The MIT Economics Department is based in the Morris and Sophie Chang Building (E52) at 50 Memorial Drive, Cambridge, MA. This building, which was completely renovated in 2016, still includes a number of opportunities for major gifts, including conference rooms, faculty offices, and common spaces. For more information on supporting this project, please contact Anne Marie Michel, the Assistant Dean for Development in the MIT School of Humanities, Arts, and Social Sciences, at ammichel@mit.edu.

Opening of Morris and Sophie Chang Building

L to R: Melissa Nobles, Dean, SHASS; L. Rafael Reif, President, MIT; Morris Chang ’52, SM ’53, ME ’55; Sophie Chang; Whitney Newey, Department Head 2011-2016, Economics; Robert Millard ’73, Chair, MIT Corporation.
Introduction
Recent Developments 4
Department Overview 6

Academic Programs
Undergraduate Economics 9
Graduate Economics 11

Fields of Study
Economic Theory 13
Macroeconomics 15
International Economics 18
Development Economics 19
Econometrics 21
Industrial Organization and Regulation 23
Labor Economics 25
Public Economics 27
Political Economy 28
Health Economics 28
Organizational Economics 30
Financial Economics 31

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Recent Developments

MIT faculty continue to advance economic research and to garner widespread accolades and prestigious recognitions for their work. The highlight of the 2017-18 academic year was the awarding of the American Economic Association’s (AEA) John Bates Clark Medal, given each year to the best economist in the nation under age 40, to Parag Pathak, the Jane Berkowitz Carlton and Dennis William Carlton Professor of Microeconomics. Professor Pathak’s groundbreaking work on matching markets has not only profoundly influenced economic thought, but also directly led to improved school choice matching algorithms around the nation. Pathak joins four past Clark medalists on the active MIT Economics faculty: Daron Acemoglu, Dave Donaldson, Esther Duflo, and Amy Finkelstein.

A selection of the many other honors and awards of the past year include: Amy Finkelstein was elected to the National Academy of Sciences; Parag Pathak and Nancy Rose were elected to the American Academy of Arts and Sciences; Dave Donaldson was elected fellow of the Econometric Society; Daron Acemoglu received an honorary doctorate from the Ecole Normale Superieure Paris-Saclay; David Autor was recognized by Bloomberg as one of the “50 People Who Defined Global Business”; Victor Chernozhukov was awarded the Bessel Prize from the German Humboldt Research Foundation; recent Nobel Prize winner Bengt Holmstrom was awarded the Grand Cross of the Order of the Lion of Finland; Nancy Rose was named the 2018 Distinguished Fellow of the Industrial Organization Society; and Robert Townsend received the Financial Intermediation Research Society (FIRS) Lifetime Achievement Award.

MIT faculty extend their professional impact through leadership at top economics journals and of national and international professional societies. Esther Duflo serves as editor of the American Economic Review (AER), the flagship journal for the AEA; Amy Finkelstein is the inaugural editor of the new AEA journal AER: Economic Insights, intended to promote rapid dissemination of shorter papers in economics; and Alexander Wolitzky was invited to serve as foreign editor for the Review of Economic Studies. Drew Fudenberg completed his term as president of the Econometric Society this year; Jonathan Gruber served as president of the American Society of Health Economists; Robert Townsend was elected president of the Society of the Advancement of Economic Theory. MIT Economics continues to be well-represented in the leadership of the National Bureau of Economics Research (NBER), headlined by Mitsui Professor of Economics and NBER President James Poterba. David Autor is co-director of the NBER Labor Studies Program, Amy Finkelstein co-directs Public Economics, Robert Gibbons directs the Organizational Economics working group, and Jonathan Gruber directs Health Care.
In addition to pursuit of their individual research agendas, many department faculty are leading collaborative research initiatives that span a wide range of researchers and research sponsors. Joining the Abdul Latif Jameel Poverty Action Lab (J-PAL and J-PAL North America) and the School Effectiveness and Inequality Initiative (SEII) are a number of new initiatives that focus on the dramatic changes ongoing in labor markets. Daron Acemoglu, David Autor, and John Van Reenen co-direct a department initiative on The Future of Work; and David Autor is co-directing both a J-PAL experiment-based Future of Work initiative and an MIT-wide Task Force on Work of the Future.

The department’s commitment to advancing leading-edge research is paired with a focus on enhancing the quality of economics education at MIT and beyond. At the graduate level, the department is committed to offering the best doctoral education in economics available anywhere. In 2018, Economics partnered with MIT’s Institute for Data, Systems, and Society (IDSS) to create a joint PhD degree in Economics and Statistics. This will enable students to deepen their exposure to the foundational statistics, theory, and empirical methods at the cutting edge of data science, preparing our most technically sophisticated students to advance the theoretical and empirical research frontiers in the use of “big data” in economic analyses. The department, largely through its faculty and staff affiliated with J-PAL, offers a blended Master’s Program in Data, Economics, and Development Policy, which combines online instruction through MITx with an opportunity for a selected set of students to complete the degree on campus. The first students will arrive on campus in 2020.

The department also has built on its investments in transforming undergraduate economics education. Successful collaboration with Course 6 led to the introduction in 2017 of a new undergraduate economics major, 6-14, Computer Science, Economics, and Data Science. Motivation for this was similar to that for the Economics and Statistics PhD program. Student interest in this new offering has been immediate and strong, with the 36 students in the major in AY18 more than doubled by the class of 2021. Individual faculty also have made substantial contributions to MIT undergraduate education. Of particular note, Joshua Angrist was involved in the reconsideration of MIT’s first year experience through his service on the Committee on the Undergraduate Program; David Autor was named a MacVicar Faculty Fellow for excellence in undergraduate teaching; and Associate Professor Anna Mikusheva was awarded the Everett Moore Baker Award for Excellence in Undergraduate Teaching in 2018.

The department embraces engagement with the broader MIT community. Educational initiatives include programs like the Undergraduate Economics Association (UEA) lecture series and Independent Activities Period (IAP) offerings. An IAP highlight this year was a symposium on the State of the Union, an all-day event which featured panels on topics such as financial market regulation, tax and fiscal policy, and political economy, and included a wide range of Economics Department faculty, faculty from other departments and universities, and former policy-makers. This event was popular enough to be held in the large lecture hall 26-100 and was widely attended throughout the day.

MIT faculty also strive to improve the access and quality of economics education available to learners well beyond the MIT campus. Department faculty have invested in a set of MITx courses that make MIT-level instruction available to thousands of students online. Faculty members also have recognized exposure to economics may begin for many students at the high school level, and in courses that are less technically demanding than those at MIT. The quality of resources and instruction may be quite uneven across schools for students in these pools. Seizing on the opportunities this provides, Jonathan Gruber has partnered with MITx to develop an online Advanced Placement Microeconomics course.
For over a century, the Department of Economics at MIT has played a leading role in economics education, research, and public service. Francis Amasa Walker, MIT’s third president, introduced undergraduate studies in economics at MIT. Walker, who rose to the rank of Brigadier General in the Civil War and directed the 1870 U.S. Census, was a leading economist of his day. He was a founder and president of the American Economic Association. In the early part of the twentieth century, Davis R. Dewey, the editor of the American Economic Review for twenty years and a longtime chairman of the MIT Economics Department, played a major role in preserving and expanding economics at MIT. In 1937, the Department added graduate courses leading to a master’s degree. Four years later, in 1941, it inaugurated the PhD program that is renowned worldwide. MIT’s approach to graduate training in economics has been widely emulated at other leading institutions.

MIT established its School of Humanities, Arts, and Social Sciences (SHASS) in 1950, with the Economics Department playing a central role within the School. The Economics Department expanded significantly in the years following World War II with entrepreneurial leadership from Rupert MacLaurin and a supportive university administration. By the 1950s, it was established as one of the world’s leading centers for economic research. Graduates of the MIT Economics Department’s doctoral program are now well-represented on the faculties of virtually all leading economics departments.

The MIT Economics Department today is a vibrant collection of faculty and students. The Department’s faculty have received numerous awards, including the Nobel Prize. Many are Fellows of the National Academy of Sciences, the American Academy of Arts and Sciences, and the Econometric Society. Numerous faculty members have served in various elected offices of the American Economic Association and the Econometric Society.

The Department offers one of the most rigorous undergraduate economics educations of any U.S. college or university, and its classes attract a large undergraduate student enrollment. During the 2017-2018 academic year, 1,707 undergraduates enrolled in economics courses, 90 undergraduates were majoring in economics, of which 25 were studying economics (14-1), 29 were studying mathematical economics (14-2), and 36 of which were studying computer science, economics, and data science (6-14), 59 were minoring in economics, and another 295 took economics as a concentration. Many undergraduate majors, as well as students from other departments at MIT, participated in research projects supervised by the economics faculty. Many are funded by the Institute’s Undergraduate Research Opportunities Program (UROP) and departmental UROP funds donated by generous alumni.
The Department is consistently ranked as a top graduate training institution. Each year the MIT PhD program enrolls twenty to twenty-four candidates, selected from approximately eight hundred applicants. During the 2017-2018 academic year, there were 129 graduate students enrolled in the Department's PhD program. Student dissertation topics span a wide range of issues in microeconomics and macroeconomics, and advance the frontiers of economic theory, data analysis, and econometric methodology. An important development of the last two decades has been a growing internationalization in the demand for graduate economics training. Currently about half of admitted students have undergraduate degrees from American universities, while the rest have degrees from elsewhere in the developed and developing world.

Doctoral candidates typically spend six years in residence at MIT taking graduate courses and doing research. The first two years of the PhD program are devoted primarily to course work, while the remainder of the program focuses on writing a doctoral dissertation. Graduates of MIT's PhD program pursue diverse careers. While a majority enter academia, MIT economics PhDs are sought after by governments, domestic and international research and policy organizations, and private sector firms. In recent years, major Internet firms have hired top economics talent to oversee their market strategies and undertake research.

As the Internet has enabled electronic dissemination of information to replace traditional print media, the MIT Economics Department has developed a closely followed web presence. The Department's web site provides up-to-date information on department courses and seminars. It includes links to the many web pages maintained by faculty, who often post research papers, policy papers, and data sets on their sites. Graduate students and economics researchers from around the world visit these web pages to download current research. Faculty's research papers are often widely read and cited months or years before they are published in academic journals.

