textile sector.

In the SIS informal economy survey, 66% of the respondents are 15–40 years of age. The majority (69%) of the respondents are male and 76% of these are entrepreneurs (working on his own or with partners). Female entrepreneurs are about 9% of the total entrepreneurs. This is similar to the result of the survey conducted among registered firms. But interestingly, 60% of the women working in the informal economy are entrepreneurs.

58% of the respondents in the informal economy survey are in retail business, while 20% are in manufacturing and 22% are in services. Sectors differ according to the gender type. More than half of the women operate in textiles and apparel manufacturing, while men operate in all sectors.

Only 22% of the entrepreneurs in our sample operate in services. All others are from diverse sectors in manufacturing: textile (15%), IT (11%), machinery (6%), chemicals (8%), automotive (7%), energy (4%), and pharmaceuticals and biotechnology (5%).

When undertaking a new business, the majority of respondents of our survey (57%) indicate 'filling a niche and creating a new product/service' as their innovation. Developing an existing product or a new marketing technique, and reorganising the sector are other kinds of innovations planned at the startup phase. By using the innovation intentions of entrepreneurs, Turkish entrepreneurs are classified under three categories: routine, imitator and Schumpeterian (Yu, 1998). The distribution of entrepreneurs is almost even: Schumpeterian entrepreneurs represent 35% of the sample, while routine and imitator entrepreneurs are 32%.

Entrepreneurs with previous entrepreneurial experience constitute 41% of our sample and 52% of these are successful, i.e., business is still running. The success rate is 75% among entrepreneurs who started two businesses previously and 83% among entrepreneurs who have already had three startup businesses. Interestingly, as the number of entrepreneurial undertakings increases, the success of the entrepreneurs increases due to the learning process. In other words, venturing is not an end in itself but rather a tool for innovators and opportunity seekers.

### 3.2.2 *Characteristics of the enterprises*

The majority of entrepreneurs (76%) are involved in production, with male entrepreneurs leading with 86% as shown in Table 6. Entrepreneurs producing technology as well as holding patents are less than one-fourth of the sample (23%). The ratio of male entrepreneurs involved in the production of technology is higher than female entrepreneurs. The low performance of women with respect to manufacturing and technology-related production could probably be explained by the type of business in which they are engaged. Forty one percent of female entrepreneurs operate in the service sector, while only 18% of men are in services.

**Table 6** The distribution of entrepreneurs with respect to their production activity

	<i>Performing production (%)</i>	<i>Non-producer (%)</i>
Men	86.1	13.9
Women	68.0	32.0

Sixty three percent of entrepreneurs export their products and 83% of non-exporters plan to export in the future (see Table 7). A greater number of male entrepreneurs than female ones are involved in exporting. Furthermore, many more non-exporting male entrepreneurs than their female counterparts plan to export. As mentioned earlier, the concentration of female entrepreneurs in the service sector might be an explanation why they are not exporters.

**Table 7** The number of exporters and entrepreneurs planning to export

	<i>Exporters (%)</i>	<i>Non-exporters (%)</i>	<i>Planning to export (%)</i>	<i>Not planning to export (%)</i>
Men	63.8	36.2	87.5	12.5
Women	44.0	56.0	55.6	44.4

Sixty two percent of the entrepreneurs in our sample operate in Istanbul and Ankara. Other representative cities are Bursa, Kocaeli, and Izmir, consisting of 12% of the sample. As shown in Table 8, half of the firms employ less than 100 employees. Small firms with one to nine employees are only 14% of the sample. The number of firms founded in the last five years is 15%, but not surprisingly this ratio increases to 39% in IT sector.

**Table 8** The distribution of enterprises by age and number of employees

	<i>Age of the enterprise</i>				<i>Total*</i>	
	0-5	6-10	11-25	25+		
Number of employees	1-9	10	7	7	1	25
	10-24	9	15	11	4	39
	25-49	2	7	15	3	28
	50-99	5	11	5	6	27
	100-249	1	3	12	17	33
	250-500			3	4	7
	500+		1	6	9	16
Total*	27	44	60	44	175	

\*Total number does not match 185 since some respondents did not answer survey questions.

