ABSTRACT. Universities have two options when they formulate policies to develop new technology-based start-ups. One approach is to encourage faculty members to engage in this activity. Another avenue is to encourage surrogate (external) entrepreneurs to assume a leadership role. Based on a survey of technology transfer/business development officers at 57 U.K. universities, we examine perceptions regarding the advantages and disadvantages of each approach. We also analyze whether there are significant differences in these attitudes between universities that have launched many start-ups and those that have been less active in this arena. Our results imply that the most significant barriers to the adoption of entrepreneurial-friendly policies are cultural and informational. We also find that universities that generate the most start-ups have more favorable attitudes towards surrogate entrepreneurs. It appears that a combination of academic and surrogate entrepreneurship might be the best approach for universities that wish to develop successful technology-transfer based start-up companies.

JEL Classification: 031, 032, L31

1. Introduction

The last two decades have seen a remarkable increase in new forms of entrepreneurship associated with new innovations. Existing commercial organizations have engaged in corporate venturing or corporate entrepreneurship whereby they seek to create an appropriate environment for the stimulation of new ideas and their commercial development (Venkataraman, MacMillan, and McGrath, 1992). Alternatively, firms have divested high-tech activities in the form of management buy-outs often in recognition that they do not have the capabilities to successfully commercialize innovations (Robbie, Wright, and Albrighton, 1999). Parallel to these developments, the commercialization of university-based technology has been a prominent issue in academic circles, as it constitutes a major paradigm (Kinsella and McBrierty, 1997).

In the U.S., the transfer of technology from the public to the private sector is increasingly regarded as playing a significant role in new business starts, growth of existing businesses, and new job creation (Siegel, Waldman, and Link, 1999; Parker and Zilberman, 1993; Proctor, 1993). In the UK, the debate over the role of universities as a source of new spin-out companies has intensified since the recent publication of reports from the Bank of England and the Confederation of British Industry (CBI), which highlight financial and managerial issues that may be critical to their success (Bank of England, 1996; CBI, 1997).

Radosevich (1995) outlines two approaches to entrepreneurship associated with the formation of new spin-off companies from publicly-funded sources: the inventor-entrepreneur approach (hereafter referred to as the academic entrepreneur approach) and the surrogate entrepreneur approach. Most research has focussed on the former, with the entrepreneur, often the inventor, “spinning off” a company from the technology source. However, in the surrogate entrepreneur approach, which has received little attention in the literature, the technology source elects to provide the rights to the technology to an external, independent entrepreneur who will initiate a local company (Radosevich, 1995). Surrogate en-
trepreneurs may be a mechanism to enable universities to realize their potential in the creation of spin-out companies.

In this paper, we seek to enhance understanding of how universities can be more effective in promoting spin-out companies. We consider whether the perceptions of those universities that have been more successful in the process can assist in reducing the barriers to the promotion of spin-out companies. We do this by contrasting the views on academic and surrogate entrepreneurs and the perceptions regarding the barriers to using surrogate entrepreneurs held by the professionals responsible for technology transfer in the ten universities (the V10) that have been most successful in creating spin-outs companies with the less successful ones. In particular, we examine two main research questions:

1. Do more successful universities perceive significantly different advantages and disadvantages of academic and surrogate entrepreneurs in leading roles in new technology-based firms compared with less successful universities?
2. Do more successful universities perceive lower barriers and challenges to the implementation of a surrogate entrepreneur program than less successful universities?

The paper is structured as follows, Section 1 discusses the distinction between academic and surrogate entrepreneurs. Section 2 outlines the methodology adopted in the study, while the third section presents the findings from a survey of professionals responsible for the academe-university interface in 57 universities. The fourth section discusses the findings and their implications for the development of University spin-out companies and the final section presents some conclusions.

2. University spin-out companies and entrepreneurs

Most studies of entrepreneurship and spin-out companies at universities have focussed on the academic as the entrepreneur. The academic entrepreneur is an individual who is the technology originator but who also assumes the role of the entrepreneur. Samson and Gurdon (1990) define an academic entrepreneur as: “an academic whose primary occupation, prior to playing a role in a venture start-up, and possibly concurrent with that process, was that of a lecturer or researcher affiliated with a Higher Education Institute.”

In this approach, the university generally assumes a relatively passive role in the spin-out process and the sources of investment capital generally lie outside the university. The academic may leave the university to run the company (Radosevich, 1995) or may alternatively run the company in parallel with his/her academic responsibilities. With the latter, the new company may be run as an extension to the academic’s normal departmental research program, or the company may be an additional interest run outside the university.

In principle, academic entrepreneurs may bring a strong commitment to the technology in the face of barriers and setbacks that confront the process of application and commercialization. Their involvement may bring scope for greater technical capacity together with potential benefits arising from a continuing relationship with the technology source such as cross licensing (Radosevich, 1995). On the downside, academic entrepreneurs frequently lack business knowledge and experience and it may be difficult to induce the entrepreneurial act. This is important as Daniels and Hofer (1993) find that new business ventures in universities are more successful when the entrepreneurs have experience of taking ventures to the market place. Academic entrepreneurs may also have a tendency to focus on the technical aspects of the innovation to the detriment of business aspects. There may also be a need for a significant, integrated support infrastructure to enable the innovation to be successfully commercialized (Radosevich, 1995).

Doutriaux (1987) finds that companies are likely to grow more substantially if the academic cuts his/her employment ties with the university. This view of a spin-out company can be threatening to a university because such scenarios may result in an academic being distracted from their “core” responsibilities. Universities are not necessarily aware of the need to provide sufficient incentives or appropriate conditions for academic entrepreneurship. Moreover, the need to publish in peer-reviewed journals, meet the requirements of post-tenure review, or as in the UK meet the