THE Role of Entrepreneurship on Economic Growth

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Abstract

This article provides an overview of economic theories and empirical studies on the relationship between entrepreneurship and growth. In the traditional economic growth theory, an entrepreneur does not hold an explicit position in the models. However, recent models have tried to connect purposive, profit-seeking investment in knowledge to the persons performing this task, namely, entrepreneurs. Empirical studies on the role of entrepreneurship in economic growth show mixed evidence since there is much heterogeneity in both the types of entrepreneurship and the kinds of economic contexts in which economic growth takes place. The empirical analyses suggest that entrepreneurship have an effect on economic growth differently in low income countries and high income countries. The objective of this article is to provide a critical overview of theoretical and empirical analyses on the relationship of entrepreneurship and economic growth as well as policy implication.

Introduction

Entrepreneurship has emerged as an important element in the organization of economies, and has long been considered a crucial mechanism of economic development (Schumpeter 1934, Landes 1998). The consequences of entrepreneurship, in terms of economic performance, have generated an extensive literature. Theoretically, an entrepreneur is an elusive character in economic theory due to the difficulty of providing an accurate description. Hence, not all economists grant entrepreneurs a central role to explain economic growth. While entrepreneurship does not have an explicit role in economic growth theory; there are many empirical studies that find a positive relationship between entrepreneurial activity and economic performance. However, the empirical analyses suggest that entrepreneurship does not have an effect on economic growth in low income countries, in contrast to transition and high income countries where especially
growth-oriented entrepreneurship seems to contribute strongly to macroeconomic growth. The different types of entrepreneurs in developed and developing countries are expected to be responsible for such results.

The objective of this article is to provide a critical overview of theoretical and empirical analyses on the relationship of entrepreneurship and economic growth as well as policy implication.

Define Entrepreneurship

The entrepreneurship is a subtle character in the economic theory due to the difficulty of providing an accurate description. The theoretical definitions of entrepreneurship are wide and cover a number of entrepreneurial activities. Cantillon (1755) claims that "Undertaker" are a class of economic agents, making decisions on market transactions in the face of uncertainty. Knight (1921) defines entrepreneurship as dealing with uncertainty, making distinction between risk, which can be calculated, and uncertainty, which cannot. Schumpeter (1934) describes the entrepreneur as the bearer of the mechanism for change and economic development, and entrepreneurship as undertaking of new ideas and new combinations, i.e. innovations. Kirzner (1973) depicts entrepreneurs as people who are alert enough to spot previously unseen profit opportunities and then act on them. According to Wennekers and Thurik (1999), entrepreneurship is the manifest ability and willingness of individuals, on their own, in teams, within or outside existing organizations to perceive and create new economic opportunities (new products, new production methods, new organizational schemes and new product-market combinations), and to introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions.

Relating Entrepreneurship to Economic Growth

Theory

The impact of entrepreneurship on economic performance have generated an extensive literature. The role of entrepreneurship on economic growth began with the ideas of Adam Smith (1776) whose overriding goal was to understand the wealth-creation process whereas division of labor is limited by the extent of the market. As market grew, entrepreneurship would lead to innovation, which would lead to an increasing division of labor and increased productivity. However, entrepreneurship has not played a central role in economic theory. Traditionally, the economic output of a country is seen as a function of capital and labor inputs, combined with technological change (Solow 1956). The standard production function used, shows that economic output (Y) is a function of the sum of labor and capital inputs, and the level of technological progress. The model is built around a standard CRS production function, with given levels of capital and labor, growth only occurs through the expansion of knowledge, i.e. we have technological progress. The economy eventually reaches its equilibrium of the balanced growth path where output, capital and labor are growing at a constant rate. In Solow model, the growth rate is completely determined by advances in knowledge or the technological progress. The economy eventually reaches its equilibrium of the balanced growth path where output, capital and labor are growing at a constant rate. In Solow model, the growth rate is completely determined by advances in knowledge or the technological progress. In traditional models of economic growth, investment in capital, labor and technology is sufficient to realize economic growth. New models of economic growth see these investments as a necessary complement to entrepreneurship, but not as a sufficient explanation for economic growth in its own right (Nelson and Pack 1999). Some could possibly detect the existence of an implicit entrepreneur included by the notion of knowledge. Nevertheless, knowledge is incompletely defined in the model (Karlsson, Fris and Paulson 2004). Moreover, as pointed out by Romer (1990), since the growth rate of knowledge is exogenously given, growth is modeled by assuming its existence. This has generated the development of endogenous growth models. An element of endogenous growth models which distinguishes them
from the Solow model, is that knowledge is modeled as being endogenous where growth is generated by investments in knowledge and the models outline the determinants in investment decisions in knowledge. Furthermore, Lucas (1988) differentiated between physical and human capital. This implies that the relative importance of capital could be substantially more important than acknowledged by the Solow model, especially if there are positive externalities in (human) capital accumulation. While there are different types and sources of technology or knowledge, such as basic scientific research, R&D, innovation or learning by doing, the entrepreneur does not hold an explicit position in endogenous growth models such as Romer (1986, 1990) and Lucas (1988). However, Grossman and Helpmen (1994) pointed out that long-term growth process is determined by purposive, profit-seeking investment in knowledge. The act of seeking profits by shifting resources to achieve improvements in technology can be seen as an entrepreneurial act because the outcome of the investments is uncertain. However, it is not common for endogenous growth models to explicitly address the issue of entrepreneurship as a driving force of technological and economic development.

