The Local Distribution and Determinants of High-Growth Firms in selected OECD countries

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This paper examines the spatial distribution of High-Growth Firms (HGFs) at the level of NUTS-2 across 5 OECD countries (UK, Germany, Italy, Denmark and Belgium) and seeks to explain the variation in the incidence of HGFs for the time period 2006-2009. We use data from the ORBIS dataset, a commercial database collecting demographic, economic, and financial information at the company-level.

1.   Geography of HGFs

The first part of the analysis presents the spatial distribution of the incidence of HGFs within each country disaggregated by sector and ownership (foreign or domestic owned). We adopt the standard OECD definition of a HGF (i.e., both employment and turnover definitions). With regards to sector, we use the 2 digit NACE classification in conjunction with the OECD/EUROSTAT classification of technology intensiveness (i.e. high technology versus low technology manufacturing; knowledge-intensive versus less knowledge intensive services). Key findings for 5 countries (Belgium, Denmark, Germany, Italy, United Kingdom) shows that:

- the incidence of HGFs is generally larger in the service sector than in the manufacturing sector in all countries;

- HGFs are found in all sectors and are not always over-represented in high tech industries;

- HGFs are more likely to occur in regions with large cities;

- the incidence of HGFs is generally higher for foreign-owned firms compared with domestically-owned firms;

2.   Explaining the Spatial Distribution of HGFs

The second part of the analysis adopts a multivariate framework and seeks to explain the observed spatial variation in the incidence of HGFs. We use probit models to estimate the likelihood of a firm being a HGF. We include a variety of firm-level and 'environment/contextual' variables including GDP, tertiary education and population density. Key findings from the **all sector** probit models can be summarised as follows:

- The age of a firm has a negative effect on it being a HGF - in other words, HGFs are more likely to be younger in all 5 countries;

- Firm size has different effects across countries…We use number of employees in firms to classify 4 firm size bands (10-49; 50-99; 100-199, 200+) where the largest size band is used as the reference case. Our results show that for all countries, except the UK, smaller firms have a higher likelihood of becoming a HGF.

- HGFs are more likely to be foreign-owned in all countries except Denmark.

- The market share (i.e., firm turnover divided by industry total turnover) and the level of competition that firms face (i.e., the Herfindahl Index) have different effects on the likelihood of a firm being a HGF depending on the country of investigation. For example, firms in Denmark and Italy which show higher market share values with respect to their industries are more likely to be HGFs. However, firms in the UK and Belgium show a negative effect of market share on HGF incidence, whereas German firms show no significant effect. The Herfindahl index shows the level of competition that firms face in their respective industries and the results show opposite effects to the market share variable for each country, as expected.

- In terms of local environmental/contextual factors, and controlling for these firm-level and sector effects, the level of regional GDP, tertiary education and population density contribute to an explanation of the variation in the incidence of HGF across NUTS II regions. However, the direction and strength of the effect is different in each of the 5 countries. For example, regional GDP has a small but positive effect on HGF incidence for Belgium, Denmark, Germany and the UK, whereas for Italy this has no significant effect.

- Disaggregating the 'all sector' models into separate service sector and manufacturing probit models reveal some interesting differences. The effects of tertiary education are more important for the services sector in these countries than for the manufacturing sector - in other words the greater the proportion of the population educated to university level (or equivalent) the higher the incidence of HGFs. Lastly, population density plays a bigger role in explaining the variation in the incidence of HGFs for the manufacturing sector in the 5 countries than is the case for the services sector.