# Investigating the Role of Entrepreneurship Ecosystem in Iran's Economic Growth

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*Entrepreneurship development requires a network of different elements, and this network is known as the entrepreneurial ecosystem. Entrepreneurship ecosystem refers to the elements—individuals, organizations or institutions—outside of the entrepreneur that motivate or impede a person's decision to become an entrepreneur. Entrepreneurship ecosystems include the financial environment, government tax and support policies, government programs, infrastructure, dynamics and market capacities, basic and excellent education, Research and Development (R&D), and cultural and social norms. Improving the entrepreneurship ecosystem can boost economic growth through increased incentives for entrepreneurship and the development of small and medium-sized businesses. In this paper, the effect of elements of Iran's entrepreneurship ecosystem has been studied. The study is based on the data obtained from Global Entrepreneurship Monitor (GEM) reports, academic publications, reports, and publications of government agencies and other stakeholders in the field of entrepreneurship in Iran and outside. To this end, according to the 2007-2017 Global Entrepreneurship Survey on Entrepreneurship and the World Bank's Report on GDP, the problems of the Iranian entrepreneurship ecosystem, which hampered the economic growth, were examined. Based on the problems identified, it is suggested that existence of an organization with well-defined and transparent rules for financing entrepreneurs can save from the turbulent financial environment. Further, creating dynamic communication centers for linking industries and universities can improve the R&D transfer.*

## Introduction

The relationship between entrepreneurship and economic growth cannot be overlooked, while the relationship between the ecosystem of entrepreneurship and economic growth needs to be further explored. Entrepreneurship development requires a network of different elements and this network is known as the entrepreneurial ecosystem. The stronger the ecosystem of entrepreneurship, the more productive will be the technology, and hence the impact of entrepreneurship on economic growth will be stronger. In this way, entrepreneurs act as factors

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that by commercializing innovation, provide the mechanism for advanced knowledge that leads to economic growth. However, even if entrepreneurship is dynamic, the knowledge transfer process may be weakened or facilitated by the corporate environment (Baumol and Strom, 2007). The term 'ecosystem' means the environment is close to the complex relationships between living organisms and its environment and the human activities impact these relationships (Christian, 2003). Putting these two words together creates a new term called the 'entrepreneurship ecosystem' (Hechavarría and Ingram, 2018). An entrepreneurial ecosystem refers to elements, individuals, organizations or institutions that can act as an incentive or an obstacle to entrepreneurship. Such an ecosystem encompasses hundreds of elements that can be grouped into six major realms of market, politics, finance, culture, support, and human capital (Isenberg, 2010). According to Forfas (2009), entrepreneurship ecosystem refers to the elements—individuals, organizations or institutions—outside of the entrepreneur that motivate or impede a person's decision to become entrepreneurial or likely to succeed in the setting up business.

The researchers have expressed a variety of views on the entrepreneurial ecosystem, which includes the unique nature of each ecosystem and its existence in specific geographic regions. Entrepreneurship ecosystems are the result of people's interaction, roles, infrastructures, organizations, and events that create an environment for raising entrepreneurial activity levels. Seven specific components for a powerful entrepreneurship ecosystem include access to capital, state-owned entrepreneurship programs, entrepreneurship education, contributing policies, research and development, business-legal infrastructure, and ease of entry rules (Regele and Neck, 2012).

Although knowledge about entrepreneurship has increased, different stages of entrepreneurship are different throughout the development process. Social, cultural and ideological barriers can affect entrepreneurship and eventually affect people's willingness to participate in entrepreneurial activities. Further, literature shows that as the countries move towards higher levels of economic development, the rate of entrepreneurial activity decreases. In previous research, evidence has been found for the existence of a U-shaped relationship between total early-stage entrepreneurship and GDP per capita (Carree *et al*., 2002; Bosma *et al*., 2008; and Wennekers *et al*., 2010). Developing countries have the highest rate of entrepreneurial activity, but as economies develop further, these rates decrease. The relationship between entrepreneurship and economic development appears to be negative in low-income countries (Acs, 2006). Therefore, this paper, using GEM Reports of Iran from 2007 to 2017 evaluates the impact of the entrepreneurial ecosystem on the economic performance (economic growth) of Iran. To this end, using the qualitative approach, the paper investigates the effects of pillars of entrepreneurial ecosystem on economic growth.

## Objective

In carrying out this research, some questions become imperative:

- What factors affect the economic performances of entrepreneurs?

- What are the challenges in the entrepreneurial ecosystem for entrepreneurs?
- Which of all these ecosystem factors has more impact on the performance and growth of entrepreneurship in Iran?

The main objective of this research is to investigate the impact elements of entrepreneurship ecosystem on economic growth in Iran. In achieving this, the specific objectives are to:

- Investigate the relationship between entrepreneurship ecosystem and economic growth across countries;
- Identify the impact of the Iranian business environment on entrepreneurship productivity;
- Review the different entrepreneurial ecosystems; and
- Observe what elements have more effect on sustaining economic development in Iran.

