LEIDEN UNIVERSITY

Graduate School of Legal Studies Quantitative Empirical Research Methods in Law

Koen Caminada

Curriculum: Graduate School of Legal Studies

ECTS / hours: 5 / 140hrs

Level: 500

Year: Master / PhD-program

Term: 2nd semester

Schedule: Wednesday (18.00-21.00 hrs) from Januari 29th - March 26th 2025

Course code: to be announced Academic year: 2024-2025 Language of instruction: English

Supervisor / Coordinator / Lecturer

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Research interest (click here for downloadable publications)

- Empirical analysis of tax reform and social policy
- Social Security Reform
- Tax Policy
- Income Distribution and Poverty

Summary

Quantitative Empirical Research Methods in Law forms part of the Graduate School of Legal Studies. This course is designed to inform law students in relation to the most important, quantitave empirical research methods, in a manner that is fully accessible to those with no prior quantitative training or background in the subjects covered. No prior familiarity with statistics or empirical techniques is required.

Overview

In the last decade or so, the volume of empirical legal scholarship has increased tremendously. For an increasing number of legal issues accurate empirical information has become relevant. Legal matters involve the use of data and statistics in business contexts, in the promulgation of government regulations, in the measurement of damages, in attempts to make inferences concerning parties' behavior (such as those regarding discrimination in employment), and in determination of causation (in tort, contract, and other disputes). This course will address the basics of empirical research methods in law.

Scholars recognize the value of empirical analysis in understanding the legal system and its role in society. Due to information technology, data sources for the legal system are improving in quality and accessibility. Compared with only a decade ago, researchers today can access original data

sets easily. However, empirical studies cover a range of techniques which are usually not specifically defined. Quantiative empirical research methods can be characterized by the collection of data and data-analyses on which a theory, hypotheses or conclusion is based. Several simple empirical tests are available to confront the best available data with theory.

In view of these developments, a working knowledge of empirical research methods ought to be among the professional tools of a well-trained lawyer. An lawyer, for example, trained in quantiative empirical methods will be more persuasive in the courtroom and in the boardroom. Empirical training will also provide a better understanding of the statistical tools that experts will employ. Also, given the prevalence of empirical methods in social sciences, those considering a career in academic research or in the public interest or in policy work will be well served by acquiring some basic quantitative skills.

The emphasis in the course will be on equipping practitioners to be critical consumers of empirical material that may be used in legal cases and controversies and in the formation and evaluation of legislation. Another purpose of this course is to equip students with knowledge of various empirical research methods they could employ in their own research project. The knowledge will be both theoretical and practical. The course will introduce students to such topics as reliability, validity, research methodology, , data gathering and analysis through descriptive statistics, the use of (multiple) regression, why samples need to be taken in particular ways, how to perform simulations or cross-country data analyses, and more. Students will fulfill the course requirements by writing a paper, by class participation, by presentation of their research to the class, and by completing several exercises.

Literature, Readings, and Webblog

- David Cope, Fundamentals of Statistical Analysis, Foundation Press, 2005 (ISBN: 1587788950). A short textbook (109 pages) on the essentials of statistical analysis, especially written for those who do not particularly favour the numerical approach (PhD Law students). This book is developed to teach students with little or no quantitative background the fundamentals of statistics and multiple regression analysis.
- Reading list: assigned manuscripts, book and journal articles, cases and other materials that are expected to be read. Reading material will be posted on BrightSpace on the course website, which all students should be able to access using law school Westlaw passwords. Hyperlinks to these readings will also be on the BrightSpace page. The BrightSpace page ought to be checked regularly as materials will be added to the site during the course.
- Self-study & engagements at Leiden Law School:
 - <u>Leiden Law Methods Portal</u> This portal introduce scholars to a broad range of empirical research methods for studying the law and legal phenomena
 - ELS lab meetings The Empirical Legal Studies Lab @Leiden is organizing a series of sessions, for researchers interested in empirical legal research. Are you looking to learn more about empirical methods and/or engage in lively discussions on ELS? Join the upcoming ELS lab meetings!
- The Empirical Legal Studies blog at www.elsblog.org. It should be noted that the quality of blogs may vary. Researchers summarise interesting research and new trends. There are, of course, other sites that cover topics of interest to those studying empirical research methods in law.

