

Washington University in St. Louis

Washington University Open Scholarship

Volume 13

Washington University
Undergraduate Research Digest

Spring 2018

Systemic Risk Mitigation in Dynamic Receivership and Auction Models

Kevin Xu

Washington University in St. Louis

Follow this and additional works at: https://openscholarship.wustl.edu/wuurd_vol13

Recommended Citation

Xu, Kevin, "Systemic Risk Mitigation in Dynamic Receivership and Auction Models" (2018). *Volume 13*. 225.

https://openscholarship.wustl.edu/wuurd_vol13/225

This Abstracts S-Z is brought to you for free and open access by the Washington University Undergraduate Research Digest at Washington University Open Scholarship. It has been accepted for inclusion in Volume 13 by an authorized administrator of Washington University Open Scholarship. For more information, please contact digital@wumail.wustl.edu.

SYSTEMIC RISK MITIGATION IN DYNAMIC RECEIVERSHIP AND AUCTION MODELS

Kevin Xu

Mentor: Zachary Feinstein

Systemic risk is the risk of a collapse of an entire financial system caused by the failure of individual parts inside the system. Systemic risk is the culprit for many catastrophic financial crises, the most famous one being the 2008 global financial crises in which mortgage market bubble burst directly caused the collapse of investment bank Lehman Brothers. In order to study the systemic risk in financial systems quantitatively, Eisenberg & Noe, proposed a foundation network system of interconnected banks with bilateral obligations in a single type of asset. Bernstein, Banerjee & Feinstein incorporated time dynamics in the model and proposed a foundation mechanism for multi-period clearing. We propose receivership and auction as two specific liquidation assistance models to mitigate systemic risk in an extension of the Eisenberg-Noe model with time dynamics. We found that the receivership model mitigates financial risk and that the auction model increases the wealth of financial networks at current time, but worsen financial health of the system in the future. Studying systemic risk and augmenting Eisenberg-Noe models with realistic financial elements helps researchers in academia and industry to analyze risk contagion and financial crises. Federal banking regulators could benefit from the studies by evaluating financial health of institutions through the models and then adjust financial policies accordingly.