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The impact of financial and human resources on the export performance of Russian firms

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ABSTRACT

This study contributes to the literature by investigating for the first time the effects of the entrepreneurial environment on export survival in Russia. Using the continuous-time Cox model and discrete-time complementary log-log and probit models, we study the effects of the availability of human and financial resources on export survival across Russian regions between 2002 and 2010. Taking into account uncertainty and time effects reveals that these effects are falling over time and are more important for larger exporters. Thus, there is evidence of a learning curve for exporters when the latter become more efficient in dealing with regional-level resources and the regulatory environment over time.

1. Introduction

The recent empirical literature on international trade provides us with the following three important results. First, firms are highly heterogeneous in terms of productivity. Heterogeneity of firms in the presence of fixed costs can explain why not all firms engage in international trade, why exporters are more productive than domestic producers, and why an important share of the variations in total exports comes from adjustments in the extensive margin of trade, i.e., in the number of exporters (Bernard and Jensen, 2004; Eaton et al., 2004; Melitz, 2003). Second, at the macro level, financial development has a significant and positive impact on bilateral trade flows (among others, see Beck, 2002; Berthou, 2006; Manova, 2008), both on the number of bilateral trade flows and the mean value of shipments. Thus, it could be argued that heterogeneity in terms of access to finance (within and between countries) and the availability of financial resources may be an important determinant of exporting behavior at the micro level. Third, at the micro level, there are several factors that could explain the differences in productivity among the companies and hence could be perceived as determinants of export activities at the firm level. In particular, human and management resources are often considered as the major determinants of firms' export performance. Attitudes, perceptions and managerial characteristics seem to have a significant influence on export activities at the micro level.

Starting with the pioneering paper by Greenaway et al. (2007), a growing number of empirical papers looked at the links between financial development, financial constraints and export activities using data at the firm level of analysis. While

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using different measures of financial constraints and applying different econometric methods to investigate the links between these constraints and export activities, most of these empirical studies focus on the link between credit constraints and export participation or the share of exports in total sales. Only 9 studies covering 5 single countries and 2 comparative studies covering several developing and emerging countries deal with the extensive margins of exports – the number of goods exported and the number of destination markets for export. Given that the extra costs of exporting often have to be paid for each export good and each destination country, we expect that credit constraints will be negatively related to the extensive margin. Studies of Belgium (MuÛls et al., 2008; MuÛls, 2015), France (Askenazy et al., 2011), Italy (Bottazzi et al., 2014; Forlani, 2010; Tamagni, 2013), Germany (Wagner, 2015) and China (Manova et al., 2015) report results that are in line with these hypotheses. In a recent study, Fauceglia (2015) examines whether financial development reduces the impact of credit constraints on export decisions using firm-level data across 17 developing countries. The regression analysis confirms that the positive effect of a firm's liquidity on the exporting probability is larger for firms located in financially less developed countries. This result highlights the importance of financial development in reducing credit constraints. In a related study, Berman and Héricourt (2010) explore the interaction effect between financial development and credit constraints on export margins at the firm level using data for 9 developing and emerging economies. They find that a firm's liquidity and leverage ratio, which are used to proxy for credit constraints, become stronger determinants of export participation as a country's private credit to GDP ratio rises. These results contribute to the literature documenting the role of fixed costs and the extensive margin of trade in total trade adjustment, providing micro-level evidence of the positive impact of financial development on trade found in the previous literature.

Human resources and management practices constitute resources that can improve the export performance of firms (Katsikea and Skarmeas, 2003). In a meta-analysis study, El Makrini et al. (2012) focus on personnel and managerial determinants, which are classified into skill-based and attitudinal characteristics. The attitudes, perceptions and characteristics of managers play a significant role in the export success of firms (Maurel, 2009). They are considered as unique resources that allow obtaining and maintaining a better export performance. Despite the fact that many studies evaluated the elements of management characteristics between 1990 and 2012 (Zou and Stan, 1998), the findings are sometimes conflicting.

This paper studies the effects of the availability of human and financial resources on export survival in Russian regions between 2002 and 2010. To the knowledge of the authors, this is the first paper that deals with export survival across Russian regions and estimates the effects of the entrepreneurial environment on exporters' performance in foreign markets. Because of the high regional heterogeneity in the costs of doing business and the availability of resources for Russian firms, the regional perspective of the study is especially important and provides implications for national and regional economic policymakers. The remainder of the paper is organized as follows. Section 2 describes the variables, discusses data issues and provides stylized facts. Section 3 discusses the empirical results. The final section summarises the main findings and provides some policy implications.

2. Data

2.1. Variables and data issues

The primary data used is transaction data on Russian regions' export flows. Our data are from the database of the Federal Custom Service of the Russian Federation, and consist of electronic copies of customs declarations from 2002 to 2010 on a yearly basis. We use 4-digit level data of the commodity nomenclature, which corresponds to HS 4-digit classification. The dataset allows identifying the export market (country of destination) for each trade flow and the export value measured by the FOB (free on board) price. Our classification of export markets is based on Akin and Kose (2008), who distinguish between DS = Developing South, ES = Emerging South and N = North countries. We add a fourth region group of SECIS = South-Eastern Europe and post-Soviet countries, since SECIS countries are among the main trade partners of the Russian regions (see Appendix A for details). Since the Russian regions are highly heterogeneous in terms of export share in gross regional product, we only consider the data of 30 Russian regions that have an export quota of more than 10%. The structure of the available data consists of 132,995 export flows.

The choice of explanatory variables for the model is determined by the prior interest in estimating the effects of human and financial resources on export survival across Russian regions. We consider the following groups of variables, which reflect regional entrepreneurial environment conditions, industry- and destination-market-specific characteristics.

First, we consider human and financial resource characteristics at the regional level. An important factor reflecting the survival of export flows is the quality of the business environment. A number of studies employ data from the Doing Business project as a proxy for business costs to estimate export performance determinants (see, e.g., Fugazza and Molina, 2016). The peculiarity of this study is the regional dimension of human and financial resources, which significantly narrows the range of potential variables within the existing databases. For example, the Doing Business project was carried out at the regional level in Russia for 10 cities in 2009 and for 30 cities in 2012. However, not all the cities in the sample are capital cities, therefore not all the data can be used for the aim of the current study. We employ data from the study "Entrepreneurship Environment in Russia: Opora's Index", which is based on interviews with small and medium enterprises in 35 Russian regions and assesses the quality of the business climate in manufacturing industries by four sub-indices: quality of infrastructure, financial resources, human resources, administrative barriers. The indices are measured between 1 and 35,