How Human Capital Influences the Regional Distribution of Greenfield Investments

-A study on foreign start-ups in Sweden-

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Last update: 2011-05-17

Abstract

The purpose of this study is to investigate how human capital influences the regional distribution of Greenfield investments. The research strategy is to apply an unconventional approach and distinguish human capital, i.e. workers knowledge and skills, by the kind of work that is done by humans. This is done by classifying employees into different occupational groups based on their knowledge and skills, here represented by kind of work that is done by humans. The research question is to examine how the regional distribution of employees across these occupational groups influences the probability of a region receiving new foreign start-ups. The relationship between multinationals’ location choice and human capital is studied on a population of new foreign start-ups that established in Sweden between 2001 and 2008. The results indicate that new foreign start-ups are positively related to high shares of workers in ......., while high shares of employees in ........

Key words: Foreign Direct Investments, Human Capital, Occupational statistics, Negative Binomial Regression Model
1 INTRODUCTION
What drives multinationals´ regional location choice has by now received considerable attention in the academic literature (e.g. Harrington et al 1986, Coughlin et al 1991, Head et al 1995, Guimaraes et al 2000, Basile 2004, Barrios et al 2006, Hong 2009, among others). Typically, many studies in this field conclude that firms´ location decisions are driven by a number of different factors such as market size, quality of infrastructure, wage levels and governmental policy. Another prominent factor is human capital, which may also be a direct motive for efficiency-seeking firms to invest abroad, i.e. to engage in foreign direct investment (Dunning and Lundan 2008). It is fundamental in urban and regional location theory and its significance has been proved numerous empirical studies (e.g. Coughlin & Segev 2000, Guimaraes et al, 2000, Arauzo-Carod 2009, among others) argue that human capital is, in parallel with other prominent factors, significant in explaining multinationals´ location choice. The rationale is usually that a high concentration of specific knowledge and skills in a given region increases the likelihood of firms to engage in foreign direct investment in that particular region (Chidlow et al 2009), and vise versa. However, few previous studies (e.g. Arauzo-Carod 2009) have provided evidence on what type or mix of knowledge and skills that makes firms to choose one location over another. Naturally, the importance of human capital may vary with the firms´ labour and knowledge intensity, i.e. type of production firms are engage in. A labour intensive firm may emphasise low labour costs, while a knowledge intensive firm may put emphasis on to the capacity of labours. As the share of foreign direct investment in high-technology manufacturing and knowledge intensive services nowadays outnumber other types of foreign direct investment in developed countries (UNCTAD 2009), it is assumed that the relevance of understanding the role of human capital in multinationals´ location choice is nowadays crucial.

The aim of this study is to provide new empirical evidence on the assumed relationship between multinationals´ location choice and human capital. The purpose is to focus explicitly on workers knowledge and skills specifically, while other prominent location factors are ignored. Thus rather than developing an overall explanatory framework with different types of location factors, or criticising related studies, the objective is here to deepen the relationship between multinationals´ location decision and human capital. Instead of using general measures on human capital such as share of high education among people (Coughlin & Segev 2000, among others) or the number of high-tech jobs in a region (Arauzo-Carod 2009), the research strategy is to apply an unconventional approach in investigating how different types of human capital is represented on the labour market and related to multinationals location choice. This is done by classifying employees into different occupational groups based on their knowledge and skills, here represented by kind of work that is done by humans. The research question is to examine how the regional distribution of employees across these occupational groups influences the probability of a region receiving new foreign start-ups (Greenfield investment). The relationship between multinationals´
location choice and human capital is studied on a population of new foreign start-ups that established in Sweden between 2001 and 2008.

Sweden is used as a case in point for several reasons. Although it is a small country with high taxes, high production costs and small markets, Sweden seems to provide suitable conditions for foreign investors as it has succeeded to attract a relatively high share of FDI for a long time (UNCTAD, 2009). Moreover, national statistics reports that foreign companies has quintupled over the last 20 years and account now for more than a quarter of the Swedish gross domestic product, a quarter of all investments and more than half of the total exports and imports, and a quarter of the total employment in the private sector (ITPS, 2005). An interesting feature of foreign companies in Sweden is that the vast majority (counted in number not economic size) are active in tertiary industries. Few previous studies have attempted to analyse multinationals’ location choice in the tertiary sector, thus little evidence have been provided on what drives such foreign direct investments. Sweden also provides an excellent backdrop to study foreign companies and how they are associated to different regional economic attributes.

The next section develops a theoretical framework from related literature and specifies the hypothesis formulation. After that, section 3 outlines the data, industrial division and occupational groups. The industrial division and occupational groups represents two important fundamental parts. The first part describes how new foreign start-ups (the dependent variable) are divided into different sectors and industries. This is relevant to describe as the demand for particular labour varies significantly across industries. The second part describes how the different occupational groups are determined. Basically, these groups represent different types of knowledge and skills. They are created under the assumption that labours are likely to move within rather than between groups. After that, the study continues with section 4 that describes how foreign companies have developed in Sweden over the last decades and thus specifies the dependent variable. Subsequently, a model framework is defined upon the predefined occupational categories from section 3. Although many previous studies on firm location have utilized profit maximising models, such as the conditional logit and nested logit model, this study applies a count data approach. After that, the model is then applied on all new foreign start-ups that established in Sweden between 2001 and 2008. Results are presented by industry in section 6. Relevant robustness tests are included in the end of the result section. The study finalizes with a concluding discussion found in the final section.