Class Meetings, Assignments and Grading

- Seminar: Number of (3 hour) seminars: 7
- Required preparation by students: Reading material. Students are expected to actively engage in discussions with regard to the assignments.
- Assignments: During the course, assignments have to be produced on a weekly basis. The exercises will provide good checkpoints to judge the comprehension of the material.
- Paper on research design: Participants are asked to prepare a short paper (5-6 A4 pages) specifying the design of their research project. The research project should use empirical methods in law.

Students should attend every class. Course grades will be determined by five factors: class attendance, class participation, written assignments, an original paper and a presentation of that paper to the class. The original paper will count for 40 percent of final grades; assignments 35 percent and the other factors will account for the remaining 25 percent.

The volume of work that is involved in the course - assignments on a weekly basis and completing the papers - is substantial. For that reason, it is strongly recommended that students form teams of two for the purposes of completing assignments, writing the paper and giving the presentations. Nevertheless, students may choose to work alone. Members of the team will receive the same grade on team material, such as the paper, assignments and class presentations, but separate grades will be given to individual team members for the other components of the class. All assignments need to be submitted electronically (e-mail c.l.j.caminada@law.leidenuniv.nl) and have to be of professional quality. These assignments are awarded a grade. A minimum of five assignments ought to be sufficient to allow students to deliver their (final) research project. Failure to submit assignments will result in no exam grade being calculated. Frivolous attempts at assignments (which will be subject to the discretion and assessment of the lecturer) will be taken to be a failure to submit. A late submission automatically receives an insufficient.

It should be noted that there are classes in the schedule when students are expected to report on the progress of their project. Each team has to make a brief –presentation, of approximately five minutes, of the research project topic. Moreover, each team will describe its data-gathering efforts, which means that, students will explain the data set they are using and how it helps to answer the questions they are investigating. These updates are not graded. Empirical work requires regular and consistent progress. These are not projects that can be started and then left to the last minute. The updates are an opportunity for students to get feedback on their project. The last week of the course is dedicated to the presentations of papers. The presentations are expected to last, on average 30 minutes and to be given professionally.

Goal and Background

The purpose of this course is to provide students with a knowledge of various quantiative empirical research methods. Why is empirical research used (or not used) in any given research context? What other methods and their advantages and disadvantages may be then considered? The seminar exploits the device 'learning by doing, and learning from each other'. The Graduate School of Legal Studies comprises students and PhD's from a wide-ranging background, from Masters in law to students at an undergraduate level. Most participants are unfamiliar with quantitative empirical research. Therefore, the seminar Quantitaive Empirical Research Methods in Law is set up as an open discussion seminar, in which participants work together on mini research design problems. The supervisor starts each session with a short introduction after which small groups of students have to develop and specify a design to investigate a given research question. The designs developed in this way have to be presented to the other participants, who will critique and compare them with their own solution. It is hoped that, this approach results in lively, if not fierce discussions in which students are confronted with questions and solutions originating from disciplines quite different to their own. Research problems presented for solution are expected to be widely

different, in such a way that various research methods (such as observation, survey, interviews, experiments, cross country data ...) are possible. After a few meetings the emphasis of the course is on the presentations and discussions of the research design put forward by the participants themselves, even if these are at this stage, in a relatively early and provisional stage.

Pre-requisite

Undergraduate level in Law is necessary. No prior familiarity with statistics or empirical techniques is required, however, completion of an Introduction to Statistical Analysis prior to taking this course is recommended. The course is not open to students with knowledge and skills in empirical research methods. It is recommended that such students participate in an individual track Empirical Research Design. In this regard, contact Koen Caminada (prior to first class meeting): e-mail cl.j.caminada@law.leidenuniv.nl, website www.economie.leidenuniv.nl.

Enrollment

- Enrollment to the course by completing and submitting the registration form of the Graduate School of Legal Studies, website https://www.organisatiegids.universiteitleiden.nl/en/faculties-and-institutes/law/faculty-bureau/department-of-research-e.m.-meijers-institute
- Due to the short duration of the course and the high intensity, late entry is not permitted.

