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 Application of economic theory and econometricsFor the journal, see Applied Economics (journal). For the book by Thomas Sowell, see Applied Economics: Thinking Beyond Stage One.Part of the behavioral sciencesEconomicsOutlineIndexGlossaryEconomists Principles of EconomicsTools and methodologyEconomic theoryMathematical modelingGame theoryRational choiceCognitive science (Behavioral)Economic equilibriumEmpirical methodsExperimentalNational accountsEconometricsTime seriesSpatialPrescriptive and policyWelfare analysisSocial choice theoryRational choice theoryCostbenefit analysisBranches and subfieldsAppliedEconometricsInternationalHeterodoxMicroMacroMainstreamMathematicalMech. designMethodologyPoliticalIndustrial org.Market designApplicationsAgricultureBusinessCulturalDemographicDevelopmentEcologicalEducationEngineeringEnvironmentalEvolutionaryFinancialGeographicHappinessHealthHistoryInformationInfrastructureInstitutionsLabourLawManagementOrganizationParticipationPersonnelPlanningPolicyPublic sectorPublic choiceSocial choiceRegionalRegulatoryResourcesRuralServiceTransportUrbanWelfare Economics portal Society portalvteApplied economics is the application of economic theory and econometrics in specific settings. As one of the two sets of fields of economics (the other set being the core),[1] it is typically characterized by the application of the core, i.e. economic theory and econometrics to address practical issues in a range of fields including demographic economics, labour economics, business economics, industrial organization, agricultural economics, development economics, education economics, engineering economics, financial economics, health economics, monetary economics, public economics, and economic history. From the perspective of economic development, the purpose of applied economics is to enhance the quality of business practices and national policy making.[2]The process often involves a reduction in the level of abstraction of this core theory. There are a variety of approaches including not only empirical estimation using econometrics, input-output analysis or simulations but also case studies, historical analogy and so-called common sense or the "vernacular".[3] This range of approaches is indicative of what Roger Backhouse and Jeff Biddle argue is the ambiguous nature of the concept of applied economics. It is a concept with multiple meanings.[4] Among broad methodological distinctions, one source places it in neither positive nor normative economics but the art of economics, glossed as "what most economists do".[5]The origin and meanings of applied economics have a long history going back to the writing of Say and Mill. Say wrote about "applying" the "general principles of political economy" to "ascertain the rule of action of any combination of circumstances presented to us". The full title of Mill's (1848) work is Principles of Political Economy with Some of Their Applications to Social Philosophy.[4]John Neville Keynes was perhaps the first to use the phrase "applied economics". He noted that the "English School" (John Stuart Mill, John Elliott Cairnes, and Nassau William Senior)[6][7] believed that political economy was a positive, abstract, deductive science; and that this school made a clear distinction "between political economy itself and its applications to practice" (1917, 12). This school thought that a general body of theory could be established through abstract reasoning not relying on a wide knowledge of economic facts. From this point of view applying this theory involved making allowances for some of the factors ignored in building the abstract theories. Keynes wrote about applying the political economies hypothetical laws to interpreting and explaining of "concrete industrial facts". The issue of conceptual distinction between political economy as a science (involving formulating laws which govern the production and distribution of wealth) and political economy as an art (using the laws to tackle practical problems).[8]Whilst noting the rival view of the historical economists, who believed that the goals being pursued by policy makers and the means to pursue them were an integral part of the science of economics, J.N Keynes believed in the desirability of the "English School's" distinction between the discovery of principles and their application (1917, 54).[8]Indeed, it was he who proposed using the phrase "applied economics" instead of "the art of political economy". Keynes further discussed the uses of the phrases applied political economy and applied economics noting three different uses:[8]in the sense suggested in the text [in association with the art of political economy];to designate the application of economic theory to the interpretation and explanation of particular economic phenomena, without any necessary reference however, to the solution of practical questions;to mark off the more concrete and specialized portions of economic doctrine from those more abstract doctrines that are held to pervade all economic reasoning. (1917, 5859) and applying theories of economy on what we have in reality to get a healthy enterprise and business prosperity.Lon Walras, for example, planned to organize his main work into volumes on "pure", "applied", and "social" economics. Jaff (1983) describes Walras's plan as involving making a distinction between that which is true, is useful, and is just. In using the term true, Walras referred to propositions that necessarily followed from the nature of things. Pure economics then involves pure logic. Applied economics involves examining ways to achieve practical goals and requires the making judgments about whether or not the logic of pure economics was relevant to the real world. Social economics also presumed pure economics, but dealt with a different range of questions than did applied economics.