The ratio of engineers in small firms (1-9 employees) is greater than in large firms. In 72% of small firms, the ratio of engineers is over 20%, while in 64% of larger firms with more than 500 employees, engineers make up 3%-6% of all employees. As might be expected, engineer employment is more in technology-producing firms than in other types of firms. The ratio of engineers is between 21% and 49% in 22% of technology-producing firms and another 20% of firms have engineers consisting of more than 50% of their employees. The least number of engineers is seen in textile firms, while the highest ratio is seen in electronics sector. In 80% of electronic firms, the number of engineers is over 20% of total employees. Moreover, the ratio of engineers is larger in new firms than in old ones. In 28% of young firms (0-5 years), the ratio of engineers is over 50%. On the other hand, in firms older than 25 years, there are no firms having a ratio of 50% and above.

### 3.2.3 Resource requirements at the startup phase

Entrepreneurs who used loans at the startup of their businesses comprise only a quarter of firms, but more than half of them receive loans from private banks. As Table 9 shows, other capital resources for entrepreneurs are public banks, family and relatives, and foreign finance organisations. There are only two firms that have venture capital. The biggest problem with bank loans is the guarantee emanded by banks. In the SIS's informal economy survey, entrepreneurs mainly use the resources of family and relatives.

**Table 9** Financial resources at the startup phase in registered and unregistered firms

<i>Financial resources</i>	<i>Registered firms (%)</i>	<i>Unregistered firms (%)</i>
Family and relatives	24	59
State banks	38	
Banks	55	25
Foreign financing	18	
Venture capital firms	4	
Other firms	14	16
Total firms with debt/loan	25	16

\*Entrepreneurs choose more than one choice.

The existing tax system in Turkey can be seen as one of the reasons behind the low level of formal financing in unregistered firms. According to the tax system, interest and/or foreign exchange differences paid for outside resources cannot be shown as deductible expenses. However, large manufacturing industries can show their financing costs as deductible expenses. This is observed when the list of top 500 Turkish firms is analysed: 65% of these firms prefer loans in contrast to small- and medium-sized enterprises, who use internal resources.

Another interesting finding is that 30% of the entrepreneurs who used their personal wealth, family, and/or banks at their own startup stage have financed another venture later in their career. This kind of informal financing or business angel activity is important information since it is very difficult to find data about this informal financing mechanism.

Similarly, it is observed that entrepreneurs with previous experience are more indebted and use more and diverse financing resources compared to entrepreneurs with no previous entrepreneurial experience. For example, 67% of the entrepreneurs with previous experience are indebted to banks compared to 42% in the case of no prior entrepreneurial experience.

Some firms receive capital from firms in which they have a commercial relationship. The majority of them are in the IT sector and they are young firms, indicating that the solidarity between IT firms is high. Eighteen percent of the firms in IT sector have financial support from other firms in the sector in the event of financial problems. This is as low as 4% in other sectors. Contrary to general expectation that old firms could apply to other firms in their sector for financial help due to their networks, the ratio of young firms (12%) receiving finance through their commercial relationships is twice the ratio of old firms ( $\alpha = 0.091$ ).

It is also seen that larger firms with more than 500 employees use banks more than small firms. Seventy nine percent of these firms use banks in cases of financial difficulties. Similar to large firms, manufacturing firms need loans more than any other type of firms. Half of the manufacturing firms receive debt financing, compared to one-fourth of non-manufacturing firms.

According to the survey, the most needed information/expertise at the startup phase is listed as follows (see Table 10): market and demand research, technological support, qualified human resources, and marketing and advertising. An interesting finding is that 73% of the entrepreneurs in the service sector declare technological support among the expertise needed at startup, whereas only 29% of entrepreneurs in machinery industry do so. This is something quite unexpected for the machinery industry.

The number of organisations from which assistance is sought is very few. Of those institutions to which application is made, investment banks are in the majority. The number of entrepreneurs who contact universities, KOSGEB, and professional organisations is less than 10%. There was only one entrepreneur who applied for TÜBİTAK and TİDEB funds. This low networking activity continues in later stages of business endeavour. For example, the majority (87%) of entrepreneurs overcome the problems they encounter through their personal efforts and resources. The number of enterprises receiving professional assistance through counselling firms is about one-fourth of all enterprises.

