

MBS 94-12

The Law of One Price in a Network: Arbitrage and Price Dynamics in Natural Gas city gate Market
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This paper develops a model of the law of one price where many markets are linked in a network with a structure of paths between markets. We show that the arbitrage-free prices depend on the structure of the network and so do price dynamics. Our estimates indicate that local bypass and open access interstate pipeline transportation were instrumental in opening arbitrage paths into natural gas city gates and causing their prices to converge. Spot markets in the city gates, pipeline hubs, and production fields that are scattered over distant points in the vast pipeline network in the United States now form a single market.