[9]Vilfredo Pareto ([1906] 1971, 104) follows as similar usage suggesting economics might begin by eliminating that which is inessential to examine problems as reduced to their principal and essentials. He distinguishes between "pure economics" from "applied economics" with pure economics containing only the principal lines of argument and applied economics involving supplying the details.[10]Joseph Schumpeter (1954, 23) referred to some applied fields in economics the repetition of which might help highlight some of the issues involved in what defining applied economics involves. He discussed the following fields:[11]those that are typically thought of as part of economics but which also looked at individually to allow greater attention to detail e.g. money and banking, trade, cycles, and locationthose that are independent of economics but study of them is needed for economics. These include subjects such as accounting, actuarial science, and insurancethose that are areas of public policy: agriculture, labour, transportation, utility industries, control of industry, and public financecomparative economic systemsdemographyarea studiesModern mainstream economics holds the view that there is a body of abstract economic theory the "core" and applied economics involves the practitioner in the lowering some elements of the abstraction of this to examine particular issues. This lowering of the level of abstraction may involve:[4]relabeling variables as more specific, concrete concepts;providing some structure to allow the drawing of more detailed conclusions;producing numerical estimates for some of the parameters;using the analysis to interpret the real world phenomena which are interpreted as examples of some more general class of events that the core theory might be used to examine.Pesaran and Harcourt (2000) describe Stone's attempt to face the challenge of making economics into a science by combining theory and measurement within a cohesive framework. They report Stone's proposal for the establishment of the now famous Department of Applied Economics at Cambridge.[12] Stone argued that:"The ultimate aim of applied economics is to increase human welfare by the investigation and analysis of economic problems of the real world. It is the view of the Department that this can best be achieved by the synthesis of three types of study which now tend to be pursued in isolation. The Department will concentrate simultaneously on the work of observations, i.e. the discovery and preparation of data; the theoretical appraisal of problems, i.e. the framing of hypotheses in a form suitable for quantitative testing; and the development of statistical methods appropriate to the special problems of economic information. The special character of the Department's approach to problems of the real world will lie in this attempt at systematic synthesis." (Stone in Pesaran and Harcourt (2000) pp. 149150)[12]The basis for rival approaches tends to be the denial that sound theory can be made without some concrete linking with its area of application. Both the 19th century Historical School and the 20th Century Institutionalists argue in this way. Mitchell (1936) noted that those working in "specialized fields" had little use for kind of qualitative theory postulated by Marshall and Jevons. Mitchell suggested that knowledge of "real markets," would cause the complexion and content of economic theory (Mitchell 1937, 2628). Friedman shared this view that theoretical concepts might or rather should arise out of the analysis of real world data. For both Mitchell and Friedman economics should involve an interaction between examining data and formulating hypotheses.[13]Another issue which is related to the McCloskey critique. This is economists do not necessarily practice what they preach. In this context that is the claim to be an "applied economist," is just shorthand for saying they are looking at the real economy. What is being applied need not be "economic theory", as conventionally defined rather something more basic. Eli Devons made a distinction between three different kinds of "things", any of which might be being applied:[14]theoretical models;commonsense axioms, andtheoretical concepts.The Journal of Applied Economics publishes original contributions on applied issues in micro and macroeconomics. The primary criteria for selecting papers are quality and importance for the field. Papers based on a well motivated research problem that make a concrete contribution to empirical economics or applied theory are especially encouraged.Applied Economics is a journal that interprets its subject area as "the application of economic analysis to specific problems in both the public and private sectors" and seeks to publish "quantitative studies, the results of which are of use in the practical field" and thus may help "bring economic theory nearer to reality"; Applied Economics is a leading peer-reviewed journal in economics and its practical applications.[15]This quarterly journal which began publication in 2009 is from the American Economic Association. It publishes papers on a range of topics in applied economics, particularly empirical microeconomic issues, such as in labor economics, development microeconomics, health, education, demography, empirical corporate finance, empirical studies of trade, and empirical behavioral economics.