## Discussion

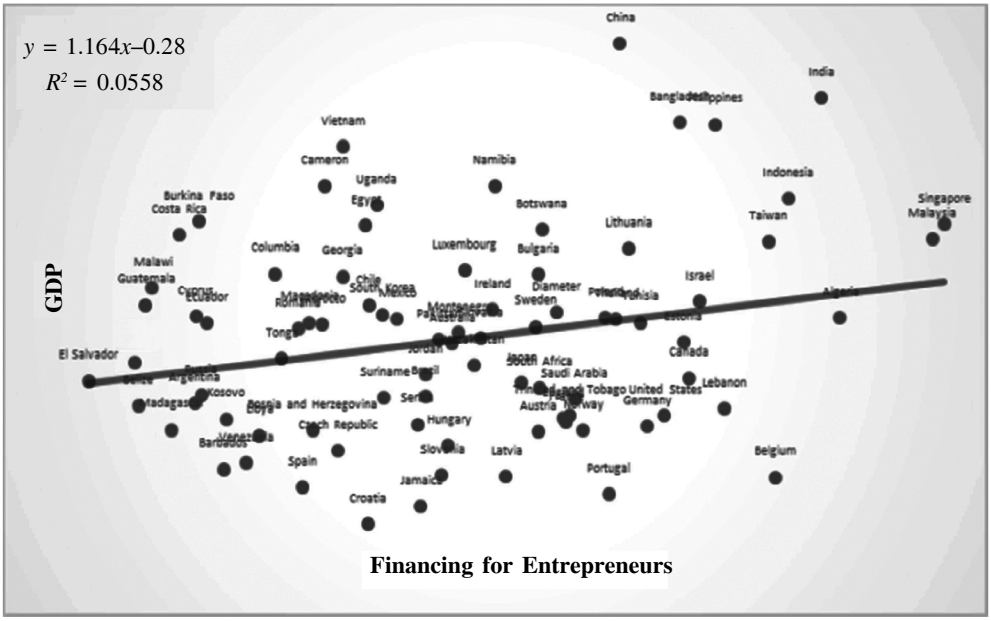
### Relationship Between Elements of Entrepreneurship Ecosystem and Economic Performance

#### *Financing*

In Investopedia's specialist dictionary, financing is referred to as providing credit for business activities, purchases or investments. Financial institutions and banks provide the necessary capital for businesses, consumers and investors in order to achieve their goals. The use of finance in every economic system is essential because it enables businesses and companies to make their activities easier with the speed and mechanism. Each institution needs financial resources, and the assessment and evaluation of the resources required by the institution involves four important steps: (1) Defining the necessary capabilities of the institution, providing a comprehensive human resource plan to explore the required capabilities; (2) Developing resource planning and financial planning; (3) Access to resources for new business is a support for entrepreneurs; and (4) The amount of capital and human resources are the most important backing for entrepreneurs. The discussion on choosing financial resources and justifying the choice of the best capital structure in different business conditions has made the ground for examining the managerial attitude in choosing and distributing appropriate financial resources in financial literature (Etamadi, 2009). Financing, is an art and science of cash management. The goal is to finance, invest, make profit, reduce risk and meet the economic and social needs of the business (Mittal and Vyas, 2011).

As shown in Figure 1 (the vertical axis represents GDP growth and the horizontal axis represents the financial environment of the countries), the financial environment has a positive correlation with GDP. This means that countries with a better financial environment have also experienced more economic growth. It is observed that countries like Malaysia and

**Figure 1: Relationship Between Financial Environment and GDP**



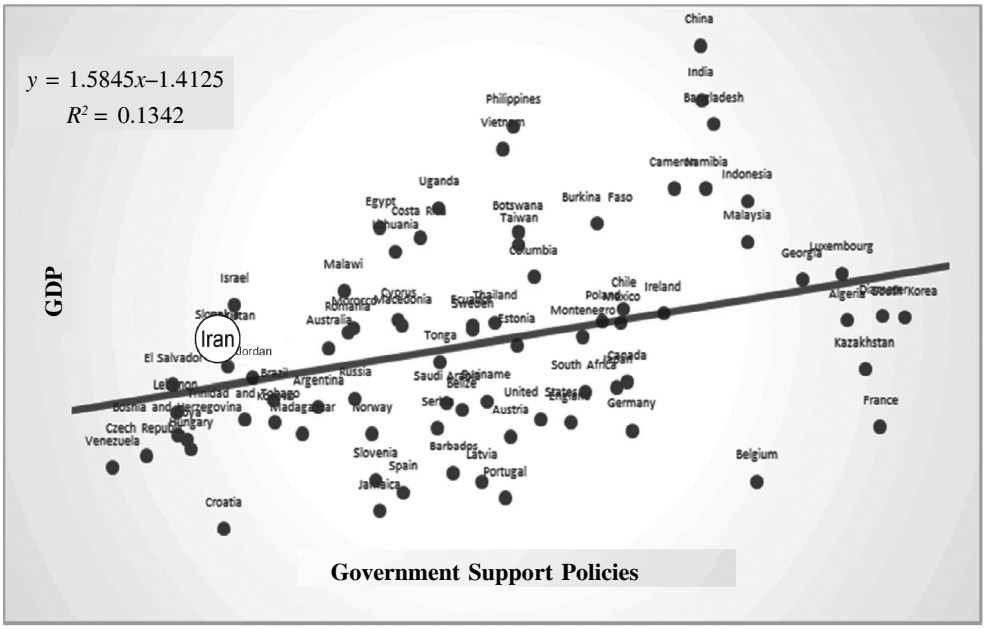

Singapore have experienced a positive financial and growth environment. Iran, which is shown in white circle, does not show a well-suited status with regard to this indicator.

### *Government Support Policies*

In recent decades, policymakers have developed entrepreneurial policies for economic growth. Government policies are the rules and strategies that the government sets up to guide and manage economic, social, and administrative programs, and so on. Governments have implemented three policies for entrepreneurship. First, by providing financial assistance and simplifying bureaucratic rules, they have improved their regulatory environment for entrepreneurs. Second, they have improved the country's environmental awareness by providing programs for the dissemination of knowledge and skills for entrepreneurs, which can increase the ability of individuals to understand the processes of business start-ups. Third, they have strengthened their normative environment through activities necessary to improve society's perceptions of entrepreneurship, which can improve the incentive for individuals to become entrepreneurs (Danayifard *et al*., 2007).

As shown in Figure 2 (the vertical axis represents GDP growth and the horizontal axis represents government supportive policies for countries), government supportive policies have a positive correlation with GDP. This means that countries whose governments have more effective supportive policies have also experienced better economic growth. It is observed that countries like South Korea and Singapore have better government support policies and more growth. Iran, which is shown in white circle, does not show a well-suited status with regard to this indicator.

