

Robust Virtual Implementation with Incomplete Information: Towards a Reinterpretation of the Wilson Doctrine*

Georgy Artemov[†]
Takashi Kunimoto[‡]
and
Roberto Serrano[§]

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Abstract

We consider robust virtual implementation, where robustness is the requirement that implementation succeed in all type spaces consistent with a given payoff type space as well as with a given space of first-order beliefs about the other agents' payoff types. This last bit, which constitutes our reinterpretation of the Wilson doctrine, allows us to obtain very permissive results. Our first result is that generically, if there are at least three alternatives, any incentive compatible social choice function is robustly virtually implementable in iteratively undominated strategies. Further, we characterize robust virtual implementation in iteratively undominated strategies by means of incentive compatibility and measurability. Our characterization is independent of the presence of monetary transfers or assumptions alike, made in previous studies. Our work also clarifies the measurability condition in connection to the generic diversity of preferences used in our first result.

JEL Classification: C72, D78, D82.

Keywords: Wilson doctrine, mechanism design, robust virtual implementation, iteratively undominated strategies, incentive compatibility, measurability, type diversity.

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[†]Department of Economics, the University of Melbourne, Melbourne, Australia; ga@alumni.brown.edu

[‡]Department of Economics, McGill University and CIREQ, Montreal, Quebec, Canada; takashi.kunimoto@mcgill.ca

[§]Department of Economics, Brown University, Providence, RI, U.S.A. and IMDEA-Ciencias Sociales, Madrid, Spain; roberto_serrano@brown.edu