When Hackers Trade: A Dynamic Model of Black Market Equilibrium

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ABSTRACT

"Dark market" (place of exchange of items such as hack tools, stolen credit card data and botnet rentals) appears to be efficient and following the laws of economics. It will help the defenders to know the dynamics of the dark market in order to anticipate the intensity of attacks. There is anecdotal evidence that dark markets follow short-term as well as long-term cycles: an example of of the former can me the drop in credit card prices after a massive Target hack, and an example of the latter is the purported drop in hacker services during the recent recession. In this paper we present a set of models describing price dynamics in dark markets based on supply/demand imbalance, temporal effects and defender efforts. Our early results suggests that dark market behavior can be influenced but the deliberate supply and demand pressures.