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THE ROLE OF THE EU INTERNAL MARKET ON THE ADOPTION OF INNOVATION

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OBJECTIVE

With this paper, our aim is to try to give an answer to the following questions: "Did (and which among) the EU IM policies lead to a change in the institutional quality of EU member states through changes in trade openness, cooperation and competition? Did this change foster the adoption of innovation across EU member states? What kind of IM regulations, if any, affected the spread of innovation across EU firms and countries?".

MAIN RESULTS AND POLICY IMPLICATIONS

The causality among the variables we used for our empirical research on innovation diffusion goes as follows:

Internal Market reforms $\Rightarrow$ Channels (Cooperation,Competition,Trade) $\Rightarrow$ Innovation diffusion

In order to correctly disentangle the **direct effect** of the IM on the **transmission channels** (Cooperation, Competition and Trade) and the **indirect** one on the degree of innovation adoption we implemented a two-stage estimation procedure by using Instrumental Variables estimators. In a first stage we define the impact of some major IM regulations on cooperation and competition and trade across EU countries. In a

second stage, we address whether innovation adoption rates significantly depend on the degree of cooperation, trade and competition; the "transmission channels". Some control variables have also been included in the econometric analysis: legal structure and Intellectual Property Rights (IPR) as well as sectoral and country dummies.

The study stresses that the main determinant of innovation adoption is cooperation. The econometric study allowed us analysing what the drivers of this cooperation are from an Internal Market point of view. In particular, a key role seems to be played by the level of trust among people within each country, by the improvement of communications and simplification procedures, as well as by high educational levels. Therefore, policies contributing to reinforce social trust within/across countries especially through "communication and simplification procedures" (within the broadest proxy for "regulatory and administrative opacity") are likely to develop cooperation among firms and consequently to achieve higher levels of diffusion/adoption. Strengthening human capital also appears as an efficient way to enhance cooperation and consequently innovation adoption.

Along with cooperation, but to a much lesser extent, competition has been identified as another factor likely to affect product innovation adoption directly acquired from external firms. As a result of the impact of competition on product innovation adoption, also productivity levels seem to be affected by differences in the competition level (product, rather than process innovation adoption is shown to impact productivity levels). Econometric estimates of the main drivers of competition show that competition is negatively affected by the level of public ownership within each country, by the level of transfer and subsidies, as well as by the administrative burdens. As a consequence, policies reducing unnecessary rents, administrative burdens and national government controls should be implemented at the EU level in order to achieve higher levels of competition and eventually higher shares of innovation adoption of and eventually productivity.

The third determinant of innovation adoption which emerges as statistically significant in this study is the level of trade. Its negative impact on adoption seems rather small and limited to product innovation adoption acquired directly from

external firms. The result is however of difficult interpretation since this channel is probably affecting both innovation creation and adoption at the same time. Concerning the determinants of trade, we have shown that the higher the "price controls" and regulations within each country, the lower the level of trade. The composite index "Freedom to trade" (from the OECD database) exerts on the contrary a positive impact on trade. Therefore, policies reducing price controls or the national government controls on the transport sector are likely to foster international trade. This would however favor the "generation of innovation" more than the "adoption of innovation"