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Do coalitions matter in designing institutions? (English) Zbl 1430.91029

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Summary: In this paper, we re-examine the classical questions of implementation theory under complete information in a setting where coalitions are fundamental behavioral units, and the outcomes of their interactions are predicted by applying the solution concept of the core. The planner's exercise includes designing a code of rights that specifies the collection of coalitions having the right to block one outcome by moving to another. A code of individual rights is a code of rights in which only unit coalitions may have blocking powers. We provide the necessary and sufficient conditions for implementation (under core equilibria) by codes of rights, as well as by codes of individual rights. We also show that these two modes of implementation are not equivalent. The results are robust and extend to alternative notions of core, such as an externally stable core. Therefore, coalitions are shown to bring value added to institutional design. The characterization results address the limitations that restrict the relevance of the existing implementation theory.

MSC:

[91B03](#) Mechanism design theory

[91B14](#) Social choice

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References:

- [1] Abreu, D.; Matsushima, H., Virtual implementation in iteratively undominated strategies: complete information, *Econometrica*, 60, 993-1008 (1992) · [Zbl 0766.90002](#)
- [2] Abreu, D.; Sen, A., Subgame perfect implementation: a necessary and almost sufficient condition, *J. Econ. Theory*, 50, 285-299 (1990) · [Zbl 0694.90010](#)
- [3] Abreu, D.; Sen, A., Virtual implementation in Nash equilibrium, *Econometrica*, 59, 997-1021 (1991) · [Zbl 0732.90007](#)
- [4] Andjiga, N. G.; Moulen, J., Binary games in constitutional form and collective choice, *Math. Soc. Sci.*, 16, 189-201 (1988) · [Zbl 0699.90006](#)
- [5] Andjiga, N. G.; Moulen, J., Necessary and sufficient conditions for l-stability of games in constitutional form, *Int. J. Game Theory*, 18, 91-110 (1989) · [Zbl 0687.90102](#)
- [6] Danilov, V., Implementation via Nash equilibria, *Econometrica*, 60, 43-56 (1992) · [Zbl 0761.90004](#)
- [7] Dasgupta, P.; Hammond, P.; Maskin, E., The implementation of social choice rules: some general results on incentive compatibility, *Rev. Econ. Stud.*, 46, 181-216 (1979) · [Zbl 0413.90007](#)
- [8] Greenberg, J., *The Theory of Social Situations* (1990), Cambridge University Press: Cambridge University Press Cambridge, MA · [Zbl 1084.91502](#)
- [9] Harsanyi, J., An equilibrium-point interpretation of stable sets and a proposed alternative definition, *Manag. Sci.*, 20, 1472-1495 (1974) · [Zbl 0335.90063](#)
- [10] Hurwicz, L.; Maskin, E.; Postlewaite, A., Feasible Nash implementation of social choice rules when the designer does not know endowments or production sets, (Ledyard, J. O., *The Economics of Informational Decentralization: Complexity, Efficiency, and Stability* (1995), Springer: Springer Boston, MA), Chapter 14
- [11] Jackson, M. O., Implementation in undominated strategies: a look at bounded mechanisms, *Rev. Econ. Stud.*, 59, 757-775 (1992) · [Zbl 0771.90004](#)
- [12] Jackson, M. O., A crash course in implementation theory, *Soc. Choice Welf.*, 18, 655-708 (2001) · [Zbl 1069.91557](#)
- [13] Kalai, E.; Ledyard, J. O., Repeated implementation, *Int. J. Econ. Theory*, 83, 308-317 (1998) · [Zbl 0915.90005](#)
- [14] Koray, S.; Yildiz, K., Implementation via rights structures, *J. Econ. Theory*, 176, 479-502 (2018) · [Zbl 1419.91272](#)
- [15] Korpela, V.; Lombardi, M.; Vartiainen, H., Do coalitions matter in designing institutions? (2018), or
- [16] Korpela, V.; Lombardi, M., Mechanism design with farsighted agents (2019), or

- [17] Lee, J.; Sabourian, H., Efficient repeated implementation, *Econometrica*, 79, 1967-1994 (2011) · [Zbl 1241.91046](#)
- [18] Maskin, E., Nash equilibrium and welfare optimality, *Rev. Econ. Stud.*, 66, 23-38 (1999) · [Zbl 0956.91034](#)
- [19] McQuillin, B.; Sugden, R., The representation of alienable and inalienable rights: games in transition function form, *Soc. Choice Welf.*, 37, 683-706 (2011) · [Zbl 1235.91017](#)
- [20] Mezzetti, C.; Renou, L., Repeated Nash implementation, *Theor. Econ.*, 12, 249-285 (2017) · [Zbl 1396.91149](#)
- [21] Moore, J.; Repullo, R., Subgame perfect implementation, *Econometrica*, 56, 1191-1220 (1988) · [Zbl 0657.90005](#)
- [22] Moulin, H.; Peleg, B., Cores of effectivity functions and implementation theory, *J. Math. Econ.*, 10, 115-145 (1982) · [Zbl 0481.90004](#)
- [23] Muller, E.; Satterthwaite, M., The equivalence of strong positive association and strategy-proofness, *J. Econ. Theory*, 14, 412-418 (1977) · [Zbl 0402.90004](#)
- [24] Palfrey, T.; Srivastava, S., Nash-implementation using undominated strategies, *Econometrica*, 59, 479-501 (1991) · [Zbl 0734.90004](#)
- [25] Peleg, B.; Peters, H.; Storcken, T., Constitutional implementation of social choice correspondences, *Int. J. Game Theory*, 33, 381-396 (2005) · [Zbl 1099.91044](#)
- [26] Peleg, B.; Winter, E., Constitutional implementation, *Rev. Econ. Des.*, 7, 187-204 (2002) · [Zbl 1048.91043](#)
- [27] Ray, D., Credible coalitions and the core, *Int. J. Game Theory*, 18, 185-187 (1989) · [Zbl 0719.90099](#)
- [28] Ray, D.; Vohra, R., Coalition formation, (Young, P.; Zamir, S., *Handbook of Game Theory*, vol. 4 (2014), North Holland: Elsevier)
- [29] Rosenthal, R. W., Cooperative games in effectiveness form, *J. Econ. Theory*, 5, 88-101 (1972)
- [30] Saijo, T., On constant Maskin monotonic social choice functions, *J. Econ. Theory*, 42, 382-386 (1987) · [Zbl 0633.90005](#)
- [31] Saijo, T.; Tatamitani, Y.; Yamato, T., Toward natural implementation, *Int. Econ. Rev.*, 37, 949-980 (1996) · [Zbl 0867.90008](#)
- [32] Sertel, M.R., 2001. Designing rights: invisible hand theorems, covering and membership. Mimeo. Bogazici University.
- [33] Vartiainen, H., Subgame perfect implementation: a full characterization, *J. Econ. Theory*, 133, 111-126 (2007) · [Zbl 1280.91061](#)

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