The more recently developed models by Aghion and Howitt (1992, 1997, 1998) have firms investing resources in research to achieve a new product that render the previous outdated product. In their model, capital is excluded from the basic model and growth results from technological progress, being a result from competition among firms that generate innovations. Firms are motivated by the prospect of temporary monopoly rents after a successful innovation is patented. Aghion and Howitt (1992) derive the average growth rate output which reveals that the effect of market power attracting entrepreneurial energy shows the importance of imperfect competition for the growth process.

In Howitt and Aghion (1998), the authors add capital to their model. They show that capital accumulation and innovation are complimentary processes and equal partners in the growth process. Aghion and Howitt have contributed to the endogenous growth literature by connecting purposive, profit-seeking investment in knowledge to the persons performing this task, namely, entrepreneur.

**Empirical Evidence**

Entrepreneurship has long been considered a crucial mechanism of economic development (Schumpeter 1934, Landes 1998). However, empirical studies on the role of entrepreneurship in economic growth show mixed evidence (Stam 2008) since there is much heterogeneity in both the types of entrepreneurship and the kinds of economic contexts in which economic growth takes place.

Stam (2008) empirically investigate the effect of entrepreneurship on economic growth at the country level to compare the effects of entrepreneurial activity on economic growth in high income, transition and low income countries. The study uses the Young Business indicator as independent variable to represent entrepreneurship. Moreover, they also investigate whether the presence of growth-oriented entrepreneurs is more important determinant of national economic growth then entrepreneurial activity in general using the Young Business high growth expectation rate and the Young Business medium growth expectation rate as independent variables and compare their impact on economic growth with the impact of the general Young Business index. The empirical analyses suggest that entrepreneurship does not have an effect on economic growth in low income countries, in contrast to transition and high income countries where especially growth-oriented

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1 Young Business is defined as the percentage of adult population that is the owner/manager of a business that is less than 42 months old. The Young Business high growth expectation rate is defined as the percentage of adult population that is owner/manager of a business that is less than 42 months old, and expects to employ 20 employees or more within five years. The Young Business medium growth expectation rate is defined as the percentage of adult population that is owner/manager of a business that is less than 42 months old, and expects to employ 6 employees or more within five years.
entrepreneurship seems to contribute strongly to macroeconomic growth. The presence of growth-oriented entrepreneurs seems to be more important for achieving GDP growth than general entrepreneurship especially in transition countries. There are many reasons that could explain the importance of growth-oriented entrepreneurs in transition countries (Welter and Smallbone 2006). First, there are many entrepreneurial opportunities in former state-dominated sectors. Second, many highly qualified individuals lost their jobs at state-financed organizations (e.g. universities, enterprises, government services). Third, there are many highly qualified entrepreneurs in these countries, especially in Eastern European countries, who do not face the opportunity costs of working for large public or private organizations. Fourth, those highly qualified entrepreneurs are also well connected to the power networks that were, and to a large extent still are important in the political and economic arena of these countries, which takes away some barriers for high growth firms in these countries. In transition economies high growth opportunities are more widely available and hence, a higher number of growth-oriented entrepreneurs are willing to act on these opportunities may be particularly fruitful for achieving growth in these countries. In contrast, entrepreneurship in low income countries is mainly driven by necessity where self-employment is often the only occupational choice given rarity of other sources of employment (Acs and Amoros 2008, Bosma et all. 2008). The actions of most of the entrepreneurs in low income countries are not likely to have an effect on the restructuring and diversification of the poor economies thus the rates of growth-oriented entrepreneurship is marginal in these economies. Therefore, it is expected that the level of growth-oriented entrepreneurship in a country is a more relevant driver of economic growth than the mostly used indicators of entrepreneurship like the self employment and new firm formation. In contrast to developed countries, entrepreneurship in low income countries is mainly driven by necessity (Bosma et al. 2008). Most entrepreneurs in these economies do not start a firm because they desire independence or because they want to increase their income as compared to being an employee, which are dominant motives in rich countries. Most new businesses in low income countries are started out of necessity, in contrast to high income countries, where entrepreneurship is most often opportunity driven. Entrepreneurs in low income countries most often start a business because they have no other way of earning a living. These entrepreneurs are not likely to be involved in a process of self-discovery, their actions are not likely to have an effect on the restructuring and diversification of the poor economies (Rodrik 2007).

