Partnership among firms: Estimating the probability of contact from the Poisson model using repeated observations

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The aim of this paper is to study the probability to find contacts among firms interested in participating in the Europartenariat event created to encourage international business and co-operation links between European small and medium sized enterprises.

The objective of the Europartenariat program is to support the economic development of EU less developed regions, declining industrial districts, rural and low-populated areas, by the promotion of the collaboration between small and medium sized firms located in those regions and other firms operating all over the EU and the rest of the world. This program forms part of a wide group of networking actions, that is industrial policy interventions which aim to implement and strengthen networks among firms with a strong local impact in order to improve efficiency and aggregate districts across regions. A deep transformation of firms’ structural organisations is needed in the development of the EU and a unique policy maker emerges as a regulator of the common market for all members. As long as the capability of strategic adjustment is less developed in some regions, a complete economic integration is difficult to realise. In this way, the Europartenariat meeting represents a typical example of industrial micro-policy whose objective is to support the development of less-favoured areas by promoting the creation of partnerships with firms operating in all state members. Microeconomic policies are intended to improve individual competence in creating opportunities of growth, avoiding direct interference in individual decisions. An interesting action is to favour the co-operation among firms by organising forms of contact where they can detect potential partners at limited costs.

We are interested in testing the success of this event in terms of micro-economic policy, by estimating the probability to find contacts among small and medium sized firms. The theoretical problem of searching a partnership has been faced proposing a search model in Bernardini and Bertarelli (1998b); a simulation study related to the probability of contact among firms has been presented in Bernardini and Bertarelli (1998a). Contacts among firms with common projects are relatively few in number and are modelled by a Poisson regression model. A panel-based analysis is applied using a pseudo-panel approach (Moffit, 1993). Estimates of the Poisson model parameters have been implemented using the Generalised Estimating Equation (GEE) approach (Liang and Zeger, 1986). Empirical results are obtained with reference to parameters’ estimates, predicted probabilities, and marginal effects on event probabilities. Specifically, productive, technological, commercial, and financial projects have been considered, and the related probabilities to find contacts have been specified separately. For each of them, we have estimated two models assuming independent and multiplicative correlation structures, respectively. The latter model seems to fit data better than the former one. Probabilities for different levels of turnover *per employed* have been calculated. We find that the probability to have some contacts associated to different projects, increases as the turnover increases, except for the financial one. In other words, firms with a high
average turnover, that is low labour-intensive firms, have more chance to find contacts. Commercial objectives are associated with the highest probabilities, while financial projects present the smallest values.

Regional and cohort effects on the probability of contacting potential partners provide other interesting results. With reference to regional effects, it is not evident that the estimated probability of finding contacts in Europarttenariat events improves across time. This evidence can be interpreted by the existence of regional differences among meetings. As to cohort effects, two main results emerge. First, predicted probabilities are almost every time decreasing when the number of contacts increases. It seems there are difficulties to single out more than one meeting. Second, small firms have more difficulties than medium sized firms as to commercial and technological objectives. These results need further investigation. Marginal effects have been calculated with reference to the turnover per employed and to the proportion of firms operating in the mechanical, textile, and food sectors. Marginal effects connected with turnover changes are positive for all types of project, but the financial one, and get smaller when the number of contacts gets larger. In addition, a negative variation of the expected probability comes from an increase in the participation rate of firms included in mechanical, textile, and food sectors. The presence of the widest number of participating sectors at the meeting seem to guarantee a high probability to find successful contacts.

We can conclude that our first goal to test Poisson models has been achieved. Estimation results give a good fit of data for all estimated models. Besides, the idea to analyse a European representative firm in a cohort-based framework has been effective for different reasons. First, we have been able to study the dynamic behaviour of a typical European firm. Second, normative evaluation of economic policy impact is possible. Specifically, we have found the existence of local influences in the successful organisation of the Europarttenariat event. Another interesting result of the cohort analysis is related to the emergence of quite important size differences among firms referred to alternative projects. Looking at the evidence, the a priori strategy to build different models, one for each project, has been profitable.

REFERENCES


FRENCH RÉSUMÉ

Le but du travail est d’estimer la probabilité de la collaboration entre les petites et moyennes entreprises qui partecipent à l’Europarttenariat. Cette manifestation a été créée avec le but d’encourager la coöperation entre les entreprises européennes. On a estimé différentes modèles en trouvant des résultats vraiment intéressants pour les projets technologiques, commerciales, productives et financières.