

Complexity, Networks and the Modernization of Antitrust

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Abstract:

One perspective for understanding competition that has garnered increased attention by those in antitrust is the science of complexity. Incorporating insights from evolutionary biology, systems theory, chaos and the study of networks, the science of complexity attempts to describe and explain how systems and their occupants, including industries and firms, evolve and compete against one another over time through adaptation and other dynamic processes. Insights from complexity science are also being applied to describe and better understand the evolution and competition taking place in various sectors and industries of the new economy. Although the integration of knowledge gained through the study of the science of complexity to antitrust remains to be more fully developed, initial

findings have yielded some promising perspectives. In this paper, I will specifically discuss the application of antitrust law to network industries. Networks may be different from antitrust markets, encompassing multiple markets or even industries and this challenges standard neoclassical antitrust economics, whose focus is the “relevant market”, where the primary test of membership is substitutability. Within some networks, huge market power may be accrued, even when the size of the dominating firm is relatively small within the system, a possibility that cuts against the concentration thesis of neoclassical antitrust economics, which only recognizes market power in the context of very large market shares. In particular, I argue that the network phenomenon calls attention to the importance to competition of relationships of power and influence that tend to be more familiar to business people and political scientists than to the traditional antitrust experts. In pursuing this goal, I will consider the relevant European case-law, and I will give some insights on the US leading cases Microsoft and Visa MasterCard. The question is whether industries involving significant technological innovation should be treated differently under the antitrust laws and, whether there are features of the modern economy that warrant special antitrust treatment. In this sense, the science of complexity is essential for the modernization of European antitrust policy.

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