[16]These journals are published by the Agricultural & Applied Economics Association. The American Journal of Agricultural Economics has been produced since 1919, and publishes research in the "economics of agriculture and food, natural resources and the environment, and rural and community development throughout the world".[17]Applied Economic Perspectives and Policy (AEPP) is the leading peer-reviewed journal of applied economics and policy. Published four times per year by Oxford University Press, it is the one of two journals published by the Agricultural & Applied Economics Association (AAEA), along with the American Journal of Agricultural Economics (AJAE). Today is the leading journal in 'applied economics' with a 2011 impact factor of 1.552. The purpose of AEPP is to analyze areas of current applied economic research in an effort to inform the policy-makers and decision makers; and to generate connections between sub-fields of agricultural and applied economics in order to focus future research and increase knowledge of those in the field about the impact of public policy.[18]Backhouse and Biddle argue that the mainstream view, that there is an accepted "theoretical core" and that this can be applied in a range of areas, relies on this core having specific characteristics namely, that it has a wide scope and can be developed independently of individual applications. But they note that as with the definition of applied economics itself, there are within the economics profession differing views as to what belongs in the core where one draws the line between research that is contributing to the core and research that is applying the core, and the relative importance or significance of research on topics in the core versus applied economics research.[4]Some examples of the problems of applied economics from various fields and issues:Examples of problems of applied economics: MacroeconomicsOne example of this is macroeconomics. In the 1960s and 1970s, macroeconomics was a part of the core of the subject. Why? Because macroeconomics was not only sufficiently important to be part of any economist's training, but also embodied a set of concepts and principles not found in microeconomic theory. However the replacement of Keynesian approach to macroeconomics with new classical macroeconomics and its successors, macroeconomics might now be regarded by the mainstream as merely an application of microeconomic theory.[4]Examples of problems of applied economics: Development EconomicsAnother example is the situation within Development Economics. Throughout the 1950s and 1960s most development economist regarded the application of standard "core" microeconomic theory to their area as being entirely inappropriate. An alternative set of models provided their core. This might be best described as the structuralist approach. More recently development economics texts have provided applications of mainstream core theory.[4]Examples of problems of applied economics: Economic Growth TheoryComim uses the history of the economics of growth in order to illustrate the historical nature of the concept of applied economics. He first discusses the perspective of the theorists' views of the applied dimension of their work and examines each from the perspective of the work carried out at the Department of Applied Economics (DAE) at Cambridge University. He emphasizes the divergences concerning economists' understanding of the proper use of economic theory, divergences that might ultimately reveal the influence of distinct practices as far as applied economics is concerned and the role of institutional environments.[19]Examples of problems of applied economics: the Minimum-wage controversyLeonard notes one area of disagreement amongst applied economists which became famous in the US. That was the minimum-wage controversy. He notes that the fierceness of this controversy was odd because the likely effects were small and that several seemingly more important policy issues such as (entitlement reform, health insurance, CPI calculation) generated nothing like the storm. His explanation is that while this controversy was not especially important to the economy, it was very important to economics and economics as a policy science. His explanation for this is that minimum wage research came to be seen as a test of the usefulness of applying neoclassical price theory to the wages and employment. In other words, it was not just a technical quarrel over such things as the sign and size of wage-elasticity but rather an installment in a long running methodological dispute over whether neoclassical price theory is in reality of any use.[20]A critique of the dominance of econometricsSwann (2006) queries the dominance of such econometric techniques within Applied Economics and suggests what he describes as the "vernacular of the everyday practice of economics" should be taken seriously. Swann points out that econometrics's privileged position has not been supported by its disappointing results and rather suggests other applied techniques, the vernacular, are also worthy of consideration. These approaches to applied economics, include simulation, engineering economics, case studies and common sense.[3]Applied statisticsApplied anthropologyApplied physicsApplied theology^ "American Economic Association".^ "Applied Economics - Overview, Components, Importance". Corporate Finance Institute. Retrieved 2020-11-13.^ a b Swann, G. M. P. (2006) Putting Econometrics in Its Place: A New Direction in Applied Economics (published by Edward Elgar).^ a b c d e f Backhouse, R. and Jeff Biddle (2000) 'The concept of applied economics: a history of ambiguity and multiple meanings', History of Applied Economics 32 (annual supplement), 2000.^ Colander, David (1992). "Retrospectives: The Lost Art of Economics". 