Schedule & Themes

0.	Wed 29-1-2025	17.30-19.30 hrs	Getting started
1.	Wed 05-2-2025	18.00-21.00 hrs	Why Quantitative Empirical Research Methods in Law?
2.	Wed 12-2-2025	18.00-21.00 hrs	Reliability, Validity, and Descriptive Statistics
3.	Wed 19-2-2025	18.00-21.00 hrs	Tests of Statistical Significance, Correlation and Regression
4.	Wed 26-2-2025	18.00-21.00 hrs	Gathering Data and Sampling
5.	Wed 05-3-2025	18.00-21.00 hrs	Experiments and Writing about Numbers
6.	Wed 12-3-2025	18.00-21.00 hrs	Cross Country Data Analyses (subject to change)

7. Wed 19-3-2025 or Wed 26-3-2025 17.30-21.00 hrs Quantitative Empirical Research Methods in Law in Action

The seminar is preferably scheduled as an in person class. At this stage we prepare on classes in person; updates will be given via BrightSpace and e-mail.



Schedule and Reading List (subject to change)

Wednesday (18.00-21.00 hrs) from January 29st up to and including March 26th 2024.

Week 0: Introduction to the field, getting started, course outline course, getting started.

- QEmRiL in Law in Action: Xuechan Ma & Shuai Guo on <u>An Empirical</u> Study of the Voting Pattern of Judges of the International Court of Justice (2005-2016), Erasmus Law Review, December 2017 (no 3).
- Daniel L. Chen & Arnaud Phillipe, <u>Clash of Norms: Judicial Leniency</u> on <u>Defendant Birthday</u>, SSRN February 2020.

Week 1: Why Quantitative Empirical Research Methods in Law?

Readings

- 1. John McGinnis, <u>The Age of the Empirical</u>, *Policy Review* 137, June & July, 2006, pp. 47-58.
- 2. Lee Epstein & Gary King, <u>Building an Infrastructure for Empirical Research in the Law</u>, *Journal of Legal Education* 53(3), 2003, pp. 311-320 (See Issue 3 2003, Page 311-320).
- 3. Koen Caminada, <u>How strong are Piketty's trends?</u>, *Leiden Law Blog*, 12 January 2015.

Part 2: Basics of Statisti- - cal Analysis

David Cope, Fundamentals of Statistical Analysis, Foundation Press, 2005.

Week 2: Reliability, Validity, and Descriptive Statistics

Readings

- David Cope, Fundamentals of Statistical Analysis, Foundation Press, 2005, pp. 1-26.
- Jennifer K. Robbennolt, <u>Evaluating Empirical Research Methods: Using Empirical Research in Law and Policy</u>, *Nebraska Law Review* 81, 2002, pp. 777-804 (See Issue 2 2002-2003, Page 777-804).

Part 2 Data Management 5. & Open Access

Koen Caminada & Jinxian Wang, Leiden LIS Budget Incidence Fiscal Redistribution Dataset on Relative Poverty Rates for 49 LIS-countries, 1967-2016 (at <u>Leiden Law School/Department Economics/Data</u>).

Assignment #1: Write a note (1-2 A4) on how *Reliability, Validity, and Descriptive Statistics* will affect your preliminary search for research questions? To what extent will data gathering affect your own research project?

Week 3: Tests of Statistical Significance, Correlation and Regression

Readings

- David Cope, Fundamentals of Statistical Analysis, Foundation Press, 2005, pp. 36-96.
- 6. Gary L. Wells, <u>Naked Statistical Evidence of Liability: Is Subjective Probability Enough?</u>, *Journal of Personality and Social Psychology* 62(5), 1992, pp. 739-752.
- Richard Lowry, Concepts and Applications of Inferential Statistics, Chapter 7: Tests of Statistical Significance: Three Overarching Concepts (See Table of Contents, Chapter 7, Part 1 of 1. Free statistics textbook at http://vassarstats.net/textbook/).
- 8. Alan O. Sykes, <u>An Introduction to Regression Analysis</u>, *Chicago Working Papers in Law and Economics* (No. 020), 1993.
- 9. John Donohue III, & Justin Wolfers, <u>Uses and Abuses of Empirical</u>
 <u>Evidence in the Death Penalty Debate</u>, *Stanford Law Review* 58,
 2006, pp. 791-846 (See Issue 3 December 2005, Page 791-846).