The majority of classes offered by the Economics department—seventy-three at last count—are also made freely available online through MIT's heralded Open Course-Ware (OCW) initiative (ocw.mit.edu). The undergraduate development economics course 14.73x: "The Challenges of Global Poverty," made its online debut through MITx in the Spring of 2013. Since then, online economics offerings have expanded to include 14.74x "Foundations of Development Policy: Advanced Development Economics" (Fall 2015), 14.100x "Principles of Microeconomics" (Fall 2016) and 14.310x "Data Analysis for Social Scientists" (Fall 2016). The Abdul Latif Jameel Poverty Action Lab (J-PAL) also launched J-PAL 102x "Designing and Running Randomized Evaluations" in the Spring of 2017. MIT Economics and J-PAL have combined these courses to launch the MITx MicroMasters credential in Data, Economics, and Development Policy. Graduates of the MicroMasters program will be eligible to apply to a new blended Master's program in Data, Economics, and Development Policy which will launch in the academic year of 2019.

MIT Economics and the Nobel Prizes in Economic Sciences

2016
Bengt Holmström,
MIT Professor of Economics

2014
Jean Tirole, MIT, PhD 1981
MIT Professor of Economics,
1984-1991

2013
Robert J. Shiller, MIT, SM 1968, PhD 1972

2010
Peter A. Diamond, MIT, PhD 1963
MIT Institute Professor of Economics,
Emeritus

2008
Paul R. Krugman, MIT, PhD 1977
MIT Professor of Economics,

2007
Eric S. Maskin
MIT Professor of Economics, 1977-1984

2003
Robert F. Engle
MIT Professor of Economics, 1969-1977

2001
George A. Akerlof, MIT, PhD 1966
Joseph E. Stiglitz, MIT, PhD 1966

2000
Daniel L. McFadden
MIT Professor of Economics, 1978-1991

1999
Robert A. Mundell, MIT, PhD 1956

1997
Robert C. Merton, MIT, PhD 1969

1987
Robert M. Solow
MIT Institute Professor of Economics,
Emeritus

1985
Franco Modigliani
MIT Institute Professor of Finance and Economics (deceased)

1980
Lawrence R. Klein, MIT, PhD 1944
(deceased)

1970
Paul A. Samuelson
MIT Institute Professor of Economics
(deceased)

The Nobel Prize in Economic Sciences was first awarded in 1969.
MIT and the John Bates Clark Medal

The John Bates Clark Medal is awarded each year by the American Economic Association to the American economist under the age of forty judged to have made the most significant contribution to economic thought and knowledge. Named after the American neoclassical economist John Bates Clark (1847-1938), it is considered one of the two most prestigious awards in the field of economics, alongside the Nobel Prize. Approximately 40 percent of Clark Medal winners have (so far) gone on to win the Nobel Prize in Economics.

Seven of the last fourteen Clark Medals awarded to MIT-trained economists. One graduating class, 2009, included three recent winners. Five current faculty members are Clark Medalists: Daron Acemoglu (awarded ’05), Dave Donaldson (awarded ’17), Amy Finkelstein (awarded ’12), and Parag Pathak, who will be the 2018 recipient. Three emeritus faculty members—Franklin Fisher, Jerry Hausman, and Robert Solow—are Clark Medalists, as was the late Paul Samuelson, who spent his entire academic career on the MIT faculty and was the first (and youngest) recipient.

Excellence in Teaching

The Economics Department has long emphasized a commitment to both research and teaching. Throughout its history, many faculty members have made notable pedagogical contributions: for example, Paul Samuelson’s legendary textbook, Economics, was written in the 1940s to enhance the quality of undergraduate economics education at MIT. The Department continues that tradition today, from the textbooks current faculty have written, to the development and delivery of courses that communicate the cutting edge of economic knowledge and draw new generations of students to the study of economics.

Several current faculty members have been recognized for their important contributions as teachers. David Autor and Nancy Rose are Margaret MacVicar Faculty Fellows, a program that annually recognizes three to five of the best undergraduate teachers and mentors across MIT with a ten-year fellowship, honoring the life and devotion to teaching excellence of MIT’s first Dean for Undergraduate Education and founder of MIT’s enormously successful Undergraduate Research Opportunities Program (UROP). Within the Department, students select three faculty members each year for particular recognition. The Undergraduate Economics Association’s (UEA) outstanding teacher of the year in 2018 was Bengt Holmström. The Graduate Economics Association (GEA) award for outstanding advising went jointly to Nikhil Agarwal and Frank Schilbach, and the GEA award for outstanding teaching went to Juuso Toikka.

Teaching excellence is not confined to the faculty. MIT graduate students hone their teaching and communication skills through teaching assistantships (TAs), and some of the very best are celebrated each spring. In 2018, the UEA named Matt Lowe, who taught in Economics of Incentives (14.26), and Political Economy: Institutions and Development (14.773), the outstanding undergraduate TA. The graduate GEA TA Award went to Arda Gitmez for his teaching in Microeconomic Theory II (14.122), and Market Design (14.125). The 2018 Robert M. Solow prize, awarded by the faculty to graduating PhD students who have excelled in both teaching and research, was given to Harry Di Pei and Ludwig Straub.
Undergraduate students take advantage of numerous opportunities to hone their research skills. One such opportunity is MIT’s Undergraduate Research Opportunities Program (UROP), which fosters close ties between undergraduates and faculty members. Students in the UROP program work with faculty members and graduate students to bring the technical skills of modern economics to bear on questions of economic importance. UROP supplements coursework, and its projects allow undergraduates to participate in ongoing research in the Department and to meet with faculty members outside of class. They perform tasks such as collecting and analyzing economic data, writing computer programs, checking mathematical calculations, and gathering research materials.

In one such UROP project, Fiona Chen worked with Prof. Frank Schilbach to examine the relationship between sleep deprivation and poverty. Millions of people in developing countries all over the world have their sleep negatively impacted by factors such as a lack of access to housing, noise from traffic and people on the streets, and high levels of heat. Chen assisted Schilbach on a randomized controlled trial in Chennai, India, where they provided participating residents with sleep aids, such as mattresses, fans, earplugs, and eyeshades, and monetary incentives. They then explored the effects of improved sleep on productivity and cognitive skills, as well as risk preferences and mood. For her contribution to the project, Chen produced a literature review and worked heavily with increasingly complicated data analysis tasks using statistical software. She plans on attending graduate school, and finds the exposure to academic research valuable.

Undergraduate Economics

The Economics Department at MIT has a long tradition of outstanding undergraduate training. The unique analytical skills of the MIT undergraduate student body allow the faculty to offer a rigorous and comprehensive program unlike that of any other U.S. college or university.

Senior professors teach introductory undergraduate courses, and faculty at all levels incorporate the latest economic methods and findings into their electives. The Department’s success in attracting exceptional undergraduates and preparing them for advanced study demonstrates the soundness of this philosophy and the excellence of the program.

Many faculty members have written undergraduate and graduate textbooks that are used in colleges and universities around the world. Paul Samuelson first developed his pioneering economics text in an introductory economics course for MIT undergraduates. Rudiger Dornbusch and Stanley Fischer’s intermediate macroeconomics textbook, Macroeconomics, introduced modern macroeconomic analysis to undergraduates. Currently, students are taught from Olivier Blanchard’s textbook, Macroeconomics, Jonathan Gruber’s text, Public Finance and Public Policy,
and Michael Whinston’s *Microeconomic Theory* at both the undergraduate and graduate levels. Daron Acemoglu’s textbook, *Introduction to Modern Economic Growth*, takes graduate students on a journey through the theory of economic growth from its neoclassical paradigms to the most recent models of endogenous growth. Joshua Angrist’s *Mostly Harmless Econometrics: An Empiricist’s Companion* has been widely praised for its integration of theory and practice. Abhijit Banerjee and Esther Duflo’s *Poor Economics* grew out of their popular economics development courses and is the primary text assigned for their MITx online MOOC.

The traditional economics major begins with a two-semester introductory sequence that explores theoretical and applied topics in microeconomics and macroeconomics. Additional training in microeconomics, macroeconomics, statistics, and econometrics follows. Majors have a choice of additional applied and advanced courses drawn from a menu that includes economic development, economic theory, health economics, industrial organization, international economics, labor economics, monetary economics, public economics, and others.

The level of mathematics mastery among undergraduates allows economics courses to be taught at a high level.

The department also offers two other majors. Mathematical Economics is designed to prepare students interested in pursuing graduate study in economics. Like traditional economics majors, mathematical economics majors start with a two-semester introductory sequence that explores theoretical and applied topics in microeconomics and macroeconomics. Following these introductory classes, the major focuses intensively on technical and mathematical subjects, including a class on mathematical economic modeling. Alongside the most rigorous undergraduate training our department has to offer, students pursuing the mathematical economics degree will take at least four of their twelve required major classes in the mathematics department.

The third undergraduate major, Computer Science, Economics and Data Science, is run in collaboration with the department of Electrical Engineering and Computer Science. This new offering exposes students to the economic and computational tools that support online markets, crowdsourcing platforms, spectrum auctions, cryptocurrencies, and large-scale matching/allocation systems. These electronically-mediated platforms combine complex human decisions with intensive computation and data processing, all operating within an engineered economic environment.

The faculty is committed to innovation in the undergraduate curriculum. New courses are constantly being developed to bring insights from recent research into the undergraduate program. Recent innovations include courses on networks and the introduction of the first economics MOOCs at MITx. As part of an MIT-wide initiative on communication skills, the department also offers two courses in which students carry out a series of increasingly independent research projects and hone their writing and presentation skills. 14.73, *The Challenge of World Poverty*, newly designated as a communications-intensive subject in the Humanities, Arts, and Social Sciences (CI-H), is co-taught by Esther Duflo and Frank Schilbach. 14.46, *Innovation Policy and the Economy*, is also designated a CI-H course and is taught by Heidi Williams. These courses, which have no prerequisites, allow freshmen and sophomores to immediately engage in studying specialized topics in economics.

The Undergraduate Economics Association (UEA) provides an informal forum for students to meet and explore various topics with faculty. Sponsored by the faculty, the UEA is run by and for economics majors to address such issues as career planning and current topics in economic policy. Students and faculty also enjoy the relaxed interactions that the UEA provides.

Undergraduate economics majors go on to graduate work and to distinguished careers in academia, global businesses, government, finance, consulting, and law. About 20 percent of MIT economics undergraduate majors enter a graduate program in economics or finance, one of the highest yields of PhD candidates for any undergraduate economics program. Approximately half of the Department’s graduates choose to gain experience in business, government, consulting, and non-profit organizations before seeking out business and public policy schools for post-graduate study. The number of post-graduates choosing to study law remains fairly constant. Growing use of formal economics in law has strengthened this connection.

