

# Input-Output Networks and Producer Price Inflation Connectedness

N. Melisa Bilgin\*      Kamil Yilmaz†  
Koç University      Koç University

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**Abstract:** We investigate the transmission of producer price inflation shocks across manufacturing industries, facilitated by the underlying input-output networks. We obtain measures of inflation shock transmission using the Diebold-Yilmaz Connectedness Index framework, which fully utilizes the information in variance decompositions from vector autoregressions. We estimate inflation connectedness measures for 17 three-digit U.S. manufacturing industries over the period from February 1947 to November 2017. The inflation connectedness network over the full-sample turns out to resemble the input-output network. Focusing on the dynamic behavior of inflation connectedness over time, we are unable to reject the hypothesis that the underlying input-output network Granger-causes the inflation connectedness across industries. Furthermore, the variation in the pairwise input-output network linkages accounts for up to 58 percent of the variation in the pairwise directional inflation connectedness across industries. The relationship between the inflation connectedness and input-output network intensified during the periods of global commodity price increases, but weakened during the period of aggregate demand shocks, such as the Volcker disinflation of 1981-84 and the Great Recession (2008-09).

**Key Words:** Input-output networks, Supply-side shocks, Connectedness, Inflation, Business Cycles, Vector autoregression, Variance decomposition.

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\*e-mail: nubilgin@ku.edu.tr

†e-mail: kyilmaz@ku.edu.tr (corresponding author)