Thurik (2009) illustrates the relation between entrepreneurship and level of economic development using the material of the Global Entrepreneurship Monitor (GEM). In the linear regression estimation, the total entrepreneurial activity (TEA) index is “explained” using the level of economic development of countries. The TEA index is the number of ‘nascent’ and new entrepreneurs as a percentage of the population between 18 and 65 years of age. The results show a strong U-shaped relation between entrepreneurship and level of economic development.

There are other strands in the empirical literature showing the effect of entrepreneurship on economic growth focusing on different indicators of entrepreneurial activity. For example, the effect of turbulence on economic growth where turbulence, the sum of entry and exit industries or regions, can be interpreted as an indicator of entrepreneurial activity. The effect of changes in the size-distribution in regions on subsequent economic growth, where region with a larger share of small firms when compared to another region could indicate a higher level of entrepreneurial activity. The effect of the number of market participants in an industry on economic growth, where the number of competitors is usually related to more intensive entrepreneurial activity.

The empirical evidence of the effect of turbulence on economic growth is mixed. Caves (1998) concludes that in the short run, turnover from entry and exit appears to make only a very small contribution to an industry’s productivity growth. However, in the long run, the entry-exit turnover makes a more important contribution. Bosma and
Nieuwenhuijsen (2000) use data for 40 Dutch regions for the 1988–96 period and find that turbulence positively affects total factor productivity growth in the service sector but not so in manufacturing. Reynolds (1999) uses American regional data for the 1980–92 period and finds some evidence of relation between turbulence and economic growth. Acs and Armington (2002) use direct measure of entrepreneurial activity, the new firm birth rate, test the hypothesis that increased entrepreneurial activity leads to higher growth rates of the U.S. economy. They find that the higher levels of entrepreneurial activity are strongly positively correlated with higher growth rate, even after controlling for establishment size and agglomeration effects. Audretsch and Fritsch (1996) use new business startups in Germany to examine whether a greater degree of turbulence leads to greater economic growth. They find that the opposite was true for Germany during 1980s. In both manufacturing and the service sectors, a high rate of turbulence in a region leads to a lower rate of growth. They conjectured that one possible explanation for the disparity in results between the U.S. and Germany may lie in the role that innovative activity, and therefore the ability of new firms to ultimately displace the incumbent enterprise, plays in new-firm startups. However, Audretsch and Fritsch (2002) find that different results emerge for the 1990s. Those regions with a higher startup rate exhibit higher growth rates, which suggest that, in fact, Germany is changing over time, where the engine of growth is shifting towards entrepreneurship as a source of growth.

Carree and Thurik (1998, 1999a) provide the empirical evidence of the effect of changes in the size distribution of firms on growth performance. They find that the share of small firms in manufacturing industries in European countries in 1990s has a positive effect on the industry output growth. Thurik (1996) reports that the excess growth of small firms’ has a positive influence on the percentage change in the gross national product for 16 European countries in the period 1988 through 1993. Robbin, Pantuesco, Parker and Fuller (2000) perform an analysis of 48 U.S. states for the period 1986 through 1995, and finds that states with a higher proportion of small business employment experience a higher level of productivity growth and Gross State Product growth.