**Figure 2: Relationship Between Government Support Policies and GDP**



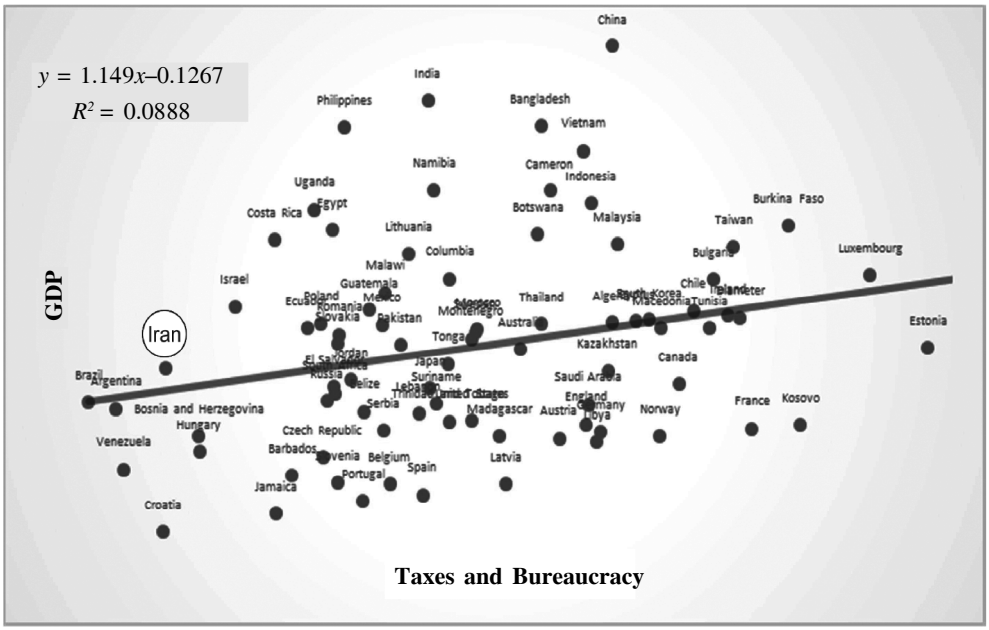

***Taxes and Government Policy***

The tax laws should be such that they promote economic transparency, creation of comprehensive economic information banks, strengthening of surveillance systems in the export and import stages, as well as reduction of tax burden on the economy. Otherwise, tax laws will result in a lack of transparency in the economy, followed by an increase in transaction costs, and thus, a reduction in investment, production and entrepreneurship (Abu and Motevassel, 2012).

Tax policies have an unclear effect on entrepreneurial activity; some studies have found that the rise in tax rates has led to an increase in entrepreneurship in the economy, but the findings of other studies indicate a negative effect of the tax rate on entrepreneurial activities (Abu and Motevassel, 2012). This difference in results can be attributed to the definition of entrepreneurship in various studies. Some studies have defined entrepreneurship as an institution. In a study, Bartik (1989) explored the relationship between the impacts of local taxes on entrepreneurial activities and concluded that taxes could limit entrepreneurship. Some other studies have considered self-employed as a criterion for entrepreneurship. Blau (1987) in his study concludes that the final rate of taxation has a positive and significant effect on self-employment. The results of this study showed that with increasing tax rate, people prefer to work for themselves.

As shown in Figure 3 (the vertical axis represents GDP growth and the horizontal axis represents government tax policies for countries), the government's tax policies have a positive correlation with GDP. This means that countries with more efficient tax policies have

**Figure 3: Effect of Government Tax Policies on GDP**



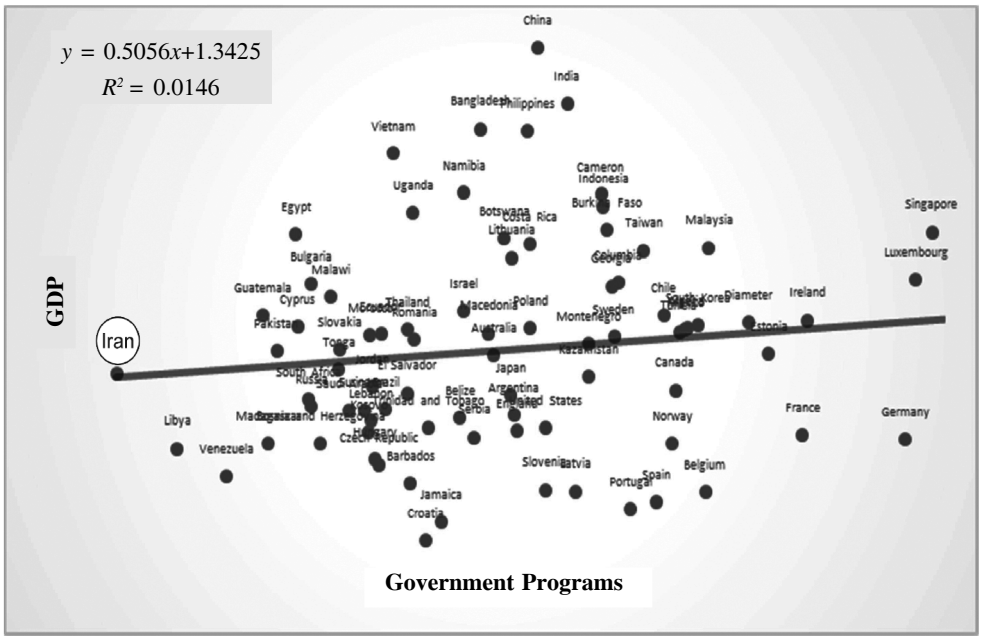

also experienced better economic growth. It is observed that the countries like Georgia and Singapore have better tax policies and more economic growth. While Iran, in the lower part of the graph, shows its not so suitable situation with regard to this indicator.

***Government Programs in Entrepreneurship***

Government programs that provide services and assistance or professional services (such as accountants, bankers, lawyers and/or business advisers) can increase entrepreneurial capacities in economies (Clarysse and Bruneel, 2007). The government can provide entrepreneurs with business education programs that subsidize and provide materials and advice to new companies supported by commercial chambers or through publicly supported incubators (Keuschnigg and Nielsen, 2004). Such programs reduce transaction costs for organizations and increase the human capital of founders (Delmar and Shane, 2006). Government programs are guiding it by rectifying the market failure. When there is a strong environment supporting entrepreneurship, entrepreneurship will develop at a higher level.