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Review of Income and Wealth, ser. 39, no. 4, December, 43547.History of Political Economy (2000). Toward a History of Applied Economics. Annual Supplement, Volume 32. Durham, NC and London: Duke University Press Table of Contents.Robinson, J. ([1974] 1979). "History versus Equilibrium." In vol. 5 of Collected Economic Papers. Oxford: Basil Blackwell.Schabas, M. (2001). "Economics, History of," sect. 3 Applied Economics, International Encyclopedia of the Social & Behavioral Sciences, pp.41524158. Abstract.Swann, G. M. P. (2006). Putting Econometrics in Its Place: A New Direction in Applied Economics, Edward Elgar Description.Woolridge, Jeffrey M. (2013). Introductory Econometrics: A Modern Approach (5ed.). Michigan State University: South-Western Cengage Learning.Retrieved from " Econometrics has as its aim to subject abstract laws of theoretical political economy or "pure" economics to experimental and numerical verification, and thus to turn pure economics, as far as possible, into a science in the strict sense of the word.Ragnar Frisch, Norwegian economist Economics and econometrics are closely related, but their key difference is how they study economic systems. Economics focuses on the broader theories behind producing, distributing, and consuming goods and services. Econometrics, however, focuses on data, statistics, and mathematical models to test theories and make predictions. Let's explore them both further to see which you should study. The best Economics tutors availableLet's goWhat Is Economics the Study of? Economics is a social science that you may think is only concerned with money. However, economics is actually the study of goods and services. It examines how wealth is produced, distributed, and consumed. Economics will still look at data, but it won't focus solely on quantifying economic phenomena. | Photo by Maxim Hopman As much of what we do involves producing, distributing, or consuming goods and services, the scope of economics is huge. However, how economists view the world varies greatly depending on their field of expertise and focus. Economists can examine individuals and their behaviors or entire financial systems operating at regional, national, or even global levels. Economists can observe behaviors, phenomena, and interactions to find patterns or trends and create theories and models to explain what they observe better. They can also use these explanations to make predictions and even influence decision-making. Due to economics's broad scope, its teaching can also be applied to many other fields, but economists are still more likely to work in economics or in a closely related field such as business or finance. As the field is so broad, there are also many opportunities for specialization, and economists could specialize in microeconomics, macroeconomics, production, specialization (a concept from economics), supply and demand, growth, welfare, fiscal policy, etc. However, the specialization that interests us most today is econometrics. So, what exactly is it? What Is Econometrics the Study of? To greatly oversimplify,econometrics is the crossroads between economics and statistics. While economics covers many different ways to study wealth, econometrics focuses almost purely on quantitative studies, often using large amounts of real-world data and applying statistical methods. Econometrics aims to quantify economic phenomena through the use of real-world data. | Photo by Chris Liverani By observing real-world data and applying mathematical and statistical analysis, econometricians look to establish relationships between observed phenomena and build theories around them. You could explain the goal of econometrics as looking at lots of data and coming up with simple explanations, which can be very useful to economists. It should also be noted that this is part of the criticism leveled at econometrics. By looking solely at data, econometrics can ignore other qualitative factors that may be necessary to explain observed phenomena. Of course, the quality of the data used plays a significant role here, and like with any scientific approach, the approach will vary by circumstance. There are situations and phenomena where econometric approaches can be incredibly valuable and situations where a different specialization may be required. Though econometrics is a branch of economics, it could also be divided into theoretical econometrics and applied econometrics. Theoretical econometrics focuses more on taking historical data, making observations, and proposing theories to explain what has been observed. Applied econometrics uses econometric theories to make predictions and forecasts, evaluate risk, and help with decision-making. An econometrician would never fully focus on theoretical or applied econometrics, but they'd likely prioritize one over the other depending on their career, areas of interest, or background in economics or econometrics. Still feeling lost? Here's a video on what econometrics is. Still feeling lost? Here's a video on what econometrics is. The best Economics tutors availableLet's goWhat Are the Differences Between Econometrics and Economics? As a branch of economics, you could say that econometrics exists fully within economics. However, it might be more helpful to consider econometrics as sitting inside economics while reaching out the window into the fields of mathematics and statistics. Both economics and econometrics look to use their findings to make better financial decisions and projections. | Photo by Isaac Smith This doesn't mean that economists won't ever use mathematical