

ICT and Entrepreneurship: A comparative analysis between Portugal and Germany

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Introduction

In recent years, entrepreneurship has been considered a fundamental engine for enhancing economic development (Audretsch and Thurik, 2004). The role that entrepreneurship plays in the economy has changed dramatically over the last half century (Stel *et al.*, 2006). According to Audretsch and Thurik (2004) the increased importance of entrepreneurship is clearly recognised by politicians and policy makers.

A broad range of determinants explains the level of entrepreneurship, including economic and social factors and many studies have been conducted to explain the level of entrepreneurship (Ronen, 1983; Sexton and Bowman, 1987; Veciana, 1996; Fayolle, 1999). Prior cross-country empirical work in the area of entrepreneurship has mainly focused on different factors that explain the level of entrepreneurial activity within a country, with attention devoted to the role of economic, political and psychological factors (Grilo and Thurik, 2004). Bowen and Clerq (2005) expanded this perspective by examining the role of institutional factors guiding the nature, rather than the level, of entrepreneurial activity. They make a distinction between specific resources embedded in the institutional environment (financial capital and human capital); and the rules governing the undertaking of economic activities within the environment (regulatory protection, regulatory complexity and the level of corruption). In a special issue, edited by Freytag and Thurik (2007), the authors suggest that institutional cultural aspects such as economic freedom and post-materialism may exert influence both on the preference for self-employment.

Stel *et al.* (2006) advocate that the determinants of entrepreneurship may be displayed in two different groups: (i) the presence of administrative “burdens”, or entry regulations (Djankov *et al.*, 2002); and (ii) the presence of government “support” or financial assistance.

In the European Union (EU), public policies have been oriented to reinforce the levels of entrepreneurship, in order to assure the growth of the number of firms located in Europe, and the number of new entrepreneurs (European Commission, 2003). A national’ capacity for entrepreneurship is argued to be the key factor in successful national economies (Smith *et al.*, 2005).

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The rise of entrepreneurship in favoured locations should be considered in the context of policy change at national, regional and local levels, and institutional change within organisations (Storey, 2003).

One of the most important factors associated with the demand side of entrepreneurship is technological development, which has been strategically prosecuted through the investment in Information and Communication Technologies (ICT).

In this sense, it is relevant to evaluate and analyse if the impact of regulation practices oriented to entrepreneurship has been, successfully, translated to improved levels of economic growth and employment, at an aggregate range. It is also important to determine the causes and differences for the impacts of this kind of public measures, according to the degree of regulation in different European countries.

This paper aims to develop a longitudinal analysis about the importance of the neglected determinant of entrepreneurship that is related with regulatory practices for investment in ICT. For this purpose, a comparative analysis between German and Portuguese economies is going to be developed, in order to identify the impacts that are originated from the adoption of this kind of public policies on economic growth and employment.

Methodology

The design of the research methodology embraces the identification of the research focus, that is, to study the role of the public policies oriented to the investment in ICT, on the levels of entrepreneurship, in two different European economies: Portugal vs Germany. For this purpose, an econometric approach is going to be developed, through the use of a previously selected specification of a Vectorial Autoregressive (VAR) model, in order to analyse the impact of the regulation policies oriented to greater intensities of ICT investment, on entrepreneurship rates, economic growth, and employment level.

In this sense, two databases are going to be used, namely, the COMPENDIA 2002 Database, and the World Telecommunications Indicators – ITU 2006 Database. In terms of data processing, the econometric package Eviews is used.

Results

We demonstrate the existence of causality relations between the economic variables considered in the selected specification of the VAR model, in order to find out the precedence relations between the variables: ICT investment, entrepreneurship rates, and the employment level. Additionally, we determine the relative importance of each selected variable in the explanation of the future behaviour of the remaining variables, through the use of the technique of the error variance decomposition.

We reveal the existence of a positive and significant impact of the regulation practices oriented to ICT investment on the entrepreneurship rates, economic growth, and employment of the European economies in study. We also detect a positive relation between the referred kind of regulation practices, and the level of employment.

The results obtained reveal differences in terms of the impact of the regulation, in terms of ICT investment in the two European economies in study.

Empirical advances of contribution

The present paper adds to the entrepreneurship eclectic framework, through the evaluation of the impact of public policies oriented to the reinforcement of the intensity of the investment in ICT, on entrepreneurship rates and employment rates across two kinds of European economies.

Future research lines

From the present results, we propose to apply a similar econometric approach in different European countries, in order to produce a comparative analysis in terms of the different impacts of ICT investment on entrepreneurship rates. Furthermore, we suggest exploring other neglected determinant of entrepreneurship, that is, the impact of Foreign Direct Investment inflows on entrepreneurship rates.

References

- Audretsch, D. and Thurik, R. (2004). A model of the Entrepreneurial Economy. *International Journal of Entrepreneurship Education*, 2 (2), 143-166.
- Bowen, H. and Clercq, D. (2005). "National Institutions and the allocation of entrepreneurial effort". Vlerick Leuven Gent Working Paper Series 2005/15. Vlerick Leuven Gent Management School, Belgique.
- Djankov, S.; La Porta, R.; Lopez-de-Silanes, F.; and Shleifer, A. (2002), The Regulation of Entry, *Quarterly Journal of Economics*, 117, 1-37.
- European Commission (2003). Green Paper entrepreneurship in Europe, Brussels: European Commission.
- Fayolle, A. (1999). Entrepreneurial Management: Factor or Fiction?. Proceedings 44th ICBS World Conference, 20-30, June, Napoli, Italy.
- Grilo, I. and Thurik, R. (2004). Entrepreneurship in the EU: to wish and not to be, Discussion Papers on entrepreneurship, growth and Public policy, edited by Group Entrepreneurship, Growth and Public policy, Max Planck Institute of Economics, Jena, Germany.
- Ronen, S. (1983). Some Insights into the entrepreneurial Process, in J. Ronen (ed.), *Entrepreneurship*, Lexington, MA: Lexington Books, D. C. Heath, 137-173.
- Sexton, D. and Bowman, N. (1987). A Growth model of the firm based on market, Owner and Strategic factors, in G. Hills (eds), *Research at the marketing/entrepreneurship interface*, Marietta, GA.
- Smith, H., Glasson, J. and Chadwick, A. (2005). The Geography of Talent: Entrepreneurship and local economic development in Oxfordshire.
- Stel, A., Storey, D. and Thurik, R. (2006). The Effect of business regulations on nascent and actual entrepreneurship. Discussion Papers on entrepreneurship, growth and Public policy, edited by Group Entrepreneurship, Growth and Public policy, Max Planck Institute of Economics, Jena, Germany.
- Storey, D. (2003). Entrepreneurship, Small and Medium Sized Enterprises and Public Policies, In: Z.J. acs and D.B. Audretsch (eds), *Handbook of Entrepreneurship Research*, Kluwer Academic Publishers, Boston/Dordrecht, USA/NL, 473-514.
- Veciana, J. (1996). Generación y Desarrollo de Nuevos Proyectos Innovadores, *Economía Industrial*, 310, 79-90.