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Tiivistelmä-Referat-Abstract <p>In this thesis we investigate recently developed methods for approximating large anonymous competitive games. A game is large, if it has a large player set and anonymous, if every player's payoff depends only on her own choices and the number of opponents choosing each action. In other words, the identities of a player's opponents bear no meaning to the player.</p> <p>Large player sets increase the complexity of the game and typically make it hard to solve. However, in some cases one can find an approximative model that is easier to solve and resembles the original game in some meaningful sense. Most of this paper discusses one of these models, the so called discrete large game model developed by Nabil Al-Najjar (2008). What distinguishes the discrete large games from earlier models – most notably continuum-player games such as the classic model by David Schmeidler (1973) – is that the player set is assumed to be countably infinite and the sizes of player sets are measured with a finitely additive measure. This allows modeling without any extraneous measurability assumptions and frees us from all technical difficulties that usually arise in continuum-player models when defining expected utilities. Additionally, the model yields very natural approximation results with respect to the anonymous games with a finite but large player sets. These results are mainly due to a very intuitive version of the Law of Large Numbers that reduces the uncertainty that the players experience and eases the calculation of expected payoffs.</p> <p>Furthermore, we point out a few errors in the Al-Najjar's original paper, some of which lead to a slight weakening of the results (see Theorems 5 and 9). We also provide corrected alternatives for some of the erroneous proofs found in the original text. The proofs of the theorems presented in this paper represent a notable portion of the author's master's thesis in mathematics. However, for completeness sake we have included them also in the appendix of this paper.</p>			
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