approaches. It's very common for economists to study economic data, but it's not the only way they would necessarily look at things, and they are less likely to apply only statistical or mathematical approaches to data. On the other hand, an econometrician has one foot firmly in mathematics and statistics. While every econometrician will have some background in economics, you could also safely say that they'd feel more comfortable working with math or statistics. You should also remember that, as in most fields of study, the borders between one discipline and another are often blurred, so you'll find econometrics who've studied econometrics and econometricians with differing expertise in other aspects of economics. Technically, we should clarify that an econometrician could be classified as a type of economist, but an economist isn't necessarily an econometrician. Economics explores broad questions about how people, businesses, and governments allocate resources. Its rooted in theory, behavioral insights, and conceptual models. Econometrics focuses on applying statistical tools to economic data to test hypotheses, forecast trends, and measure relationships between variables. Economics degrees often include courses in theory, micro/macro models, and some math or statistics. Econometrics programs are more technical, requiring a stronger foundation in calculus, linear algebra, and statistical modeling alongside core economic theory. Economics grads can work in policy, consulting, finance, research, and roles that rely on strategic thinking and theoretical knowledge. Econometrics grads often pursue data-centric roles: analyst, quantitative researcher, risk manager, or work in government, finance, or tech, where statistical modeling is essential. Which Should You Study? When choosing whether to study economics or econometrics, you should think carefully about the kind of student you are, the kinds of topics you like, and what you find easy. How much economics and econometrics you study is up to you, but either major will likely study a bit of both. | Photo by Chris Liverani This doesn't mean you should choose the path of least resistance and pick whichever field you find the easiest, but if you've never really enjoyed math, then econometrics might be one step too far. However, you will still encounter quite a bit of math by studying economics. Both economics and econometrics will include some mathematical components if you choose to study them, and both offer excellent career prospects with many career choices overlapping. Economic's broad reach also means you can enjoy working in anything from big businesses to NGOs, charities, governments, or academia. If you're considering either field, you've already made a pretty good choice because economics isn't going anywhere and is in every aspect of our lives. Studying economics will also help you develop many transferable skills because it can be applied to so many different fields. Can You Study Both? Can't make up your mind? That's not a problem, as whether you choose to study economics or econometrics, you'll likely end up learning a bit of both. You could choose to study economics and try to avoid econometrics as much as possible, but your program will likely have a class or two that touches on econometrics, math, or statistics. If you study econometrics, you will take economics classes alongside math and statistics classes. As the boundaries are pretty blurred, most students will cover both areas and dip their toes into lots of other branches of economics. How much of each branch you choose will depend on your school, the program you're following, what you want to major in, etc. Even if you have little interest in econometrics, you should probably take a class or two in it. It's a fairly important part of economics, and with the amount of data being created every day, it's only going to become more important in the future. With many programs, you'll also be given some time to choose whether or not you major in econometrics, so there's no harm in taking classes in it first before deciding how much you want to commit to a career in it. Even if you study some econometric classes but don't choose economics as your major, the knowledge you gain from those classes will still be helpful if you decide to pursue economics or another specialization. Which Is Harder to Study? When choosing what to study, the difficulty is one of the big questions. Even if you enjoy a challenge, you want to be able to complete your program and also graduate. You'll also likely want to get good grades, and you may have to consider whether the difficulty is worth it for your future career prospects. Keep in mind that difficulty is relative, and every student is different. Different people find different things easy and a class that feels like a breeze for you could be challenging for somebody else and vice-versa. Whether you major in economics or econometrics, both should be of a comparable level because the qualification, your degree, is of an undergraduate level. The programs should also be at your level of education (unless you've already completed a degree program) and be somewhat challenging. After all, if you already knew everything, you wouldn't need to do the degree. For students who've always done well in math class, econometrics will still be challenging, but not as challenging as it would be for students already struggling with high school math. You should also know that while both should provide a rewarding challenge, help is out there, too. There are plenty of online resources to help you and private tutors at Superprof specialize in economics, econometrics, math, statistics, and any