Extension of Input-Output Analysis to Portfolio Diversification

Topic: Analysis of factor inputs
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Current portfolio diversification approaches typically employ variance-covariance relationships across underlying investments. Such relationships enable the calculation of volatility, which measures the risk of a portfolio. Although volatility is a widely used metric of financial risk, it needs to be extended to capture extreme market scenarios. Since covariance provides a symmetric relationship between a pair of investments, this paper will implement an input-output-based approach to measure the unaccounted asymmetric relationships. We assume that an investment's performance can be linked with the performance of an underlying industry (or industries, in the case of conglomerates). Using the input-output accounts published by the U.S. Bureau of Economic Analysis, this paper develops a portfolio-diversification approach to supplement covariance analysis.