**Table 10** Resources needed and organisations applied for help during the startup phase

<i>Resources needed at startup*</i>	<i>%</i>	<i>Organisations applied for help*</i>	<i>%</i>
Market and demand research	67	Investment banks	20
Technological support	54	Private organisations	17
Qualified human resources	53	Industry organisations	13
Marketing and advertising	51	Investment and financing advisors	14
Professional services	36	KOSGEB	10
Credits and financing	32	Professional organisations	8
Foreign market research	36	Universities	8
Info about competitors	33	TÜBİTAK-TİDEB	0.6
Pricing/profitability studies	32		
Income estimation analysis	31		
Determination of production technology	30		
Working capital analysis	29		

\*Entrepreneurs choose more than one choice.

KOSGEB – Small and Medium Industry Development Organization.

TÜBİTAK – The Scientific and Technical Research Council of Turkey.

TİDEB – Technology Monitoring and Evaluation Board.

Professional assistance is an alternative used mostly by TÜSİAD member firms. For example, the number of TÜSİAD member firms applying to organisations within their sector (41%) in attempting to solve their problems is five times that of other enterprises.

It is also observed that older entrepreneurs use more of the resources offered by professional organisations. Twenty five percent of entrepreneurs over 45 years get assistance from some kind of sectoral organisations, while this ratio decreases to only 7% among entrepreneurs less than 45 years.

Similarly, the number of entrepreneurs with previous experience who use some kind of research and/or professional service is twice the number of entrepreneurs with no previous entrepreneurial experience. In other words, experienced entrepreneurs are more fastidious, more research oriented, and obtain more counselling most probably due to their experience. Moreover, 20% of experienced entrepreneurs, compared to 9% of inexperienced ones, declare that they solve their problems by resorting to the assistance of organisations within their sector.

It is also observed that women and/or younger entrepreneurs benefit from KOSGEB services much more than other entrepreneurs. Thirty three percent of the women compared to 8% men benefited from these facilities. Also, 15% the entrepreneurs in the age group of 25–45 use KOSGEB compared to 4% in entrepreneurs above 45 years.

### 3.2.4 Problems of entrepreneurs

The main problem of the entrepreneurs in the survey is the bureaucracy encountered especially in public offices, municipalities, and at customs. The second biggest problem is the unstable and uncertain state policies. This problem is also the leading reason behind failures of initial entrepreneurial undertakings.

Entrepreneurs who have established enterprises before indicate that the major reasons behind their initial entrepreneurial failures are instability in state politics (27%), disagreements among partners (27%), intense competition (22%), insufficient demand (13%), and financing problems (15%). More than twice as many entrepreneurs see political instability as the major reason behind failures than those who consider financing problems as the major problem.

Instability in state politics is a much greater problem for young entrepreneurs. Fifty three percent of entrepreneurs younger than 45 years consider it as one of their top three problems. This figure drops to 38% among entrepreneurs above the age of 45.

The leading reason why entrepreneurs do not plan to make any investment is uncertainty in the economic and political environment corresponding to changes in state policies, volatility in foreign exchange prices, high cost of financing, and change in inflation rates (see Table 11). All these changes creating instability are related to state policies, while other reasons are firm-based problems. Interestingly, technological problems are not seen as an important obstacle since only 10% of entrepreneurs mention insufficient technological capability as a problem, with those who see limited R&D budgets as a problem making up less than one-fifth (16%).

**Table 11** Reasons for not investing and sectoral problems

<i>Reasons for not investing*</i>	<i>%</i>	<i>Sectoral problems*</i>	<i>%</i>
Instability in state policies	41	Instability in state policies	50
Volatility in foreign exchange rates	32	Unfair competition	40
High cost of credits	26	Insufficient financial possibilities	39
Volatility in inflation rates	21	Lack of qualified human resources	35
Change in credit interest rates	19	Insufficient incentives	30
Insufficient financial possibilities	30	Insufficiency in sales and marketing	28
Insufficient demand	27	Non-standard production	25
Change in demand status	26	Insufficient control and auditing	21
Competitive market conditions	25	Insufficient university-industry cooperation	16

\*Entrepreneurs choose more than one choice.

