Social Sciences – Economics 2012

"If we have to progress as a country, we really need far higher numbers of people contributing ideas. And, I think that's what the Prize (Infosys Prize) will do. It will make research not just respectable but attractive and inspirational for younger people."

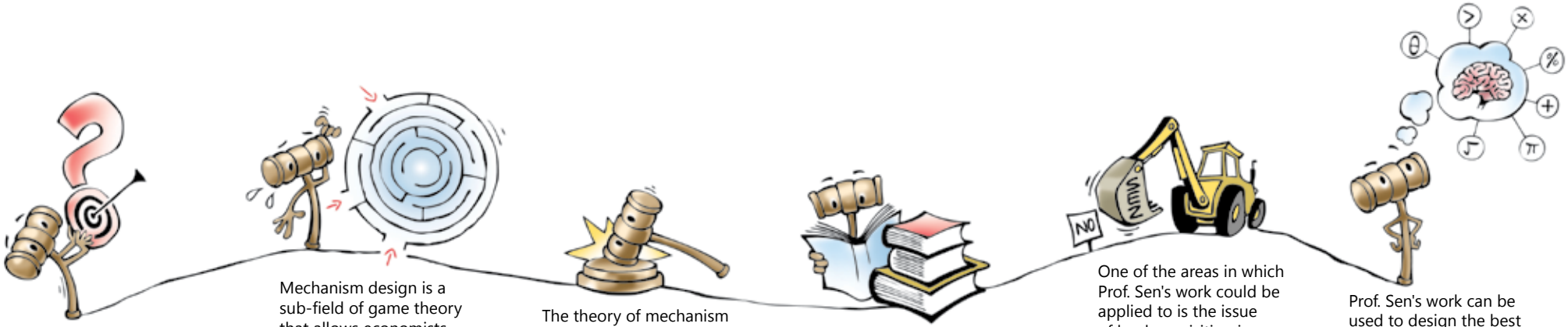
Arunava Sen

Professor, Planning Unit, Indian Statistical Institute, New Delhi

- Ph.D. in Economics from Princeton University
- M.Phil. in Economics from Oxford University
- M.A. in Economics from the Delhi School of Economics, University of Delhi

Prof. Arunava Sen's research recognizes that information pertinent to economic policy design is held by individuals who may benefit by misrepresenting it, and that policy implementation is constrained by the freedom of individuals to act. Therefore, it has large implications on real-world policy-making. His main contribution (in joint work with Prof. Dilip Abreu) shows that any social choice rule can be approximated by one that is a Nash equilibrium of such individual interaction.

Examining individual strategic behavior



Have you ever wondered how individuals decide who to vote for in an election and how this effects the outcomes in a democracy? How does one understand and analyze outcomes in events such as the Indian Premier League auctions? Economists use game theory for this purpose. Game theory is the formal analysis of strategic behavior. It considers situations where several agents mutually affect each other and tries to predict outcomes.

Mechanism design is a sub-field of game theory that allows economists to analyze and compare the way in which markets or institutions, such as a government, can efficiently allocate goods and services always allowing for the possibility that the buyers and sellers are privy to information that the other is not aware of.

The theory of mechanism design can be applied to practical problems such as auctioning of resources such as oil, setting rules for voting in elections and even deciding the number of public goods that the government should provide. Similarly, the area of social choice theory is the philosophical and mathematical study of the types of conclusions that can be drawn from studying individual preferences as a whole to produce a social welfare function.

Prof. Arunava Sen's research centers around game theory, mechanism design, social choice, and auction design. His work has been at the purely theoretical level. However, his work could have profound implications for the way policies are formulated by the government. Prof. Sen has done extensive research in social choice theory and builds on the work of Kenneth Arrow and Amartya Sen in this field.

One of the areas in which Prof. Sen's work could be applied to is the issue of land acquisition in the Special Economic Zones (SEZs) or for other industrial developments. His findings reveal that it may be impossible to achieve the kind of voluntary participation, efficiency and incentive compatibility that is required for government policies to work. He outlines other alternatives that the government could implement.

Prof. Sen's work can be used to design the best outcomes or desirable outcomes, where individuals realize that they have strategic power. His research recognizes that information applicable to designing economic policy is held by individuals who may benefit from misrepresenting it, and the implementation of this policy is restricted by the ability of individuals to act independently based on their information.