As shown in Figure 4 (the vertical axis represents GDP growth and the horizontal axis represents government programs for countries), government programs have a positive correlation with GDP. This means that countries whose governments have programs that are more efficient also have a better economic growth. It is observed that Luxembourg and Singapore have better government programs and more economic growth. Nevertheless, Iran at the lowest point of the diagram shows its inappropriate status with regard to this indicator.

**Figure 4: Effect of Government Programs on GDP**




### *Basic Education in Entrepreneurship*

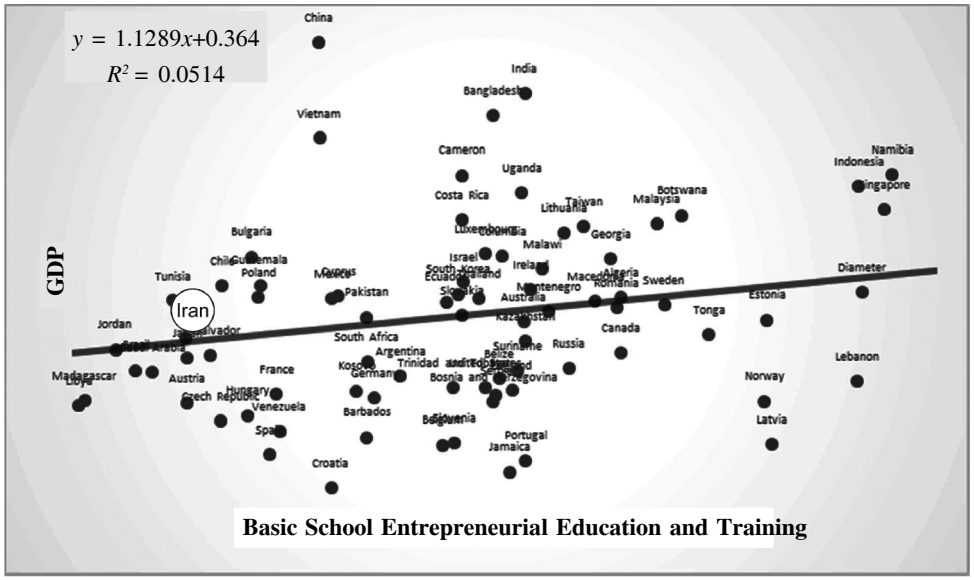
Training, by providing practical skills for starting a business, will increase the number of entrepreneurs by improving their ability to understand and recognize entrepreneurial opportunities and by encouraging risk activities as a career option (DeTienne and Chandler, 2004). Previous research shows that there is a positive relationship between entrepreneurship education or entrepreneurship programs at universities and the perception of the attractiveness and feasibility of entrepreneurship. Countries with stronger educational programs to support entrepreneurship are expected to see a higher degree of entrepreneurship participation (Delmar and Shane, 2006).

As shown in Figure 5 (vertical axis represents GDP growth and the horizontal axis represents the basic education for countries), basic education has a positive correlation with GDP. This means that countries that have a more basic education have also had better economic growth. It is observed that the Philippines and Singapore have better basic education and more economic growth. Contrarily, Iran, which is shown in white circle, is not well suited with regard to this indicator.

### *Academic Education in Entrepreneurship*

The educational environment and, in particular, higher education planning are important areas that can play the role of institutionalizing entrepreneurship and linking the job market and the graduates. The relationship between the educational system and the need of different sectors of the economy for specialized workforce has always been a major issue in educational

**Figure 5: Effect of Basic Education on GDP**



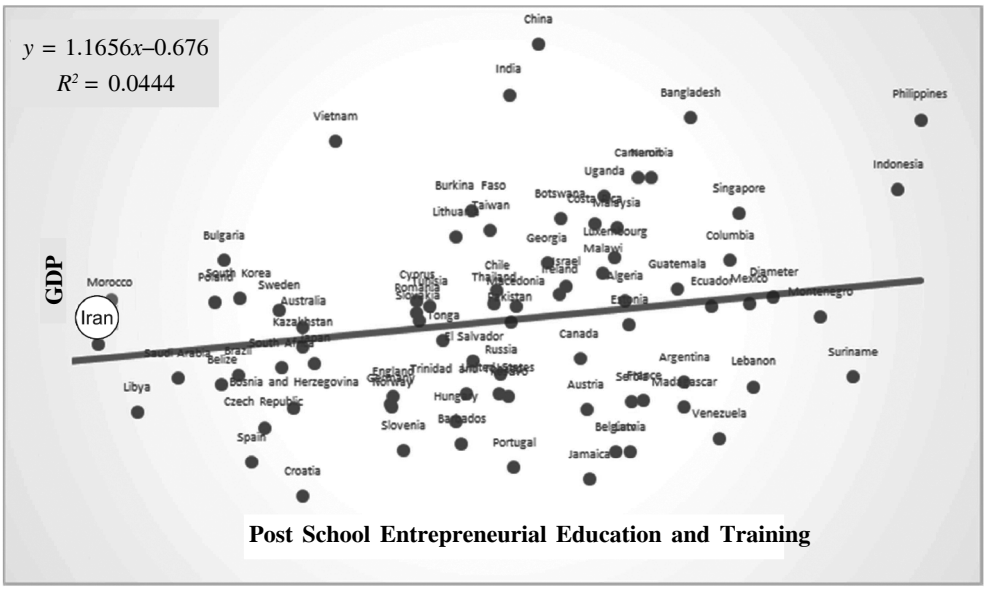

planning. In fact, one of the main reasons for the need to develop educational programs has been to match better the needs of graduates of different levels and the different disciplines of the educational system with the needs and capabilities of the economy. Therefore, if the educational programs of different disciplines in a training system are in harmony with the content needed for the job market, then we can say that this is a good policy to improve the economic growth of a country (Mirzamohammadi *et al.*, 2008).