Among entrepreneurs who do not plan to make new investments, their main complaint is the decrease of incentives for entrepreneurs working in firms more than ten years. Thirty two percent of them consider low incentives as the reason for no new investment, whereas no entrepreneur working in young firms believes this to be so.

As expected, large firms are more sensitive to loan rates. Eighty percent of entrepreneurs employing more than 500 employees do not make new investment because of changes in loan rates. This is four times the ratio among entrepreneurs having small firms. On the other hand, it is observed that small firms are more sensitive to demand. Sixty seven percent of small firms employing one to nine employees do not make new investments due to insufficient demand. This ratio is between 10% and 27% in large firms.

Entrepreneurs in the electronics sector put non-standard production among their three major problems (44%). Insufficient infrastructure is another major problem for IT firms. Thirteen percent of the entrepreneurs in the IT sector consider insufficient infrastructure as their number one problem. This ratio decreases to 7% in other sectors. This difference becomes much more obvious when the major three problems are analysed. Thirteen one percent of the IT firms express insufficient infrastructure among their major three problems compared to 8% in other sectors.

### 3.2.5 Expectations of entrepreneurs from government

It is possible to classify the expectations of entrepreneurs from the state and local offices into six groups as listed in Table 12. The two main expectations are 'the simplification of bureaucracy in state organisations' and 'the establishment of modern and stable state policies'.

**Table 12** Expectations from government

<i>Expectations from government</i>	%
Simplification of bureaucracy	58
Establishment of modern and stable state policies in all sectors	57
Availability of financial possibilities	44
Increase of incentives	41
Development and audit of standards	33
Solution of infrastructural deficiencies and inefficiencies	27

\*Entrepreneurs choose more than one choice.

Two times as many entrepreneurs with no previous entrepreneurial experience than those with experience consider the removal of existing incentives as one of the biggest risks for their enterprise. Most of the experienced entrepreneurs (69%) demand from government the establishment of stable and modern state policies in their sectors.

Similarly, entrepreneurs who received credit or went into debt are twice as likely to complain about insufficient incentives in their region (36%). In other words, those who have access to financing, still demand incentives. In addition, entrepreneurs in IT sector demand an increase in incentives. The ratio of entrepreneurs demanding an increase of incentives is 65% in IT sector. This is in contrast to the overall ratio of 40% in other sectors.

In addition to incentives, entrepreneurs in IT insist that the government resolve infrastructural deficiencies and inefficiencies. Sixty eight percent of them demand that infrastructural problems be solved and 45% believe that it is the government's job to solve educational problems related to the sector. Furthermore, for people working in the IT sector, more (29%) expect the removal of technological obstacles than people working in other sectors (11%). Similarly, the percentage of entrepreneurs who expect that standards be developed and audited is greater in the IT sector (48%) than it is in other sectors (31%) ( $\alpha = 0.062$ ).

#### 4 Concluding remarks

There are four main findings of this study:

- Turkey underutilises youth and women as entrepreneurial resources
- the existence of a large informal economy tends to support self-employment rather than entrepreneurship
- entrepreneurs are not linked with organisations that might be helpful at the startup stage
- entrepreneurs consider bureaucracy and unstable state policies as their main problems.

To solve the problem of the underutilisation of youth and woman as an entrepreneurial resource, policy makers should focus on incentives that will help to increase opportunities for them to become entrepreneurs. OECD countries have already established special programmes for these two groups (OECD, 2001b). DCs can follow them and apply suitable policies for their own economic and social structure. For example, Turkey can benefit from policies oriented towards the startup phase such as establishing a central support unit like the UK's Small Business Service established in 2000, which establishes incubators and offers financial support to young and female entrepreneurs (GEM, 2001).

The entrepreneurial infrastructure suffers from the existence of the informal economy. This is because Schumpeterian entrepreneurship is hard to develop in an economy that has an informal part equivalent to almost half of the size of its formal economy. The differences between entrepreneurs operating in the formal and informal economies in Turkey highlight the reasons why this is not possible. Three differences are of particular interest here. First, the majority of entrepreneurs operating in the formal economy have university and higher education degrees, while very few entrepreneurs in the informal economy are university graduates. Second, the majority of entrepreneurs in the informal economy are in service business such as retailing, while entrepreneurs in the formal economy operate in manufacturing industries. Third, entrepreneurs in the informal economy mainly use the resources of family and relatives, while entrepreneurs in the formal economy receiving debt from banks constitute more than half.