other field you can think of. There are also tutors specializing in study skills and other soft skills who can help you get the most out of your classes. Sometimes, it's not necessarily the content of the course that's causing problems, but rather how you choose to approach it. When we hear news reports about monetary policy, GDP, job reports, consumer spending, etc., we think about economics. While these are all important elements of economics, they dont tell the whole story. By considering economics vs.applied economics, we begin to see its broad scope in society, as well as in our daily lives.Economics is the theoretical model of how societies function. Applied economics is the implementation of that model broadly and in a myriad of specific circumstances.Whereas we often think of economics as an esoteric discipline removed from our everyday experience, we see applied economics applying that discipline to real-world issues that affect us all.Politics is, according to a well-worn aphorism, the art of the possible. Put another way, politics is the art of governance, how we structure and organize our social life. If politics is the art of social organization, applied economics is the tangible science of social organization.Dr. Aleksandar (Sasha) Tomic, Program Director of Master of Science in Applied Economics at Boston Colleges Woods College of Advancing Studies, says applied economics is thinking about the way things fit together.Economists do not have to be tied to what we think of as the traditional economist career. In fact, through applied economics, we have the analytical tools to glean insight from data. Applied economics informs policy and decision-making across all sectors of society, public and private.Lets look at five ways we use applied economics in our modern world.Environmental Economics: What is the cost of command-and-control environmental regulation vs. market-based incentives? How do we put a price on carbon emissions? Should we? Applied economics helps frame solutions for these questions.Behavioral Economics:How do we employ economic insights and analysis with cognitive psychology to predict how people behave in specific contexts? Applied economics shows us how.Law and Economics:The two are inexorably intertwined. Laws codify ethics and markets, and human behavior. Applied economics predicts how those laws are best implemented.Marketing and Economics:Effective marketing relied on informed, evidence-based decision-making. Consumer behavior, policy and ethics, market analysis, and projecting profit-and-loss determine any marketing initiatives success. Applied economics offers the analytical tools to incorporate each element into an integrated whole.Healthcare Economics: Even before COVID-19 gripped the world, healthcare was an industry in rapid transition and under severe stress. Predictive analysis, resource allocation, and determining policy initiatives that support public health are critical roles for applied economics in healthcare.The fact is, all social factors working together for the shared benefit of all is the purview of applied economics. In a sense, we are all economists now.The practical knowledge and skills gained from applied economics are relevant forleaders and decision-makers in any context. Based on core economic principles, applied economics focuses on implementation more than theory. It comes down from the tower and gets into the nitty-gritty details of how things work.Learning how to apply these concepts creates a breadth of knowledge complementing the depth of expertise in any specific field. This results in the T-shaped professional, someone able to apply broad analytical, ethically sound, collaborative skills to the issues at hand. These are the people who understand the challenges, know how to collect and analyze the pertinent data to find a solution, and then communicate their insight to their peers.Graduate studies in applied economics develop what Dr. Tomic calls the economic intuition organizations of all types seek in a complex world. The T-shaped professional who understands how things fit together.Theonline Master of Science in Applied Economicsprogram from Boston College is your path to more significant influence as you help shape a better world.Students entering the program join a global network of over 180,000 alumni, sharing their insight as they hone their analytical and leadership skillssolving real-world problems.The MSAE program curriculum provides students the skills necessary to analyze and interpret data across various fields, contexts, and disciplines. With these skills, graduates can play key roles in mapping solutions and informing crucial technical and policy decisions.Some of the areas of study in this wide-ranging (think T-shaped) program include:Fundamental theory: Examine the theoretical principles of micro and macroeconomic theory.Data analysis: Learn the tools and methods of data analysis, interpretation, forecasting, and predictive analysis: study Big Data Econometrics and the rapid advance of machine learning.Law and economics: Explore how markets function. Analyze how firms relate to markets. Consider market regulation and its influence on competition, innovation, pricing, and organizational strategy.Ethics and public policy: The art and science of the possible. Investigate how public policy is made and implemented. Evaluate when its best to regulate or legislate. Assess the role (or lack thereof) that ethical consideration plays in how policy is formed.Behavioral economics: The intersection of economic and cognitive sciences. A fascinating look at why people do what they do and what influences lead to better individual decisions.The program