Job-related mobility and plant performance in Sweden

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ABSTRACT

This paper uses a Swedish micro-dataset containing 2,696,909 hires during the period 2002–2006 to assess the impact of job-related mobility on plant-level performance. The analysis classifies new recruits according to their work experience and level of formal qualification, as well as by the region of origin and of destination. New hires are divided into graduates and experienced workers and between high- and low-educated. The results point towards the importance of acknowledging both the experience and the skills of new recruits. The greatest benefits are related to hiring new workers from outside the region where the plant is located. The analysis also stresses the importance of geography, with plants in metropolitan regions gaining the most from labour mobility, while the benefits of mobility for plants in smaller, more peripheral regions are more diverse and dependent on both the type and origin of new workers.

1. Introduction

The role institutional structures play in localized learning processes and, consequently, in regional development, have been the object of close scrutiny (e.g., Storper, 1997; Maskell and Malmberg, 1999; Rodríguez-Pose, 2013). While local linkages have dominated studies about localized learning (Storper and Venables, 2004), attention is increasingly being paid to how external connections and networks shape the diffusion of knowledge (Bathelt et al., 2004). A consensus is emerging indicating that both regional attributes and extra-local linkages are crucial to the understanding of spatial differences in economic development (Saxenian and Sabel, 2008), and that job-related migration is key in this process (Fratesi, 2014).

Despite the agreement on the relevance of job mobility, the exact importance of mobility for productivity and growth remains controversial. Some research has highlighted that job-related mobility matters but that it plays second fiddle to economies of scale and scope (Eriksson and Lindgren, 2009). Under certain circumstances labour mobility may even have negative consequences by undermining on-the-job training (McCann and Simonen, 2005; Combes and Duranton, 2006). In addition, labour flows may not always produce the intended effect in terms of knowledge diffusion and assimilation. If the cognitive and geographical proximity between the old and the new firm is too large, job mobility will be zero-sum, failing to have an economic impact (Boschma et al., 2009; Eriksson, 2011) and may even contribute to regional job destruction (Boschma et al., 2014).

Given these potentially contradictory effects, analysing empirically the impact of labour mobility on plant performance is of capital importance. The aim of this paper is to shed light on these issues by directly tackling a number of questions about the extent to which plant performance depends on local or extra-local sources of skills.

More specifically, the paper aims to expand our understanding of the impact of labour mobility on performance in three ways. First, it makes an explicit distinction between types of job-related mobility according to work-experience. It distinguishes between inflows of graduates (inexperienced) and those of experienced workers to assess the extent to which hiring recent graduates matters in relation to experience (poaching workers from other firms). We thereby contribute to the discussion of how universities and other higher education institutions shape regional economic development (Faggian and McCann, 2006; Abel and Deitz, 2012). Second, we pay special attention to the difference between low- and high-skilled labour flows in different types of regions. This represents a new dimension, as previous studies (e.g., Boschma et al., 2009) have primarily focused on the mobility of the high-skilled (generally bachelor’s degree or higher) to the detriment of the mobility of workers with lower levels of qualification (Maskell et al., 1998; Eriksson and Lindgren, 2009). Third, since both the supply and demand of labour differ over the urban hierarchy – with large and diverse regions often considered capable of absorbing greater numbers of migrants (Partridge and Rickman, 2003) and having the greatest...
potential for effective matching (Puga, 2010) – we look at the geography of mobility in order to examine the extent to which plant performance is affected by the knowledge and skills acquired by workers in areas with different endowments of firms and of external economies. We focus, in particular, on the functionality and size of the region of origin and destination of the migrant. This is important as labour flows across different types of regions may reinforce already existing regional disparities (Faggian and McCann, 2009).

To achieve these aims, we resort to a longitudinal micro-database containing matched information on all workers (e.g. workplace, education, working experience, place of residence) and on the features of all plants (e.g., sector, location, performance) in Sweden between 2002 and 2006. Regression analysis is then applied to examine how the origin and type of almost 2.7 million new hires influence plant performance (defined as annual productivity growth) for a total of 69,932 Swedish plants.

The remainder of the paper is structured as follows: In Section 2 the literature on labour mobility is linked to the agglomeration literature when discussing the role of local and extra-local externalities. Section 3 presents the Swedish data and the variables and introduces the model used to estimate plant performance. The main findings are presented in Section 4. Section 5 concludes.