Turkey should transform its informal economy into a formal one in which the tax system works and stable growth can be attained. Self-employment might be a solution to unemployment but it cannot be a long-term policy, since it is not compatible with innovation and creation of new industries and/or products spurring from technologies (Mead and Liedholm, 1998). Self-employment has limits and is based on slow growth. On the other hand, Schumpeterian entrepreneurship in advanced countries creates intensive growth (Bruyat and Julien, 2001; OECD, 2001b). DCs might start with the establishment of routine entrepreneurship and then move on to the imitative entrepreneurship phase that leads into Schumpeterian one in the long run.

Hence, developing and running a well-functioning educational and financial infrastructure might create a strong entrepreneurial background for the formal economy (OECD, 2001b). This, in turn, will increase the number of entrepreneurs who will establish manufacturing firms and will efficiently utilise human resources in high-value added production. In fact, this is observed in the survey results. Manufacturers are the



ones who produce technology, patent their inventions, and export their products (Wennekers and Thurik, 1999; SIS, 2000).

Becoming an entrepreneur by starting up a business is not an easy task since an entrepreneur needs help and expertise in a number of fields. Turkish entrepreneurs indicate the following expertise/information as a need at their startup: market and demand research, technological support, qualified human resources, and marketing and advertising. However, the number of organisations from which assistance is sought is very few. The reason behind might be the lack of awareness of the formal sources and types of help that are available to entrepreneurs (Cetindamar and Carlsson, 1999; Dodd and Patra, 2002). Therefore, one policy suggestion is to form programmes oriented in increasing the awareness of available resources to entrepreneurs. Another policy suggestion could be to increase both the number of local centres and/or institutions as well as the connectivity between them (OECD, 2001b). These local institutions might be of great help for policy makers since they can act as complementary units in the social entrepreneurial network and might solve specific problems and help entrepreneurs at the regional level (Dodd and Patra, 2002). These platforms may bring inexperienced and experienced entrepreneurs together and create a synergy for all.

The need for government programmes is clearly observed in the case of Turkey. Entrepreneurs who failed in their initial ventures highlight the unstable and uncertain state policies as their main problem. In other words, entrepreneurs suffer from uncertainty in the economic and political environment that corresponds to change in state policies, volatility in foreign exchange prices, high cost of financing, and change in inflation rates. Thus, the top three expectations of Turkish entrepreneurs from government are 'the simplification of bureaucracy in state organisations', 'the establishment of modern and stable state policies', and 'availability of financial possibilities'. These expectations are similarly observed in many advanced countries (OECD, 2001b).

Calling for policies and government programmes does not mean that government will replace entrepreneurs and market mechanisms (OECD, 2001a; Karlsson and Karlsson, 2002). On the contrary, governments might be quite constructive by employing two types of intervention: directive and facilitative (Yu, 1998). In the former type of intervention, government defines the growth, productivity, and competitiveness of the economy. For example, Taiwanese and South Korean governments have consistently monitored world markets in search of export opportunities and identified new types of demand that governments may then encourage private companies to meet (Kim, 1997; Henderson and Appelbaum, 1992). In the latter type of intervention, the government creates an environment for private entrepreneurs to exploit opportunities. Both types of intervention are observed in many advanced countries, including the UK and USA (GEM, 2001; Karlsson and Karlsson, 2002). These government programmes are not necessarily interventionist in nature but focuses on supporting the entrepreneurial infrastructure such as building strong education and tax systems.

In the process of creating and developing an entrepreneurial economy, DC governments should focus on the formation of institutional arrangements supporting continuous innovation through a network of public and private institutional linkages. Such a strong institutional setup might encourage risk taking, learning, imitating, and experimenting in an economy that forms the base for an entrepreneurial economy (Chang and Kozul-Wright, 1994; McKelvey, 1998). This calls for stable government policies that will facilitate entrepreneurship in the long run.

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