IMPACTING INNOVATION BEHAVIOUR OF FOREIGN AND DOMESTIC FIRMS: THE CASE OF UKRAINE

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OBJECTIVE OF RESEARCH

This working paper addresses the issues of the core determinants of the innovation behaviour of firms. The focus of the empirical analysis is based on the enterprise survey carried out in Ukraine as a transition economy of the European Neighborhood Policy states (ENP). The working paper aims at firstly, identification of whether subsidiaries of MNCs located in Ukraine and domestic firms innovate differently in different regions and sectors, secondly, analysis of the impact of inter-firm cooperation and absorptive capacity of firms as the prerequisite of such cooperation on the innovation performance of business agents, and thirdly, determination of the role local institutions in the capital region compared to the bordering regions play for the innovative performance of both local subsidiaries of MNCs and domestic firms.

SCIENTIFIC METHODS

The empirical data of the enterprise survey is represented by a set of standardized questionnaire data. Two questionnaires were developed: one for the MNEs and one for domestic SMEs, both with closed likert-scale questions. Each questionnaire consisted of 6 thematic blocks. One separate block was devoted specifically to the investigation of innovative performance of the survey firms. The block covered among other innovation-related information the yes/no questions on whether the firms are active in product, process, marketing or organizational innovation. In this working paper both marketing and organizational innovations are labeled as organizational innovation. The questionnaires also focused on the supplier-customer relations between the firms. Another block in both questionnaires concerned the assessment of the institutional environment, covering the questions about the quality of aspects
like enforceability of legislation and regulation policies, physical and intellectual property rights protection, reliability of oral contracts and agreements, central and regional government support. In order to analyze the perceptions towards institutional quality at a certain location the survey firms were asked to assess on the scale from 5 (very good) to 1 (very bad) the quality of the above elements of institutional environment. Absorptive capacity of firms was assessed through such parameters as number of employees at the firm, share of employees with higher education, share of employees involved in R&D, share of foreign employees at the firm, share of sales spent on R&D and share of sales spent on trainings of highly skilled staff.

Empirical analysis of the working paper was based on the crosstabs descriptive analysis and binary logit regression. Descriptive analysis covered innovation performance of firms, share of sales spent by innovative firms on R&D, number of employees involved in R&D at innovative firms, and share of sales spent by these firms on training activities for highly skilled staff with regard to the differences between three regions (differences between the Capital region Kyiv, the Western close the the EU border region Lviv and the Eastern far from the EU border region Kharkiv) and differences by the type of ownership (Brownfield FDI, Greenfield FDI, domestic SMEs with Soviet context and domestic new private SMEs). By Brownfield FDI those subsidiaries of MNEs, which entered the Ukrainian market and acquired an existing production site for future business operations, are meant. Greenfield FDI group encompasses those subsidiaries, which built new production sites in Ukraine. Domestic SMEs with Soviet context are the ones which are either the spin-offs of government conglomerates, or were privatized or have state ownership, i.e. those who have any connection to the government and planned economy of the past. Domestic new private firms are basically Ukrainian young start-ups, built by the young generation and therefore having little if none link to the Soviet past.

Three binary logit regression models were introduced in order to confirm the robustness of results through identifying that significance and relationship between our outcome variables and controls do not change in different models. In the first model the dependent variable is any form of innovation, namely, “1” means that a firm proceeds either product, process or organizational innovation, “0” means that a firm does not innovate at all. This model is run for all the firms from all three survey regions with four control groups: domestic new private firms, Greenfield FDI, Kyiv region and domestic new private firms, Lviv region and Greenfield FDI firms. The second model is run for all the firms from all three survey regions. There are three dependent variables in this model: product innovation, process innovation and organizational innovation with the same outcome as described above (“1” means that a firm introduces product/process/organizational innovation, “0” means that a firm does not introduce product/process/organizational innovation). In the second binary logit model there two controls for each dependent variable, namely domestic new private firms and Greenfield FDI firms. The third binary logit model is presented in Table 4.3. Here the dependent variable is the same as in the first model, but regional dummies and control variables for domestic new private firms and Greenfield FDI firms in each survey region are introduced.
POLICY VALUE-ADDED

The empirical analysis of the enterprise survey data introduced the following results. Firstly, firms located in the capital are more product-innovators and those located in Lviv are more process-innovators. This leads to overall innovation propensity of firms in Lviv being higher than that of Kyiv. However, we are careful in stating that firms in Lviv are more innovative than those located in the capital due to a lesser technology- and capital-intensity of process innovations per se. Bordering regions still perform quite poor with regard to absorptive capacity parameters, namely R&D investment and involvement of R&D-related staff, in comparison to the capital. Secondly, we found out that foreign-owned firms are excelling domestic counterparts in terms of innovation progress. Greenfield FDIs are the most innovative firms, whereas domestic new private firms perform the worst. This is also supported by the evidence that domestic firms have much lower absorptive capacity in comparison to the subsidiaries of MNEs that bring along new knowledge and technologies. Thirdly, we came up with the result that food and beverages sector is more innovative as a low-tech industry when it comes to process and organizational innovation forms compared to machinery and equipment sector as a high-tech industry. This is an important result especially considering the transition economies perspective of this paper. Innovation in low-tech industries results in active process and organizational innovations. However, firms in these industries tend to invest in their absorptive capacity parameters much less than those of high-tech sectors, which lowers the ability of firms to learn from their business partners and innovate. And the last but not least, we found evidence of importance of a high quality institutional environment for the innovation propensity of firms. Thus, when institutional framework is supportive towards firms, it impacts positively their innovation performance, but when institutional environment gets thick, it becomes a burden for business agents, which cannot introduce innovations as they get locked in.

The policy objective of the working paper is to identify possible policy implications towards bridging the gap between the capital of Ukraine and its bordering regions with regard to the differences in innovation performance of firms located in these regions. The findings of the research potentially imply the following policies based on the evidence obtained from the empirical results, applicable to the national and regional economic systems of Ukraine as an ENP state within the time span of the next decade. Firstly, there is a need to introduce more support for the bordering regions, so that to diminish uneven regional development of the state with the capital leading at a very high scale in comparison to the periphery. One way to achieve this is for the regional governments to create certain local region-specific institutional environment in the bordering areas which will encourage structural changes within the existing economic system with post-Soviet legacy. Secondly, the national as well as regional governments of the state shall support domestic firms, so that the technological gap between foreign-owned and domestic firms decreases. There is a need to provide financial incentives from public and private sources, for example venture investors, especially to domestic new private firms, which will enable them to innovate and become competitive enough towards their foreign counterparts. And
thirdly, it is important to increase absorptive capacity of local firms, so that to encourage more product innovations in high-tech sectors, because introduction of new products is essential for the whole manufacturing industry to grow. In order to increase firms’ absorptive capacity there is a need firstly, to provide sufficient financial support by the national government for innovation activities of the firms, which will allow firms to invest more in R&D as well as training of employees as important absorptive capacity parameters, and secondly, to introduce more research-based education programs at the Universities, so that local human capital is skilled enough to enable innovations. Moreover, high quality labor conditions for local personnel should be created, so that employees get motivated to work in tech-related industries as highly competitive and prestigious work environments. By and large, the above policy inferences apply most directly to the national and regional governments of Ukraine, as well as policy makers, public officials and private investors. The policy implications will have their greatest impact on the new domestic private SMEs as they are their innovation propensity serves as the main generators of the development and growth of entrepreneurship within the regional economic systems.