

Liquidity Saving Mechanism under Interconnected Payment Network

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Abstract

We developed a model of real-time gross settlement system to study welfare effects of liquidity saving mechanism(LSM). We examine a situation where LSM provides *partial netting* service. The effect is examined on interconnected payment networks that have core-periphery structure. In the model, participants make two types of decisions: route decision(whom to make payment) and timing decision(when to make payment) in the face of the cost of delaying payment and the cost of borrowing liquidity.

It is shown that LSM possibly has negative welfare effects through dismissing positive spillover effects. Further, the negative effects are shown to be more likely for less *dense* network.

JEL classification: D53, D85, G20

Keywords:

settlement system, payment network, liquidity recycle, interconnected financial network