Innovation, Adoption, Ownership and Productivity: Evidence from Ukraine

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Abstract

How do new and foreign firms achieve superior productivity? Do they conduct more and better R&D? Or do they distinguish themselves through computerization and organizational capital? We investigate the determinants of and returns on several types of investment, using a panel of over 40,000 Ukrainian industrial firms in 2000–2007. Foreign firms engage in more non-technological investment and IT and in less R&D than domestic private firms. Similarly, new firms invest more in non-technological capital and IT and less in R&D than initially state-owned firms. Productivity gains from R&D and non-technology investment are insignificantly different across ownership types, whereas foreign firms achieve much higher returns on IT investment than other firms. These results suggest that foreign firms outperform others through organizational capital that is better able to exploit IT investment. New firm productivity growth is a result of higher investment volume rather than investment efficiency.

1. Introduction

How firm performance varies with ownership types and corporate governance institutions has been the subject of extensive research. But evidence on the channels through which some owners and institutions produce superior performance is quite limited. Similarly, while researchers have investigated average returns on different types of investment, less is known about how those returns vary with the characteristics...
of firms. Here we investigate a potential link between these literatures: some owners and governance arrangements may better facilitate investment choices and/or implementation, resulting in higher levels of investment or higher returns and hence superior performance. This could be achieved through closer monitoring of management or the transfer of investment-supporting organizational capital. We test how ownership type affects the propensity to invest and the returns on that investment using a panel of over 40,000 Ukrainian industrial firms in 2000–2007.

Left to their own devices, managers may make investment decisions maximizing their own utility at the expense of the owners. They may over-invest in order to increase their power and salary (empire building). They could choose investment projects that most benefit them personally, rather than those with the highest returns. And managers may exert suboptimal effort monitoring the implementation of investment projects, allowing funds to be wasted. Better monitoring by owners could thus prevent managers from overinvesting, choosing the wrong projects, or implementing them poorly.

Organizational changes can enhance the gains from investment. For example, firms can transform their business by combining computer investment with changes in work organization, incentive pay, and the centralization of decision-making. New information technologies may also be put to better use by managers trained in those technologies. Owners can facilitate organizational change and provide trained managers.

The effectiveness of some types of investment may increase more with closer monitoring or more organizational capital. Managers may be able to misappropriate funds for intangible investments more easily than for tangible investments: they are by definition less visible, so monitoring may be particularly valuable for intangible investment implementation. The benefits to organizational capital may be higher with IT investment, which requires advanced technical knowledge to select, install, and exploit. IT investment can also open the door to profitable organizational changes that take advantage of the new technology. In contrast, investment in a low-tech replacement machine may require no new knowledge to use or organizational change to fully exploit. Our data contain separate expenditures for tangible assets, intangible assets, R&D, tangible IT, and intangible IT investment, which allow us to test whether owner type matters more for some investment returns than others.

State-owned firms may place less emphasis on firm value maximization than private firms, while putting relatively more weight