Hamilton Institute

Efficiency and the Redistribution of Welfare

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Abstract: We consider systems where users make contributions across projects and are rewarded for their contributions to individual projects according to a local rule of sharing the value produced among contributors to given project. This captures various scenarios in real life including those in online services where users invest efforts in participating and producing content, and in return receive credits in terms of attention, social status, or momentary rewards, as well as in other types of collaborative environments such as in firms or scientific collaborations. The central question that we study is how the value produced should be split among contributors so that individual incentives are approximately aligned with that of the system as a whole. We formulate a game-theoretic framework that allows for quite some generality with respect to the nature of contributions (e.g. supplements vs. complements) and the production costs. We find that optimal social welfare can be well approximated by simple local sharing rules where users are approximately rewarded in proportion to their marginal contributions. The framework allows us to identify the main factors that contribute to social inefficiency, including the nature of contributions and production costs, and we quantify the social inefficiency for a number of interesting cases.

Joint work with Yoram Bachrach and Vasilis Syrgkanis

Venue: Seminar Room, Hamilton Institute, Rye Hall, NUI Maynooth

Time: 2.00pm - 3.00pm

Travel directions are available at www.hamilton.ie

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