

Monopolistic Competition Model with Different Consumer Utility Levels

Igor Bykadorov^{1,2,3}

¹ Sobolev Institute of Mathematics SB RAS,
4 Acad. Koptuyug avenue, 630090 Novosibirsk, Russia

² Novosibirsk State University,

2 Pirogova street, 630090 Novosibirsk, Russia

³ Novosibirsk State University of Economics and Management,
56 Kamenskaja street, 630099 Novosibirsk, Russia

bykadorov.igor@mail.ru

We consider a monopolistic competition model with endogenous choice of technology in the closed economy case. The aim is to make comparative statistics of equilibrium and social optimal solutions with respect to “consumer utility level” parameter β which influences on utility.

Key findings: when parameter β changes,

(1) the behavior of the equilibrium (social optimal) individual investments in R&D, individual consumption, and mass of firms depend on the behavior of the demand (respectively, utility) elasticity;

(2) the behavior of the equilibrium (social optimal) total investments in R&D depends on the behavior of the elasticities of both demand (respectively, utility) and marginal costs.

The paper concerns with [1]. Also we discuss the generalization the results to another monopolistic competition models: retailing [2], market distortion [3], international trade [4], and to the marketing models: optimization of communication expenditure [5] and the effectiveness of advertising [6].

References

1. Antoshchenkova, I.V., Bykadorov, I.A.: Monopolistic competition model: The impact of technological innovation on equilibrium and social optimality. *Automation and Remote Control*. 78, 537–556 (2017)
2. Bykadorov, I.A., Kokovin, S.G., Zhelobodko, E.V.: Product Diversity in a Vertical Distribution Channel under Monopolistic Competition. *Automation and Remote Control*. 75, 1503–1524 (2014)
3. Bykadorov, I., Ellero, A., Funari, S., Kokovin, S., Pudova, M.: Chain Store Against Manufacturers: Regulation Can Mitigate Market Distortion. In: Kochetov, Yu. et al (eds.) DOOR-2016. LNCS, vol. 9869, pp. 480–493. Springer, Heidelberg (2016)
4. Bykadorov, I., Gorn, A., Kokovin, S., Zhelobodko, E.: Why are losses from trade unlikely? *Economics Letters*. 129, 35–38 (2015)
5. Bykadorov, I., Ellero, A., Moretti, E.: Minimization of communication expenditure for seasonal products. *RAIRO Operations Research*. 36, 109–127 (2002)
6. Bykadorov, I., Ellero, A., Funari, S., Moretti, E.: Dinkelbach Approach to Solving a Class of Fractional Optimal Control Problems. *Journal of Optimization Theory and Applications*. 142, 55–66 (2009)