COURNOT EQUILIBRIUM IN A MODEL OF HARDWARE AND SOFTWARE MANUFACTURERS' INTERACTION

Vladimir I. Soloviev, State University of Management, Moscow
Natalia A. Iliina, State University of Management, Moscow
Marina V. Samoyavcheva, State University of Management, Moscow

ABSTRACT: A model of interaction between hardware vendors, Intel and AMD, and developers of Windows and Linux operating systems is suggested. Intel and AMD both maximize profits forming a traditional oligopoly, while Microsoft and the community of Linux developers form a mixed duopoly, in which only the first party maximizes its profit. We consider a Cournot situation, when each of the profit-maximizing suppliers sets the price based on available market information on other players' products prices in the previous time moment, and assuming the cross-price elasticities to zero. At the Cournot equilibrium, an Intel-based PC running Windows is 5 times more expensive than AMD-based PC running Linux; an Intel CPU costs 2 times more than AMD processor; Windows license is 1,5 times more expensive than Intel processor; and the profit of Intel is 4 times greater than the profit of AMD, while Microsoft has just 12,5% greater profit than Intel.