As highlighted in Figure 6 (the vertical axis represents GDP growth and the horizontal axis represents higher education for countries), higher education has a positive correlation with GDP. This means that countries that have a workforce with more higher education degrees have also experienced better economic growth. It is observed that countries like the Philippines, Indonesia and Singapore have more effective higher education and higher economic growth, while Iran, which is shown in white circle, in the lower part of the graph, shows not so appropriate situation with regard to this indicator.

***Research and Development Transfer***

According to the UNESCO definition, Research and Development (R&D) is, in fact, the pursuit of any creative and systematic work for the development of scientific storage, including human, cultural, social knowledge and the use of this knowledge for the invention and design of new applications. In a comprehensive definition, R&D, as a set of innovative, systematic and programmed activities, expands the boundaries of scientific knowledge, treasures of human knowledge and human society. Thus, the application of R&D in various fields for improving human life, innovation and creation of processes, tools, systems, services and new methods has been defined. Technology innovation is a method that companies use

**Figure 6: The Effect of Higher Education on GDP**



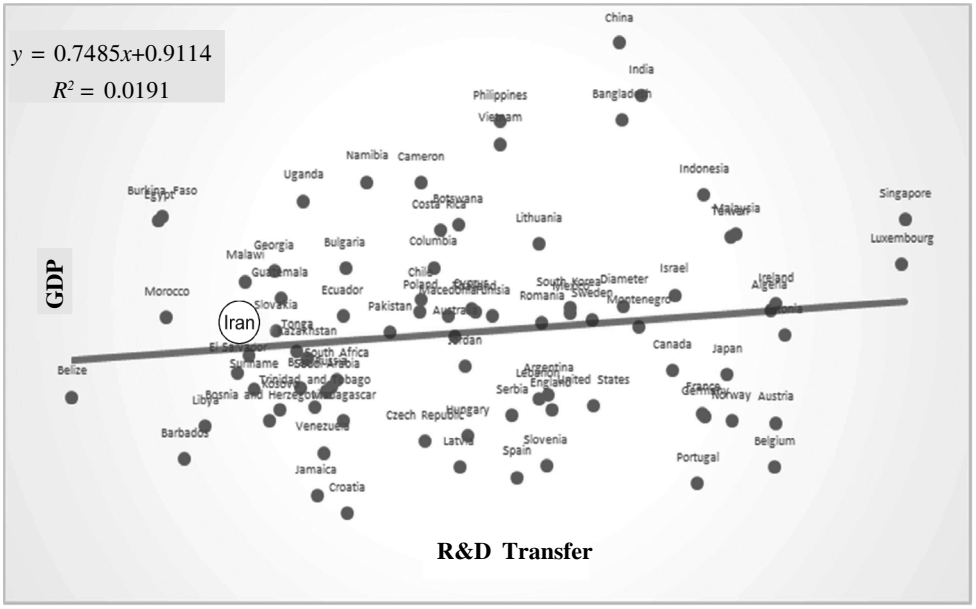

to make profitable technology while researching and developing the activities of a sector. One of the reasons justifying the allocation of scarce resources to the R&D system is the belief that R&D is contributing to the sustainability and profitability of the firm by generating innovation. R&D nowadays is recognized as the most important factor in economic development and the success of enterprises and countries in the field of global competition in trade and economy. Economists believe that science and technology as a powerful tool can play a key role in the development process. In the present world, countries with a high level of science and technology are considered to be developed countries. Hence, many of the products, methods, tools and advanced technologies stem from the development of these countries in the field of science and technology. With studies by economists in advanced countries, it has been found that the high rates of growth in these countries have been driven by the widespread use of many technological innovations. In addition, at the micro level, the growth and success of firms is possible by raising the level of technology (Movahedi, 1995).

As shown in Figure 7 (the vertical axis represents GDP growth and the horizontal axis represents the transfer of R&D to countries), R&D transfer has a positive correlation with GDP. This means that countries that have more R&D transfer also have a better economic growth. It is observed that Singapore and Luxembourg have better R&D and increased economic growth, while Iran, which is shown in white circle, does not show an appropriate situation with regard to this indicator.

### *Commercial and Legal Infrastructure for Entrepreneurship*

Commercial and legal infrastructure includes business services that are needed to manage businesses. Business services include the availability of contractors, suppliers, consultants and

**Figure 7: The Impact of R&D Transfer on GDP**



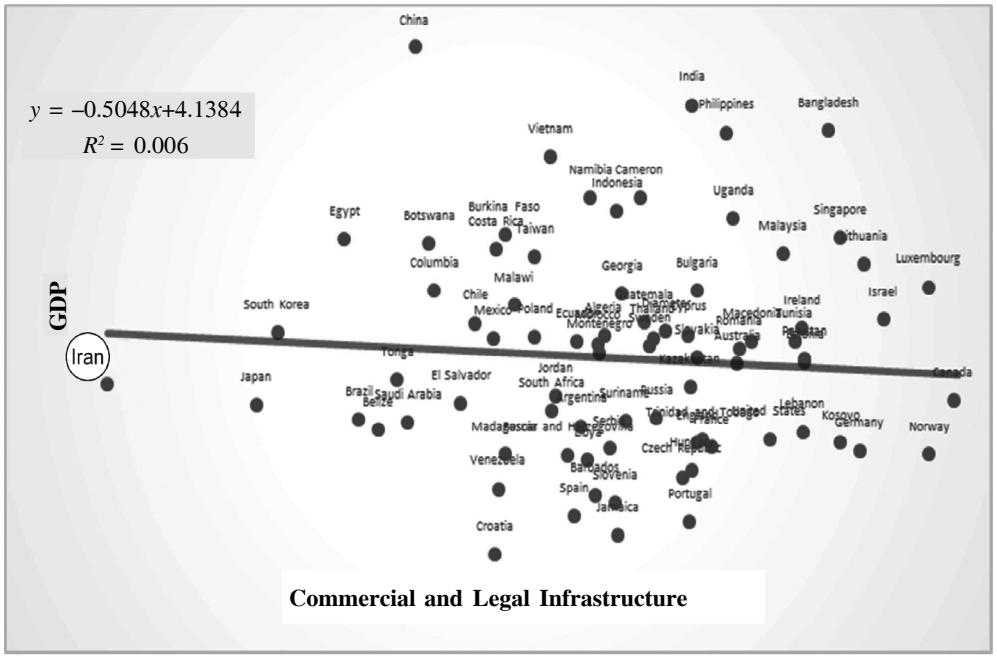

legal services, including accounting, advertising, finance, telecommunications, and Internet and banking services. Business or professional services are useful during the entrepreneurial process, especially in managing and operating companies (Suzuki *et al.*, 2002). The availability of appropriate business services enables entrepreneurial firms to focus on their core businesses, and therefore, benefit from the expertise they earn. This includes services required during the process of establishing a legal service company. Because a lack of legal services can be a barrier to entrepreneurship (Ruef, 2005).

