A cautionary note on using the Eurostat-OECD definition of high-growth firms

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Recent studies have suggested that most firms do not grow, and that a small number of high-growth firms create most new jobs. High-growth firms have therefore attracted an increasing amount of attention from researchers and policymakers. However, there is no uniform definition of what constitutes a high-growth firm in the literature. Eurostat and the Organisation for Economic Co-operation and Development (OECD) recently recommended that high-growth firms should be defined as firms with at least ten employees in the start-year and annualized employment (or sales) growth exceeding 20% during a 3-year period. This definition would exclude almost 95% of surviving firms in Sweden and about 40% of new private jobs during 2005-2008. We therefore advise caution in using this definition.

Key words: High-growth firms, high-impact firms, gazelles, OECD definition.

JEL codes: L22; L25; L26

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I. Introduction

It is well known that there are country differences in firm dynamics (Parker et al., 2012). For instance, post-entry employment growth of surviving firms in the U.S. is much greater than in Europe (Bartelsman et al., 2005). We also know that most firms do not grow or grow slowly (Rogers et al., 2010; Hodges and Østbye, 2010), while a few firms, so-called high-growth firms (HGFs), are crucial for job creation (Henrekson and Johansson, 2010). HGFs have therefore received increasing attention from policymakers. The Europe 2020 strategy, for example, explicitly mentions more HGFs as a political objective (European Commission, 2010).

Naturally there has also been increased interest in the share of HGFs in different countries in order to understand what kinds of institutions and norms that are conductive to them (Schreyer 2000; Hoffmann and Junge, 2006; Bravo-Biosca, 2010).

However, a generally accepted definition of what constitutes an HGF is lacking. Recently, Eurostat and the Organisation for Economic Co-operation and Development (OECD) recommended that HGFs should be defined as firms with at least ten employees in the start-year and annualized employment (or sales) growth exceeding 20% during a 3-year period. They actually argued (Eurostat-OECD, 2007: 61) that: “A provisional threshold has been suggested as 10 employees at the beginning of the growth period, but a final recommendation is expected after tests have been performed using different thresholds.”

As there is no other generally accepted definition, we can expect the Eurostat-OECD definition to be widely used in the future. In fact, many studies
have already used it (Bravo-Biosca, 2010; Nordic Council of Ministries 2010), while taking the suggested threshold of 10 employees as absolute.

Previous studies have discussed advantages and disadvantages with various definitions of HGFs (Delmar et al., 2003), but so far no study has used a longitudinal firm-level data to analyse the implications of using the Eurostat-OECD definition. Our analysis focuses on the jobs created by HGFs using such data from Statistics Sweden (SCB), covering all private Swedish firms during 2005-2008. Following the Eurostat-OECD suggestion, we also tested different thresholds.

II. The Eurostat-OECD definition of high-growth firms

Researchers must address at least four issues when identifying HGFs: (i) the indicator of growth (the variable measured, e.g., employment or sales); (ii) the measurement of growth (e.g., absolute or percentage growth); (iii) the period studied; and (iv) the process of growth (organic, acquired or hybrid).

Given the above choices, HGFs have been identified in two ways. Most studies have identified them as a certain share (e.g., 1% or 5%) of the fastest growing firms during a particular period, but some as firms with growth above a particular rate (Henrekson and Johansson, 2010).

The Eurostat-OECD definition uses the latter approach, defining HGFs formally as

\[
\frac{E_{t-3}}{E_t} \geq 10,
\]

\[
\left(\frac{E_t}{E_{t-3}}\right)^{1/3} - 1 \geq 0.2
\]

(1)

where \(E_t\) is the size of the firm by number of employees, at time \(t\).
III. Results

We use data from Statistics Sweden (SCB) provided by the Swedish Agency for Growth Policy Analysis (Myndigheten för tillväxtpolitiska utvärderingar och analyser) that include all private firms (i.e., not owned by central or local government) active in Sweden during 2005-2008.

