

Paper presented at the 24th Annual Conference of the European Association for Research in Industrial Economics, August 31-September 3, 1997, Leuven, Belgium

1. Introduction

The Italian Water Industry is greatly fragmented: there are more than 6,000 companies with an average of 9,000 inhabitants served. Furthermore, if we consider that the 200 largest firms provide more than half of the total volume supplied, the undersizing of the other operators seems extremely serious. This situation generates inefficiencies that, especially in the South, hinders the matching of the demand and determines low levels of investments. The latter are fundamental to the renovation and enlargement of the existing facilities, to the improving of quality and productivity.

The reorganisation of the sector, based on the “Galli Act” (1994), aims at grouping small firms in order to reach the “optimal size” which should bring firms to enter the financial market and to increase productivity and profitability. The new law states also a tariff regulation that should lead to the improvement of the quality and the efficiency of the service. It is obvious that the study of the underlying technology is very important because it allows to evaluate the characteristics of the service and the existence of economies of scale.

The purpose of this paper is to analyse the technology of the water industry. The first aspect to be tested is whether and how environmental and qualitative characteristics affect the production process and the associated costs. The second is the identification of the functional form which is the most suitable to represent the underlying technology. The analysis is structured as follows. Section 2 describes the nature of water service. Section 3 justifies the study of the technology by means of a cost function. Section 4 presents the model and the data base. The traditional approach and the hedonic one are then compared (Section 5) and the functional form which best fits the technology of water industry is evaluated (Section 6). The economies of scale are analysed in Section 7.