

COARSE, EFFICIENT DECISION-MAKING

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Abstract

To minimize the cost of making decisions, an agent should use criteria to sort alternatives and each criterion should sort coarsely. To decide on a movie, for example, an agent could use one criterion that orders movies by genre categories, another by director categories, and so on, with a small number of categories in each case. The agent then aggregates the criterion orderings, possibly by a weighted vote, to arrive at choices. As criteria become coarser (each criterion has fewer categories) decision-making costs fall, even though an agent must then use more criteria. The most efficient option is consequently to select the binary criteria with two categories each. This result holds even when the marginal cost of using additional categories diminishes to 0. The extensive use of coarse criteria in practice may therefore be a result of optimization rather than cognitive limitations. Binary criteria also generate choice functions that maximize rational preferences: decision-making efficiency implies rational choice. (JEL: D01)

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