

A network view on the systemic role of Central Clearing Counterparties

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Abstract

The role of central clearing counterparties (CCPs) has become predominant because of the regulatory reforms proposed in the aftermath of the crisis. This paper investigates how CCPs are reshaping the OTC derivative network, creating new types of exposures between market participants and determining systemic stability. First, we explore the EU CCP/member network, and discuss the role of various types of CCP linkages, with a particular focus on common memberships. Second, we formalize these specific types of exposures by means of a network model which takes into account both a typical CCPs loss-absorbing scheme and membership structures. Third, we investigate how policies aimed at increasing the diversification levels of CCPs may lead, under certain conditions, to create exposures between all members. For a given underlying exogenous shock (which determines the fraction of members defaulting), a high level of diversification of a CCP leads to a fully connected network of exposures between its members. In this case, members are no longer insulated against each other and central clearing creates exposures that may have not been present in a typical bilateral setting. In general, our work points towards the need to continue the improvements of the current regulatory framework in the understanding of the CCP/bank nexus.

Keywords: Central Clearing Counterparty (CCP); OTC derivative; financial network; systemic risk