Historical stock market connectedness: the case of the USA, UK, France, and Germany during the interwar period

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Abstract

The goal of our study is to measure historical stock market connectedness in the network consisting of four stock markets, namely the USA, UK, France, and Germany, in the period between WW 1 and WW 2. This casts further light on international economic links during an important phase of world history.

The stock markets are represented by their respective stock market indices, DJIA (USA), the "index of values of variable-interest securities" (UK), the "historical CAC 40" (France), and the "Aktienindex des Statistischen Reichsamtes" (Germany).

While data for DJIA are available on a weekly basis, this is not the case for the other three indices. Therefore, in a first step, our methodology involves the consistent movement-preserving disaggregation of monthly to weekly returns in a procedure which uses weekly DJIA data as indicator and takes deviations of first and second differences into account. In a second step, weekly spillover matrices are computed based on fevds from VAR models. Finally, results are aggregated to monthly measures: a monthly spillover index of the network's connectedness, and monthly propagation values to assess each market's relative importance for the creation of volatility in the network.

The contribution of shocks to the creation of volatility across the network can be investigated from an historical perspective. It appears that during the interwar period, national debates concerning fiscal or monetary policy explain a large part of network volatility. For instance, in the 1920s German shocks created volatility across the network, and French shocks became important during the Poincaré Stabilization 1926-1928.

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