ECONOMICS

Nikhil Agarwal

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Nikhil Agarwal is Paul A. Samuelson Professor of Economics at the Massachusetts Institute of Technology. He received his B.A. in Economics and Mathematics from Brandeis University, and in 2013 he got his Ph.D. in Economics from Harvard University, joining MIT soon afterward.

Prof. Agarwal's research focuses on empirical design, efficiency, and equity of allocation and matching markets, including school choice, medical residency and kidney exchanges. His work has been published in leading journals such as the *American Economic Review, Econometrica, Review of Economic Studies, and the Quarterly Journal of Economics.*

A recipient of the Sloan Research Fellowship, Agarwal's research is supported by the National Institute of Health and National Science Foundation in the US. At MIT, he also co-directs Blueprint Labs, which applies economic analysis and data science to improve public policy and social outcomes.

The Infosys Prize 2025 in Economics is awarded to Prof. Nikhil Agarwal for his contributions to research on market design. Prof. Agarwal has made pioneering contributions, including the development and implementation of pathbreaking methodology for empirical studies of allocation mechanisms, including school choice, medical residency, and kidney exchanges.

Scope and Impact of Work

Prof. Nikhil Agarwal is a leading scholar who has spearheaded a new wave of research that applies highly sophisticated econometric techniques to analyze markets which do not rely on prices to match supply and demand. Much of economics assumes that the invisible hand of the market brings about prices where demand equals supply. While this is likely true for apples and oranges, this is not the way those needing kidneys find those willing to supply kidneys, or students seeking college admission find the college that will admit them. These matching problems are hugely important but inadequately understood. Prof. Agarwal's work has transformed this rudimentary literature into one anchored in data, providing new insights into policy design.

Agarwal's publications appear in leading journals, including the *American Economic Review, Econometrica, Review of Economic Studies, and the Quarterly Journal of Economics.* He currently serves as an Associate Editor of *Econometrica.*

At MIT, Nikhil Agarwal co-directs Blueprint Labs, a research initiative that applies economic analysis and data science to improve outcomes in education, health, and labor markets. He has also demonstrated exceptional success in mentoring Ph.D. students, many of whom have gone on to placements at leading universities such as Yale, Northwestern, UCLA, Princeton, and Wharton. His research has received widespread recognition. For a scholar still under forty, Agarwal's record is remarkable—combining intellectual leadership, methodological innovation, and tangible social impact—and there is every indication that his most significant contributions are still ahead of him.

Expanded Citation

Prof. Nikhil Agarwal is a leading authority on market design, bringing this literature into real-world applications of great importance. Doing so is exceptionally challenging and requires command of nearly the entire economics toolkit: equilibrium analysis with strategic interactions, advanced structural estimation techniques, and the ability to apply state-of-the-art econometrics to the hardest identification problems.

A highly skilled microeconomic-theorist and applied econometrician, Prof. Agarwal develops and applies innovative tools to analyze real-world allocation mechanisms including school choice, medical residency, and kidney exchanges. His research connects market design, industrial organization, and econometrics, turning a once-theoretical field into one grounded in data and policy relevance.

Widely recognized for innovation and impact, Nikhil Agarwal's work exemplifies how rigorous economic analysis can facilitate institutional design and enhance human welfare.

Jury Chair
Kaushik Basu

"My congratulations to Nikhil Agarwal for his pioneering research on market design. My fellow jury members were highly impressed by the brilliance of his work. Nikhil is an economist of amazingly diverse skills, ranging from microeconomic theory to empirical analysis. Moreover, he has brought his talent to bear on topics of great importance for human welfare, which will, hopefully, be a step towards a better world.

My kingdom for a kidney

Who gets the kidney

In India around 200,000 people are waiting for a kidney transplant in any given year. And it is estimated that the median wait time for each patient is around 3.16 years. Of these only about a third get the life-saving transplants they need. How do we prioritize patients needing kidney transplants? In the U.S. at any given time, about 100,000 people are waiting for kidney transplants. In such a scenario of limited supply and high demand, how do we think about optimizing the limited supply to meet the high demand?

Not just another commodity

Typical market economics works on the principle of the invisible hand of the market which determines prices of commodities like fruit or vegetables. But this is not how it works in complex problems like how eligible patients find donors with matching kidneys, students to schools, or medical residents. This is a complicated market design problem that Nikhil Agarwal works on.

The nuances of allocation

In 2013 Alvin Roth won the Nobel Prize in Economics for his theoretical approaches to allocation mechanism design. Agarwal (whose mentor Roth is) studies how these systems work in practice. Agarwal's work combines the theory with real-world data, tries to determine how to best allocate the limited supply of kidneys among those in need of that transplant, how to assign students to schools, and the workings of medical residency matching.

Agarwal's research takes into account nuances such as strategic behavior and the value of assignments. This approach yields kidney waitlist designs that account for the lifespan-lengthening effects of transplants, who does it benefit most, pre-existing health conditions and other factors; and school admissions systems that consider equity and efficiency of matches.

From theory to policy

Research like Agarwal's helps in determining how to design policies around the system that make matches. This engineering approach based on data, theory and real-world practice can be applied more broadly on similar problems.