The empirical evidence of the effect of the number of market participants in an industry on economic growth shows a positive effect of number of competitors on economic performance. Acs (1996) suggests that one explanation for employment growth in the U.S. is increased competition. An econometric study by Geroski (1994) leads to the conclusion that competition plays a significant role in stimulating productivity, with both new firms and new ideas provoking an outward movements of the production frontier. Nickell (1996), Nickell, Nicolitsas and Dryden (1997) and Lever and Nieuwenhuijsen (1999) present evidence that competition, as measured by increase number of competitors, has a positive effect on the rate of the total factor productivity growth. Glaeser, Kallal, Scheinkman and Shleifer (1992) find that local competition, measured as the relative number of businesses per worker, encourages employment growth in industries of 170 cities in the U.S. during the period 1956 through 1987.

Policy Implication

Numbers of empirical studies reveal the positive effect of entrepreneurship or entrepreneurial activity on economic growth. Nevertheless, the relationship is only true in developed economies. The empirical analyses suggest that entrepreneurship does not have an effect on economic growth in low income countries, in contrast to transition and high income countries where especially growth-oriented entrepreneurship seems to contribute strongly to macroeconomic growth. Recent studies emphasize

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The excess growth small firms in that study is defined as the percentage change in the value-of-shipment accounted by small firms minus that accounted for by large firms.
entrepreneurship as a driver of economic development and some authors include entrepreneurship as a fourth production factor in the macroeconomic production function (Audretsch and Keilbach 2004). Other authors have argued that entrepreneurship will only unlock economic development if a proper institutional setting is in place (Baumol 1990, Powell 2008, Boettke and Coyne 2003). This institutional setting comprises informal as well as formal institutions (North 1990). An essential formal institution for welfare enhancing entrepreneurship is property rights. It might be said that the production factors capital, labor, technology, and entrepreneurship are the proximate causes of economic development, while institutions are a fundamental cause of economic development (Acemoglu at al. 2004). Thus stimulating growth-oriented entrepreneurship, investing in labor and capital and improving institutional framework is seen as a recipe for growth (Rosenberg and Birdzell 1986). Moreover, governments can play a critical role by providing investment guarantees for entrepreneurs to encourage experiments with new types of economic activity (Rodrik 2007). Since there is uncertainty about what products should be produced, how and by whom. This high degree of uncertainty makes it difficult to select appropriate outcomes and increases the likelihood of targeting the wrong firms and industries. Hence, the appropriate policy is to target inputs and in particular those inputs related to the creation and commercialization of knowledge. Government should be the facilitator creating links and networks, creating forms of social innovation, proposing incentives to firms and knowledge institutes, stimulating special and functioning of labor (Thurik 2009). Furthermore, uncertainty in entrepreneurial activity requires different financial institutions. In particular the venture and informal capital markets, providing financial for high-risk and innovative new firms, play an important role in an entrepreneurial economy.

Conclusion

This article has provided an overview of economic theories and empirical studies on the relationship between entrepreneurship and growth. The emphasis on entrepreneurial activities in the context of growth theories has been outlined and brief overviews and main findings of relevant and related empirical studies have been presented. There exist an abundant number of definitions of entrepreneurship describing a wide array of economic activities and functions. In the economic growth theory, entrepreneurship has not played a central role. Traditionally, the economic output of a country is seen as a function of capital and labor inputs, combined with technological change, the entrepreneur does not hold an explicit position in endogenous growth models. However, a recent model has contributed to the endogenous growth literature by connecting purposive, profit-seeking investment in knowledge to the persons performing this task, namely, entrepreneurs. Empirical studies on the role of entrepreneurship in economic growth show mixed evidence since there is much heterogeneity in both the types of entrepreneurship and the kinds of economic contexts in which economic growth takes place. The empirical analyses suggest that entrepreneurship does not have an effect on economic growth in low income countries, in contrast to transition and high income countries. The different results could be explained by the lack of growth-oriented entrepreneurs in low income countries, and most new businesses in low income countries are started out of necessity, in contrast to high income countries, where entrepreneurship is most often opportunity driven. The surveyed empirical results suggest the need of institutional settings such as property rights. Governments can play a crucial role by providing investment guarantees for entrepreneurs to encourage experiments with new types of economic activity, facilitating creation links and networks, creating forms of social innovation, proposing incentives to firms and knowledge institutes, stimulating special and functioning of labor.
Reference


