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Firm spin-offs in Denmark 1981–2000 — patterns of entry and exit

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Abstract

This paper adds large sample evidence on the extent to which the likelihood of business failure or success is related to relationships between parent firms and their 'off-spring'. For this purpose we make use of an exhaustive matched employer–employee data set covering the entire Danish private sector in years 1981 to 2000 to study firm entry and exit. Special focus is on spin-offs, a particular group of small entrants, which are founded by groups of persons originating from the same former workplace. We estimate a multinomial logit model in order to examine which characteristics of the founders and the parent firms increase the probability of spinning off. Next, we carry out a duration analysis of the subsequent transitions of the spin-offs, and compare their exit risks with those of other entrant firms, which have less strong parent–progeny relationships in terms of worker flows.
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1. Introduction

It is a commonplace to think of new firms as one of the key drivers of economic growth and increasing prosperity as they outperform older firms thanks to the absence of organizational inertia present in the latter. A substantial literature has built up documenting a series of stylised facts (discussed by Geroski (1995) and Caves (1998)), one of which is that across industries and several countries (see e.g., Baldwin (1995), Bartelsman and Doms (2000), Bartelsman,

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Scarpetta, and Schivardi (2003)) entry of new firms is common, but at the same time entrants suffer from high rates of infant mortality and hence, "net entry" is considerably lower. The great majority of these studies do not, however, distinguish between different types of new firm start-ups; in particular not with respect to the origins of the entrant firms' employees. And yet, Jovanovic's (1982) passive learning model and Pakes and Ericson's (1998) active learning model both imply that because the entrants differ with respect to the knowledge they possess about the cost levels and other factors in their industry when making their entry investments, they are going to fare differently during the years of their existence.

One form of entrant firms that has attracted a lot of attention in recent years is the 'spin-off', a term which describes entries whose impetus originates from within an existing company. These entrants take advantage of assets like industry-specific knowledge (Jovanovic (1982), Pakes and Ericson (1998), Helfat and Lieberman (2002)) or personal networks which are transferred by its founders from the former employer to the entrant. In addition, these entrants gain from the fact that the founders know each other from their time as colleagues and therefore start off with high levels of mutual trust and well developed communication practices (Phillips, 2002).

Because the spin-off firms can draw on these intangible assets, they are frequently assumed to perform better relative to other firm start-ups, i.e., they grow faster, have higher survival rates, etc. A number of studies on spin-offs − Dietrich and Gibson (1990), Sleeper (1998), Lindholm (1994), Walsh et al. (1996) − have indeed found entrepreneurial spin-offs to be characterised by high growth and high survival rates. These studies have, however, been based on rather small and unrepresentative samples (even case studies). Moreover, earlier research has only to a limited extent compared the development of spin-offs with other start-ups or made use of longitudinal information.[1]

The aim of this paper is to examine the entry and survival of spin-offs with between two and ten employees using a matched employer–employer data set on all Danish private sector firms during the period 1981–2000. The basic strategy is to categorize entrant firms by the worker flows associated with entry, and to compare the firm death risks across the categories. We have a large sample of about 42,000 entrants, of which 9000 are characterised as spin-offs, and can follow these entrant firms for up to 19 years. Our spin-off definition does neither require the spin-off to be in the same industry as the incubator firm (although we will address whether or not this is an important determinant of survival), nor does it require the spin-off to be located in some 'high-tech' industry.

The two main hypotheses studied are: (1) spin-offs have a higher probability of survival, and (2) industry-specific intangible assets are an important determinant of firm success. An additional research question that we try to answer is: given that spin-offs initially are more successful, how long does it take for other entrants to catch up? It should be noted that the focus in this paper is exclusively on entrants spinning off from firms, i.e., corporate spin-offs, which distinguish this analysis from the literature on spin-offs generated by research institutions (see e.g., Callan, 2001).

Before plunging into the empirical analysis, we generate some descriptive statistics on spin-offs, and relate the spin-off dynamics to business cycle movements as we want to provide some heuristic evidence on whether or not the decisions to create a spin-offs are mostly of push-(owing to unfavourable conditions at the parent workplace/firm) or of pull-nature (due to some perceived business opportunity). Another way of investigating this question is to take the

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[1] A notable exception is Phillips' (2002) analysis of Silicon Valley law firms.