Whatever their destinations, undergraduate economics majors acquire essential skills for a wide variety of jobs, an excellent foundation in economics, and an opportunity to meet faculty and fellow students in a challenging intellectual environment.
The Department’s highly regarded doctoral program enrolls twenty to twenty-four students each year. Doctoral students take required courses in microeconomic theory, macroeconomics, and econometrics. Students are also expected to complete four fields in economics (two major and two minor) and to pass general examinations in their major fields. The field options include advanced economic theory, econometrics, economic development, financial economics, industrial organization, international economics, labor economics, monetary economics, organizational economics, political economy, and public finance.

Graduates of the PhD program teach in leading economics departments, business schools, and schools of public policy. They work on congressional staffs and government advisory councils, and with organizations such as the World Bank, the International Monetary Fund, the National Economic Council, the Council of Economic Advisers, the Federal Reserve, and the Treasury Department. They are also found among the most influential positions in the market economy, ranging from corporate executives and portfolio managers to economic consultants.

Graduate Research

Graduate students work in intense collaboration with faculty to learn the craft of research. This occurs both in theoretical projects and in empirical fields, where learning-by-doing transfers information about data sets, research strategy, and econometric tools. Examples of recent projects include those by graduates Joshua Dean (PhD ’18) and Harry Pei (PhD ’18).

Joshua Dean used two experiments in Kenya to investigate whether noise exposure – a ubiquitous part of life in developing contexts – lowers worker productivity. He first estimated the impact of noise pollution by randomly exposing workers in a textile training course to engine noise. An increase of 10 dB (from the noise level of a dishwasher to a vacuum cleaner) decreased worker productivity by approximately 5%. The primary channel proposed in the psychology literature for noise to affect human performance is by impeding cognitive functions such as attention and working memory. Joshua explored this mechanism by conducting a second experiment where he randomly exposed individuals from the same population to engine noise while they completed cognitive assessments. The same noise change decreased cognitive function by 0.05 standard deviations but did not affect performance on an effort task. This suggests the returns to improving cognitive function are large. Finally, he assessed whether individuals understood these effects by allowing participants in both experiments to pay for quiet working conditions under different performance incentive schemes. Individuals’ willingness to pay was not affected by the wage structure, suggesting participants neglected the productivity effects of noise. Joshua is currently a Postdoctoral Fellow at the Institute on Behavior and Inequality and will join the University of Chicago Booth School of Business as an Assistant Professor of Behavioral Science in July 2019.

Harry Pei studied reputation building in interdependent value environments, that is, the reputation building agent has persistent private information that directly affects her opponents’ payoffs. This interdependence of values is relevant in many applications such as incumbent firms having private information about the market demand that affects the entrants’ profits from entering the market, merchants having private information about product quality that affects their customers’ willingness to pay. He showed that in general interdependent value

Incoming first-year PhD students in September 2018
environments, the reputation-building agent faces a trade-off between maintaining her reputation for commitment and signaling her payoff relevant private information. This trade-off only occurs under interdependent values, making reputation-building more challenging. He also identified an important class of games under which a patient agent can always overcome this new challenge and secure himself a high payoff by building reputations. He also identified situations in which interdependent values can contribute to the sustainability of reputations, in the sense that the reputation building agent will behave consistently over time and maintain his reputation for commitment in every equilibrium. These robust prediction results have interesting policy implications, ranging from the effectiveness of quality control programs to the necessity of anti-trust regulations.

Harry participated in the Review of Economic Studies Tour in May 2018, an opportunity afforded to only seven of the most promising graduating doctoral students in economics and finance in the world each year. The Tour brings these invitees to present their research at three European universities. Harry is now an assistant professor in the Economics Department of Northwestern University.

Workshops & Seminars

Graduate study at MIT consists of more than just satisfying the course requirements. Regularly scheduled department workshops and seminars offer a forum for students to learn about the latest research in their fields from invited speakers.

In contrast to the more formal nature of seminars, a key component of the dissertation advising system at MIT is a set of informal weekly “field lunches” at which students who have passed their general exams test new research ideas. The presentations can range from very early stage research, hardly more than a literature review and a few ideas for future work, to nearly-complete dissertation projects. The informality of these meetings makes it possible for students to explore research topics in a setting where no one is expected to present finished work. Faculty members view attending these lunches as a central departmental responsibility as well as a privilege.

Many past graduates of MIT’s PhD program report that field lunches were invaluable in providing them with a sounding board for new research topics. Since most thesis writers volunteer to present a talk each semester, the field lunches also have the important benefit of setting near-term, but manageable, deadlines for dissertation progress.

All students who have passed their general examinations are required to attend at least one workshop each week and to make a presentation in at least one field lunch during the course of the year. Many students present their research in multiple workshops and thereby obtain a range of different faculty and student input. First and second year students who are carrying out research are also welcome to participate in these workshops. Third year students are required to complete and present a third-year paper.
Economic research, whether abstract or applied, and economic policy advice, is rooted in economic theory. Substantial advances in economic science are usually based on new ways of thinking about and modeling economic phenomena. MIT’s commitment to economic theory is strong and is facilitated by a close collaboration between faculty members and students developing new theoretical insights, those performing empirical research, and those who are interested in framing public policy. Most of the MIT faculty members who work in economic theory also have serious research and teaching interests in one or more applied fields.

Many faculty members teach courses in economic theory, either as part of the core curriculum for graduate students, as graduate electives, or at the undergraduate level. This group includes Glenn Ellison, Drew Fudenberg, Bengt Holmström, Parag Pathak, Drazen Prelec, Robert Townsend, Michael Whinston, Alex Wolitzky, and Muhamet Yildiz. Other MIT theorists include Daron Acemoglu, George-Marios Angeletos, Abhijit Banerjee, Ricardo Caballero, Arnaud Costinot, Robert Gibbons, Alp Simsek, and Iván Werning. In addition, many MIT Sloan faculty members, including Alessandro Bonatti, Gonzalo Cisternas, and Andrey Malenko also have significant interests in economic theory.

MIT theorists carry out research that bears on both microeconomics and macroeconomics. The range of current research projects is extraordinary. Glenn Ellison is known for his work on learning in games and also works in theoretical industrial organization. Drew Fudenberg helped shape the fields of game theory and theoretical industrial organization. He is interested in a broad range of theory topics, with recent work on repeated games, learning and evolution, behavioral economics, experimental economics, and decision theory. Robert Gibbons focuses on the economics of organizations. He works most closely on organized activities, especially relational contracts. Bengt Holmström was awarded the Nobel Prize for his seminal work shaping the field of contract theory. Parag Pathak studies the economics of matching in a wide variety of contexts, most notably medical markets and public school choice. Drazen Prelec is actively involved in research and teaching on psychology and economics. Robert Townsend has made fundamental contributions to contract theory and currently works in both mechanism design and general equilibrium modeling. Michael Whinston is a leader in contract theory and antitrust economics. Alexander Wolitzky has worked a range of topics including repeated games, bargaining, and applications to political economy. Muhamet Yildiz is an expert on games of incomplete information and has written on delays and breakdowns in bargaining.

The MIT Economics Department is fortunate to have an ongoing visiting faculty arrangement with Nobel Prize winner Jean Tirole, an internationally acclaimed scholar who has worked in game...
Economics theory, industrial organization, and regulation. Tirole regularly teaches a summer course on specialized topics in economic theory that is very popular with graduate students in all stages of the PhD program.

Economic theory is part of the basic undergraduate microeconomics sequence at MIT. Because MIT undergraduates have a good command of mathematical methods and because economic theory relies on formalism and mathematical analysis, MIT’s undergraduate economic theory offerings are probably more rigorous than those at any other college or university. MIT’s introductory course “Principles of Microeconomics” is taught at the level of the intermediate microeconomics course at most other schools. This enables undergraduates to enroll in follow-up courses in advanced theory. Another popular undergraduate course explores applications of game theory in a wide range of economic settings, including business competition and individual decision-making. More advanced courses offer sophisticated undergraduate treatments of subjects (including incentives, advanced game theory, and market design) that even top universities usually only offer at the graduate level. Many former MIT undergraduates who have gone on to graduate studies in economics report that their undergraduate theory courses provided a very firm foundation for their graduate work.

Graduate students are required to pass four half-semester core courses in microeconomic theory. The first of these courses emphasizes price theory, the theory of consumers and producers, and general equilibrium analysis. The second focuses on game theory and provides the key equilibrium notions that are needed to analyze interactions between firms in an industry and between agents in many economic environments. The third course examines decision-theory and behavioral models of consumer behavior. Finally, the fourth course focuses on information economics and contract theory. It touches on questions of contract design, asymmetric information, moral hazard, and the working of insurance markets. Together, these four courses provide a comprehensive introduction to modern microeconomic theory.

Graduate students who plan to specialize in economic theory, and who expect to write dissertations in this field, select a minimum of two advanced courses on game theory, contract theory, and market design. Other courses cover a variety of more specialized topics such as bargaining theory, networks, decision theory, and dynamic optimization. While not all of these courses are required for students to take general exams in economic theory, most students who study economic theory as a major field enroll in virtually all of the advanced theory courses. The set of faculty members teaching the advanced theory courses varies from year to year, and the content of these courses often varies with the instructors.

Informal discussions take place at weekly theory lunches where graduate students may discuss current topics or present preliminary research ideas. These meetings provide support for students writing their dissertations in economic theory. Current research developments are presented at weekly MIT-Harvard theory seminars. These seminars, which host outside speakers, provide excellent opportunities for graduate students to learn what leading scholars are currently working on.
Macroeconomics

Macroeconomics studies forces that shape economic activity and welfare at the aggregate level, with topics that include economic growth, business cycles, financial crises, and related policy questions, such as fiscal and monetary policy.

Macroeconomics is a diverse field, with overlaps in many other areas. Empirical research in macroeconomics draws not only from econometrics but also from empirical work in labor economics and public finance. Macroeconomic theory draws heavily on microeconomic theory, as well as on game theory and contract theory. Students who plan to carry out research in macroeconomics and international economics often find that course work in economic theory is extremely helpful in identifying research topics and in providing analytical tools for potential dissertation research. Conversely, students interested in theoretical work are often motivated by the type of questions that are at the center of macroeconomics. There are important synergies between macroeconomics and other fields, especially international economics, both in international trade and international finance, which are emphasized by our program and represented by our faculty.

The Department offers three undergraduate macroeconomics courses, as well as a year-long graduate macro core and two graduate macro field courses. The undergraduate courses range from the introductory level to advanced seminars in which students assess and participate in current research. The advanced undergraduate macroeconomics course is comparable to the graduate offerings at many other economics departments.

All PhD students complete the graduate macroeconomics core, while advanced field courses cover leading edge research and prepare students to write dissertations in macroeconomics.