As shown in Figure 8 (the vertical axis represents GDP growth and the horizontal axis represents the commercial and legal infrastructure for countries), commercial and legal infrastructure has a negative correlation with GDP. This means that countries with better commercial and legal infrastructure have experienced less economic growth. It is observed that the countries like Norway and Canada have better commercial and legal infrastructure but less economic growth, while Iran, which is shown in white circle, in the lower part of the graph, shows appropriate situation with regard to this indicator.

### *Internal Market Dynamics*

Internal market dynamics means the annual market changes. Given the gap in the industry and the opportunities available, the motivational conditions within the company determine the degree to which companies are drawn to the opportunities for profit and the fear of falling behind the competing companies. The motivational conditions within a company are determined by the number of companies in the industry, the nature of the market structure,

**Figure 8: The Impact of Commercial and Legal Infrastructure on GDP**




and the energy and the objectives of the entrepreneurs, which in turn determine the level of competition among the companies (Leibenstein, 1968).

As shown in Figure 9 (the vertical axis represents GDP growth and the horizontal axis represents the dynamics of the domestic market for countries), the dynamics of the domestic market has a positive correlation with GDP. This means that countries with more dynamic domestic markets have also experienced better economic growth. It is observed from the figure that China and South Korea have more dynamic market and more economic growth. The status of Iran in case of this indicator is better in comparison to other indicators.

### *Internal Market Capacity*

The domestic market capacity (openness of the domestic market) encompasses ease of entry into the market. However, the findings of the studies are ambiguous. Research indicates that barriers to market entry are negatively related to entrepreneurial activity in all economies. However, several studies have shown that barriers to entry affect the distribution of business activity between formal and informal economies, and not the total volume of activity at the national level. The high rate of entrepreneurship in an economically viable way has a positive impact on entering the new market (Salimath and Cullen, 2010).

As shown in Figure 10 (the vertical axis represents GDP growth and the horizontal axis represents the domestic market capacity for countries), the domestic market's capacity has a

**Figure 9: The Impact of the Internal Market Dynamics on GDP**

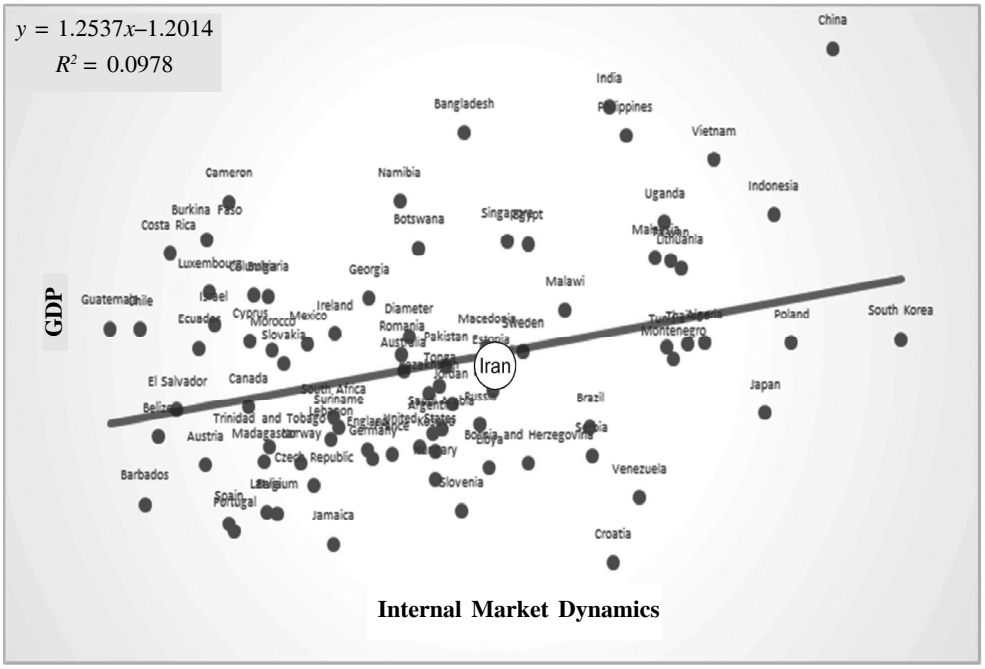
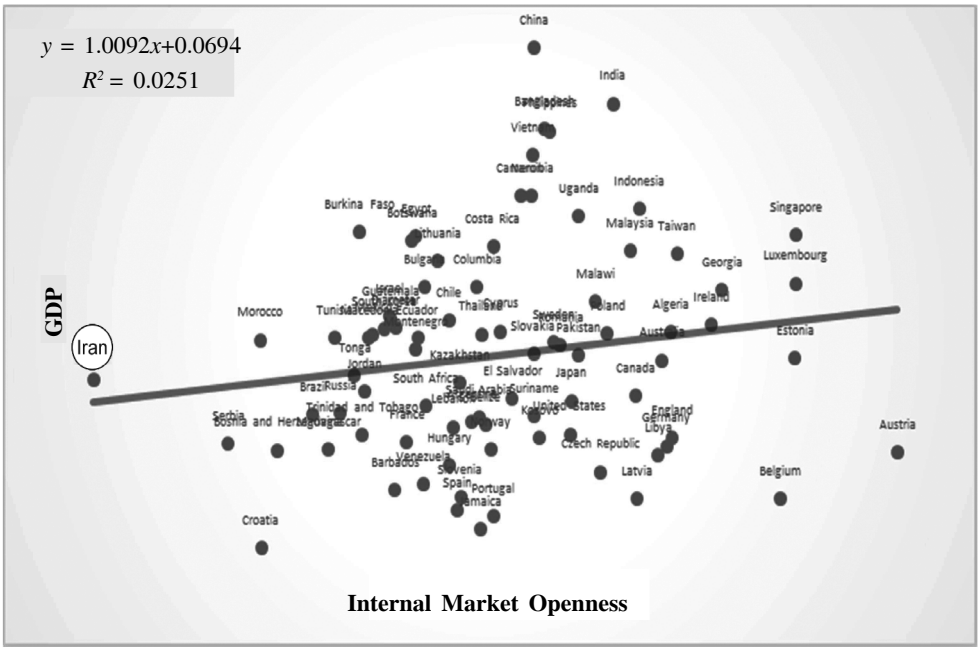