Preparation: Presentation of thesis or paper topic (each group 5 minutes).

Week 4: Gathering Data and Sampling

Readings

- David Cope, *Fundamentals of Statistical Analysis,* Foundation Press, 2005, pp. 27-31, and pp. 31-35.
- Koen Caminada, Kees Goudswaard & Olaf van Vliet, <u>Patterns of welfare state indicators in the EU: Is there convergence?</u>, *Journal of Common Market Studies* 48(3), 2010, pp. 529-556.

Part 2: Laboratory: Getting Started with Empirics

Preparation #: Collect URL-s of (ir)relevant data on the World Wide Web for your research project. Some examples of Descriptive Statistics can be found at:

- WODC / Cijfers en prognoses: https://www.wodc.nl/onderzoek-in-uitvoering/statistiek-en-monitoring
- Raad voor de Rechtspraak / De Nederlandse rechtspraak in cijfers: https://www.rechtspraak.nl/Hoe-werkt-het-recht/Rechtspraak-in-Nederland/Rechtspraak-in-cijfers
- Centraal Bureau voor de Statistiek / StatLine Databank: http://statline.cbs.nl/
- OECD: http://www.oecd.org/statistics/
- The World Top Incomes Database (Alvaredo, Atkinson, Piketty & Saez): https://wid.world/wid-world/

Week 5: Experiments and Writing about Numbers

Reading

- 11. United Nations Economic Commission for Europe, <u>Making Data Meaningful</u>, <u>Part 2: A quide to presenting statistics</u>, UN, 2009.
- 12. Lee Epstein, Andrew D. Martin & Matthew M. Schneider, On the Effective Communicating of Empirical Results, Part I, Vanderbilt University Law Review 59(6), 2006, pp. 1811-1872 (See Issue 6 November 2006, Page 1811-1872).
- 13. K. Caminada and K.P. Goudswaard (2012), <u>The Relationship Between Alternative Measures of Social Spending and Poverty Rates</u>, *The International Review of Business and Social Sciences* 1(5), pp. 8-25.

Assignment #2: Prepare a note (1-2 A4) on effective communication of data and empirical results within the framework of your research project.

Week 6: Cross Country Data Analyses (subject to change)

Readings

- 14. Chen Wang & Koen Caminada, <u>Do rising shares in top incomes affect income inequality as a whole?</u>, *Leiden Law Blog*, 2 July 2015.
- 15. Koen Caminada, Jinxian Wang, Kees Goudswaard & Chen Wang, Relative income poverty rates and poverty alleviation via tax/benefit systems in 49 LIS-countries, 1967-2016, <u>LIS Working Paper Series</u> no 761, 2019.

Assignment #3: Prepare a note (1-2 A4) on the possibilities of using cross country analyses within the framework of your research project.

Week 7: Quantitative Empirical Research Methods in Law in Action

The last week of the course will be given over to presentations of papers. The presentations are expected to last, on average, 30 minutes and to be professional.

Week 8: Held in reserve

Reading list Quantitative Empirical Research Methods in Law (links to downloads)

