A PARAMETRIC VERSION OF GENERALIZED LINEAR EXCHANGE \mathbf{MODEL}^1

V.Shmyrev

Sobolev Institute of Mathematics, Siberian Branch, Russian Academy of Science, Novosibirsk e-mail: shvi@math.nsc.ru

The participants' set of the generalized linear exchange model include alongside consumers also firms supplying the market with the additional volumes of commodities. Each firm is characterized by some total financial liability of the production which is to be kept providing a minimal discontent with the production plan. The consumers have some initial money stock and initial stock of products. The purchase and sale of products for all participants (consumers and firms) are carried out by common prices. Choosing a purchase vector of the products, the consumer tends to maximize his linear utility function. The concept of an equilibrium for this model is introduced by analogy with the linear exchange model.

In the parametric version of the model we study the equilibrium change when the consumers money stock is a linear function of one parameter. An finite algorithm based on polyhedral complementarity approach is proposed.

REFERENCES

1. Shmyrev V. I. A generalized linear exchange model -J. Appl. Indust. Math., 2, 1,2008, pp. 125–142.

2. Shmyrev V. I. Polyhedral complementarity and equilibrium problem in linear exchange models
- Far East Journal of Applied Mathematics, vol. 82, Number 2, 2013, pp.67-85.

¹Supported by the Russian Foundation for Basic Research (grant no. 12-01-00667-a)