

## **Product Tax Modelling - using the dynamic inter-industry Model INFORGE**

Topic: Input-output analysis for policy making 8

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In this paper a dynamic input-output model which follows an evolutionary modelling approach is used to analyse fiscal policy instruments. The paper concentrates on the modelling of taxes on products which are a major contributor to state income and thus an important tool for conducting fiscal policy.

Two objectives are pursued in this paper. First, the implementation of taxes on products in the modelling framework of the used model is described. This implies the identification of the location of product taxes as well as the setting of the database and the computing of regression equations for product taxes. Product taxes are further differentiated into value-added taxes, import taxes and other product taxes such as excise duties. The different tax types are considered in the choice of regression approach. The advantages of this detailed modelling approach to product taxes are an explicit differentiation of product taxes by tax types, by goods, and by components of demand which enables a closer imitation of economic behaviour and allows the application of fiscal policy instruments in a more detailed way.

Second, the new modelling approach for product taxes is applied by conducting a sensitivity analysis on an alternative value-added tax rate system. Three simulations on alternative value-added tax rate (VAT) systems are computed in order to identify the level of a uniform tax rate which assures revenue-neutrality. The results suggest the introduction of a uniform VAT-rate at 16%. At that level, tax revenue remains unchanged relative to the baseline scenario. However, structural changes can be observed.