**Figure 10: The Effect of Domestic Market Capacity on GDP**



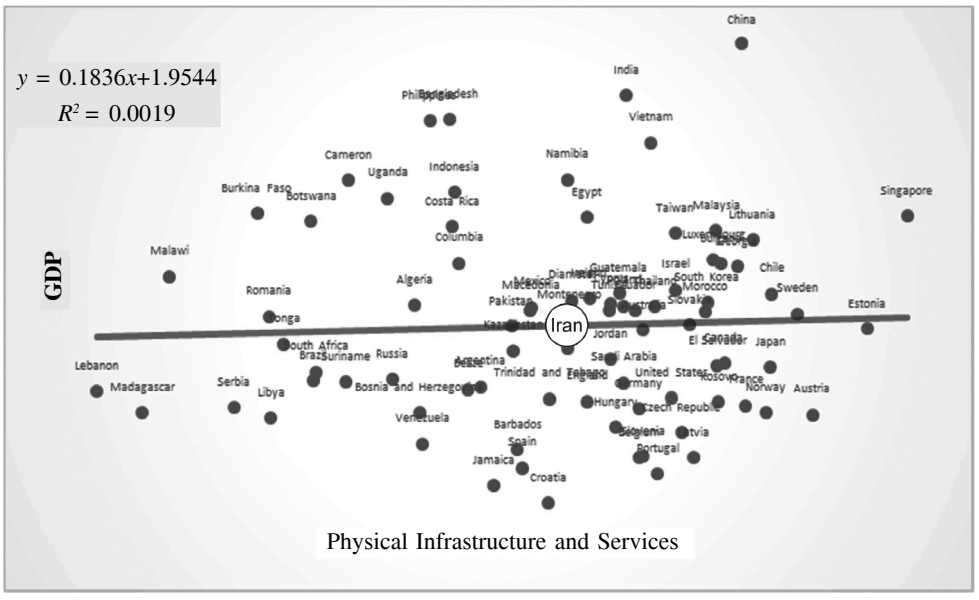
positive correlation with GDP. This means that countries that have a more open domestic market also have a better economic growth. It is observed from the figure that Singapore and Estonia have more open domestic markets and more economic growth, while Iran, which is shown in white circle, does not show a well-suited status with regard to this indicator.

### *Access to Physical Infrastructure and Services*

Compared to the commercial and legal infrastructure and regulations, physical infrastructure has been underestimated by entrepreneurship researchers. Physical infrastructure such as transportation, land, or operational space and communication facilities such as the Internet, telephony and postal services are critical to the success of entrepreneurial activities. To create a business, you usually need access to physical infrastructure, such as office space, operational space, equipment, and public services. The availability of such services will encourage the launch of new businesses (Reynolds, 2005).

As shown in Figure 11 (the vertical axis represents GDP growth and the horizontal axis indicating access to physical infrastructure and services for countries), access to physical infrastructure and services has a positive correlation with GDP. This means that countries that have better access to physical infrastructure and services also have a better economic growth. It is observed that countries like Singapore and Estonia have better access to physical infrastructure and services and better economic growth. According to Figure 11, the entrepreneurs in Iran, which is shown in white circle, have relatively favorable condition in access to physical infrastructure and services.

**Figure 11: The Impact of Access to Physical Infrastructure and Services on GDP**



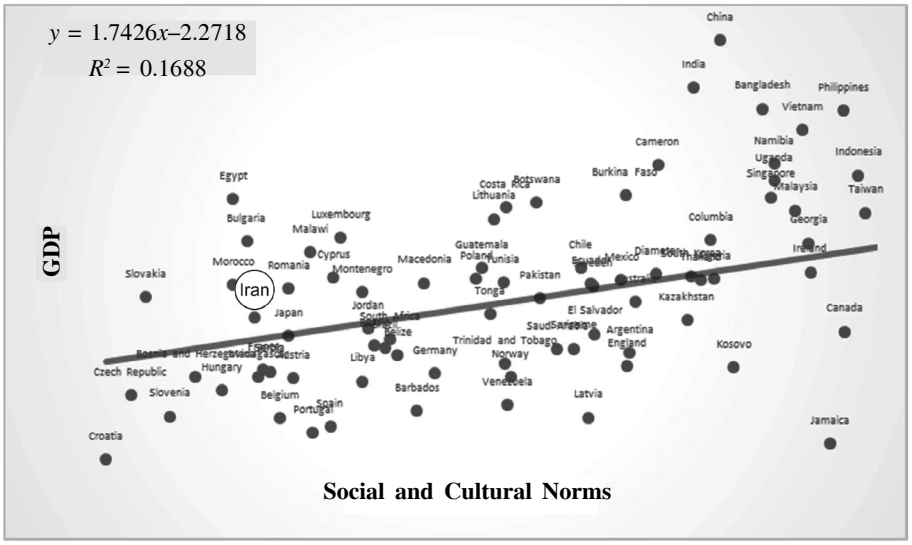
### *Social and Cultural Norms*

Culture is a set of values, attitudes, norms and behaviors that constitute the identity of a community. As part of the peripheral society, entrepreneurs have distinct values, attitudes, norms, and behaviors that can be called entrepreneurial subculture. Based on the principle of interaction between different areas of culture and society, entrepreneurship culture is influenced by other areas of culture, including ethics, religion, values, economic and political beliefs. Therefore, the roots of the weakness and strength of entrepreneurial culture should be considered in cultural norms, values, attitudes, beliefs, assumptions, and behavior related to entrepreneurship. In addition, the entrepreneurial culture is the composite of personal values, managerial skills, experiences and behaviors that characterize the entrepreneur in terms of his spirit of initiative, risk-taking, innovative capacity and management of firms' relations with the economic environment (Minguzzi and Passaro, 2001).

