Chapter 8

IMPACTS OF INFRASTRUCTURE ON REGIONAL DEVELOPMENT:
RESULTS FROM A FREQUENCY ANALYSIS

8.1. Introduction

The improvement of infrastructure is one of the major policy instruments of the European Regional Development Fund (ERDF), created in 1975 in order to support and develop backward regions in the European Community. Infrastructure is regarded here as (material and immaterial) public capital which forms the foundation of - and is a critical success factor for - all other productive or socio-economic activities in a country or region. Especially since 1978 - when it was decided that a wide variety of public goods could be considered as infrastructure to which the Regional Fund (and other financial policies of the Community) might financially contribute - subsidies for infrastructure projects gradually rose to a significant part of the Regional Fund's annual budget.

The European regional development policy is essentially based on two different principles:

- maximum contribution to national and regional (socio-) economic objectives, and
- decline in undesirable (socio-)economic disparities among regions.

Especially the latter (convergence) objective is of major importance in the regional policy of the EC. In this respect, the Regional Development Fund plays a dominant role in reducing spatial disparities.

The necessary policy measures in the EC are in general related to both institutional and financial aspects. As far as financial aspects of infrastructure are concerned, especially the European Regional Development Fund plays a critical role
in financing infrastructure investments. It is clear that a balanced regional policy needs sufficient insight into the impacts and effectiveness of infrastructure policy on regional development. Given the large amounts of money involved, there is a permanent need to monitor and evaluate the achievements of the Fund. In the present chapter we will offer some empirical results of a frequency analysis (see Section 4.3.2.), which has been used to assess the regional implications of EC infrastructure subsidies or expenditures.

In Section 4.3.2 the methodological aspects of frequency tables as an impact assessment method have already been discussed. Here we will discuss the results of a case study in which a frequency table analysis is used to assess the effects of amounts committed by the Regional Fund, with particular emphasis on Italian and Dutch regions. These case studies are used to test the validity and applicability of the above methodological framework developed for a systematic assessment of the regional economic effects of the ERDF. The frequency analysis is an exploratory analysis in which we use dichotomous frequency tables which show the number of regions which experienced an economic development - caused amongst others by the ERDF commitments - that is higher than the regional average in a country. A major advantage of the frequency table analysis is its user-friendliness. Besides, the method can be used for most available data in the statistical data bases in the countries of the European Community and does not require painstaking statistical field work.

8.2. Illustration of a Frequency Analysis

The frequency table analysis outlined in Section 4.3.2. can be illustrated by means of a simple example sketched below. Let us assume a country with 25 regions, where we want to identify the impact of public expenditures on employment in the 25 regions. We define first:

\[ E_r = \text{employment in region } r \text{ relative to regional population} \]
\[ G_r = \text{public expenditures in region } r \text{ relative to regional population} \]

We now assume that the statistical data can be included in the following 2 x 2 table (with \( G^* \) the average of all \( G_r \)'s and \( E^* \) the average of all \( E_r \)'s).