



## **POLICY NOTE OF THE WORKING PAPER 2/04**

### **Relatedness and diversification in EU and ENP countries**

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#### **OBJECTIVE OF RESEARCH**

This working paper addressed the issues concerning Task 2.1 and Task 2.4. With respect to Task 2.1, we analyzed the degree of relatedness between export products based on co-occurrence analysis (Hausmann & Klinger, 2007), the extent to which new export products are related to existing export products, the degree of relatedness between imports and exports, and the possible benefits that countries exports sectors can derive from related import sectors and the productive structure of trade partners. Task 2.4 focused on policy implications, and in particular to the type of EU initiatives or interventions that could be necessary for the process of EU-NC integration to promote economic cohesion and break the vicious circle that prevents the benefits of integration from spreading towards the less advanced areas on both sides of the EU-NC borders.

#### **SCIENTIFIC METHODS**

The basic methodological element of this working paper is the concept of relatedness. In order to measure relatedness we use the proximity indicator developed by Hidalgo et al. (2007): this is an *ex-post* measure based on co-occurrence analysis and on the assumption that if some products occur repeatedly together in the exports of countries, this is not by chance, but because they share a similar set of capabilities. *Ex-post* measures of relatedness do not suffer from the problems of *ex-ante* measures (e.g. the related variety developed by Frenken et al., 2007): all *ex-ante* measures, in fact, bind the relatedness to be the same for all products in a given category, while the proximity index has no constraints of this type. Moreover, with respect to other *ex-post* measures, such as the cluster-based indicator developed by Porter (2003), the proximity index exploits all available information. Boschma et al. (2012) have showed that the relatedness indicator based on the proximity index delivers better results for the relationship between related variety and growth at the regional level, than the alternative indicators mentioned above.

Past literature has provided two key findings regarding relatedness: its effects on the diversification process are strongly path-dependent and very persistent over long time periods (Hausmann and Klinger, 2007) and they are much stronger at the regional rather than at the national level (Boschma et al., 2013). Therefore, a proper evaluation of the ENC policy according to the criteria discussed in Deliverable 6.1, and in particular a pre-post analysis that show the actual effects of the policy on the process of diversification driven by relatedness, is not possible: the time span in which the policy has been effective is too short to show any effect on relatedness and it has not been possible to collect data at the regional level for the ENP countries for a sufficient period of time allowing a relatedness analysis at this level. The policy implications we provide in the next section are essentially based on theoretical conjectures that are provided as an explanation for the results obtained in the

literature and have been refined for the current analysis, by exploiting the differences between EU countries and ENP countries, and also within-group differences between old and new accession EU countries, and southern and eastern ENP countries, respectively.

## **POLICY VALUE-ADDED**

Our results show that in both EU and ENP countries the evolution of the export mix is strongly path-dependent: countries tend to keep a comparative advantage in products that are strongly related to their current productive structure, and they also diversify in nearby products. However, this effect is much stronger for ENP countries, signalling their lower capabilities to diversify in products that are not very near to their productive structure.

Policy aimed at improving and speeding up the diversification process should consider that in ENP countries this could be obtained mostly by favoring the development of nearby sectors. Directly favoring the creation of very distant industries might result in severe failures, since the lack of necessary supporting infrastructure and institutions may doom these initiatives before positive diffusion effects may occur. However, together with these interventions focused on nearby industries, policy makers might also consider take actions aimed at improving the quality of the supporting institutions: creating an environment where firms can be created and sustained more easily, or returns from innovation appropriated also by local companies and new innovators, might provide more incentives and opportunities for diversification even in very far products and therefore boost the future growth of countries.

Our results also show that the future exports structure of countries is affected by imports: both EU and ENP countries keep a comparative advantage in

products that are strongly related to their imports, but only EU countries show also evidence of learning to diversify in new products from related import sectors. In the ENP countries, the availability of a wider variety of inputs or of higher quality products does not produce positive effects, because of the lack of institutions, capabilities and probably demand.

Policy aimed at improving institutions might be very useful in this respect. However, more specific policies might also consider the trade flow as a whole in these countries: sectors opening to international imports should also be opened very soon to opportunities in exports, so to have the possibility to grow and support the diversification process of countries.

Finally, our results show that there is no significant impact of trade partners densities on the development of new products for both EU and ENP countries. This result does not support any role for general trade policies even in developed countries. Neither EU nor ENP countries benefit from the existing productive structures and capabilities of their trade partners: although trade openness might have beneficial effects on countries, it would not improve the diversification process by itself. Moreover, it is also interesting to notice that the eastern ENP countries were characterized by a strong increase in the import density associated with a decrease in the density of their productive structure, although most of the countries (excluding Belarus and Russia) were involved in free trade agreements related to ENP or previous policy instruments (see Deliverable 2.1). There is clearly no proof of any causal link between the policies and the evolution of the density and import density in these countries, but it is still worth to notice that the theoretical conjectures we proposed to explain our results are compatible with this outcome.

## References

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