An Integrated Treatment of Firm Age, Firm Growth and Job Creation

The proposition that a relatively large proportion of job creation is attributable to a relatively small proportion of job creating firms has been discussed now for more than 40 years (the conjecture is generally attributed to David Birch). A variety of approaches have been taken to tackling the calculations required, but in recent years HGFs (as defined by the OECD), seem to have attracted the most attention. By construction HGFs are very likely to display 'disproportionality': they are relatively large (ten or more employees, so in the top 10% of the firm size distribution), and grow relatively rapidly over a short period of time. But considering HGFs alone represents a rather 'lopsided' approach to the job creation question because it simply ignores the potential contribution of rapidly growing, relatively small, firms.

Using ONS data (longitudinal BSD) on the 15 year survivors of four cohorts of UK firms (1998; 1999; 2000; 2001) we find that 80% of jobs created by job creating firms over a 15 year period (commencing in 1998) are accounted for by two quite distinct, and readily identifiable, groups of high performance firms. These are:

1. **high-growth** firms (HGFs) – firms with ten or more employees, which grow 20% or more on average over three years (72.8% over a three year period) – the official OECD definition of a HGF;
2. **small high-growth firms (SHGFs)** – firms with less than ten jobs which add eight or more in a three year period – an official variation of the OCED definition developed in the US.

Each group contributed about 40% of job creation (hence 80%). Whilst 80% of job creation is equally split between SHGFs and HGFs, the contribution of high performing firms to job creation is disproportionate: SHGFs are about 20% of job creating firms and create 40% of jobs; HGFs also create 40% of jobs but are just 5% of job creating firms.

Whilst their contributions to job creation provides the motivation for taking HGFs and SHGFs equally seriously, these two groups of firms also provide raw material for the study of firm growth more generally, and provide some insight into the relationship between firm growth, firm age, and firm size. We seek to make progress on a notoriously intractable problem – understanding firm growth – by using two key simplifications: the microenterprise/larger firm distinction built into the SHGF/HGF definitions; and the three year growth period which helps to render manageable the extraordinarily distributed year-to-year variation in firm growth.

High performing firms are identified by their exceptional job growth over three year growth periods and we count the numbers of SHGFs and HGFs born in each of the 12 (overlapping) three year growth periods between birth and age 15: there are about four times as many SHGFs than HGFs born in each growth period. The key findings about age, growth and size can be translated directly into results about job creation are:

- Job creation is relatively highly concentrated in **younger high performing firms**.
- SHGFs born in the first growth period (i.e., one-third of SHGFs) account for about half of SHGF job creation by age 15.
- For HGFs (with the extra effect of the dependence of size on age) almost two-thirds of job creation is contributed by HGFs born in the first growth period (this is one third of HGFs).

Further longitudinal analysis on the dynamics of HGFs over time show that, on average, 63% of HGFs in 2012-15 were having a 'repeat high growth episode' but this varies by age – that is, older HGFs had higher proportions of ‘repeat episodes’. Also, when we re-visit the HGFs analysed in the NESTA report “The Vital 6%” which looked at the HGFs in the 2002-05 and 2005-08 periods we find that 59% and 69% respectively had survived.

And finally, a reminder of some ‘facts’ about business population dynamics in the UK:

Churn

The most important fact we have learned from a decade long study of the UK business population is that it is in a constant state of flux: each year around 250,000 firms are born and just over 200,000 die. So the population (currently just over 1.8 million) typically grows a little, but underlying that growth are much larger inflows and outflows of firms.

Age

The most important factor conditioning firm performance is age. Of the quarter of a million firms born in a particular year, more than 80% are dead by age 10. Not only does survival depend critically on age, but growth in jobs does too. By age 10 a relatively small proportion of the surviving firms have grown, most that have grown have not grown very much, and most of those that do grow at all do so in their first five years.

Size

Of the quarter of a million firms born in a particular year around 90% have less than five employees, and around 85% of 10 year survivors still have less than 5 employees. However, size does have some effect: very small firms do grow a little faster than larger firms, but have slightly worse chances of surviving.