Time Series of Cross-Sectional Distributions with Common Stochastic Trends[*]

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Abstract

We develop a new framework and methodology for the time series analysis of cross sectional distributions with stochastic trends. Often individual time series of cross sectional distributions have nonstationary persistent components that may be characterized effectively as functional unit roots. This paper shows how to model and analyze the presence of common trends in multiple time series of such cross sectional distributions. For an illustration, we use the CEX income and expenditure data to investigate the dynamic interactions between the household income and consumption distributions. Many interesting longrun and shortrun interactions between the household income and consumption distributions are found.

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