

1163-91-776

Yuanying Guan* (yguan8@depaul.edu), 1 E. Jackson Blvd., Chicago, IL 60604, and **Jacob Jakubowicz** and **Micah Pollak**. *Cyber Risk in Heterogeneous Networks and Implications for Cyber Insurance*.

Cyber risk recently became the top risk concern for risk managers in the United States according to the 2018 Allianz Risk Barometer report. However, the research in cyber risk and cyber insurance is still very limited. The nature of cyber risk is different from many other traditional types of risk. In traditional insurance products, insurers measure and control the risk by aggregating the individual risk faced by policyholders. This feature usually does not hold for cyber risk because individual policyholders may be connected in various ways. For example, multiple organizations could rely on the same cloud service provider. Therefore, interdependent risk needs to be considered when insurers evaluate cyber risk and design related cyber insurance products. The accumulative/systemic cyber risk caused by various connections calls for a better understanding of different types of real-world network structures. This paper analyzes interdependent cyber risk in different types of networks, especially networks with high heterogeneity, and investigates the implications for both insurers and policyholders on cyber insurance. (Received September 14, 2020)