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Modelling the effects of investment subsidies

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22.1 INTRODUCTION

From 1970 onwards unemployment in the Netherlands has risen continuously. In 1985 and 1986 a small decline can be observed, but the unemployment rate still amounts to 14.5%. The increase in unemployment was accompanied by a decline in the rate of inflation, which is almost nil in 1986, and a strong rise in the public deficit. Despite recent reductions in this deficit (as a percentage of national income) it is the view of the policy-maker that a further reduction is needed and this aim has first priority in economic policy.

It is against this background that discussion takes place on the abolition of investment subsidies. These subsidies were introduced in 1977 by the Law on Investment Account (Wet Investerings Rekening, WIR). The idea was that selective subsidizing of capital would stimulate investment decisions of firms and would therefore enlarge the number of jobs. In the Netherlands a shortage of jobs is held to be responsible for the greater part of unemployment, which is therefore called structural.¹

This chapter studies the effects of the use of investment subsidies on employment. Is it true that the subsidies, which were given after 1977 and which have now increased to 1.3% of national income, have indeed increased employment? In Section 22.2 the policy-makers' view on the effects of investment subsidies is given. Section 22.3 is used for presenting our own modelling of investment subsidies, followed by empirical results in Section 22.4. Conclusions are given in Section 22.5.

¹ It should be pointed out that the use of the term structural unemployment by Dutch economists differs from the use of this term in the United States and the United Kingdom. In these countries structural unemployment means unemployment due to a malfunctioning of labour markets. The Dutch use of structural unemployment is identical to so-called classical unemployment. See Malinvaud (1980), who considers the term Marxian unemployment to be even more appropriate than the term classical unemployment.
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22.2 THE POLICY-MAKERS’ VIEW ON INVESTMENT SUBSIDIES

Private investment in the Netherlands has always been influenced by fiscal policy measures. Until 1977 accelerated depreciation and investment credits were generally accepted means of investment policy. However, they were mainly applied as instruments of business cycle policy rather than as a means of fostering economic growth in a selective way. Furthermore, these fiscal measures were only attractive for profit-making firms. With the introduction of investment subsidies it was possible to stimulate capital formation in loss-making firms as well and to aim at greater selectivity. The latter element is introduced by having basic premiums and supplementary premiums, the latter being differentiated, for instance, according to labour intensity and pollution intensity of investment outlays.

We deal here only with the possible macroeconomic consequences of investment subsidies on employment via the creation of jobs. The policy-makers’ view in this respect was based on an analysis of the Central Planning Bureau (CPB). For this purpose the CPB used a macroeconomic model called VINT AF\(^2\) at the time of introducing the investment subsidies, and uses FREIA\(^3\) at present. Although these models differ in a number of aspects,\(^4\) they have in common the modelling of the supply side of the goods market. This so-called supply block of FREIA (and VINT AF) can be summarized in the following linearized equations. The linearization is used in order to facilitate comparison with an alternative model of the Netherlands economy constructed by the authors, called SECMON (SEctoral MOdel for the Netherlands economy).\(^5\) SECMON is a sectoral model with another, and, in our view, more adequate modelling of the supply side of the goods market.

The linearized version of the clay–clay vintage approach of the supply block for the whole private sector in the CPB models reads as follows (lags are omitted):\(^6\)

\[ \dot{y}^* = \frac{1}{\kappa_0} - (\vec{\theta}(\Delta A - 1) + \delta_1 \dot{h} + \varepsilon - \pi ) \quad (22.1) \]

\[ \dot{a}^* = \dot{y}^* + (\eta - \vec{\theta})\Delta A - \delta_2 \dot{h} - \mu - \chi \quad (22.2) \]

\[ \chi = \rho \dot{y}^* + \chi_0 \quad (22.3) \]

\[ \dot{a} = \dot{a}^* + \beta (\dot{y} - \dot{y}^*) \quad (22.4) \]

\[ \Delta A = \frac{-(\dot{w} - \tilde{p}) + \delta_2 \dot{h} + \chi}{\mu} + 1 \quad (22.5) \]

\(^2\) VINT AF is published in CPB (1977).
\(^3\) FREIA is published in CPB (1983).
\(^4\) For a review see den Butter (1985).
\(^5\) SECMON is published in Driehuis et al. (1983). A comparison of the supply blocks of SECMON and the CPB models is also found in den Hartog (1984).
\(^6\) For the original version of this vintage model see den Hartog and Tjan (1976). The linearization is based on de Ridder (1977); see also Driehuis (1984).