

Drexel Hamilton's Recap from a meeting with Moody's Cyber Team:

What are the conditions under which Moody's would downgrade a credit? Moody's could take a ratings action if a cyberattack weakened an issuer's creditworthiness, for instance by deteriorating an issuer's fiscal position and ability to pay debt service. Most of the cyber events we have been following come with negative credit pressures, but they have not risen to the level where they have directly affected issuers' ratings.

What are the consequences of a successful hack?

- 1. Fiscal risks that could impair ability to make debt service payments
- 2. Disruption of services
- 3. Reputational risks
- 4. Legal risks
- 5. Regulatory risks

How do most governments and corporations respond? Many of them have a "playbook" and a set of contingency plans including experts that they will call. For ransomware specifically, many victims will pay the ransom to keep the story quiet and avoid reputational damage. However, federal agencies like the FBI discourage ransom payments. Also, the Office of Foreign Asset Control (OFAC) with the support of the DOJ may find that these payments to certain entities violate sanctions laws.

What about insurance? Cybersecurity insurance is a growing industry. Premiums have risen 20-30% in the wake of ransomware attacks. In many cases, insurers have approved lists of software vendors that they require as well as specific services and protections that need to be used to accept coverage.

Most cyber prepared industry: In our 2019 cyber risk heatmap we identified finance and healthcare as sectors most exposed to cyber

Types of reported attacks on regional and local government, in order of frequency- Ransomware, Data Breaches, Malware, and Phishing

Does insurance cover ransomware? Moody's inaugural cyber risk issuer survey showed that 80% of insured respondents have ransomware coverage.

Has Moody's downgraded any municipalities due to cyberattacks? No.

Has Moody's downgraded or initiated ratings reviews of corporations due to cyberattacks? Yes. Equifax-rating outlook changed to negative and rating subsequently downgraded. DTI Holdco (dba Epiq Global) rating was downgraded

Types of hackers: 1. State sponsored organizations conducting cyber espionage; 2. Criminal groups with sophisticated hacking operations that are run like businesses to make a profit; 3. Hacktivist groups with political or ideological agendas

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