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

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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.

Keywords: complementors, complements, co-opetition, Cournot equilibrium, pricing.

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