Many faculty participate actively in macroeconomic research, teaching, advising, student research workshops and seminars. Daron Acemoglu carries out theoretical and empirical research on determinants of economic growth, the development of political institutions, and the workings of labor markets. Marios Angeles studies the formation of expectations and the potential of coordination failures within the context of business cycles and financial crises. Martin Berajia works on business cycles, with a focus on empirical identification and estimation using regional data. Ricardo Caballero explores issues at the intersection of macroeconomics and finance, recently focusing on asset market crises and global capital flows. Alp Simsek analyzes financial markets, heterogeneous beliefs, and other topics at the intersection of finance and macroeconomics. Robert Townsend (p. 19) works on the design of financial...
Economics at MIT

contracts, institutions and markets and monetary economics. Iván Werning’s work spans a range of policy issues in macro as well as public finance, including monetary, fiscal, and macroprudential stabilization policies, as well unemployment insurance and capital taxation.

In addition to this core group, a number of other faculty in the department and MIT Sloan participate actively in macroeconomic research. Arnaud Costinot is a trade economist studying the welfare gains from trade and optimal trade policy. Jonathan Parker works in finance and macroeconomics, with an empirical focus on household behavior. John Van Reenen works on trade, innovation, and productivity. Andrew Lo and Antoinette Schoar work in finance and corporate finance at Sloan, Kristin Forbes and Roberto Rigobon in international macro. Finally, we are pleased to welcome back emeritus faculty member Olivier Blanchard (previously at IMF, now at the Peterson Institute), who visited us in 2017 to teach a course on a variety of international and macro policy issues.
Faculty Research

Regional Heterogeneity and the Refinancing Channel of Monetary Policy

The Federal Reserve responded to the 2007 financial crisis by cutting short-term interest rates and with quantitative easing — large-scale asset purchases from banks and other institutions that were supposed to encourage lending and stimulate the US economy.

Yet, in “Regional Heterogeneity and the Refinancing Channel of Monetary Policy”, Martin Beraja and co-authors Andreas Fuster, Erik Hurst, and Joe Vavra document that, while aggregate borrowing in the form of mortgage refinancing increased following the first round of quantitative easing (QE1), there was little refinancing response in the hardest hit regions. Since these regions had experienced the largest house price declines, most households simply didn’t have enough equity in their homes when interest rates fell and, in turn, could not refinance their mortgages in order to fund their current spending needs.

They build a theoretical model of household refinancing to explore the implications of this regional evidence for monetary policy. They find that the regional distribution of housing equity during the Great Recession hampered the ability of monetary policy to stimulate aggregate spending through the refinancing channel, whereas the opposite occurred in some earlier recessions. Furthermore, the fact that monetary stimulus largely flowed to the regions which needed it least implied that monetary policy increased regional consumption inequality.

Because the distribution of housing equity both varies over time and shapes the consequences of monetary policy, they conclude that it is important for policy makers to track this variation.

Economics students: Where are they now?

Grace Koo (SB ’92) is the Global Head of Talent Acquisition at AQR, the quantitative global investment management firm headquartered in Greenwich, CT. In her current position, she is responsible for all aspects of talent acquisition for AQR – including both experienced and campus hires.

Prior to her role at AQR, she was a Managing Director of Credit Suisse, and a member of the Equities Global Operating Committee, based in New York. She was Americas Head of Equity Derivatives Structuring & Strategy, and was responsible for the creation of equity derivative products and risk management solutions for the largest hedge funds, asset managers, financial institutions and family offices, spanning across OTC and exchange-listed platforms. Prior to this role, Koo ran various other derivatives desks for Credit Suisse in the Global Securities Division, including heading Equity Derivatives Sales for Institutional Investors in the Americas. She was based in London for five years before repatriating in 2001, during which time she ran both the Global Foreign Exchange Structuring team as well as the Global Equity Derivatives Structuring team.

Koo began her career at Bankers Trust, trading fixed income derivatives for U.S. corporate clients, before she joined Credit Suisse Financial Products in 1995. She received her SB in Economics from the Massachusetts Institute of Technology in 1992, and is a member of the MIT Corporation’s Economics Visiting Committee. She lives in New York City with her husband and their two sons.
The “Home Market” Effect

Do countries with larger domestic markets for some products tend to sell more of the same products in foreign markets? The idea that local demand may stimulate exports is an old one. First hypothesized by Staffan Linder and later formalized by Paul Krugman, the so-called home-market effect has become a central tenet of the new trade theory and the new economic geography literature. In terms of policy, it implies that import protection may be used as export promotion, a view often more popular in business communities than among economists.

To establish the empirical validity of the home-market effect, one must overcome a key challenge. While theory predicts that the cross-country differences in demand cause patterns of international specialization, it is hard to draw the causal link between the two. National accounts, for instance, may report how much a country spends on a particular good. But expenditures depend on prices, which themselves depend on supply, not just on demand conditions.

In “The More We Die, The More We Sell? A Simple Test of the Home Market Effect,” faculty members Arnaud Costinot, Dave Donaldson, and Heidi Williams, along with Margaret Kyle (PhD ’02), focus on the global pharmaceutical industry as a way to address this empirical challenge. Their strategy builds on the basic observation that countries whose populations are more likely to suffer from particular diseases are also more likely to have high demand for drugs targeting those diseases. This could be related in turn to exogenous demographic characteristics such as the age of the population. Their test of the home-market effect then asks whether countries tend to export more of the drugs for which they have higher predicted disease burdens.

The answer is a resounding yes. Countries which, because of their demographic mix, have more demand for certain types of drugs also are the ones more likely to export those drugs to other countries. In short, the more we die (at home), the more we sell (abroad).
Underdevelopment is one of the most profound problems in economics, and it may be the problem with the greatest human impact. At MIT the study of development economics has a long tradition, beginning during Paul Rosenstein-Rodan’s tenure, continuing through the work of Richard Eckaus, and today represented by a development economics group that is one of the most impressive in the world, with expertise that spans both microeconomic and macroeconomic perspectives on development.

Abhijit Banerjee is both an applied theorist and an empirical economist, with a strong commitment to studying problems in development economics using all tools. He is currently working on issues involving credit, networks, education and political economy. Esther Duflo is primarily interested in empirical issues that arise in the study of poverty alleviation, ranging widely across topics that include education, policy implementation, and livelihood programs. Benjamin Olken is an expert on public sector operations in developing countries, focusing on the challenges that corruption and governance raise for development policy and how to design effective anti-poverty strategies. All three are pioneers in the use of randomized controlled trials in testing and designing policy, and they co-direct MIT’s Abdul Latif Jameel Poverty Action Lab. Frank Schilbach works on behavioral economics and development: how do the behavioral limitations we all have interact with poverty and potentially contribute to its persistence? Robert Townsend is an economic theorist with substantial interests in financial issues and the role they play in driving development.

Two faculty members, Dave Donaldson and David Atkin, work at the intersection of trade and economic development. Dave Donaldson (p. 18) combines theory with empirics to answer core questions in trade, from his work using the expansion of railroads in India to estimate the gains from greater economic integration to his papers using data on soil suitability for different crops to test Ricardo’s theory of comparative advantage. David Atkin (p. 18) asks: do the poorest and most remote locations within poor countries benefit more or less from international trade than others? Do firms learn from exporting? He works with both structural methods and experiments.

Many of the core issues that confront developing economies have close parallels in developed nations, and the set of MIT faculty who have studied economic policy in developing nations includes many members in addition to the group that teaches development economics. Daron Acemoglu (p. 16) works on a broad set of issues involving economic growth and the political economy of institutions and development. Joshua Angrist (p. 25) has studied education policy in a number of developing nations.

The Department offers a three-semester course for graduate students in development economics, as well as three popular undergraduate courses on economic development. In addition, in 2016-2017 the Department launched an online MicroMasters in Data, Economics, and Development Policy through MITx. The courses offer students an opportunity to use tools from microeconomic and macroeconomic theory, as well as political economy, to study a range of interesting policy issues in developing nations. The Department also hosts a joint seminar with Harvard that attracts faculty interested in development economics from both institutions.

Many alumni of the department work at international organizations, such as the World Bank and the International Monetary Fund, where they help to design and implement economic policies for developing nations.
Using Gossips to Spread Information: Theory and Evidence from Two Randomized Controlled Trials

In the corridor of a government building in Orissa, India, once upon a time, there was a sign “Gossiping offends all. Please avoid it now.” Despite the admonition, in the village tea shop and around the water cooler in office building, much information gets transmitted informally. Can gossip be used for the important social goal of transmitting useful and useable information? This is not an unknown idea. Firms, NGOs and government extension agents often use selective seeding of key informants or influencers to diffuse information. This is how Google spread Gmail, but it is also the idea behind the use of “lead farmers” in agricultural extension, “community health workers” in public health, “village leaders” in microfinance, etc.

This strategy obviously works best when we identify the right people to start the process with. One idea from network theory is that the best seeds are central in the social network in the sense that they have many friends who themselves have many friends. But how to find these people? Mapping the whole network is just too expensive. One simple alternative might be to ask who is the “village (or department) gossip”. Introspection suggest that we often have a pretty clear idea of who that might be.

In “Using Gossips to Spread Information: Theory and Evidence from Two Randomized Controlled Trials”, Abhijit Bannerjee and Esther Duflo, along with co-authors Arun Chandrasekhar (PhD ’12) and Matthew Jackson, conducted two field experiments in India to address this question. They first asked a few villagers who the village gossip might be—surprisingly, there seems to be a lot of consensus on this question! Then, in randomly selected villages, they conveyed some information to the village gossip. In the rest, they gave the same information to the same number of randomly selected people. In one of the two locations, Haryana in North India, the seeds received regular text messages reminding them to remind their friends about the importance of immunization.

It turned out that in Haryana, for example, informing random persons was no better than informing nobody in terms of getting children to the immunization camp, but that number was 27% higher when a gossip was informed than when a random person was informed. In the second experiment in Karnataka in Southern India, the number of people who showed up for a raffle doubled when a gossip was informed. In Karnataka, where they had data on the network, the paper confirms that the gossips are indeed more “central” in the network. Identifying gossips offers a cheap and effective way to spread information: in Haryana informing the gossips is as effective as providing financial incentives to households and much cheaper!
Econometrics

Econometrics research and teaching at MIT blend the theory and practice of economic data analysis. Econometrics provides fundamental approaches to using data to understand underlying structural and causal relationships and finds application in a wide range of topics in both microeconomics and macroeconomics.

