The Relationships Among Competitive Network Centrality, Multimarket Contact and Peformance

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Abstract:

Background and Research Question: In an era of globalization, firms frequently encounter the same rivals across multiple product markets, giving rise to multimarket contact (MMC). Prior research suggests that MMC may foster *mutual forbearance* by deterring escalation, yet other studies highlight how frequent cross-market encounters intensify rivalry. This paradox reflects two competing mechanisms: information advantage (IA), whereby repeated contact improves firms' ability to monitor rivals and act aggressively, and deterrence pressure (DP), whereby extensive overlap raises retaliation threats and encourages restraint. While social network theory has been extensively applied to cooperative ties, research on competitive network structures remains limited. This study asks: *How do firms' positions in competitive networks shape the relationship between MMC and competitive behavior?*

Theory and Hypotheses: We extend Bernheim and Whinston's (1990) conditional logic of mutual forbearance by embedding MMC in competitive network structures. We argue that centrality measures capture the two opposing mechanisms. Degree centrality heightens deterrence pressure by exposing firms to multi-directional retaliation risks, while closeness and betweenness centrality strengthen information advantages by increasing visibility, speed, and control over information flows. Accordingly, we hypothesize that degree centrality mitigates the aggressiveness of MMC, whereas closeness and betweenness amplify it.

Methodology: The empirical setting is the global semiconductor industry, marked by rapid technological change and extensive multimarket rivalry. Using longitudinal data from the Dataquest database covering 229 multimarket firms across 52 product markets (2000–2009), we construct a panel of 49,871 firm–market observations. MMC is operationalized following Chuang et al. (2018), while degree, closeness, and betweenness centrality are calculated using UCINET. The dependent variable, aggressive competition, is measured as firms' positive deviation from the industry median sales growth (Greve, 2008). We estimate a correlated random effects Tobit model to account for censoring and unobserved heterogeneity.

Findings: Results reveal a nuanced interplay between IA and DP mechanisms. Degree centrality significantly weakens the positive effect of MMC on aggressive competition, consistent with deterrence

pressure logic. In contrast, closeness and betweenness centrality strengthen the MMC–aggression link, supporting the information advantage mechanism. These findings suggest that MMC does not uniformly produce rivalry or forbearance; rather, network heterogeneity determines which mechanism dominates.

Contributions: This study makes three contributions. First, it refines the mutual forbearance debate by showing that competitive network positions act as boundary conditions for MMC outcomes. Second, it extends network theory into the competitive domain, highlighting that structural advantages in rivalry networks differ fundamentally from cooperative networks. Third, it provides empirical evidence from semiconductors, a high-velocity industry where both IA and DP mechanisms are salient. Overall, our findings demonstrate that competitive centrality simultaneously empowers and constrains firms, resolving contradictions in prior MMC research and advancing theory on competitive dynamics.

Keywords:

Multimarket contact, competitive networks, centrality, mutual forbearance, semiconductor industry.