Production Complementarity of Software Reliability and Security.*

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Abstract

We study the economic incentives for the computer industry to provide reliable and secure software products. Information deficiencies prevent accurate determination of specific reasons of software failure. The effects of unreliable and insecure software products on user experience are undistinguishable. This results in production complementarity of software reliability and security. This supply side complementarity suggests that the provision of reliability and security should be analyzed jointly. This result is strengthened by indications that increased software reliability reduces hackers incentives, thus improving the system security. The implication of our analysis is that investment decisions that treat software reliability and security as substitutes yield production inefficiencies.

Keywords: Public Goods, Externalities, Imperfect Information

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