The Influence of Diversity on the Formation, Survival and Growth of New Firms

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Extended Abstract

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As the flow of individuals across country borders increases and women continuously increase their participation in the labor force, firms and cities are bound to become more diverse in terms of the composition of their labor force. Given the aforementioned trends our paper analyses the impact of diversity on new firm formation as well as on the economic development of the new firms. The paper thereby contributes to the current discussions about agglomeration economies, in particular, the benefits of a diverse labor force. Since cities differ dramatically in their demographic makeup including characteristics such as gender, age and educational attainment it is of great interest to see how the influence of diversity differs across the urban hierarchy. To track these differences, we examine the experience of firms and workers in the nation of Sweden. We divide Sweden’s municipalities into four groups depending on city size,

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density and commuting patterns. By doing this categorization it is possible to find structural differences across the entire urban-rural hierarchy.

The role of new firms for economic development is hard to dispute since new firms contribute to employment growth, productivity growth, and innovation (Baumol, 2002, van Praag and Versloot, 2007). It is therefore no surprise to find numerous studies of the determinants of new firm formation. Fewer studies have however been devoted to analyze the effect of diversity on new firms. Rosenthal and Strange (2012) examine the role of gender on new firm formation in the US. Lee et al (2004) focus on the role of social diversity and the interaction with human capital, this paper adds to the existing literature by adding the role of labor force diversity—beyond gender and ethnicity—to the analysis of the survival and growth of new firms.

Diversity is measured by characteristics of the labor force, such as an individual’s education, age, occupation, country of origin and gender. It is hypothesized that a diversified labor force increases the rate of new firm formation since a more diversified labor force signals a regional environment that is beneficial for human capital, information spillovers and innovation. We expect such factors to be positively related to new firm formation. Helsey and Strange (2011) examine the role of entrepreneurs in cities under conditions of thickness, complexity and balance. Norton (1992) finds three main reasons why multiplicity and richness of a specific economic milieu (agglomeration diversity) together bring benefits to firms. A central location offers (1) a diversified supply of various producer services, (2) a regional network for information flows about new production techniques, products, customers, and suppliers, and (3) a large and differentiated supply of labor categories.
Our paper focuses on the third reason stated above. A diverse labor force signals a milieu of creativity and openness which attracts human capital. In such a diverse environment innovation and new ideas are promoted and valued, increasing the rate of new firm formation. Entry barriers are also lower in these types of areas making it easier to attract able and talented individuals with various backgrounds. A diverse labor force can also positively affect the rate of information exchange and flow facilitating innovation and start-ups (Lee et al., 2004). Jacobs (1961, 1969) argues that locations that are open and diverse have the ability to attract able individuals leading to a higher level of innovation and creativity. The last two factors are highly correlated with the births of new firms. Desrochers (2001) strongly argues for the positive influence from diversity on start-ups since individuals of diverse background are capable of creating new and novel combinations of existing knowledge and technology that is manifested in new firms. The studies by Lee (2001) and Lee et al. (2004) supports these hypothesis as they find a positive relationship between diversity and the level of regional innovativeness such as patents (Lee 2001) and new firm formation (Lee, et al., 2004).

Many argue that diversity in firms is beneficial including Page (2007) and Tallman and Li (1996). Studies have found that firms with a diverse work force tend to perform better than less diverse firms (Watson et al., 1993; Richard, 2000). An employee’s ethnicity serves as a proxy for their networks, affiliations, beliefs and perspectives. The approach has been found to be practical when analyzing large groups and is therefore appropriate to use at the firm level (Richard, 2000). A diverse work force with a variety of opinions has been found to form better-quality decisions. Thus, a heterogenous workforce provides the framework for better decision-making and problem-solving through the use of wider range of perspectives and a more critical analysis of issues (Jackson, 1992).
Our paper focuses on testing two main hypotheses about the effects of a diverse labor force on the formation, survival and growth of new firms.

_Hypothesis 1:_ new firm formation is positively associated with a higher city-wide level of labor force diversity.

_Hypothesis 2:_ the survival and growth of new firms is positively associated with a higher degree of intra-firm labor force diversity.

To empirically test the relationship between labor force diversity and new firm formation the empirical approach is divided into two parts. The first part investigates how diversity influences the rate of new firm formation at the municipal level. The dataset used originates from Statistics Sweden and covers variables at the municipal level for the period 1993 to 2010.\(^3\) The new firm formation variable is constructed by Statistics Sweden and uses firm-level data aggregated to the municipal level. A firm is registered as a new firm if a new organization number is identified and the majority of the employees are new, i.e. if they did not work in the firm before the organization number was changed. New firms that arise due to division of firms or mergers of already existing firms are not registered as new firms. Only firms with economic activity are analyzed for each year, i.e. firms that report VAT and/or payroll tax. Thus, by using these criteria only actual new active establishments are included in the sample. In our empirical work we estimate fixed-effects model on panel data for the period 1993 to 2010. Some of the independent variables are entropy measures composed of the characteristics of the individuals in each city as well as different measures of the city’s demographic structure and location characteristics.

\(^3\) The data set has restricted public access.
The second part of the empirical analysis uses micro-data, that is individual firms are the unit of observation. The dataset used at the firm level also originates from Statistics Sweden. The dataset is built on employee-employer matched data where there is detailed information about the firm as well as the employees. New firms are defined as those with a new organization number. The firms are identified in 2001 and followed over three years (to 2004), five years (to 2006) and nine years (to 2009). The composition of the new firms’ labor forces is analyzed to see the impact on the firms’ survival and growth. We estimate proportional hazard models in the context of a Heckman selection model. Robustness checks regarding the form of the dependent variables and various alternative specifications will be performed.

Our goal is to be able to quantify the benefits of a diverse labor force in the context of the urban city-system in one nation. Our approach using Swedish data will be generalizable to the analysis of other nations and the inner-workings of their city-systems. Our work can be viewed as a contribution to the literature on the sources and workings of agglomeration economies.

References