Alberto Abadie’s research interests lie in the areas of econometric methodology and applied econometrics, with special emphasis on causal inference and program evaluation methods. His research has contributed to advances in a variety of topics, including treatment effect models, instrumental variable estimation, matching estimators, difference in differences, and synthetic controls. His current work develops methods to identify and estimate patterns of heterogeneity in treatment effects. Victor Chernozhukov carries out wide-ranging research in econometric theory. Topics include model and variable selection, high dimensional models, shape restrictions, set inference, quasi-Bayesian estimation, endogeneity, and quantile estimation. He applies these methods to novel and classical economic problems, often in collaboration with other MIT faculty or students. Emeritus professor Jerry Hausman has long-standing interests in specification testing, panel data, estimating the effect of taxes, discrete choice, and demand analysis. Anna Mikusheva’s recent work concerns weak identification, including conditional inference in GMM and geometric methods with weak identification. She has worked on the problems of statistical inference when time series are nearly nonstationary and weak identification in empirical macroeconomic models. Whitney Newey has worked on nonparametric instrumental variables estimation, correcting for endogeneity in nonseparable models, estimators with a nonparametric first stage, empirical likelihood, nonlinear panel data, and constructing standard errors. His recent interests include machine learning of structural models and econometric models with general unobserved heterogeneity.

In addition to the econometrics faculty members who teach in the core, several other faculty members in the Economics Department and MIT Sloan teach and advise students on econometric issues. These include Joshua Angrist, a leader in developing and applying causal inference for observational data, and Andrew Lo of MIT Sloan, who studies the econometrics of financial markets and is an author of a leading text in this field.

Conditional Inference with a Functional Nuisance Parameter

Economists are often interested in understanding causal relationships between different variables, since such relationships play a central role in determining the impact of economic policy. Unfortunately, however, even the largest datasets sometimes contain little useful information for estimating such relationships. Commonly-used econometric techniques can yield highly misleading conclusions in such contexts, greatly understating uncertainty about the relationships of interest. The features of the data which determine if these conventional techniques will be reliable are themselves difficult to assess, with the result that it can be hard to determine whether many procedures will perform well in a given application. In “Conditional Inference with a Functional Nuisance Parameter,” Anna Mikusheva, along with co-author Isaiah Andrews (PhD ’14), constructs a functional variable which fully captures the ability of the data to inform the relationships of interest, even in complicated, nonlinear generalized method of moments (GMM) models. By taking this variable into account when conducting inference, they provide techniques that yield accurate assessments of uncertainty regardless of the amount of information in the data, and at the same time are as informative as conventional techniques when the latter are reliable.
How do We Deter Bad Actors When Information is Imperfect?

In the study of conflict, deterrence theory holds that the credible threat of retaliation in response to an attack prevents forward-looking adversaries from launching attacks in the first place. Deterrence has helped prevent war among the world’s great powers for decades. But recent developments in cyberwarfare present a new set of challenges for deterrence, which raise questions about its future effectiveness.

Central among these new issues is imperfect attribution: the difficulty in determining who is responsible for an attack, or even if an attack occurred at all. As William Lynn, former U.S. Deputy Secretary of Defense, put it in 2010, “Whereas a missile comes with a return address, a computer virus generally does not.” Imperfect attribution weakens deterrence in an obvious way: multiplying a penalty by the probability of correct attribution reduces the expected penalty. But the effects of imperfect attribution on deterrence are much richer than this.

In “Deterrence with Imperfect Attribution,” Alexander Wolitzky, along with Sandeep Baliga and Ethan Bueno de Mesquita, construct a model to analyze these effects, allowing multiple potential attackers may attack a defender. The defender receives an imperfect signal of who (if anyone) attacked, and then chooses whether to retaliate against one or more attacker. The defender benefits from retaliating against the right attacker but suffers an additional loss if she retaliates against the wrong one.

They derive three types of results. First, they show that a kind of strategic complementarity arises among the attackers: when one attacker becomes more aggressive, this makes the defender more suspicious of that attacker after any signal, and hence more likely to retaliate against that attacker. But this necessarily makes the defender less suspicious of any other attacker after any signal, and thus makes other attackers less likely to face retaliation. This in turn makes other attackers more aggressive. For example, if Russia becomes more aggressive in cyberspace, this encourages other potential attackers like China or North Korea to also become more aggressive, because they can effectively “hide behind” Russian aggression.

Second, they study the role of the defender’s information in deterring attacks. Somewhat surprisingly, improving either the defender’s ability to detect attacks or her ability to identify the source of attacks does not always reduce attacks. However, simultaneously improving both detection and identification—in that some attacks which previously went undetected are now both detected and unambiguously attributed—is shown to always reduces attacks.

Finally, they consider the role of commitment to a retaliatory strategy. Deterrence is improved if the defender can commit to retaliate more aggressively (relative to the case without commitment). However, she should retaliate more aggressively only after relatively more informative signals.
Industrial Organization and Regulation

The field of industrial organization and regulation analyzes the strategic behavior of firms, the effect of government policy, and more generally, the structure, behavior, and performance of product and service markets. MIT Economics regularly offers undergraduate courses in industrial organization, e-commerce, health economics, and energy economics. The main PhD field sequence in industrial organization comprises three semester-long courses that develop the theory of and empirical approaches to oligopoly, antitrust, and regulation during the first two semesters, and focuses in the third semester on hands-on experience with structural econometric methods used in industrial organization and other related applied microeconomic research. The methods course is strongly recommended for students writing dissertations in industrial organization and has been popular among graduate students in related fields as well. Current research papers by local and outside researchers are presented in the Industrial Organization workshop, which meets jointly with the Harvard Industrial Organization workshop several times each year. In addition, there is a weekly lunch at which graduate students present their work-in-progress to faculty and fellow graduate students.

The department has a strong and vibrant research presence in industrial organization. Nikhil Agarwal brings skills in economic theory and econometrics to bear on a variety of problems, particularly those involving market design and two-sided markets, including organ donor and school matching programs. Glenn Ellison’s (p. 14) research spans a broad range of theoretical and empirical analyses across the field of industrial organization. His recent work includes analyses of the implications of consumer deviations from neoclassical optimizing behavior for firms and markets, the design and performance of various internet-based markets, and determinants of firm location decisions and agglomeration. Sara Fisher Ellison has done important work on the digital economy and the economics of the pharmaceutical industry, and has broad interests in how political and market institutions influence strategic decisions by firms. Nancy Rose is an expert in the economics of regulation who studies the effects of regulation and market competition on performance in a range of energy and transportation markets. Her current research targets questions in competition policy, building on recently-completed service in the leadership of the Department of Justice Antitrust Division. Tobias Salz, who will join the department in January 2019, focuses on the role of intermediaries in markets with imperfect information and costly search by consumers. Michael Whinston has made significant contributions to contract theory, organizational economics, and industrial organization, and his research on antitrust economics has shaped both the academic literature and the practice of competition policy. He is also an author of well-known graduate and undergraduate micro theory texts. His current theoretical and empirical research includes work on horizontal and vertical mergers, health insurance markets, and incentive provision in health care.

In addition to these core faculty, a number of associated faculty enrich the experience of students working in industrial organization. The MIT Economics Department is fortunate to have an ongoing visiting faculty arrangement with recent Nobel Prize winner Jean Tirole, who guest lectures in MIT’s graduate industrial organization courses during each semester’s visit. John Van Reenen studies the causes and consequences of technological and organizational innovation and how these are influenced by public policy, with particular empirical interest in firm productivity. Sloan faculty member Christopher Knittel teaches the department course on energy markets, one of his many research interests that span a range of topics, methods, and industries. Jing Li, also at Sloan, works on energy and environmental economics. Supplementing these teaching faculty are a number of applied microeconomics faculty members in the Economics Department and Sloan School. These include Paul Joskow, who returned to the department this year after a decade as President of the Alfred P. Sloan Foundation, and Sloan Applied Economics faculty members Richard Schmalensee, Robert Pindyck and Ernst Berndt.
The Fall of the Labor Share and the Rise of Superstar Firms

Labor’s share of economic output, the ratio of wages and compensation to national income, has declined in the last three decades in most developed nations. The falling labor share, coupled with a slowdown of economic growth in industrialized countries, means that workers are getting a shrinking slice of a barely-expanding pie. Research has focused on two potential drivers of the falling labor share: advances in labor-replacing technologies and growing offshoring of labor-intensive tasks. Drawing on U.S. and international data, research by David Autor and John Van Reenen—along with MIT graduate student Christina Patterson, and David Dorn and Lawrence Katz (PhD ’85) of the University of Zurich and Harvard University respectively—identifies a third factor: the rise of “superstar firms” that dominate their sectors. They find that on average, the greater the share of an industry’s sales that are concentrated among a small group of leading firms, the larger the decline in labor’s share of that industry’s output. Surprisingly, most firms are not experiencing a fall in the share of their revenues going to labor—which suggests that labor-replacing technologies are probably not the primary driver. Rather, superstar firms with low labor shares are capturing an ever-greater share of the market, thus pushing down the aggregate labor share. Why are superstar firms becoming more prominent? The growth of concentration and fall in labor share is disproportionately evident in industries with high rates of innovation, measured either by the growth of patent-intensity or total factor productivity. This pattern suggests—though does not prove—that technological dynamism, rather than labor-replacing technologies or canonical anti-competitive forces, may be an important driver of the trend.

Christina D. Romer (Ph.D. ’85) is the Class of 1957-Garff B. Wilson Professor of Economics at the University of California, Berkeley. She has been a member of the Berkeley faculty since 1988. Romer served as Chair of the U.S. Council of Economic Advisors from January 2009 until September 2010, one of the most challenging macroeconomic periods in the last half century, and she played a key role in the design of the fiscal stimulus package that was enacted in the aftermath of the 2008 financial crisis.

Romer’s research focuses primarily on macroeconomic fluctuations and the effects of monetary and fiscal policies on economic activity. Her doctoral dissertation challenged the conventional wisdom that output volatility was substantially lower in the years after World War II than in previous decades, and she has studied the role of the Great Crash of the stock market in 1929 in causing the Great Depression. Her recent research, which has been conducted in collaboration with her husband and Berkeley colleague, David H. Romer (also Ph.D. ’85), uses the “narrative approach” to develop new evidence on how tax cuts, transfer payments, and monetary shocks affect national output. This approach blends information from the narrative record—presidential speeches, transcripts of Federal Reserve meetings, and Congressional reports—with conventional statistics to help identify causal relationships.

In March 2018, Romer received MIT’s Robert A. Muh Award in the Humanities, Arts, and Social Sciences, recognizing her contributions in both scholarship and public service. In a lecture on the occasion of the award presentation, “The Aftermath of Financial Crises: What Happens and Why?” Romer demonstrated that financial crises last longer, and are associated with greater cumulative declines in output, in countries that have little capacity for expansive monetary or fiscal policy at the start of the crisis than in countries that have substantial capacity.