- QEmRiL in Law in Action: Xuechan Ma & Shuai Guo on <u>An Empirical Study of the Voting Pattern of Judges of the International Court of Justice (2005-2016)</u>, Erasmus Law Review, December 2017 (no 3).
- o Daniel L. Chen & Arnaud Phillipe, <u>Clash of Norms: Judicial Leniency on Defendant Birthday</u>, SSRN February 2020.
- 1. John McGinnis, The Age of the Empirical, Policy Review 137, June & July, 2006, pp. 47-58.
- 2. Lee Epstein & Gary King, <u>Building an Infrastructure for Empirical Research in the Law</u>, *Journal of Legal Education* 53(3), 2003, pp. 311-320 (See Issue 3 2003, Page 311-320).
- 3. Koen Caminada, How strong are Piketty's trends?, Leiden Law Blog, 12 January 2015.
- 4. Jennifer K. Robbennolt, <u>Evaluating Empirical Research Methods: Using Empirical Research in Law and Policy</u>, *Nebraska Law Review* 81, 2002, pp. 777-804 (See Issue 2 2002-2003, Page 777-804).
- Koen Caminada & Jinxian Wang, Leiden LIS Budget Incidence Fiscal Redistribution Dataset on Relative Income Poverty Rates for 49 LIS-countries, 1967-2016 (at <u>Leiden Law</u> <u>School/Department Economics/Data</u>).
- 6. Gary L. Wells, <u>Naked Statistical Evidence of Liability: Is Subjective Probability Enough?</u>, *Journal of Personality and Social Psychology* 62(5), 1992, pp. 739-752.
- 7. Richard Lowry, *Concepts and Applications of Inferential Statistics*, <u>Chapter 7: Tests of Statistical Significance: Three Overarching Concepts</u> (See Table of Contents, Chapter 7, Part 1 of 1. Free statistics textbook at http://vassarstats.net/textbook/).
- 8. Alan O. Sykes, <u>An Introduction to Regression Analysis</u>, *Chicago Working Papers in Law and Economics* (No. 020), 1993.
- John Donohue III, & Justin Wolfers, <u>Uses and Abuses of Empirical Evidence in the Death Pen-alty Debate</u>, *Stanford Law Review* 58, 2006, pp. 791-846 (See Issue 3 December 2005, Page 791-846).
- 10. Koen Caminada, Kees Goudswaard & Olaf van Vliet, <u>Patterns of welfare state indicators in the EU: Is there convergence?</u>, *Journal of Common Market Studies* 48(3), 2010, pp. 529-556.
- 11. United Nations Economic Commission for Europe, <u>Making Data Meaningful</u>, <u>Part 2: A guide to presenting statistics</u>, UN, 2009.
- 12. Lee Epstein, Andrew D. Martin & Matthew M. Schneider, On the Effective Communicating of Empirical Results, Part I, Vanderbilt University Law Review 59(6), 2006, pp. 1811-1872 (See Issue 6 November 2006, Page 1811-1872).
- 13. K. Caminada and K.P. Goudswaard (2012), <u>The Relationship Between Alternative Measures of Social Spending and Poverty Rates</u>, *The International Review of Business and Social Sciences* 1(5), pp. 8-25).
- 14. Chen Wang & Koen Caminada, <u>Do rising shares in top incomes affect income inequality as a whole?</u>, Leiden Law Blog, 2 July 2015.
- 15. Koen Caminada, Jinxian Wang, Kees Goudswaard & Chen Wang, Relative income poverty rates and poverty alleviation via tax/benefit systems in 49 LIS-countries, 1967-2016, <u>LIS Working Paper Series</u> no 761, 2019.

Workload course Quantitative Empirical Research Methods in Law

	Theme	Reading	Number of	Other
			pages	
Week 0		0.	12	-
		0.	33	
Week 1	Introduction: Why empirical research	1.	13	
	methods in Law?	2.	10	
		3.	4	
Week 2	Reliability, Validity, and Descriptive Statistics	4.	28	Note (1-2A4)
		5.	-	
		Cope	27	
Week 3	Tests of Statistical Significance, Correlation and Regression	6.	14	Presentation
		7.	9	
		Cope	61	
		8.	33	
		9.	56	
Week 4	Gathering Data and Sampling	10	82	Collect URL-s
		Cope	9	
Week 5	Experiments and Writing about Numbers	11.	58	Note (1-2A4)
		12.	43	
		13.	29	
Week 6	Cross Country Data Analyses	14.	5	Note (1-2A4)
		15.	77	
Week 7	Quantitative Empirical Research Methods		-	Paper (5-6 A4)
	in Law in Action			Presentation
Total			593 pages	3 notes, 2 presentations, and a paper

Additional Course Material and Elective Themes

This is a basic course in Quantitative Empirical Research Methods in Law. The course is not able to cover several topics. Students are encouraged to work on elective themes by themselves.

