Firms’ Efficiency, Exits and Government Procurement Contracts

Evguenia Bessonova
The Bank of Russia[1] and National Research University Higher School of Economics

In recent years, studies examining productivity trends have provided evidence that productivity growth has slowed at the aggregate level after the 2008 crisis. This was found to be true of various countries differing in the level of economic development. Research based on data for developed countries suggests that this trend emerged even before the 2008 crisis. Recent cross-country studies based on firm-level data attribute this slowdown in productivity growth to an increasing gap in productivity levels between the most and least efficient firms within the same industries rather than to a decline in the rate of technological progress.

I found the similar trends for the Russian economy since the 2008 crisis. I use the stochastic frontier approach to evaluate TFP growth and the efficiency level for individual firms. This allows identifying three groups of companies in my sample: the leaders, the baseline group and the laggards.

Trends presented in Figure 1 reveal that the gap between leaders and the other groups kept widening in 2009–2015. Comparison between trends based on simple averages and weighed by value added average TFP growth rates provides evidence that more efficient firms not only grow faster but also increase their market shares. At the same time, the market share of laggards is shrinking but they do not exit the market.

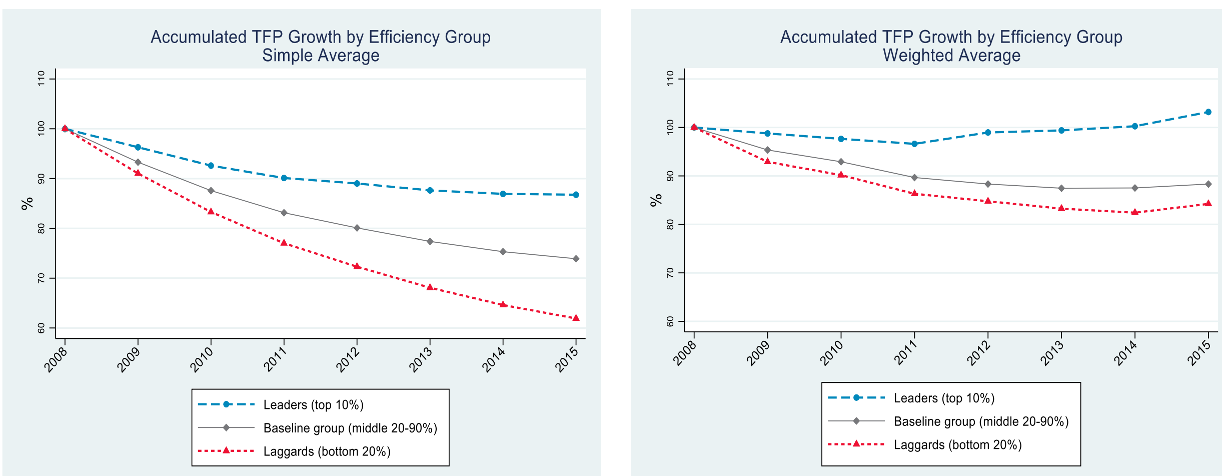

Figure 1. Accumulated TFP growth by efficiency group
Source: author’s estimates based on stochastic frontier analysis
Note: Stochastic production functions are estimated separately for 282 industries, mainly for three- or four-digit industries under NACE 1.1 classification.

This study concentrates on the factors enabling inefficient firms to stay in the market. In my research, I regard the public procurement system as a possible source of supporting inefficient companies in various industries. Government procurement contracts are widely used to support domestic firms

[1] The views expressed in this paper are those of the author and do not necessarily represent the official position of the Bank of Russia.

via increasing demand. Studies based on data for the less developed countries quite often find that involvement in the public procurement system has a positive effect on growth, especially in lagging regions.

In Russia, government purchasing contracts accounted for 21% of GDP in 2018, with a significant share of firms (about 35% in my sample) involved in public procurement. Thus, government financial support through public procurement is quite substantial and could have a considerable impact on the Russian economy.

Government (local or federal) purchases generally have a positive effect on economic development through an increase in demand, especially in less developed areas. But the impact could be different for different types of firms involved in public procurement system. If the system of government purchases is designed in a such a way as to affect the market mechanism of creative destruction it could also have a negative effect on economic growth in the long-term even though short-term effects could be positive.