entails five required core courses and over two dozen electives. With a wide variety of elective study areas, students can tailor the program to their needs and interests. Ten courses are needed to earn a Master of Science in Applied Economics degree.If you are ready to advance your career influencing policy and decision-making in the private or public sphere, earning an MSAE degree at Boston College is an excellent first step. Econometrics has as its aim to subject abstract laws of theoretical political economy or "pure" economics to experimental and numerical verification, and thus to turn pure economics, as far as possible, into a science in the strict sense of the word.Ragnar Frisch, Norwegian economist Economics and econometrics are closely related, but their key difference is how they study economic systems. Economics focuses on the broader theories behind producing, distributing, and consuming goods and services. Econometrics, however, focuses on data, statistics, and mathematical models to test theories and make predictions. Let's explore them both further to see which you should study. The best Economics tutors availableLet's goWhat Is Economics the Study of? Economics is a social science that you may think is only concerned with money. However, economics is actually the study of goods and services. It examines how wealth is produced, distributed, and consumed. Economics will still look at data, but it won't focus solely on quantifying economic phenomena. | Photo by Maxim Hopman As much of what we do involves producing, distributing, or consuming goods and services, the scope of economics is huge. However, how economists view the world varies greatly depending on their field of expertise and focus. Economists can examine individuals and their behaviors or entire financial systems operating at regional, national, or even global levels. Economists can observe behaviors, phenomena, and interactions to find patterns or trends and create theories and models to explain what they observe better. They can also use these explanations to make predictions and even influence decision-making. Due to economics's broad scope, its teaching can also be applied to many other fields, but economists are still more likely to work in economics or in a closely related field such as business or finance. As the field is so broad, there are also many opportunities for specialization, and economists could specialize in microeconomics, macroeconomics, production, specialization (a concept from economics), supply and demand, growth, welfare, fiscal policy, etc. However, the specialization that interests us most today is econometrics. So, what exactly is it? What Is Econometrics the Study of? To greatly oversimplify,econometrics is the crossroads between economics and statistics. While economics covers many different ways to study wealth, econometrics focuses almost purely on quantitative studies, often using large amounts of real-world data and applying statistical methods. Econometrics aims to quantify economic phenomena through the use of real-world data. | Photo by Chris Liverani By observing real-world data and applying mathematical and statistical analysis, econometricians look to establish relationships between observed phenomena and build theories around them. You could explain the goal of econometrics as looking at lots of data and coming up with simple explanations, which can be very useful to economists. It should also be noted that this is part of the criticism leveled at econometrics. By looking solely at data, econometrics can ignore other qualitative factors that may be necessary to explain observed phenomena. Of course, the quality of the data used plays a significant role here, and like with any scientific approach, the approach will vary by circumstance. There are situations and phenomena where econometric approaches can be incredibly valuable and situations where a different specialization may be required. Though econometrics is a branch of economics, it could also be divided into theoretical econometrics and applied econometrics. Theoretical econometrics focuses more on taking historical data, making observations, and proposing theories to explain what has been observed. Applied econometrics uses econometric theories to make predictions and forecasts, evaluate risk, and help with decision-making. An econometrician would never fully focus on theoretical or applied econometrics, but they'd likely prioritize one over the other depending on their career, areas of interest, or background in economics or econometrics. Still feeling lost? Here's a video on what econometrics is. Still feeling lost? Here's a video on what econometrics is. The best Economics tutors availableLet's goWhat Are the Differences Between Econometrics and Economics? As a branch of economics, you could say that econometrics exists fully within economics. However, it might be more helpful to consider econometrics as sitting inside economics while reaching out the window into the fields of mathematics and statistics. Both economics and econometrics look to use their findings to make better financial decisions and projections. | Photo by Isaac Smith This doesn't mean that economists won't ever use mathematical approaches. It's very common for economists to study economic data, but it's not the only way they would necessarily look at things, and they are less likely to apply only statistical or mathematical approaches to data. On the other hand, an econometrician has one foot firmly in mathematics and statistics. While every econometrician will have some background in economics, you could also safely say that they'd feel more comfortable working with