BREXIT and EU regional policies: Microeconometric evidence on structural funds effects in United Kingdom

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Extended Abstract

The large literature which deals with the evaluation of the economic effects of European Union (EU)'s regional funds allocation can be divided into two main strands: The first one is rooted in regional economics and thus typically provides evidence on the NUTS-2 level of regional disaggregation (among the latest, e.g., Ferrara et al. 2016 or Becker et al. 2013). The other one applies case-study approaches and thereby focuses on (very) specific projects conducted (see, e.g., Hartsenko and Sauga 2012). Due to these differences in the proposed methodological approaches and the utilized data sources, the literature has not reached a final conclusion on the (determinants of) economic effectiveness of EU's regional policy programs yet. While some studies are not able to identify any significant effects (e.g., Barone et al. 2016), others highlight the (conditional) success of these policy measures (refer to Rodríguez-Pose and Fratesi 2004 or others cited above).

What is missing in this literature so far is a careful microeconometric analysis based on the level of both actual projects and beneficiaries. Such an investigation would allow to quantify the individual effects of regional policy instruments at the firm-level and to also investigate its (likely) heterogeneity across different project types and firms characteristics. Especially the latter seems to be important in order to foster our understanding on the (already identified) differences in the effectiveness of regional policy instruments. This paper tries to fill this gap by applying a novel and unique dataset capturing the beneficiary firms and institutions of structural funds and Cohesion Fund projects during the multi-annual financial framework 2007-2013 located in the United Kingdom (UK) together with a comprehensive sample of non-beneficiary firms and institutions which serve as a proper control group.[1]

The choice of United Kingdom as the geographic area under investigation is motivated by recent political developments: First, with UK's decision to leave the EU based on a referendum which took place on 23rd of June 2016, the British government needs to decide on whether it will continue to provide regional support measures in the spirit of EU's structural funds after the "Brexit" actually has happened. Second,

[1]Details on the new firm-level database which includes the beneficiaries of 2,055,375 EU regional projects carried out within 25 EU countries capturing the programming period from 2007 to 2013 are available in an upcoming working paper by Julia Bachtrögler, Christoph Hammer, Wolf H. Reuter and Florian Schwendinger. The dataset combines project-level information with characteristics of the corresponding beneficiaries, stemming from the ORBIS business database. The latter include, beside others, the location of the firms, institutions, non-governmental organizations or other entities, the year of their incorporation, information on the company structure and the NACE-2 sector in which they operate. ORBIS data is available for 803,616 beneficiaries in total.

one main argument articulated by pro-Brexit campaigns blamed that EU policies are in general ineffective and expensive and that especially the UK did not sufficiently profit from joint EU economic programs including the regional ones. Based on the latter, the leave proponents suggested providing funding for national policy programs instead of paying membership contributions to the EU when UK eventually will leave the Union. Third, when analysing the determinants of the size of total values of projects in 25 EU countries co-funded by the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund at a regional level, it turns out that, when controlling for project- and beneficiary-specific characteristics, six British (NUTS-1) regions are among the top ten in terms of highest co-financed values per project. Again, having the Brexit votum in mind, it appears interesting that in these six regions a majority of voters have opted in favour of Brexit.

Therefore, this study aims at analysing the effects of co-financing from regional funds on the firms and other entities actually performing the supported projects, with employment, value-added and productivity as the main outcomes of interest. This analysis allows to quantify how many jobs in UK are directly related to EU regional policy support and thus provides a lower-bound estimate for the overall number of jobs created by this policy framework. Furthermore, by additionally focusing on the impact of funds allocation on a firm's value-added and productivity developments, we are able to assess how the EU's structural funds contribute to the competitiveness of targeted firms. The corresponding evidence then can serve as a rough measure for the likely long-run effectiveness of the implemented policy measures.

Empirically, we rely on econometric methods from the standard program evaluation literature in order to identify causal treatment effects for EU's regional policy. The utilized dataset includes 1,071 EU funded projects carried out by 492 individual firms and institutions. The control group consists of 148,963 non-targeted British entities. Information on all firms is available as an unbalanced panel for the years ranging from 2006 to 2015. We first aim at identifying simple average treatment effects (on the treated) by applying simple propensity-score matching estimators (combined with a difference-in-differences approach). Based on the evidence from this first step, we deepen the analysis by also studying the impact of the amount of committed funds that is also available in the data. For this purpose we rely on generalized propensity score matching approaches (see Imbens and Wooldridge 2009, for an overview) and quantile regressions (see Koenker and Hallock 2001, for an overview) since both approaches allow to explicitly take the treatment intensity into account to identify likely heterogeneous treatment effects.

The novel database of structural funds and Cohesion Fund beneficiares in 2007-2013 includes a classification of the great majority of projects following 15 categories or priority areas proposed by the Directorate-General for Regional and Urban Policy (DG REGIO). These categories range from i) rail, ii) road and iii) other infrastructure, to iv) social infrastructure or v) human capital, from vii) Energy and viii) Environment, over ix) IT services and infrastructure, x) other small and medium enterprises (SME) support, to xi) innovation, research and technological development (R&TD). According to the database, in UK only about 10% of the total committed project funds are dedicated to social inclusion, human capital and labour market projects while almost 50% have been spent for SME and business support and another 12.5% for Innovation and R&TD. In comparison to other major EU economies (in Germany and France, over 43% and one third of committed funds, respectively, are allocated to human capital and labour market projects), this structure of the project portfolio differs substantially which makes a project-category wise analysis of the effects for UK particularly interesting.

The first findings of the empirical analysis suggest that the treatment, i.e., co-financing projects of beneficiaries, has positive effects on treated firms and institutions in terms of employment growth from the treatment period to the years afterwards. In the estimation, we control for firm characteristics such as the sector in which the firm operates (NACE-2 main section), its operating revenue, fixed assets or the extent of shareholder funds, and compare firms that are similar in this respect. Ongoing research treats optimizing the matching quality and focus on the change of value added and productivity measures as

further outcome variables. Moreover, as outlined above, we are interested in whether treatment effects on firms and other beneficiary entities differ across the type of projects performed.

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