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Who creates jobs? Econometric modeling and evidence for Austrian firm level data☆

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ABSTRACT

This paper provides evidence on the role of firm size and firm age for firm level net job creation in the Austrian economy between 1993 and 2013 and during the Great Recession. We propose a new estimation strategy based on a two-part model to decompose behavioral differences between exiting and surviving firms. Young firms contribute most to net job creation, despite high relative exit rates, due to high growth rates among young surviving firms. Small firms have similar job creation rates conditional on survival as large firms. Small firms' contribution to job creation is, however, smaller due to higher exit rates. The up-or-out dynamics characterizing less regulated economies such as the US also apply to the more regulated Austrian economy. During the Great Recession both the relative net job creation rate conditional on survival and the relative survival probability of young firms decreased. The relative contribution of small firms to net job creation, by contrast, increased due to increased relative job creation rates of small firms conditional on survival.

1. Introduction

Over the last decades the debate on the role of firm heterogeneity in shaping aggregate employment dynamics has been fueled by (at least) two highly policy relevant issues: The first of these pertains to which firms contribute most strongly to net job creation. Starting with the early insights provided by Birch (1979), most of the discussion has centered around the question of whether small or large firms are more successful in creating jobs. The second one is related to the reaction of firms of different size and age to business cycle fluctuations. Neither of these debates has so far reached a final conclusion: A recent study on job creation in the US by Neumark et al. (2011) reinforces the crucial role of small firms for net job creation, while Haltiwanger et al. (2013a) highlight the so far neglected contribution of young firms. Similarly, Gertler and Gilchrist (1994) show that small firms are more responsive to macroeconomic monetary or financial shocks, but Moscarini and Postel-Vinay (2012) find a strong sensitivity of large firms to

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cyclical variations in aggregate unemployment rates. In a similar vein, Carvalho and Grassi (2015) present a theoretical model and empirical evidence which highlights the crucial role of large firms in shaping business cycle fluctuations. Fort et al. (2013), on the other hand, based on recent data for the universe of firms in the US, document that young and at the same time (very) small firms were most strongly affected by the Great Recession.

This lack of final conclusions on both questions, next to being of genuine academic interest, is also unsatisfactory from a public policy point of view: In particular, it questions the effectiveness of policy initiatives intended to support job creation through measures for small and medium sized enterprises (SMEs) that have been implemented in many developed economies.[1] Furthermore, it also suggests that such policies may have unintended adverse impacts on the resilience of economies to large negative economic shocks – a central focus of economic policy at least since the outbreak of the Great Recession.

The economic analysis of net job creation patterns across different firm types and over the business cycle needs to account for various sources for job creation and job destruction including firm entry and exit as well as employment adjustments in continuing firms (see e.g., Spletzer, 2000). Otherwise, an investigation of the overall firm size and age effects for aggregate employment growth would allow to only draw an incomplete picture concerning the underlying research question of interest. In addition, country-specific institutions (e.g., degree of employment protection or trade union organization) are likely to shape the relationship between firm size, firm age and net job creation especially during times of economic depression. However, most of the available empirical evidence focusing on the job creation effects of the Great Recession considers the US economy only (see Moscarini and Postel-Vinay, 2012 and Lawless, 2014 for notable exceptions).

This paper analyses these issues for Austria which may be considered a particularly interesting country due to its institutional peculiarities and because of its relatively small employment losses during the Great Recession. Austria is a small open EU economy with relatively strict employment protection legislation and highly centralized wage bargaining. In previous research it has been argued that this can explain why Austrian job reallocation rates amount to only half of those of the US after controlling for sector and firm size composition effects (see Stiglbauer et al., 2003). Due to its reliance on international markets, Austria's real GDP also declined substantially during the crisis. Employment, however, has been astonishingly resilient. While the 2.8% contraction of US GDP was accompanied by an employment decline of 3.8% in the first full year of recession, Austria's real GDP dropped by 3.8% but total employment shrunk by only 0.3%. Furthermore, in 2010 total employment already exceeded the pre-crisis level by 0.6% although GDP was still 1.9% below its 2008 level.

Using data covering the universe of surviving and exiting Austrian firms, we analyze the relative contribution of firm size and age to overall net job creation for both the time periods capturing the last 21 years (i.e., in the long run from 1993 to 2013) as well as during the Great Recession. The paper extends the (weighted) one-part OLS estimation approach typically applied in the net job creation literature to a two-part model in order to explicitly accommodate for the importance of firm exit.[2] The suggested two-part approach explicitly separates exiting from continuing firms. Comparing the two models we find that the two-part model provides unbiased estimates for the underlying parameters of interest under very general assumptions. The two-part model further allows for a decomposition of the individual contributions of firm exit (i.e., adjustment at the extensive margin) and survival (i.e., adjustments at the intensive margin) to firm size and age group-specific net job creation rates.

The results of the analysis based on this model show that – consistent with evidence for other countries – also in Austria and conditional on firm size, young firms contribute more to net job creation than their older counterparts. By contrast, after controlling for firm age effects, small firms contribute significantly less to job creation than larger ones. This deviates from the evidence for the US which highlights that conditional on firm age, firm size differences are not able to explain variation in net job creation patterns over the whole firm size distribution (Haltiwanger et al., 2013a). During the Great Recession some remarkable differences to this overall patterns are observed. In particular, the negative relationship between firm age and net job creation flattened substantially, while the relative contribution of small firms to net job creation increased.

In addition, the results from the two-part approach allow to explicitly identify the important role of firm exit for shaping the overall firm size and age effects on net job creation both over the long run as well as during the Great Recession in Austria. The importance of young firms for overall job creation is due to much higher job creation rates of surviving young than surviving old firms and arises despite much higher exit probabilities of young firms relative to old ones. The low (relative) contribution of small firms to overall job creation arises despite very similar job creation rates of small and large firms conditional on survival. The young firms' negative (relative) contribution to overall net job creation can almost exclusively be traced back to their much higher exit hazards.

Over the course of the Great Recession the role of young firms as (successful) contributors to net job creation declined, due to both a decrease in the relative net job creation rate conditional on survival and an increase in their (relative) exit hazards. The increased relative contribution of small firms, by contrast, almost exclusively arose from increased relative net job creation rates of

[1] In the US the 2010 “Hiring Incentives to Restore Employment” (HIRE) Act provided specific tax incentives (allowances) for SMEs. Within the EU the “Small Business Act for Europe” targets this group of firms and in Austria (the country which is studied in this paper) the SME promotion act (“KMU-Förderungsgesetz”) is designed for providing financial support for SMEs. The “Small Business Act for Europe” targets SMEs by foreseeing to promote entrepreneurship (through improved entrepreneurship training, reductions of regulatory burden and by facilitating access to finance and to markets and internationalization). The Austrian SME promotion act provides financial incentives by offering lower interest rates for credits, directly subsidizing SME activities as well as through the (costless) provision of extensive consultancy services.

[2] Contributions applying the OLS approach relied on specifications capturing firm size and age dummies as well as their interactions (see e.g., Haltiwanger et al., 2013a; Decker et al., 2014; Geurts and Van Biesebroeck, 2014) and sometimes also include further (continuous) explanatory variables such as initial firm size, GDP growth and domestic versus foreign ownership (see e.g., Lawless, 2014; Rijkers et al., 2014).