A total of 607,411 private firms were registered in Sweden in 2005, of which 485,082 survived until 2008 (Table 1). Almost 95% of the surviving firms (459,029) had less than 10 employees at the beginning of the period. Studies using the Eurostat-OECD definition to identify HGFs would thus exclude most surviving firms and their job dynamics from the analysis.

Of the surviving firms, 16% (75,791) had positive growth during the period, creating 435,761 jobs; while most firms (73%) had zero growth and 11% (55,079) had negative growth, losing 259,989 jobs. Net job creation among surviving firms was thus 175,772 jobs.

Only 1,891 firms would qualify as HGFs according to the Eurostat-OECD definition\(^1\), creating 108,185 jobs, which is more than all new net jobs (80,247)

\(^1\) HGFs thus accounted for less than 0.5% of surviving firms, 2.5% of all growing firms, about 7% of surviving firms with more than 10 employees, and about 13% of growing firms with more than 10 employees
created by surviving firms with more than 10 employees, in line with previous studies (Henrekson and Johansson, 2010).

Surviving firms with 10 or more initial employees but slower growth (SGFs) created 155,566 jobs, more than HGFs. This fact is concealed when the jobs created by SGFs are taken together with the job losses in declining firms, thus exaggerating the role of HGFs in job creation.

Firms with less than 10 initial employees created 172,010 jobs, or 39% of all new jobs, more than either HGFs or SGFs, while losing only 76,485 jobs, less than half as many as larger firms. Studies using the Eurostat-OECD definition of HGFs would thus exclude over a third of new job creation and a majority of net job creation.

To study this exclusion, we tested alternative employment thresholds from 9 down to 1 (Fig. 1). We normalized job creation from HGFs using the Eurostat-OECD definition to zero. For each reduction of the threshold by one initial employee, HGFs were found creating more jobs, cumulating to 59,733 at two initial employees and to 85,029 at one. Studies using the Eurostat-OECD definition threshold exclude this job creation.

IV. Discussion

The suggested Eurostat-OECD threshold excluded from the analysis about 95% of all surviving firms, creating 39% of all new jobs during the study period. This is especially problematic when making cross-country comparisons of HGFs since the proportion of small firms and their growth patterns might
differ across countries. The new jobs created by slow-growth firms (SGFs), which were more than those created by HGFs, must also be acknowledged.

The process of firm growth (organic, acquisition, or hybrid) also needs to be taken into account before implementing economic policy, since organic growth creates more new jobs than acquired growth (McKelvie and Wiklund, 2010). Eurostat-OECD (2007: p. 62) actually stated that firms growing through mergers and takeovers should not be considered as HGFs. However, very few studies apply this rule because of the difficulty in distinguishing among growth processes in the data.

Effects on total employment also depend on whether growing firms recruit new employees from competitors (producing a smaller effect) or from the pool of unemployed (producing a larger effect). Coad et al. (2011) is a notable exception in having investigated this issue.

Using the Eurostat-OECD definition of HGFs may thus lead to ill-advised policy recommendations that could counteract the goal of stimulating overall job creation.

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References


Table 1. Numbers of surviving private firms and jobs created by type, 2005-2008

<table>
<thead>
<tr>
<th></th>
<th>Number of firms</th>
<th>Job contribution</th>
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<tbody>
<tr>
<td></td>
<td>&lt;10 emp.</td>
<td>≥10 emp.</td>
</tr>
<tr>
<td>Growing firms</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>61,670</td>
<td>14,121</td>
</tr>
<tr>
<td>i) HGFs</td>
<td>1,891</td>
<td></td>
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<tr>
<td>ii) SGFs</td>
<td>13,230</td>
<td></td>
</tr>
<tr>
<td>Zero-growth firms</td>
<td>351,848</td>
<td>2,364</td>
</tr>
<tr>
<td>Declining firms</td>
<td>45,511</td>
<td>9,568</td>
</tr>
<tr>
<td>All surviving firms</td>
<td>459,029</td>
<td>26,053</td>
</tr>
</tbody>
</table>
Fig. 1. Jobs created by Eurostat-OECD size-threshold with vertical axis normalized so $0 =$ jobs created by Eurostat-OECD high-growth firms (108,185)