10. EFFECTS OF EXTRA EMPLOYMENT PROGRAMS

10.1 Introduction

In this chapter the two-stage time series measurement approach is applied to measure the total effect of extra employment programs on unemployment in the public infrastructure sector in the province of Groningen (the Netherlands) during the period 1972-1976. The extra employment programs were initiated in several provinces in 1972. Their main aim was to combat short-term unemployment. These programs were made up by such projects such as the construction of socio-cultural and recreational facilities and investments in public infrastructure. The latter kind of projects consisted of the construction of roads, bridges, etc. In this chapter attention is only paid to the effect on unemployment in the public infrastructure sector because this is the only sector for which suitable data on the impact variable could be obtained.

Now the variables of the measurement model and their data bases are discussed. The impact variable \( y \) is measured as the number of officially registered unemployed building trade workers in the sector of public infrastructure. The time series of the impact variable over both the pre-intervention and intervention periods is made up by monthly data during the period 1965-1976\(^1\). So, the number of observations for the pre-intervention series is 84.

The amounts spent on extra employment programs form the data on the policy variable \( x \). Only annual data is available for the period 1972-1976 (Ministerie van Economische Zaken, 1977) which gives a total of 5 observations only. Furthermore, it should be noted that this data on the policy variable not only contains expenditures on public infrastructure, but

\(^{1}\) The data comes from an unofficial source of the Centraal Bureau voor de Statistiek, Den Haag. It is given in Appendix 10.1 and graphed in Figure 10.1.
also on such projects as the building of schools, medical-, cultural- and sporting facilities. Because of the limited number of observations, and the mixed nature of the data on the policy variable this application should primarily be seen as an illustration of the measurement procedure described in chapter 7.

This section ends with the following remarks. First, instead of unemployment decline employment growth might have been an equally adequate or perhaps even more adequate impact variable. It should be observed that effects on unemployment may differ from effects on employment. This is because the persons set to work may not have been unemployed previously. This is the case if e.g. hidden unemployed or schoolleavers are set to work in extra employment projects. Secondly, effects on employment (instead of unemployment) could not only be obtained by means of two-stage time series analysis but also by other measurement procedures discussed in chapter 3. Because of the absence of effects of non-policy variables, a non-experimental micro approach or a spatial model with policy variables only could be applied to estimate direct employment effects. The present problem had been best analyzed, however, by means of the interregional input-output model available for the province of Groningen and the remainder of the Netherlands (cf. FNEI, 1983). Then not only direct effects in the public infrastructure sector could be obtained, but also indirect, second and higher order effects in this and other sectors in the province of Groningen and in the remainder of the Netherlands. It should be marked that no input-output tables for various other Dutch provinces are available.

Summarizing, the present case study with respect to effects of extra employment programs on unemployment in the province of Groningen should primarily be seen as an illustration of the two-stage time series measurement approach. Because an appropriate time series on employment in the public infrastructure sector in Groningen is not available, the effect on unemployment is analyzed. The province of Groningen has been chosen as the study area so as to allow of (crude) comparison with the input-output