- a) How to lie and cheat with statistics? "43 percent of people lie about statistics. 72 Percent know that." Over the last fifty years, the famous book from Darrel Huff on "How to Lie with Statistics" has sold more copies than any other statistical text.
- b) Read more on Probability theory and Probability axioms via a free statistics textbook from Richard Lowry, *Concepts and Applications of Inferential Statistics*, "Chapter 6: Introduction to Probability Sampling Distributions", 2006 (http://faculty.vassar.edu/lowry/webtext.html).
- c) Analytical Tools & Methods for Law. There are several textbooks for students with little or no quantitative background to the basic analytical techniques that attorneys need to master to represent their clients effectively. An excellent law school casebook was developed by a team of professors at Harvard Law School.
 Reference: Howell Jackson, Louis Kaplow, W. Kip Visusi, David Cope & Steven Shavell, Analytical Methods for Lawyers, Foundation Press, 2003 (583 pages, ISBN: 1587785145).
- d) Discovering Statistics using SPSS. Read Andy Field's bestselling textbook for undergraduate social science students. The title of the book accurately reflects the approach taken. This is not simply a primer on how to use SPSS, but is a very good statistics text using SPSS as a

vehicle for illustrating and expanding on the statistical content of the book. At the same time it also serves as a manual for SPSS. One advantage of the text is that it is not tied specifically to the latest version of SPSS. It provides students of statistical methods with everything they need to understand, use and report statistics - at every level. Written in Andy Field's vivid and entertaining style, and furnished with playful examples from everyday student life (among other places), the book forms an accessible gateway into the often intimidating world of statistics and a unique opportunity for students to ground their knowledge of statistics through the use of SPSS. The book provides support for those less confident about statistical analysis whilst having sufficient depth that it will still be valuable to more mathematically experienced people. There is a focus throughout on the practical aspects of data analysis and interpretation.

Reference: Andy Field, *Discovering Statistics Using SPSS*, Sage Publications, 2005 (816 pages, ISBN: 9780761944522).

e) Simulations are imitations of the real world. This empirical tool can be helpful in legal research to understand certain key characteristics or behaviors of, for example, alternative (tax) rules or laws. Simulation is used in many contexts, including the modeling of systems in order to gain insight into their functioning. Simulation can be used to show the effects of alternative conditions and causes of action. Key issues in simulation include acquisition of valid data source information about the system, a selection of key characteristics, the use of simplifying approximations and assumptions within the simulation, and reliability and validity of the simulation outcomes. See for applications of simulations in the research field of tax law and economics:

Koen Caminada & Kees Goudswaard, "Revenue Effects of Tax Facilities for Pension Savings", *Atlantic Economic Journal* 36 (2), 2008, pp. 233-246.

Koen Caminada & Kees Goudswaard, "Does a Flat Rate Personal Income Tax Reduce Tax Progressivity? A Simulation for the Netherlands", *Public Finance & Management* 1(4), 2001. Koen Caminada & Kees Goudswaard, "Progression and Revenue Effects of Income Tax Reform", *International Tax and Public Finance* 3 (1), 1996, pp. 57-66.

- f) The *Journal of Empirical Legal Studies (JELS*) is a peer-edited, peer-refereed, interdisciplinary journal that publishes high-quality, empirically-oriented articles of interest to scholars in a diverse range of law and law-related fields, including civil justice, corporate law, criminal justice, domestic relations, economics, finance, health care, political science, psychology, public policy, securities regulation, and sociology.

 There is currently a gap in the legal and social science literature that has often left scholars, lawyers, and policymakers without basic knowledge of legal systems or with false or distorted impressions. Even simple descriptive data about the functioning of courts and the legal systems are often lacking. Reform and intellectual debate have previously proceeded in an empirical vacuum. Courts and lawyers often do not know what to make of empirical findings in part because they so rarely encounter them. *JELS* fills this gap. Both experimental and non-experimental data analysis are welcome, as are law-related empirical studies from around the world. Website *JELS*: http://www.blackwellpublishing.com/journal.asp?ref=1740-1453&site=1
- g) Self-study & engagements at Leiden Law School:
 - <u>Leiden Law Methods Portal</u> This portal introduce scholars to a broad range of empirical research methods for studying the law and legal phenomena
 - <u>ELS lab meetings</u> Empirical Legal Studies Lab is organizing sessions for researchers interested in empirical legal research. Are you looking to learn more about empirical methods and/or engage in lively discussions on ELS? Join the upcoming ELS lab meetings!
 - <u>Empirical methods in legal research series</u> The Empirical Methods in Legal Research sessions aim to equip you to add an empirical component to your work. They provide an opportunity to expand your research skillset and to reflect on the role that empirical methods can play in conducting legal research.