Abstract

The main objective of this thesis is to summarize and possibly extend the existing methodology on correlation matrix filtering, hierarchical clustering and topological classification in the economic networks. In the thesis we use classical MST/HT approach supplemented by edges stability analysis and centrality measures analysis. Graphical objects MST and HT enable us to find relations among the elements of the network. Centrality measures analysis helps us to find the hubs in the network and stability analysis determines the reliability of the resulting model. Presented methodology is then utilized for convergence analysis in the EU and for analysis of clusters in the EU’s MSTs and HTs. We detected large clusters of former communist countries for every economic indicator, clusters based on geographical location such as Nordic, Baltic, BENELUX or former ECSC countries and a cluster of PIGS countries. We also found that Spain plays a role of a central node in debt/deficit indicator analysis which made us to express our concerns about potential future problems.