My results suggest that in the Russian economy the creative destruction mechanism seems to work in the way opposite to what is conventionally expected. The relationship between a firm's efficiency level and the conditional probability of its exit is counterintuitive. The most efficient companies quit markets at a faster pace than average companies in the economy. It may reflect the fact that regional markets are isolated in Russia and less efficient firms operate in local markets with weaker competition, while leaders are capable of entering national and international markets, which see a stronger competitive pressure and a higher firm turnover.

At the same time, lagging companies quit the market less frequently than leaders, and their survival function quite often does not significantly differ from that of the baseline group firms. This suggests that the market mechanism of selecting the most efficient firms is not itself efficient enough in the Russian economy.

I show that the government procurement system indeed helps firms involved in it stay in the market longer but does not necessarily support the most efficient firms with growth potential. My results provide evidence that additional financing via government contracts helps inefficient firms survive and shelters them from competition with more efficient enterprises (see Figure 2). The manner in which the government procurement system operates therefore supports a negative trend towards increasing the productivity gap. This system features intransparent procedures, allowing less efficient companies to take advantage of this.

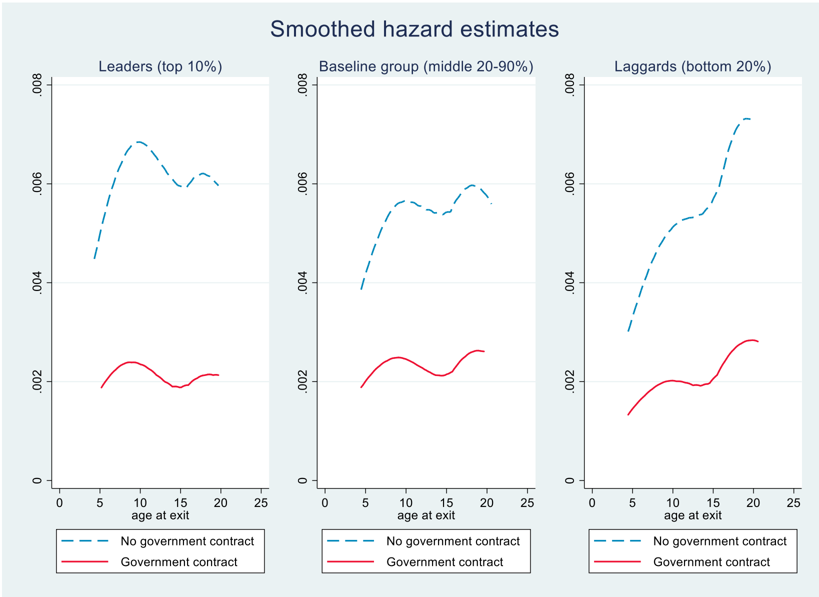

Figure 2. Smoothed hazard estimates by efficiency group (entire period setup). Prolonged effects
Source: author's estimates

There could be two explanations for the finding that financing via a government contract helps inefficient firms stay in the market. First, laggard firms could be affiliated with authorities, and government contracts shelter these companies from competition. Second, local and regional governments may seek to replace social policy with support for laggard firms so as to avoid high unemployment in the region. In either case, additional government support reduces incentives for inefficient firms to innovate to win competition with more efficient market players and maintain a status quo with a high share of inefficient companies in the economy.

In addition, the positive effect of winning a government procurement contract for leaders is in the short run observed only for their home regions, which seems to suggest that the public procurement system does not support all types of firms with growth potential but only those affiliated with local authorities.

Intervention in the mechanism of market selection through the system of public procurement may have a strong negative effect on economic growth, as it provides incentives for inefficient firms without growth potential to stay in the market longer, maintaining the gap in productivity between the leaders and other companies. After sanctions were imposed on Russia, the role of public procurement as an instrument of economic policy to support enterprises affected by sanctions became more evident. My analysis shows that the efficiency of such economic policy is questionable if it affects firm dynamics through changing market mechanism of selection of more productive firms.