

Investigating the impact of small versus large firms on economic performance of countries and industries

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Background

Building an economy based on knowledge and innovation is a key target of the European 2020 strategy. Typically, entrepreneurship is regarded as an essential component of a knowledge-based economy. Although a multi-faceted concept, entrepreneurship is most often understood as the establishment and operation of new and small firms. At the end of the 20th century, researchers started to investigate the changing role of new and small firms in industrial economies (Brock and Evans, 1989; Acs and Audretsch, 1993). Globalization and an increasing importance of knowledge in the production process caused many developed countries to move from a more 'managed' to a more 'entrepreneurial' economy (Audretsch and Thurik, 2000). In the former type of economy, large and incumbent firms play a dominant role, exploiting economies of scale in production and R&D in a relatively stable economic environment. In the latter type, small and new firms play an increasingly important role, introducing new products and services in highly insecure economic environments while quickly adapting to rapidly changing consumer preferences (Audretsch and Thurik, 2001).

A considerable amount of research has now emerged studying the consequences of this change toward smallness for macro-economic performance. In particular, several studies have found a positive link between measures of entrepreneurship and measures of macro-economic performance (e.g. Audretsch and Keilbach 2004). In line with these findings, economists and policy makers are increasingly becoming aware of the importance of entrepreneurship for achieving higher levels of competitiveness and economic growth. Entrepreneurs introduce innovations into the economy thereby challenging incumbent firms to perform better as well (Schumpeter, 1934).

However, although it is clear that a lack of entrepreneurs is harmful for economic growth, in general less attention is paid to the question whether an economy can also have more entrepreneurs or small firms than is good for economic prosperity. For instance, when there are many self-employed or very small firms in an economy, it is likely that a considerable proportion of these small firms operates below the minimum efficient scale, and that many of their business owners could be more productive as employees. So, economies may have less but also more entrepreneurs than is good for macro-economic performance. This clearly implies the existence of an optimal rate of entrepreneurship (Carree et al., 2002). Audretsch et al. (2002) use a specific measure of entrepreneurship, viz. small firm presence operationalized as the share of small firms in a country's total turnover (sales). Although they do not explicitly measure the optimal rate of small firm presence, they do show that such an optimal rate exists and moreover, that most countries in their sample of European countries had a level of small firm presence below the optimum in the early 1990s.

Aim of the paper

The present paper builds on Audretsch et al. (2002) and extends and refines their analysis. In particular, we investigate whether changes in size-class structure affects macro-economic performance of industries and countries in the European Union (EU-27). The underlying idea is that an optimal size-class structure exists, where

smaller firms are strong in flexibility and in exploration of innovative ideas and where larger firms are strong in producing with higher efficiency through scale economies and in exploitation of innovative ideas. A well-functioning economy requires a good balance between these core competences of firms of different firm size. We make use of a unique and rich database prepared in part by Panteia on behalf of the European Commission. The database provides information on employment, value added, sales and other variables for all 27 countries of the European Union over the period 2002-2008. The information is also disaggregated by sector and size-class. The data are publicly available from the following link: http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/index_en.htm (under 'Database for the Annual report').

We distinguish between 27 EU-countries, five broad sectors of economic activity and four size-classes: micro, small, medium-sized and large. At the country-sector level we then approximate the net growth of the share of micro firms as the annual percentage growth of real sales by micro firms (as a size-class) minus the annual percentage growth of real sales by all firms (i.e. the industry total). We similarly define net growth of the share of small, medium and large firms. We then estimate an equation where GNP growth of the sector as a whole is explained by changes in size-class structure as approximated by the net growth rates of the shares of the four size-classes. A positive impact of a change in the share of (for instance) small firms on sector growth would imply that the share of small firms is below optimum as an increase of the share in the economy of small firms apparently stimulates macro-economic performance. Such an outcome would imply that there is not enough flexibility and exploration of innovative activities present in the economy.

Results

We estimate our equation while combining all five sectors of economic activity in one pooled estimation sample (and controlling for sector and other influences). We find that increases in the share of real sales by medium-sized firms has a significantly positive influence on sector growth, whereas we find the opposite (i.e., negative) influence for large firms. We do not find an impact for net growth of the shares of micro and small firms. These results suggest that on average, EU-countries have too much economic activity by large firms, but not enough economic activity by medium-sized firms. We find these effects to be somewhat stronger for the relatively lower developed countries within the EU, including the EU-12 newcomer countries. An explanation for the important role of medium-sized firms for macro-economic growth as implied by our analysis, may be that medium-sized firms are flexible enough to adjust fast to changing economic circumstances while at the same time they have a large enough scale to compete with large firms, thereby also challenging the latter to perform better. Our results suggest that the transformation from a 'managed' to an 'entrepreneurial' economy has not been completed yet in many EU-countries, at least not in 2008, i.e., just prior to the current economic crisis. This holds particularly for the 12 more recent entrants in the European Union.

Selected reference

Audretsch, David, Martin Carree, André van Stel and Roy Thurik (2002), Impeded Industrial Restructuring: The Growth Penalty, *Kyklos* 55 (1), 81-98.