In 2006, Romer served as Vice President of the American Economics Association, and for more than a decade, she and David Romer were co-directors of the Monetary Economics Program at the National Bureau of Economic Research. Romer is a fellow of the American Academy of Arts and Sciences, has been a contributor to the New York Times, and has received the Council for Economic Education’s Visionary Award. She holds an honorary doctorate from the College of William and Mary, her undergraduate alma mater.
Labor Economics

Labor economists study the economic forces that determine wages and employment. The undergraduate labor course provides an overview of supply and demand in the labor market, human capital, and the distribution of income and wages. This course emphasizes the power of microeconomic reasoning and simple econometric tools to answer important economic questions. Graduate students may take a two-semester course on modern empirical and theoretical labor economics, as well as more advanced courses on labor topics and on the econometric methods that are of special interest to labor economists.

A distinguished group of MIT faculty specializes in labor economics. Daron Acemoglu (p. 16) has addressed core theoretical questions in labor economics, including the effects of training, the design of optimal unemployment insurance, and the links between skill, technology, and the wage structure. Joshua Angrist, a leader in labor metrics, studies human capital, immigration, and a host of public policies. His current research focuses on econometric methods for program and policy evaluation and the effects of schools and school reform on human capital and earnings. David Autor’s work analyzes the effects of technological change and international trade on the labor market. Autor’s research has shaped the national debate on the effects of rising international trade flows on U.S. manufacturing employment, and the distributional consequences of trade across workers and local labor markets. Simon Jäger combines an interest in core labor issues—job search, bargaining, and the value of workers’ firm-specific skills to their employers—with strong applied econometrics expertise. Parag Pathak (p. 14) uses economic theory to design school choice mechanisms—including those now used in Boston, New Orleans, New York, and Chicago. In ongoing work with Angrist and many students, Pathak has been developing sophisticated econometric strategies that leverage the quasi-experimental variation embedded in modern school assignment schemes for policy evaluation. John Van Reenen studies labor market issues at the intersection of productivity and industrial organization. He is particularly interested in management practices, innovation, and the effects of product market structure. Heidi Williams (p. 27) studies the determinants of technology and innovation and the many effects of these powerful forces, with a particular focus on technological change in health care.

Many other colleagues are interested in labor topics and interact regularly with the core labor team. For example, public finance economists Amy Finkelstein and Jonathan Gruber study the impact of health insurance, disability programs, and other government policies on labor markets, while development economists Abhijit Banerjee, Esther Duflo, and Frank Schilbach study labor markets in developing countries. Econometricians Alberto Abadie, Victor Chernozhukov, Anna Mikusheva, and Whitney Newey teach and advise labor students, keeping them on the econometric frontier.

Faculty Research

Robots and Jobs: Evidence from US Labor Markets

As robots and other computer-assisted technologies continue to spread throughout the economy, many are concerned that we are at the verge of a future without (many) jobs. Yet others draw parallels to previous episodes of rapid technological change that ultimately fueled rapid wage growth and view these concerns as unfounded. What we lack is empirical evidence on the implications of this new wave of technologies. Recent research by Daron Acemoglu and Pascual Restrepo (PhD ’16), “Robots and Jobs: Evidence from US Labor Markets,” argues theoretically why new technologies replacing tasks previously performed by labor may reduce employment and wages, and provides empirical evidence that suggests that industrial robots have indeed done so. Their research design compares local labor markets that are more exposed to the spread of robots, because they have historically housed industries where industrial robots are making rapid inroads, to less exposed local labor markets. Their estimates show sizable negative effects on employment and wages. For example, one more robot per 1000 workers, which is approximately the increase in the stock of robots in the United States between 1993 and 2007, is predicted to reduce local employment by about 0.37 percentage points and local wages by about 0.73% during the 18 years straddling this time window. These estimates are robust to controlling for pre-existing trends and various other concurrent economic changes. These implied declines are far from trivial and militate against the view that new technologies always increase labor demand and thus we should have no concerns about the labor market implications of robots. Yet, they do not provide any support for the alarmist view that robots will spell the end of work either; only a small fraction of workers are affected by the spread of works and the implied wage declines are small.
Phoebe Cai graduated from MIT in June 2018, double-majoring in economics and math. Her most memorable Course 14 moment was working as a UROP for Donghee Jo (PhD ’18) and Mathew Lowe (PhD ’18) on a project studying the effect of adjacent seating on political polarization in parliaments. She enjoyed how the project allowed her to use data analysis tools, such as natural language processing, that she had previously only used in computer science classes to study important social questions. After graduation, Cai enrolled in the PhD Economics program at Harvard University, and this UROP played a large part in her decision to pursue her PhD.

Cai took full advantage of the many opportunities offered in MIT student life. In addition to being a member of the Undergraduate Economic Association, she was also a member of the Undergraduate Society of Women in Math, and Lean on Me, the student support network. Cai was also an MIT Admissions blogger, giving interested students from all around the world a window into what life is like as an undergraduate at MIT.

SEII researchers address major policy questions related to education and the workplace. Co-directed by Professors Joshua Angrist, David Autor, and Parag Pathak, SEII focuses on the economics of education and the connections between human capital and the American income distribution.

SEII works with education policy-makers at the state and district level. Partners include the Massachusetts Department of Elementary and Secondary Education, the Boston Public Schools, the New York and Denver Public School Districts, and the Recovery School District in New Orleans. SEII also works with leaders and teachers at dozens of charter schools. The team’s higher education partners include Nebraska’s state and community colleges and universities and the Susan Thompson Buffett Foundation. SEII’s work is supported by government grants from the National Science Foundation and the Institute for Education Sciences, as well as many foundation partners, including the Arnold Foundation, the Sloan Foundation, and the Spencer Foundation.

The debate over the effects of school choice and school reform is one of the most vigorous and exciting in the human capital policy arena. The discussion in this context often compares alternative school models, such as charter schools and voucher-funded private schools, with traditional public schools. The SEII team provided the first rigorous lottery-based (randomized) impact evaluation of the iconic KIPP charter school network. The SEII team also produced the first randomized evaluation of Boston’s charter and pilot schools. Many school districts rely on formal game-theoretic matching schemes to give their students a choice of schools. SEII researchers helped to design and implement these matching mechanisms in Boston, Chicago, Denver, New York, and New Orleans. SEII researchers use these mechanisms, which typically include an element of random assignment, to provide credible measures of school quality and to assess broader effects of school choice. SEII research also looks at the effects of college outreach, financial aid, and academic support services on large numbers of public college and university applicants. In a recent evaluation, SEII researchers have shown how a small increase – adding one additional score report for ACT test takers – can boost college application rates for low-income students.

Over the last decade, research on the labor market consequences of workplace automation and rising international trade has shaped the national debate on the causes of U.S. and international income inequality. SEII’s publications and reports have illuminated the role of computerization in catalyzing employment ‘polarization’— the simultaneous growth of high-education, high-wage and low-education, low-wage jobs—by substituting robots for workers performing routine job tasks. Overturning conventional wisdom, SEII’s recent work on trade has documented the profoundly disruptive impact of international competition on U.S. manufacturing workers. Most recently, SEII researchers have explored the central role of education and skills in determining the lifetime earnings of workers at all levels of the income distribution.

In addition to cutting edge research, the SEII mission includes education and training. SEII hosts post-docs; provides data access, mentoring, and financial support for many graduate students; and offers research assistantships to talented undergraduates interested in empirical economics.
Public Economics

Public economics explores the economic effects of government tax and expenditure policies, as well as the optimal design of these policies. The field studies questions such as the impact of individual and corporate income taxation on the behavior of individuals and firms, the effect of social insurance programs such as Social Security, Medicare, Medicaid, unemployment insurance, and the Supplemental Nutrition Assistance Program (SNAP) on beneficiaries, and the economic impact of direct government spending programs in areas including education, defense, infrastructure, and healthcare.

Undergraduate offerings include an introductory course in public economics, environmental economics, and innovation policy. The department offers graduate students a two-semester public economics sequence that covers core material on taxation and social insurance programs and a course on health economics that touches on many issues related to the public sector.

Seven faculty members have substantial research programs in public economics. Amy Finkelstein works on market failures in insurance markets and government intervention in health care markets. Jonathan Gruber studies a range of government-provided social insurance programs, also with a focus on health issues. Jeffrey Harris is a health economist whose work touches on issues in public economics. Simon Jäger (p. 25) analyzes the labor market consequences of social insurance programs. James Poterba specializes in the economics of tax policy, with a focus on policies that affect retirement security. Iván Werning (p. 16) works on optimal tax and social insurance design, including the taxation of high-income households, capital and estate taxation, and unemployment insurance. Heidi Williams analyzes public policy toward intellectual property as well as issues in health economics, particularly related to medical innovations. Emeritus Professor Peter Diamond continues an active research program on Social Security and other aspects of social insurance programs.

Undergraduates in Economics Research

MIT graduating senior Olivia Zhao (SB ’18) assisted Professor Jonathan Gruber with his research into why the US government and private firms seem to underinvest in some areas of R&D as compared with other countries. They explored such questions as what the potential economic benefits of incentivizing cleantech startups to manufacture in the US could be and what characteristics make research or science parks economically beneficial to the local economy.

Zhao found that the most important preparation for her project was understanding the social and political context of economics questions. Through the courses she took prior to and during her project with Professor Gruber, she had a clearer understanding of the overall context of the economic questions they were working on.

Zhao’s favorite part of her UROP experience was the ability to see and participate in new research as it unfolds. She enjoyed the challenge of there being no template for research, and having to get creative in order to figure out how to approach difficult questions.

Zhao was awarded a prestigious Marshall Scholarship for study in the United Kingdom. She is currently studying for a master’s degree in economics at Oxford University.
Health Economics

Health Economics is a rapidly growing area of research interest, particularly in the aftermath of the passage of the Affordable Care Act and continuing debates over its future. The continued growth in health care costs, and the availability of high quality data and novel research questions, have prompted a large number of students to carry out research in health economics. Their work is supported by a large faculty group with strong interests in health economics. Nikhil Agarwal (p. 23) works on matching in medical markets both for medical students and human organs. Amy Finkelstein (p. 27) studies private market failures and government intervention in health insurance markets and the economics of healthcare delivery. Jonathan Gruber (p. 27) studies public policy towards health insurance in a variety of contexts, such as tax subsidies to employer sponsored insurance, expansions of Medicaid, and the use of choice-based exchanges to promote insurance coverage. Jeffrey Harris (p. 26), who holds an M.D. as well as a PhD in economics, works on the economics of health issues ranging from AIDS to smoking. Heidi Williams (p. 27) analyzes the development of innovative technologies in medical care and the returns to higher medical spending. The Economics Department offers an undergraduate course in health economics, as well as a graduate course.

