



Amartya Sen

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PROFILE

Professor Amartya Sen: 1998 Nobel Laureate in Economics

On 14 October 1998 - Amartya Sen, the Master, Trinity College, Cambridge (UK), sixth Indian to win the prestigious Nobel Prize and first Asian to merit it in Economics for 'his contribution in welfare economics', a thinker who took economics to the exalted heights of philosophy with a stress on welfare, was chosen for this years coveted prize that, many feel, was long overdue. Major areas of Professor Sen's academic pursuit in Economics and Philosophy are: welfare economics, development economics, decision theory, theory of social choice, economic measurement, and moral and political philosophy.

Born (3 November 1933) at Shantiniketan, he was educated at Presidency College, Calcutta (BA 1953), and Trinity College, Cambridge (BA 1955, MA 1955, Ph.D. 1959). As a fellow of All Souls College, he has taught at Oxford and has served as Drummond Professor of Political Economy. He has also taught at the University of Jadavpur, Delhi School of Economics, London School of Economics, Harvard and Cambridge Universities. He is a fellow of the American Academy of Arts and Sciences, the Econometric Society and the British Academy. He was awarded the Giovanni Agnelli International Prize in 1990.

Recognition of Amartya Sen by the Swedish Academy inspires a modest student of economics to seek other roots of impoverishment. Poverty as a theme of a school of behavioural and welfare economics found a new language in *Asian Drama* (1968) and *The Challenge of World Poverty* (1970) of another economics Nobel laureate Gunnar Myrdal. No less important is the outstanding contribution of Raul Prebisch in this field. Although Sen started with a more theoretical side of economics but won over the Swedish Academy with the calisthenics of applied economics.

At Trinity, under the supervision of famous economist Mrs Joan Robinson, Sen nonetheless transcended his roots to simultaneously embrace social choice theory and development economics – breaking the barrier between the mathematised ‘advanced theory’ and ‘real world’ economics. The result was his first seminal work, *Choice of Techniques* (1960) where he analysed the choice of production technology in development economics. It was a logical marriage for Sen: the peasants and rural household, which he studied, have economic modes of behaviour which often contradict the postulates of the ‘rational hedonist’ that dominate economic theory. In particular, certain collective enterprises often contradict individual rationality. In this line of his thinking, Sen exploited game theory notions to account for such collective behaviour. Nonetheless, the problem Professor Sen identified through his research is the common assumption in welfare economics of incomparable interpersonal utilities.

Concerned with protecting individual rights in collective decision rule, Amartya Sen pointed out to a fundamental dilemma by showing that no collective decision rule can fulfil such a minimal requirement on individual rights and other axioms as required in another Nobel laureate Kenneth Arrow’s famous *impossibility theorem*. Sen’s findings have paved the way to substantial theoretical discussions about the extent of collective decision rule consistency with individual rights. His, *Collective Choice and Social Welfare* (1970), finds that this is indeed the keystone in the theorem. ‘Without it’, Sen argued, ‘the theorem can fall; with it, the theorem is vacuous’. This book was particularly influential to renew interest in basic welfare issues e.g. majority rule, individual rights, and individual welfare.

How can the preferences for society be consistently derived from preferences of its members was central in Sen’s contribution from the mid 1960s. His work not only enriched the principles of social choice theory, but also opened up new fields of study.

Can the values which individual members of society attach to different alternatives be aggregated into values for society as a whole, such that is both fair and theoretically sound? How should income inequality be measured? How should a decline in poverty be determined? How can the distribution of welfare in different societies be measured? What are the factors that trigger famines? By providing answers to such questions of welfare economics Amartya Sen has made noteworthy contribution to the theory of social choice – an important central field of economics. The theory of social choice is a normative issue and is preoccupied with the link between individual values and collective choice. Sen initiated this entirely new field in the theory of social choice, by showing how different assumptions regarding interpersonal comparability, affect the possibility of finding a consistent, non-dictatorial rule for collective decisions. He also demonstrated the implicit assumptions made when applying principles proposed by moral philosophy to

evaluate different alternatives for society. By combining tools from economics and philosophy, Sen has restored an ethical dimension to the discussion of vital economic problems.

In another famous work, *The Impossibility of a Paretian Liberal* (1970), Sen turned his methodological sights on the Pareto-Optimality criteria – arguing that this assumption of Pareto optimality in welfare theory is not value neutral. It rather contradicted the old J.S. Mill notion of liberalism, as the criteria have no safeguards for ‘personal space’. He has explained mathematically that it is impossible to reach the state of Pareto optimum – the measure of social satisfaction, by at the same time respecting the right of individual choice.

Amartya Sen’s contribution range from axiomatic theory of social choice, over definitions of welfare and poverty indexes, to empirical studies in famine. His general interest in distributional issues and specific interest in the most impoverished sections of the society tie these closely together. ‘By analysing the available information about different individual’s welfare when collective decisions are made, he has improved the theoretical foundation for comparing different distributions of society’s welfare and defined new, and more satisfactory, indexes of poverty’.

Sen’s *poverty index* ($P=H(I+(1-I)G)$) has subsequently been used by many researchers in developing alternative indexes. (P , is the poverty index; H , the share of the population; I , the measure of distribution between 0 and 1; and G , the Gini coefficient). A problem when comparing the welfare of different societies is that many commonly used indicators e.g. per capita incomes (y) only take average conditions into account. Sen has developed alternatives, which also encompass the income distribution. A specific alternative is the use of measure $y \cdot (1-G)$. Sen has emphasized that what creates welfare is not the goods as such but the activity for which they are acquired. Thus income is important for the opportunities it creates. But actual opportunities (or capabilities as Sen calls them) depend on other factors such as education, health etc. which should be considered while measuring welfare.

Sen has pointed out that all well-founded ethical principles presuppose equality among individuals in some respect. But as the ability of individuals to exploit equal opportunities differs equality in some dimensions necessarily implies inequality in others. When to prefer one to the other depends on how we evaluate the dimensions of welfare

During 1960s to the 1980s Professor Sen tirelessly worked on variety of issues in development economics. His work on poverty and famine led to the construction of the ‘poverty line’, a measure widely used by the UN and other development agencies to determine the level of poverty in a particular country. He was the first to delineate the case, which many developing countries faced whether to adopt labour intensive or capital intensive techniques for development. He had taken up issues like gender that

had changed the outlook of policy planners affecting the way the UN, the UNDP and the World Bank looked at development in relation to gender.

Amartya Sen is a prolific writer. He has written and edited over twenty books and a number of articles in economics, philosophy, political science, and decision theory. His major books are: *Choice of Techniques* (1960), *Collective Choice and Social Welfare* (1970), *On Economic Inequality* (1973), *Employment, Technology and Development* (1975), *Utilitarianism and Beyond* (1982), *Resources, Values and Development* (1984), *Commodities and Capabilities* (1985), *On Ethics and Economics* (1987), *Inequality Re-examined* (1994).

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