math or statistics. You should also remember that, as in most fields of study, the borders between one discipline and another are often blurred, so you'll find econometrics who've studied econometrics and econometricians with differing expertise in other aspects of economics. Technically, we should clarify that an econometrician could be classified as a type of economist, but an economist isn't necessarily an econometrician. Economics explores broad questions about how people, businesses, and governments allocate resources. Its rooted in theory, behavioral insights, and conceptual models. Econometrics focuses on applying statistical tools to economic data to test hypotheses, forecast trends, and measure relationships between variables. Economics degrees often include courses in theory, micro/macro models, and some math or statistics. Econometrics programs are more technical, requiring a stronger foundation in calculus, linear algebra, and statistical modeling alongside core economic theory. Economics grads can work in policy, consulting, finance, research, and roles that rely on strategic thinking and theoretical knowledge. Econometrics grads often pursue data-centric roles: analyst, quantitative researcher, risk manager, or work in government, finance, or tech, where statistical modeling is essential. Which Should You Study? When choosing whether to study economics or econometrics, you should think carefully about the kind of student you are, the kinds of topics you like, and what you find easy. How much economics and econometrics you study is up to you, but either major will likely study a bit of both. | Photo by Chris Liverani This doesn't mean you should choose the path of least resistance and pick whichever field you find the easiest, but if you've never really enjoyed math, then econometrics might be one step too far. However, you will still encounter quite a bit of math by studying economics. Both economics and econometrics will include some mathematical components if you choose to study them, and both offer excellent career prospects with many career choices overlapping. Economic's broad reach also means you can enjoy working in anything from big businesses to NGOs, charities, governments, or academia. If you're considering either field, you've already made a pretty good choice because economics isn't going anywhere and is in every aspect of our lives. Studying economics will also help you develop many transferable skills because it can be applied to so many different fields. Can You Study Both? Can't make up your mind? That's not a problem, as whether you choose to study economics or econometrics, you'll likely end up learning a bit of both. You could choose to study economics and try to avoid econometrics as much as possible, but your program will likely have a class or two that touches on econometrics, math, or statistics. If you study econometrics, you will take economics classes alongside math and statistics classes. As the boundaries are pretty blurred, most students will cover both areas and dip their toes into lots of other branches of economics. How much of each branch you choose will depend on your school, the program you're following, what you want to major in, etc. Even if you have little interest in econometrics, you should probably take a class or two in it. It's a fairly important part of economics, and with the amount of data being created every day, it's only going to become more important in the future. With many programs, you'll also be given some time to choose whether or not you major in econometrics, so there's no harm in taking classes in it first before deciding how much you want to commit to a career in it. Even if you study some econometric classes but don't choose economics as your major, the knowledge you gain from those classes will still be helpful if you decide to pursue economics or another specialization. Which Is Harder to Study? When choosing what to study, the difficulty is one of the big questions. Even if you enjoy a challenge, you want to be able to complete your program and also graduate. You'll also likely want to get good grades, and you may have to consider whether the difficulty is worth it for your future career prospects. Keep in mind that difficulty is relative, and every student is different. Different people find different things easy and a class that feels like a breeze for you could be challenging for somebody else and vice-versa. Whether you major in economics or econometrics, both should be of a comparable level because the qualification, your degree, is of an undergraduate level. The programs should also be at your level of education (unless you've already completed a degree program) and be somewhat challenging. After all, if you already knew everything, you wouldn't need to do the degree. For students who've always done well in math class, econometrics will still be challenging, but not as challenging as it would be for students already struggling with high school math. You should also know that while both should provide a rewarding challenge, help is out there, too. There are plenty of online resources to help you and private tutors at Superprof specialize in economics, econometrics, math, statistics, and any other field you can think of. There are also tutors specializing in study skills and other soft skills who can help you get the most out of your classes. Sometimes, it's not necessarily the content of the course that's causing problems, but rather how you choose to approach it.

Applied economics vs economics. Econometrics amsterdam. Applied econometrics vs econometrics. Applied economics vs finance. Is applied economics better than economics.