CIFREM SEMINARS

EMPIRICAL MODELS TO DEAL WITH UNOBSERVED HETEROGENITY

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Thursday, 25 February 2010
3PM – Disa seminar room
Via Inama, 5
Faculty of Economics

In this seminar I will review some empirical models that try to alleviate the common problem of unobservable heterogeneity, i.e., some (important) characteristics of the production units have not been observed (and therefore, measured). In particular, I will pay attention to a specific type of heterogeneity which is very rarely dealt with in empirical studies: technological heterogeneity. In fact, in production economics it is common to estimate production functions under the assumption that the technology is the same for all producers. However, if producers use different technologies, then estimating a single technology for all of them is not appropriate because it can yield biased estimates of the technological characteristics. Several studies have addressed the issue of production heterogeneity, dealing with it in different ways. The most common approach has been to use methods that follow a two-stage process. In the first step the sample is split into several groups based on some a priori information about producers and in the second stage different functions are estimated for each group. An alternative is to use models that separate the sample and estimate the technology for each group in only one stage. Latent class models belong to this category. A latent class model assumes that there is a finite number of structures (classes) underlying the data. These models classify the sample into several groups and each unit can be assigned to a particular group using the estimated probabilities of class membership.