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The influence of related and unrelated industry diversity on retail firm failure

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ABSTRACT

The purpose of this paper is to analyse the influence of related and unrelated industry diversity on retail firm failure with a focus on Swedish retailers. The paper develops competing hypotheses from organizational theory and the economics of agglomeration concerning the survival chances of retail firms located in geographic proximity. Hypotheses are tested using a hazard model and a sample of 48,953 retail firms observed during 2002–2010. Key findings show that increases in the local share of similar retail firms is positively related to the risk of failure while there is a negative relation between increases in local industry diversity and the risk of failure. These results indicate that knowledge transfer from a diverse set of industries are important in lowering the failure risk. Differentiating among small and specialized retail firms indicate that there is significant intra-industry heterogeneity in the influence of local industrial composition on the likelihood of failure.

1. Introduction

Retail firms operate in an increasingly competitive environment and can be placed among the firms facing the highest overall risk of failure, both in Sweden and internationally. Given the importance of the small business sector and the contribution of the retail sector to economic viability it has become more and more important to understand why retail firms fail. The purpose of this paper is to focus on the influence of locational and industrial aspects on the likelihood of firm failure among Swedish retailers. In particular, the paper will concentrate on two main perspectives set forth in research on the determinants of firm survival and growth. The first perspective suggests that determinants of firm survival can be linked to the presence of agglomeration economies and that similar firms benefit from being located geographically close to other firms within the same sector (Falck, 2007; Acs et al., 2007). This follows the view of Marshall (1920), arguing that firms benefit from specialization as it increases the sharing of key inputs and promotes knowledge transfer that in turn increase growth in both the sector and region as a whole. This perspective is in line with the argument that factors such as innovation and productivity have larger effects in more densely populated areas (Glaeser et al., 1992; Feldman and Audretsch, 1999).

The second perspective suggest that co-localization may instead lead to disadvantages for firms as it intensifies competition which may push firms out of the market (Hannan and Freeman, 1987; Staber, 2001). This perspective follows organizational theory stating that the intensity of competition among firms is associated with similarities in their resource requirements. The more similar resources that firms demand, in terms of customers and technology, the greater is the potential for intense competition and failure (Hannan and Carroll, 1992; Aldrich, 1999). By developing competing hypotheses concerning the role played by co-localization among similar and unrelated firms the paper addresses an important topic that we currently need to know more about. Most of the existing literature on agglomeration and firm survival focus on knowledge intensive and high-tech manufacturing firms which are dependent on high-skilled labour and innovation (Cefis and Marsili, 2005; Cefis and Marsili, 2006). Moreover, although firm survival and growth has received a lot of recent attention in the literature (Staber, 2001; Weterings and Marsili, 2015; De Vaan et at., 2012), there are still relatively few studies available that focus on retailers, despite the recognition that they are vulnerable to failure.

In order to address these research questions the paper uses geocoded firm-level data across Sweden that hold information on key firm characteristics in terms of location, size, performance and industry belonging at the five digit SIC code level. Firm-level data are combined with contiguous spatial indices that reflect intra-, and inter-industry composition at the local level by adopting the concepts of related and unrelated diversity, or variety (Frenken et al., 2007). In particular, measures that reflect similarities among

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retail firms are constructed using SIC coding at the 2-and 5-digit levels and the number of employees working within different sectors. Having access to detail geocoded data allows the estimation of a semi-parametric Cox (1972) model that mitigates unobserved heterogeneity and addresses the influence of different types of locally bounded externalities, related to industrial composition on the survival chances of Swedish retail firms. The findings in this study lend support to the ecological perspective on local competition, suggesting that the risk of firm failure is positively related to increases in the local share of similar retail firms (Hannan and Freeman, 1987; Staber, 2001). The findings also indicate that location in a cluster that have a diverse industrial base significantly lowers the risk, suggesting that knowledge transfer from a diverse set of firms is important. In order to take the analysis a step further, a distinction is made between retail firms of different size. Results show that local industry diversity is significant in lowering the risk of failure only for those retail firms that are small (less than five employees) and specialized.

2. Background and theoretical framework

There are several reasons to expect that location and economic geography play an important role to explain the heterogeneity among retail firms with regard to survival probabilities. Geographic distance will matter for interactions between retail firms as well as between retail firms and consumers as retail markets are characterized by substantial product differentiation with heterogeneous firms that differ in location, size and product assortment (Baumol and Ide, 1956; Larsson and Öner, 2014). One important feature of retail industries is thus that interactions take place in local markets. This stands in contrast to much of the existing work on agglomeration that rely on firms that operate in broad national or international product markets (Wennberg and Lindqvist, 2010; De Vaan et al., 2012). Another feature is the rising number of planned retail agglomerations or retail clusters and the increased competition among them, which is identified as a major trend in retailing (Teller and Reutterer, 2008). Although such bundling or agglomeration decrease the spatial and temporal costs of shopping and are primarily positive from the point of view of the consumer (Reimers and Clulow, 2004), it is still unclear whether similar retail firms benefit from co-location.

