Power indices, claims games and core selection

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Impact of the thesis

A power index is a tool to measure and compare the power of an individual player in political and economic situations. In a democratic Parliament, one way to assess this is to model Parliament as a simple game. Economic situations as for instance financial and corporate governance structures might be also modelled by simple games. To such a simple game one may then apply a power index, such as Shapley-Shubik index. Another way to assess this is to consider the position of a political party or the issues at stake. Typical examples occur in the area of corporate governance in Karos and Peters [37] and the US legislative process in Karos and Peters [38].

The estate division problem in Chapter 4 is a historic and classic problem – how to distribute the estate among the players based on their entitlements. One of the famous applications is the bankruptcy problem, which can be traced back to a 2000 year old document in Babylonian Talmud. A recent well-known case is the bankruptcy of Lehman Brothers because of the subprime crisis of 2007.

The idea underlying core allocations is to provide incentives for cooperation excluding those unstable outcomes in which some coalitions are able to reach better results for all their members. However, this core concept does not always provide a unique solution for general cooperative games. Therefore, Chapter 5 focuses on core selection by invoking extra reasonable criteria. Applications arise in managerial and public decision making when a bundle of goods has to be allocated among a set of individuals, taking into account the worth or values of the coalitions under different scenarios.