McGuire (1962) considers the role of entrepreneurship in different societies in terms of cultural diversity. In my opinion, natural resources and cash capital may be the same, but what should be taken into account in understanding the difference in behavior is factors such as: social beliefs, norms, rewards for behaviors, individual and national ideals, and religious schools. Therefore, although entrepreneurs have distinct values and beliefs from people in society, the culture of entrepreneurship is influenced by the culture of society. In fact, the more the values and beliefs in society, the more the people of society are encouraged to work, continue production, think creatively, and learn and acquire knowledge, and the more the culture of entrepreneurship is spread. In other words, in a society, the more the people are creative and innovative, the more entrepreneurs succeed in realizing their new ideas.

As shown in Figure 12 (the vertical axis represents GDP growth and the horizontal axis represents the social and cultural norms of the countries), social and cultural norms have a

**Figure 12: The Impact of Social and Cultural Norms on GDP**



positive correlation with GDP. This means that countries that have better social and cultural norms also have better economic growth. It is observed that countries like Israel and America have better social and cultural norms and higher economic growth, while Iran, which is shown in white circle, in the lower part of the graph, does not show a suitable position with regard to this indicator.

## Problems of Entrepreneurship Ecosystem in Iran

Based on the results, the following problems related to the Iranian entrepreneurship ecosystem can be identified:

- The financial environment in Iran faces many problems, such as distrust of entrepreneurs, high rate of interest and high collateral for access to credit; these problems reduce the incentives for entrepreneurial activities.
- Government policies are not effective in protecting entrepreneurs, and sometimes government policies confuse the entrepreneurs.
- Tax policies in the country are also at the expense of producers and entrepreneurs and to the benefit of the dealers, which leads to transfer of entrepreneurs and producers to other jobs.
- The government programs are not in line with policies and are quite short-term, and instead of long-term policy for the country, they are following daily developments and market excitements. Therefore, it is difficult to predict the market to start a new business. The same reasons reduce economic growth.
- The basic education in Iran has lost its effectiveness and the main purpose of preparing the labor force for the country. It only teaches old practices to children. Graduate and postgraduate students are not able to apply the knowledge acquired to their work and are therefore often employed in fields other than their field of study.
- Due to the lack of communication between the industry and the scientific centers in the country, the transfer of R&D is very weak, which has led the industries to use older technologies, leading to loss of competitive advantage.
- Due to inadequate availability of business services such as contractors, suppliers and consultants and legal services, including accounting, advertising, finance, telecommunications, Internet and banking services, entrepreneurial firms are not able to focus properly on their core businesses; they thus lose the cost of expertise.
- Inefficient market dynamics have reduced the competitiveness of the industry, which leads to a reduction in entrepreneurial incentives and innovation.
- Barriers to entry into the industry in the country have made it impossible to enter any industry easily. This will lead to waste of talent and reduction in entrepreneurial motivation and innovation.

- In recent years, the lack of access to physical infrastructure, such as telecommunications, high-speed internet access and convenient transportation system, for small and medium businesses has increased the cost of entrepreneurial activities.

## Conclusion

Entrepreneurship ecosystem consists of 12 elements that influence entrepreneurship and economic growth. According to the results of the present study, entrepreneurial ecosystem of countries, i.e., access to entrepreneurial finance, government support and policies, government entrepreneurship programs, entrepreneurship education, transfer of R&D, legal and commercial infrastructure, market dynamics in relation to business change and openness, ease of entry regulations, the business and protection of intellectual property rights, etc., are the driving forces of the entrepreneurial behavior. In the case of Iran, the results showed that in general the entrepreneurial ecosystem is not suitable for the development and promotion of entrepreneurial activities.

According to the problems mentioned, an organization with well-defined and transparent rules for financing entrepreneurs can save the turbulent conditions of the financial environment.

Also the formation of a team consisting of members of the government and representatives of entrepreneurs can guide supportive policies, tax policies and government plan to improve the business environment.

On the other hand, establishing dynamic communication centers for industry and universities and creating incentives for motivating industry owners to use student ideas and skills can improve the transfer of R&D.

**Implications:** The results have a series of implications at the academic level as well as the policy level. On the one hand, these results may help advance the analysis of entrepreneurial activity, giving greater robustness to factors related to entrepreneurial economic conditions as determinants of the entrepreneurship activities. This study reaffirms and empirically validates the importance of factors related to economic condition in the process of entrepreneurship, using qualitative methodology. Consequently, the results imply that the entrepreneurial ecosystem status from which entrepreneurs emerge should not be ignored.

On the other hand, from the policy point of view, this research could be useful for the design of courses and support programs (at educational levels) aimed at fostering a more positive perception of entrepreneurial skills and facilitating the development of entrepreneurship ecosystem, with the ultimate objective of increasing the levels of entrepreneurial activities in Iran.

**Scope for Future Studies:** Further, in future, more longitudinal studies that permit to compare different periods can be developed. Moreover, it is believed that a study on the influence of economic factors, not independently but their overall effects, would be a very worthwhile

endeavor. In this sense, future works should focus on studies across countries rather than case studies in the analysis and investigate more explanatory factors such as institutional and economic factors.

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