Abstract

The main purpose of this thesis is to construct a model of passenger cars demand and estimate it using data on new car registrations from the Czech Republic. The constructed model takes into account factors affecting not only the demand, but also the supply, as both of these variables form a simultaneous equations system. In order to estimate the model consistently, the econometric theory of simultaneous equations model is presented. At first the basic notations are introduced, the inconsistency of ordinary least squares estimates is proved and consistent methods of estimation are described, notably the two stage least squares and the indirect least squares methods.

Observation of the data suggests that new passenger cars registrations in the Czech Republic were influenced by a specific taxation policy, which up to April 2009 did not allow the value added tax deduction in case of passenger cars. A large proportion of passenger cars were therefore registered as light utility vehicles. This fact has to be taken into account when studying the passenger cars demand. Results of the estimation by the two stage least squares method showed that the demand for new passenger in the Czech Republic is elastic in price and income. Significant sensitivity of the demand was observed also with respect to used cars price, which act as substitutes to new cars. In case of the fuel price, no relevant effect on new cars sold was detected. The highest impact is attributed to seasonality, which probably acts as a demonstration of consumers´ subjective preferences.

JEL Classification	C01, C30, D11, D12, L62, R41
Keywords	demand modelling, passenger cars, regression analysis, simultaneous equations model, two stage least squares method

Author's e-mail	ruckladam@volny.cz
Supervisor's e-mail	gebicka@fsv.cuni.cz