This thesis is about microsimulation modelling and social security reform, in particular in the fields of disability insurance and old age pensions. Microsimulation models describe economic behaviour at the level of the individual. These models are capable of providing detailed forecasts of the effects of complex policy measures. Due to their complexity and heavy data demand, they have only recently become more popular in the policy analysis in the Netherlands. This thesis describes and discusses the use of two such models that have been developed at the Ministry of Social Affairs and Employment of the Netherlands for use in the analysis of recent disability benefit and pension reforms. It is shown how and under which conditions microsimulation models can be used and integrated into the policy analysis.