Identifying Systemically-Important Commodity Futures: Pattern Causality from the Perspective of the Dynamics of Complex Systems

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Abstract: This study uses a pattern causality theory to identify the complex interdependence (positive, negative, and dark) and systemically-important individuals among the returns of 37 commodity futures in China. Positive and dark causality are found to play dominant and stable roles; both are closely related to situations of continuous decline of returns, or of volatility. By measuring the influence exerted and received of each of the 37 futures, some relatively important individuals are detected, both in positive and dark patterns. Results provide a new perspective and a useful basis for policy-making and investment decisions in futures markets.

Keywords: Commodity Futures, Pattern Causality, Dynamic System, Network JEL Classification Number: C6, G13

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