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ASSESSING COMPETITIVENES HOW FIRM-LEVEL DATA CAN HELP

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Highlights

€ As policymakers refocus on growth, the ability to take a firm-level view is key to disentangling the various factors at the root of competitiveness, and thus to

ASSESSING COMPETITIVENESS: HOW FIRM-LEVEL DATA CAN HELP

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THE DEBATE about how to define, measure and assess •competitiveness• has recently taken an unexpected turn, which is easily understandable but rather unwarranted. The recent literature on trade[1] has increasingly underlined and shown empirically that aggregate industrial performance depends strongly on firm-level factors, such as size, organisation, technological capacity, and other conditions firms are confronted with in the specific environment in which they operate. However, the policy debate in Europe increasingly focuses on macro factors, such as whole economy labour costs or current account dynamics, which are seen as the preponderant determinants of aggregate economic performance. Other factors, if any, are left to the domain of structural/market price competitiveness matters, possibly to be tackled within the European Union's Europe 2020 reform agenda.

The prominent attention to macro factors relies squarely on the fact that … in the midst of a huge fiscal crisis in the euro area … when referring to •competitiveness•, the emphasis is on macro and financial stability considerations. As a result, the indicators referred to most often are those that i) are easy to communicate, most notably unit labour cost differentials, and ii) are generally identified as being responsible for macro imbalances, which are to be quickly corrected. Against this background, however, there is a risk that sustainable growth considerations may be neglected or actually contradicted.

In this Policy Contribution we attempt to complement the (much debated) commonly used definition of •competitiveness•, mostly driven by considerations related to macro stability, with considerations more strictly related to the idea of sustainable growth. The two views are in fact often complementary, for instance regarding competitiveness rankings across countries, but firm-level considerations turn out to be essential when actual policies are set in place to address competitiveness issues. To do so, we suggest a definition of competitiveness together with a number of firm-level indicators, which could usefully and systematically be added to the set of macro indicators commonly used. In advocating the broadening of the scope of the firm-level analysis … from the present almost exclusive purpose of producing research papers, to a more systematic use in formulating policy … we also attempt to support the case for better and more complete data collection.

1 CONCEPTUAL UNDERPINNINGS OF FIRM-LEV ANALYSIS AND ITS ROLE FOR POLICY MAKIN

To begin with, we define competitiveness as the ability of firms in a given country … not of the country itself … to mobilise and efficiently employ (also beyond the country•s borders) the productive resources required to offer goods and services. The factors affecting this ability range from the firm-specific (such as the sector of activity, size, technology and so on) to the macro/institutional (eg price/cost structure, investment environment and so on). In this sense, we agree with Paul Krugman•s idea of competitiveness being •a poetic way of saying productivity• (Krugman, 1997).

Assessing country competitiveness should therefore result from the aggregation of the firm-level information. In doing so, however, it is essential

1. For information about the EFIGE project (European Firms in a Global Economy) see http://www.efige.org/.

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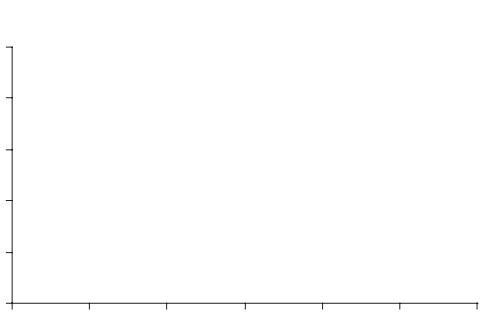
for policy purposes to consider not only the average outcomes (eg productivity), but also their distribution around the mean. We devote the remainder of this Policy Contribution to this i



Empirical evidence for both the United S (Bernard et al 2011) and a number of EU co tries (Mayer and Ottaviano, 2007) has shown in general firm-level data on a given perform index (eg productivity) is typically distributed shown in Figure 1 (a distribution proxied by is known as a •Pareto• distribution) versu assumed standard normal distribution. In Figure 1, both distributions are assumed to have the same average value of the performance index. The latter is not surprising, as this type of distribution is frequent in natural and social phenomena: the length of rivers in the world, or the size of cities, are roughly Pareto-distributed, with a large number of relatively short rivers (or small cities), and few very long rivers (or very large cities). The performance of firms is no exception. Rather than having many firms centered around an •average• performance level, with few very bad or very good firms symmetrically distributed around the mean in equal numbers (as in normal distributions), in reality, within a given industry or country, there is a large heterogeneity of firms (larger than generally assumed), with many relatively •bad• firms performing below the mean, but also a certain number (although less numerous, and hence the asymmetry, or skewed nature, of the distribution) of particularly good firms, as depicted by the relatively long right-hand tail of the distribution (Figure 1).