One question that has received a lot of attention recently is why similar retail firms cluster in space (Staber, 2001; Dennis et al., 2002; Öner and Larsson, 2014). While Hotelling's (1929) primary agglomeration hypothesis suggested that retailers would tend to minimally differentiate their products to obtain market share, subsequent work has shown that, depending on the assumptions, both minimum and maximum differentiation can form the optimal strategy (Gabszewicz and Thisse, 1979; Irmen and Thisse, 1998). Another agglomeration hypothesis, introduced in Nelson (1958), focus on market structure and retail store location. According to his theory of cumulative attraction a given number of retail stores, in the same market area, will do more business if they locate close together since this enables them to jointly attract both quantity and regularity of consumers (Brown, 1993; Dennis et al., 2002). A similar agglomeration hypothesis, introduced by Nelson (1958) and Eaton and Lipsey (1979), is based on the idea of multipurpose shopping. Here it is argued that consumers visit at least two stores before they make a purchase as an explanation to why clusters of similar firms emerge. They show that profits are greater in agglomerated than isolated locations and that the increase in competition that results from spatial proximity is more than offset by the additional demand that agglomeration generates.

Hence, the implicit assumption is often that all retail firms benefit, more or less, from agglomeration spillovers. However, co-location may not only lead to co-operation and increasing returns but may also intensify competition and push firms out of the market. This implies that besides the incentive to locate close to competitors to capture knowledge transfer firms are also driven by incentives to locate farther away from competitors in order to reduce price competition and obtain more market power (Irmen and Thisse, 1998). Recent empirical studies lend support to such diverse outcomes and show that the local aspects of inter-industry- and intra-industry composition are important to fully depict the complexity of co-location (Sorenson and Audia, 2000; Staber, 2001). Studies that address these diverging results show that the underlying conditions of demand and technology explain a significant part of the opposing results found across industries (Audretsch and Mahmood, 1995; Nyström, 2007; Renski, 2011), suggesting that further industry-specific studies are needed to clarify these relationships.

2.1. Internal resources and retail firm failure

According to organizational theory, the intensity of competition among firms is predicted to be strongly associated with internal factors and similarities in their resource requirements. The more similar resources that firms demand, in terms of customers and technology, the greater is the potential for intense competition (Hannan and Carroll, 1992; Aldrich, 1999). Thus, the focus is on internal resources, the distribution of external resources and the competition of these among firms (Simmons, 1964; Aldrich, 1999). Competitive processes are assumed to be most intense at the local level and between firms that overlap in their resource requirements (Carroll and Wade, 1991; Hannan and Carroll, 1992). These arguments yields the basic localized competition hypothesis, stating that it is profoundly similarities with nearby firms that give rise to local competition intensity. Hence, organizational theory places more emphasis on internal resources and the interplay between internal and external resources in explaining failure.

In relation to this, there is also a broad literature that focus on the role played by internationalization activities in explaining retail firm survival and failure (Alexander and Myers, 2000; Burt et al., 2002) This perspective stems from the increasing awareness that retailers engage in a broad range of activities, all of which may have varying dimensions of internationalization and which influences their ability to compete in national and international markets. Drawing on case study evidence, Myers and Alexander (2007) show that small and specialized retailers that have a strong company brand and identity are more likely to expand. They also show that both internal and external factors play an important role in facilitating internationalization activities among retailers. Although this research has been mostly focused on the role played by various measures of internationalization (e.g., export value, volume or sales) on retail entry and probability of survival, the studies by Burt et al. (2002) and Burt et al. (2003) show that internationalization strategies are important internal factors that is able to significantly influence the risk of failure.

2.2. Industry diversity and agglomeration

What can be understood from above is that internal factors, geographic distance and access to market potential will matter for the various types of interactions that take place between firms and their consumers. Moreover, there is also a sectorial dimension that influence the outcome of firm interactions, meaning this it is not only geographic concentration as such that matters, but industrial composition in a qualitative sense (Hannan and Freeman, 1984; Jacquemin and Berry, 1979). The predictions made by organizational theory is stand in contrast to the type of localization economies that follow from Marshall (1920), Arrow (1962) and