2. Geographical mobility and firm-level performance

Since at least the development of the endogenous growth theory, human capital has been regarded as a main – if not the main – driver of regional development (e.g., Lucas, 1988). It is assumed to be the leading vehicle of transmission of knowledge and a key facilitator of knowledge spillovers and localized learning (Malmborg and Power, 2005). Large concentrations of human capital generate and diffuse knowledge which can be transformed into productivity and growth by firms. Following Marshall (1920), it is assumed that thick, specialized labour markets trigger positive externalities by lowering search costs, due to a better matching of supply and demand and by guaranteeing an increased access to productive workers (e.g. Acemoglu, 1996; Strange et al., 2006). Firms in large, agglomerated areas are perceived to benefit more from these externalities as a consequence of higher concentration and continuous sorting of skills and ideas as well as better matching opportunities (Krugman, 1991; Stopper and Venables, 2004; Gaeser, 2011; Puga, 2010). By contrast, firms in small regions may suffer because of shortages of skills and limited externalities. These limitations can be partially overcome by potentially higher levels of social capital and interpersonal trust (Maskell and Malmberg, 1999), although greater collaboration and embeddedness may both facilitate the generation and transformation of skills and knowledge into industrial performance (Gertler, 2003; Fitjar and Rodríguez-Pose, 2015, 2017) or, conversely, lead to lock-in and stifle the capacity of local firms to remain competitive and productive (Boschma, 2005; Rodríguez-Pose and Fitjar, 2013).

But human capital can also move. When workers relocate, they take with them two fundamental attributes: their skills and their knowledge. This makes inter-firm mobility of labour a crucial source of firm-level competitiveness. A large proportion of research has focused on mobility within relatively constrained geographical spaces and groups of workers. For example, Almeida and Kogut (1999) find that inter-firm mobility of skilled labour is responsible for knowledge spillovers and productivity in successful regions like Silicon Valley (see also Angel, 1991 and Fleming and Frenken, 2007). Similarly, intense flows of skilled personnel have been at the root of the competitiveness of firms in the British motor sport cluster (Pinch and Henry, 1999) and led to improvements in both plant performance and regional growth in Sweden (Eriksson and Lindgren, 2009; Boschma et al., 2014). Mobility is also associated with the development of social linkages between firms, which contribute to post-mobility firm performance through their ties with former colleagues in different contexts (Dahl and Pedersen, 2003; Breschi and Lissoni, 2009; Lengyel and Eriksson, 2016).

The benefits of labour mobility on economic performance can also extend well beyond the local context and over large geographical distances (Agarwal et al., 2006). Firms in open regional economies are likely to be more productive (e.g., Bathelt et al., 2004). Immigrants from distant locations (often equated to foreign-born migrants) bring in skills that can be complementary to those of native workers in the countries of destination, boosting local learning and efficiency (Ottaviano and Peri, 2006; Dustmann et al., 2008; Nathan, 2011). Consequently, the mobility of skilled workers is regarded as a fundamental mechanism through which knowledge and skills are transferred between firms and regions, both within countries (Malmborg and Power, 2005; Iammunaro and McCand, 2006) and between countries (Rodriguez-Pose and Vilalta-Buff, 2005; Saxenian and Sabel, 2008).

There is also a darker side to mobility. Apart from potentially causing brain-drain in the sending region, worker mobility often implies poaching. When this is the case, a high intensity of job-hopping among nearby firms may lower the incentive for firms to train and upgrade the skills of their employees (Kim and Marschke, 2005; Combes and Duranton, 2006; Fallick et al., 2006). High personnel turnover can thus reduce organizational learning and productivity (Argote et al., 1997; Hatch and Dyer, 2004), limiting the potential of firms to use the knowledge and skill transfer opportunities induced by mobility to their advantage (Madsen et al., 2003). From this perspective, Phillips (2002) has demonstrated that the mobility of employees among law firms in Silicon Valley actually had negative consequences for the aggregate performance of firms in this sector. An increasing, but still limited, number of quantitative studies that systematically test for the net effect of labour mobility fail to find convincing evidence of a positive general effect of labour mobility on firm performance and regional growth (McCann and Simonen, 2005; Eriksson, 2011; Boschma et al., 2014).

In this paper we argue that whether the potential positive or negative effects of labour mobility for firm performance prevail depends on both the type and origin of the experience the new employee brings into the plant or firm. Following Boschma et al. (2009), we argue that the influence of labour flows on plant performance depends on the type of newly acquired skills. A related question is whether the recruited experience is job-related experience or associated to the assimilation of knowledge in educational institutions. In other words, we look at the potential impact on plant performance of recruiting experienced workers versus recruiting graduates at different stages of the education process. A large amount of research in economics has come to the conclusion that wages rise with experience stages of the education process. A large amount of research in economics has come to the conclusion that wages rise with experience

The second argument of our paper is that the geographical origin of
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