The first policy implication associated with the above finding is linked to the accuracy with which we are able to measure competitiveness. In general, performance indicators (retrieved by statistical offices) starting from firm-level observations are derived as averages over the available individual observations. Comparing the two distributions in Figure 1, we immediately understand that the same averages in fact synthesise very different distributions in the characteristics of the underlying populations. Consequently an aggregate performance measure calculated at the mean is probably biased, thus delivering a distorted picture of the real underlying competitive position of a given industry or country. This calls for using

graph are characterised by the same average performance index, around 10.

Suppose now that, when we move to state 2, the new performance threshold that identifies the •champions• able to successfully compete on global markets increases to 14. In this case, a policy that aims at raising the average performance of the firms in the sector or country… leaving unchanged the density of the firms around the new performance threshold … could be misguided. While successful in increasing the average performance of the sector above … but possibly only marginally … the performance index of 10, the policy would have limited effects on the country's competitiveness, since too few firms would actually perform over the required threshold of 14. As a result, while the few firms with performances (productivity, size) above the new, higher threshold will thrive, those firms characterised by •average• performance indices will likely experience difficulties in the new competitive environment and will eventually be forced to exit.

In this context, a vast and growing empirical literature … some results of which we will report in the final section … has shown that firms react very differently to shocks depending on their specific characteristics; most notably size, industrial organisation, technology/research content, market conditions, entry/exit barriers and trade frictions in the main sectors of specialisation.

This calls for a new set of policies able to foster the dynamic transition of firms already above the industry average towards even higher performance. Hence, rather than just working on the •average• performance of the sector, a successful policy for competitiveness should aim at generating a 'thicker' right-hand tail of the distribution over time. In this sense, policies aimed at fostering the internal growth of firms via more efficient product and factor markets (cross-firm competition and agglomeration, removal of financial constraints and better access to capital, wage-setting mechanisms more in line with individual firms• productivity) are instrumental in reallocating resources towards better performing firms and thus increasing the aggregate level of competitiveness. Instead, policies aimed at supporting weaker firms, such as those targeted towards small and medium enterprises, may result in barriers to growth and the thickening of the upper tail of the performance distribution.

2. FIRM-LEVEL INDICATORS: A SAMPLE OF RESULTS OF USE IN ROUTINE COMPETITIVENESS ANALYSIS

Despite its obvious superiority for assessing competitiveness, firm-level analysis is hampered by two sets of problems. First, data availability remains an issue, as the data … when available … is in general not homogenous and comparable across countries (see Appendix). Second, the analysis at present is not systematic. The focus tends to be mainly on research/case studies with an emphasis on the limitations of the data currently available. Little attention is given to the ways in which available data could be used for policy analysis. The result is that in policy environments, firm-level analysis is considered possibly promising, but of little practical use.

Against this background, in the remainder of this Policy Contribution we mention a number of practical results arising f.1(y)17.ti6.332.2(s95Qi f)16.14 Bolicy 4i6.332.lic

present here two applications with rich policy implications:

2.1.1 More dispersion, higher average performance

If a sector has a higher average performance than another, does this mean that all of its firms are better than those in the weaker sector? Not necessarily; it can mean the opposite because average performance improves if the heterogeneity of firm characteristics grows. Figure 3 shows that the average sector added value is positively correlated to its variance, the within-industry dispersion of firms• performance, for both France and Italy[2]. This is because the greater the variance of firms performance, the greater the share of high performing firms, ie the thicker the right hand tail of the distribution in Figure 1 and consequently the higher the average sector performance[3]. The intuition behind this result is that the more a sector is populated by firms with different performances … which in turn can be related to different individual characteristics, such as size, product differentiation, organisation, and so on … the more there is scope for market forces to reallocate productive resources from worse to better performing firms within the sector. As sectors become more competitive, the gap between the best and worst performers increases.

2.1.2 Trade shocks and the happy few

2. Means and averages are computed from firm level data from the EFIGE and Amadeus databases.

3. The positive correlation between the variance and the average value of a given measure is a statistical property of Pareto distributions. The relationship reported in Figure 3 is robust across a range of European countries and industries, even if outlier observations are excluded.

4. The sample is derived from the Amadeus dataset.

•Larger firms are generally more efficient and more likely to compete successfully in globa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