Political Economy

Political economy is the subfield of economics that studies the interplay of political factors, political institutions, and economic incentives. It focuses both on the determination of a broad range of policies and the implications of political factors on economic outcomes. Daron Acemoglu (p. 16) studies the theoretical and empirical links between institutions and economic growth and development as well as the dynamics of political institutions, the interplay between conflict and cooperation, and the role of state capacity. Abhijit Banerjee (p. 19) works on various issues at the intersection of political economy and economic development. Benjamin Olken (p. 19) studies the role of political leaders in affecting policy outcomes and economic growth and the implications of corruption in developing economies. Daron Acemoglu, Abhijit Banerjee, and Benjamin Olken offer a graduate course on the political economy of institutions and development. The department also offers a second graduate course on theoretical and empirical approaches to political economy, which, together with the political economy of institutions and development course, makes up the political economy general field. Other faculty working on political economy issues include Esther Duflo, who has worked on the effect of village-level political institutions on women’s representation, and Alex Wolitzky, who has examined conflict, repression, coercion and foundations of societal cooperation. Simon Johnson, a member of the MIT Sloan faculty, works actively on the links between political institutions and economic development. Graduate students interested in political economy can also enroll in a number of other courses that are offered by the Political Science Department.

J-PAL North America

Developing successful public policies to combat poverty, improve schools, promote health, and address other social issues is a difficult and complex task. Policymakers often lack credible evidence on the efficacy of social programs. J-PAL North America (NA) was launched at MIT in 2013 to advance J-PAL’s goal of reducing poverty by ensuring that policy is informed by scientific evidence. Drawing on J-PAL’s established credibility in the international sphere, J-PAL NA brings J-PAL’s proven model to the region. J-PAL NA’s network of 60 affiliates has completed over 160 randomized evaluations in four countries.

J-PAL North America specializes in helping decision makers generate scientific evidence through the use of randomized controlled trials. J-PAL North America’s work spans a wide variety of areas. Among the major efforts of the organization are to study how the use of health care services affects patient outcomes and costs (through the Health Care Delivery Initiative); a push to develop a better understanding of crime and violence and alternatives to incarceration; and analyses of how technology can allow for personalization of educational content, with a goal of improving learning outcomes. Other areas of study include criminal justice and the courts, the environment, labor markets and homelessness. Through the State & Local Innovation Initiative, the organization works closely with leaders in government to provide funding, technical support, and collaboration with preeminent researchers in order to answer high-priority policy questions. This fall, J-PAL NA is launching a Work of the Future Initiative to understand effective, evidence-based strategies to increase opportunities for workers and reduce the economic barriers and social challenges associated with the changing nature of work. This initiative is co-led by David Autor (MIT) and Matt Notowidigdo (’03, MA ’04, PhD ’10) (Northwestern). Policy staff also work to share policy lessons, conduct trainings, and encourage evaluation with partners at every level of government and with a variety of social organizations.

J-PAL North America is led by two Co-Scientific Directors. Amy Finkelstein (PhD ’01) (MIT) is a leading health economist and one of the principal investigators of the Oregon Health Insurance Experiment. Lawrence Katz (PhD ’86) (Harvard) served as Chief Economist for the U.S. Department of Labor during the Clinton Administration and is the principal investigator of the long-term evaluation of the Moving to Opportunity housing mobility program. Affiliated professors at MIT include Economics Professor David Autor and Sloan Professor Joseph Doyle, the Co-Chair of J-PAL’s Health sector.
Faculty Research

The Economic Impact of Hospital Admissions

Poor health is a major source of economic risk for adults in the United States. As a result of major expansions of public and private health insurance coverage through the 2010 Affordable Care Act, the vast majority of Americans now have health insurance. But little is known about their remaining exposure to economic risk from adverse health events.

In “The Economic Impact of Hospital Admissions”, Amy Finkelstein (PhD ’01) and co-authors Carlos Dobkin, Ray Kluender (PhD ’18) and Matthew J. Notowidigdo (’03, MA ’04, PhD ’10) examine the economic consequences of unexpected health shocks (non-pregnancy related hospital admissions) for adults in the United States. To do so, they follow individuals before and after a hospital admission in both panel survey data and by linking nearly each of nearly a million hospital admissions records to the 10 years of the patient’s credit reports.

A key finding is that, even when they are covered by health insurance, hospital admissions impose substantial economic costs on non-elderly adults. For non-elderly adults with health insurance, hospital admissions substantially reduce earnings and income. To put these numbers in perspective, they estimate that for 50-59 year olds with health insurance, the approximately 20 percent decline in long-term earnings they experience following a hospital admission are comparable to previous estimates of the long-term economic consequences of job displacement. As a result, they estimate that only about 50 percent of the total economic consequences of the hospital admission (i.e. medical costs plus earnings losses) are covered.

Thus, while the vast majority of Americans have insurance covering much of their medical expenses, they still face substantial exposure to uninsured economic consequences of adverse health shocks. This stands in stark contrast to other countries (such as Denmark), where a combination of public and private insurance programs covers most of the economic repercussions of negative health events.

Economics Department Visiting Committee

Roger Altman, the Chair of the Visiting Committee, is Founder and Senior Chairman of Evercore, which, in most years, is the most active independent investment bank in the United States. He served two tours of duty in the U.S. Treasury Department, initially serving President Carter as Assistant Secretary for Domestic Finance and later serving President Clinton as Deputy Secretary.

Mr. Altman is a Trustee of New York-Presbyterian Hospital, serving on its Finance Committee and is member of the MIT Corporation. He is also a Director on the Board of New Visions for Public Schools and is a member of the Council on Foreign Relations. He received an A.B. from Georgetown University and an M.B.A. from the University of Chicago.
Organizational Economics

As one might expect, organizational economics (OE) studies the design and performance of organizations. Three further aspects of the field may be more surprising: (1) these organizations include not just firms but also schools, hospitals, government agencies, and more; (2) a great deal of economic activity occurs inside private- and public-sector organizations, rather than in market transactions; and perhaps most surprising (3) there is substantial heterogeneity in the productivity of organizations operating in apparently very similar environments.

This heterogeneity is evident from large-scale datasets in all countries and industries. As a result, there may be important opportunities to improve economic welfare and growth by understanding the drivers of performance in organizations. For example, the intense recent interest in the performance of the healthcare sector focuses much attention on how healthcare organizations should be organized and how they can perform more efficiently. Other fields of economics—including development, education, IO, labor, macro, political economy, and trade—have also begun to explore organizational issues.

OE can be divided into two broad topics: “between firms” and “within firms.” Under “between firms,” one of the classic questions is the “make or buy” problem of vertical integration: where should the boundary of the firm be? Other topics include lateral integration (conglomerates, related diversification), contracts between firms (whether court- or self-enforced), and “hybrid” organizational forms (such as alliances, networks, and joint ventures). By contrast, under “within firms,” classic topics include: employment in organizations (such as pay for performance, skill development, job assignment); structures and processes in organizations (hierarchy, decentralization, resource allocation, transfer pricing); and decision-making in organizations (power, politics, influence). Both within and even between firms, management practices and organizational culture have become frontier topics in OE.

Many of these topics are not the exclusive preserve of OE. To the contrary, within-firm topics are also studied in labor economics (employment) and corporate finance (resource allocation, transfer pricing), and between-firm topics are also studied in industrial organization (vertical integration) and law and economics (contracts between firms). Similarly, many of these topics are also studied by other social sciences (such as social psychology, economic sociology, and political economy) and by some management fields (such as corporate strategy, human resource management, marketing, and operations).

In recent years, the doctoral courses in OE (14.282-4) have been taught by Robert Gibbons (p. 14), John Van Reenen (p. 25), and Michael Whinston (p. 23), and the undergraduate course (14.26) has been taught by Bengt Holmstrom. In addition, department faculty with interests that intersect with OE include Daron Acemoglu, David Atkin, David Autor, Abhijit Banerjee, Arnaud Costinot, Glenn Ellison, Amy Finkelstein, Jon Gruber, Parag Pathak, Drazen Prelec, Nancy Rose, Rob Townsend, Heidi Williams, and Alex Wolitzky.
Financial Economics

Financial economics is a very active field of applied economics research. A close collaboration between the finance group in the Sloan School of Management and the Economics Department provides students with an outstanding opportunity to learn about current insights and state-of-the-art methods in both asset pricing and corporate finance.

The finance group in the Sloan School is widely regarded as one of the premier departments in the world. Undergraduate economics majors can enroll in MIT Sloan’s introductory finance course for master’s students. There are five doctoral courses in financial economics, all jointly offered between Economics and Sloan. Only two are required as preparation for the Economics General Exams in financial economics, but students intending to pursue research in this field are strongly encouraged to enroll in all five courses. The two required courses are Asset Pricing (14.416J) and Corporate Finance (14.441J).

The financial economics sequence begins with Asset Pricing (taught by Leonid Kogan and Lawrence Schmidt) in the fall, which covers the basic principles of portfolio choice, asset pricing, options, the economics of uncertainty, and information and efficient markets. The sequence goes on with Corporate Finance (taught by David Thesmar and Antoinette Schoar) in the spring. The course exposes students to the basic theoretical and empirical contributions and the key methodological tools in modern corporate finance.

Students can also choose to enroll in one or more of three advanced courses. Advanced Asset Pricing (14.441J, taught by Hui Chen, Daniel Greenwald, and Jonathan Parker), focuses on the solution, evaluation, and estimation of theories of asset prices and financial markets and their macro- and micro-economic foundations; Advanced Corporate Finance (14.442J, taught by Antoinette Schoar and Andrey Malenko) builds on the first corporate finance course; and Current Topics in Finance (14.448J) covers advanced research in a variety of areas within finance.

Students are also strongly encouraged to attend Current Research in Financial Economics (14.449J) in the fall and spring semesters of their second year and beyond. One session per week is devoted to the analysis of the paper presented that week in the Finance Seminar. The other session is devoted to the analysis of a recent working paper.

Economics Computing at MIT

The Economics Department supplements MIT’s computing resources with its own cutting-edge systems designed to support learning and research. The virtual computing lab grants students access to powerful Windows-based virtual machines, which run a full suite of econometric and statistical software packages. The lab systems can be accessed from on-campus terminals or remotely, allowing students to connect using their personal computers from anywhere in the world. Additionally, the department provides multiple Linux-based research computing servers, including a 300 processor high-performance computing cluster. These systems allow students to work with massive data sets and easily manage long-running jobs. This computing infrastructure is backed by a robust and secure fiber-optic data storage system which provides user-accessible backups of datasets and documents.

Full-time professionals Mark Leary, Meng Chau, and Carl Anderson support the department’s extensive IT operation.

Other important computing resources for MIT economists include MIT’s Geographic Information Systems Laboratory, housed at Rotch Library, and the virtual Harvard-MIT Data Center. The Economics Department has an agreement with the Census Bureau’s Research Data Center (RDC), located at the nearby National Bureau of Economic Research (NBER), allowing students and faculty to access confidential government microdata sources for approved projects.

Hui Chen
Daniel Greenwald
Leonid Kogan
Andrey Malenko
Jonathan Parker
Lawrence Schmidt
Antoinette Schoar
David Thesmar
The Economics Department has a close relationship with many other departments and especially with MIT Sloan. Several faculty members hold joint appointments in the Economics Department and MIT Sloan. Business schools and private-sector investment banks and asset management firms often hire MIT graduates with doctorates in economics who have taken advantage of Sloan's finance courses and research opportunities.

While the interaction between Economics and Sloan is strongest in the applied economics and finance fields, it is substantially broader. MIT Sloan has assembled a leading group of economics researchers in organizational design, business strategy, marketing, and technological competition. Formal joint seminars in applied microeconomics strengthen these ties among faculty and students. MIT Sloan courses and seminars serve as a window into current economic research by business school faculty at MIT and elsewhere. MIT Sloan doctoral students often find that graduate courses taught in the Economics Department provide a base for their research. Economics PhD students, at the same time, often discover that the issues studied by faculty and students in MIT Sloan provide ideal applications for their research.

The MIT Center for Energy and Environmental Policy Research (CEEPR) is sponsored by the Economics Department, the Sloan School, and the MIT Energy Initiative. The Director of CEEPR is George P. Shultz Professor of Applied Economics Christopher R. Knittel of MIT Sloan, who teaches a jointly-offered energy economics course. The Center investigates economic, regulatory, and technological issues related to energy and the environment and is supported by corporations, trade associations, environmental organizations, and grants from foundations and government agencies. The Center holds bi-annual meetings and conferences to discuss policy issues with business and academic economists.

CEEPR is a co-sponsor of the Joint Program on the Science and Policy of Global Change, which supports research on global warming and related topics by faculty and students in the Economics Department, MIT Sloan, the School of Science, and the School of Engineering. The program provides opportunities for economics and management faculty to work with specialists on climate change in the School of Science, and with emissions control and remediation experts in the School of Engineering.

The MIT Energy Initiative (MITEI) is also an important partner in economics research. MITEI has provided significant funding for faculty research projects, supported graduate students, and funded a post-doctoral visitor to the department. Even more importantly, it has facilitated the inter-disciplinary interaction that is the hallmark of MIT.

The Economics Department also has ties with MIT’s Political Science Department. Research on political economy straddles the boundary between economics and political science. It emphasizes the use of economic models and economic insights to understand decision making in political settings. Economists in fields such as regulatory economics and public finance have increasingly come to realize that recognizing and analyzing the political factors that underlie current policies can open a rich set of research opportunities. Several recent graduates of the Economics Department’s PhD program are now leading scholars in the field of positive political economy.

The Economics Department has a long-standing relationship with MIT’s Urban Studies and Planning Department. Emeritus professors William Wheaton, whose work focuses on real estate markets, and Frank Levy, who is an expert on income and wealth distribution in the U.S. and its changes over time, have provided important links between the two departments.

MIT’s excellence in engineering, science, and management has created valuable educational and research opportunities for Economics Department faculty and students. The Department in turn has contributed its experience and expertise to research and education throughout the Institute.
Faculty

Alberto Abadie, PhD, MIT; Professor of Economics. Associate Director, Institute for Data, Systems, and Society.

K. Daron Acemoglu, PhD, London School of Economics; Elizabeth and James Killian (1926) Professor of Economics.

Nikhil Agarwal, PhD, Harvard; Castle-Krobb Career Development Assistant Professor of Economics.

George-Marios Angeletos, PhD, Harvard; Professor of Economics.

Joshua Angrist, PhD, Princeton; Ford Professor of Economics.

David Atkin, PhD, Princeton; Associate Professor of Economics.

David Autor, PhD, Harvard; MacVicar Faculty Fellow Ford Professor of Economics.

Abhijit Banerjee, PhD, Harvard; Ford International Professor of Economics.

Martin Beraja, PhD, University of Chicago; Pentti Kouri Career Development Assistant Professor of Economics.

Ricardo Caballero, PhD, MIT; Ford International Professor of Economics.

Victor Chernozhukov, PhD, Stanford; Ford International Professor of Economics.

Arnaud Costinot, PhD, Princeton; Professor of Economics.

David Donaldson, PhD, London School of Economics; Professor of Economics.

Esther Duflo, PhD, MIT; Abdul Latif Jameel Professor of Poverty Alleviation and Development Economics.

Glenn Ellison, PhD, MIT; Gregory K. Palm (1970) Professor of Economics.

Sara Fisher Ellison, PhD, MIT; Senior Lecturer in Economics.

Amy Finkelstein, PhD, MIT; John & Jennie S. MacDonald Professor of Economics.

Drew Fudenberg, PhD, MIT; Paul A. Samuelson Professor of Economics.

Robert Gibbons, PhD, Stanford; Sloan Distinguished Professor of Management and Economics.

Jonathan Gruber, PhD, Harvard; Ford Professor of Economics, Associate Department Head.

Jeffrey E. Harris, MD, PhD, Pennsylvania; Professor of Economics.

Bengt R. Holmström, PhD, Stanford; Paul A. Samuelson Professor of Economics.
Simon Jäger, PhD, Harvard; Silverman (1968) Family Career Development Assistant Professor of Economics.

Anna Mikusheva, PhD, Harvard; Associate Professor of Economics.

Whitney Newey, PhD, MIT; Ford Professor of Economics.

Benjamin Olken, PhD, Harvard; Professor of Economics.

Parag Pathak, PhD, Harvard; Jane Berkwitz Carlton and Dennis William Carlton Professor of Microeconomics.

James M. Poterba, D. Phil., Oxford; Mitsui Professor of Economics.

Drazen Prelec, PhD, Harvard; Digital Equipment Corporation Leaders for Global Operations Professor of Management.

Professor of Management Science, Brain and Cognitive Sciences, and Economics.

Nancy L. Rose, PhD, MIT; MacVicar Faculty Fellow, Charles P. Kindleberger Professor of Applied Economics, Department Head.

Tobias Salz, PhD, New York University; Assistant Professor of Economics.

Frank Schilbach, PhD, Harvard; Gary Loveman Career Development Assistant Professor of Economics.

Alp Simsek, PhD, MIT; Rudi Dornbusch Career Development Associate Professor of Economics.

Robert Townsend, PhD, Minnesota; Elizabeth and James Killian (1926) Professor of Economics.

John Van Reenen, PhD, University College London; Gordon Y. Billard Professor in Management and Economics.

Iván Werning, PhD, Chicago; Robert M. Solow Professor of Economics.

Michael D. Whinston, PhD, MIT; Sloan Fellows Professor of Management.

Professor of Economics.

Heidi Williams, PhD, Harvard; Associate Professor of Economics.

Alexander Wolitzky, PhD, MIT; Associate Professor of Economics.

Muhamet Yildiz, PhD, Stanford; Professor of Economics.

Affiliated Faculty

Jean Tirole, PhD, MIT; Visiting Professor of Economics.

Associated Teaching Faculty

Suzanne Berger, PhD, Harvard; Raphael Dorman and Helen Starbuck Professor of Political Science, MIT Department of Political Science.

Hui Chen, PhD, University of Chicago, Graduate School of Business; Associate Professor of Finance, MIT Sloan School of Management.

Daniel Greenwald, PhD, New York University; Assistant Professor of Finance, MIT Sloan School of Management.

Valerie Karplus, PhD MIT; Assistant Professor of Global Economics and Management, MIT Sloan School of Management.

Christopher Knittel, PhD, University of California, Berkeley; George P. Shultz Professor of Applied Economics, MIT Sloan School of Management.

Leonid Kogan, PhD, MIT; Nippon Telegraph and Telephone Professor of Management, MIT Sloan School of Management.

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Andrey Malenko, PhD, Stanford Graduate School of Business; Jon D. Gruber Career Development Associate Professor of Finance, MIT Sloan School of Management.

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Antoinette Schoar, PhD, Chicago; Michael M. Koerner (1949) Professor of Entrepreneurial Finance, MIT Sloan School of Management.

Lawrence Schmidt, PhD, University of California, San Diego; Assistant Professor of Finance, MIT Sloan School of Management.

Devavrat Shah, PhD, Stanford; Professor, MIT Department of Electrical Engineering and Computer Science. Director, Statistics and Data Science Center.

David Thesmar, PhD, Paris School of Economics; Franco Modigliani Professor of Financial Economics, MIT Sloan School of Management.
Adrien Verdelhan, PhD, Chicago;  
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Pennsylvania, Wharton School;  
Mizuho Financial Group  
Professor of Finance,  
MIT Sloan School of Management.

Professors Emeriti

Olivier J. Blanchard, PhD, MIT;  
Robert M. Solow Professor of  
Economics, Emeritus.

Peter A. Diamond, PhD, MIT;  
Institute Professor and Professor of  
Economics, Emeritus.

Richard S. Eckaus, PhD, MIT;  
Ford International Professor of Economics,  
Emeritus.

Peter Temin, PhD, MIT;  
Elisha Gray II Professor of Economics,  
Emeritus.

William C. Wheaton, PhD, Pennsylvania;  
Professor of Economics and Urban Studies,  
Emeritus.

Jerry A. Hausman, D. Phil., Oxford;  
John and Jennie S. MacDonald Professor of  
Economics, Emeritus.

Paul L. Joskow, PhD, Yale;  
Elizabeth and James Killian Professor of  
Economics and Management, Emeritus.

Michael J. Piore, PhD, Harvard;  
David W. Skinner Professor of Political  
Economy, Emeritus.

Richard L. Schmalensee, PhD, MIT;  
Howard W. Johnson Professor of  
Economics and Management, Emeritus;  
Dean Emeritus.

Peter M. Solow, PhD, Harvard;  
Institute Professor and Professor of  
Economics, Emeritus.
Visiting Committee

Every department at MIT has a Visiting Committee that consists of distinguished scholars, department graduates, and several members of the MIT Corporation. These committees typically meet once every two years, at MIT, to hear reports from the Department Head, the faculty, and current students about the department’s health and future direction. These committees prepare reports for the President, Provost, and Chancellor that provide an important source of external evaluation for each department. The members of the MIT Economics Department Visiting Committee as of Fall 2018 are listed below.

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