

THE MOVEMENT OF RESEARCH FOCUS ON PLEA BARGAINING: A BIBLIOMETRIC REVIEW OF THE WEB OF SCIENCE DATABASE FROM 1968 TO 2021

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Abstract - This review adopted science mapping techniques to discover various structures and development trajectories of research on plea bargaining. The research analyzed 310 articles from the Clarivate Web of Science database related to this topic from 1968 to 2021 using citation, co-citation, keyword co-occurrence and co-authorship analysis. First, we found that plea bargaining had not gained much attention from scholars, as most of the studies with high impact were conducted more than ten years ago. Second, we identified the dominance of scholars from the USA, as well as other countries with common law systems over countries with civil law systems. Also, there is lacking collaboration between countries and juridical systems to investigate this topic. Third, we sketched out the five popular research themes on plea bargaining: Shadow of the trial mode and criminal procedure; The matter of race; Decision-making process; Legal history and Judicial reform; Defense attorneys and Prosecutors. Our findings also highlighted most influential authors, journals, and research articles on this topic, as a guideline for scholars who want to study this topic.

Keywords: Plea bargaining; Review; Bibliometric;

INTRODUCTION

Plea bargaining is a method of resolving criminal cases involving negotiation between the prosecution and the defense to exchange the defendant's guilty plea for the leniency offered by the prosecutor. Dated back to the 1920s, when plea bargaining first came to the public's notice, it faced intense criticism.¹ Gradually, as courts in the USA relied more on this practice, finally, in 1970, the Supreme Court of the USA held that plea bargaining was constitutional.² Ever since then, the guilty plea procedure has resolved the lion's share of criminal cases in the USA. In fact, in a survey undertaken by the Pew Research Center in 2019, the result revealed that merely two percent of federal criminal defendants did not waive their right to trial. On the other hand, the astounding 90 percent of those pleaded guilty to receive leniency, while the remaining eight percent were dismissed cases.³ Since the 1970s, plea bargaining has spread to many jurisdictions across the globe, and it has no longer been the unique feature of the criminal justice system in the USA.⁴ Fair Trials studied 90 countries' criminal systems and found that until 2017, there were 66 nations (including both countries with Civil Law systems and Common Law systems) that adopted plea bargaining procedures in criminal cases, even though in 1990, only 19 countries had this system.⁵ According to findings of Fair Trials,⁶ in inquisitorial system countries, legislators had incentives to provide more "safeguards" to the plea bargaining process than the adversarial system countries (e.g. compulsory contact to a lawyer, participation of a judge in negotiations, limiting the benefit of the agreement, narrowing down types of cases). Although it often seemed that plea bargaining contrasted to the compulsory prosecution, some inquisitorial system countries like Germany, France still adopted this procedure to their criminal system and created some

¹ William Ortman, 'When Plea Bargaining Became Normal' (2020) 100 Boston University Law Review 1435.

² Albert W Alschuler, 'Plea Bargaining and Its History' (1979) 79 Columbia Law Review 1 <<https://www.jstor.org/stable/1122051?origin=crossref>>.

³ John Gramlich, 'Only 2% of Federal Criminal Defendants Go to Trial, and Most Who Do Are Found Guilty' (2019) <<https://www.pewresearch.org/fact-tank/2019/06/11/only-2-of-federal-criminal-defendants-go-to-trial-and-most-who-do-are-found-guilty/>>.

⁴ Máximo Langer, 'Plea Bargaining, Conviction Without Trial, and the Global Administratization of Criminal Convictions' (2021) 4 Annual Review of Criminology 377 <<https://www.annualreviews.org/doi/10.1146/annurev-criminol-032317-092255>>.

⁵ Fair Trials, 'The Disappearing Trial Report: A Global Study into the Spread and Growth in Trial Waiver Systems' (2017) <<https://www.fairtrials.org/publication/disappearing-trial-report>>.

⁶ *ibid*.

exceptions for it.⁷ The cause for this widespread of plea bargaining was various, but the most common reasons were to save time, human resources and reduce cost.

Despite the fact that plea bargaining has gradually increased its influence,⁸ there was a lack of research on this matter. Nonetheless, previous studies have covered several aspects of plea bargaining. Before the year 2010, scholars were interested in topics such as the history of plea bargaining (e.g. Langbein, 1978⁹; Alschuler, 1979¹⁰; Langbein, 1979¹¹), judicial reform (e.g. Glen Ueng & Yang, 2001¹²) and justice (e.g. Fisher, 2007¹³). In recent years, the psychological aspect of plea bargaining has received much attention (e.g. Helm & Reyna, 2017¹⁴), along with other topics like confessions (e.g. Wilford et al., 2021¹⁵) and adults (e.g. Fountain & Woolard, 2021¹⁶).

Moreover, bibliographic analysis was not prominent among scholars. To date, there was only one bibliographic analysis on plea bargaining, published under Law & Society Review's Special Issue (Vol. 13, No. 2) on this topic in 1979 (see Matheny, 1979¹⁷). Matheny listed 433 articles referring to plea bargaining, which "*represents, in large measure, the sources used by authors of articles in this issue and has, thereby, idiosyncratic depth rather than comprehensive breadth*".¹⁸ These articles were collected from various research practices: "*the 'administrative reform' tradition, characteristic of the crime surveys that appeared in the 1920s and 1930s; the 'due process' tradition that has dominated legal analyses; and the comparatively recent 'organizational' tradition*".¹⁹ However, Matheny's study was dated back more than 40 years ago. At that time, bibliometric techniques were not as advanced as in the twenty-first century, when science mapping and digital databases were developed and adopted across multiple disciplines. Even though the study of Matheny²⁰ included a vast number of articles, there was no further analysis about the knowledge structure and development trends on plea bargaining research. Also, there was no straightforward procedure of how Matheny selected those 433 articles, which did not ensure the common standard for his dataset. Therefore, to address the scholars' research focus on this topic as well as the knowledge structure across time, there is a need for a more comprehensive and objective bibliographic study on plea bargaining. Our study adopted science mapping techniques to address the above gaps, using bibliographic data associated with a dataset of 310 research on plea bargaining from the Clarivate Web of Science database. In particular, this review shed light on the following research questions:

- 1) RQ1: What is the volume, growth trajectory and distribution of articles on plea bargaining?
- 2) RQ2: Who were the most influential authors, and which documents impact plea bargaining studies most?

⁷ Eliabetta Grande, 'Comparative Approaches to Criminal Procedure' in Darryl K Brown, Jenia Iontcheva Turner and Bettina Weisser (eds), *The Oxford Handbook of Criminal Process* (Oxford University Press 2019) <<http://oxfordhandbooks.com/view/10.1093/oxfordhb/9780190659837.001.0001/oxfordhb-9780190659837-e-4>>.

⁸ Máximo Langer, 'From Legal Transplants to Legal Translations: The Globalization of Plea Bargaining and the Americanization Thesis in Criminal Procedure' (2004) 45 Harvard International Law Journal.

⁹ John H Langbein, 'Torture and Plea Bargaining' (1978) 46 The University of Chicago Law Review 3 <<https://www.jstor.org/stable/1599287?origin=crossref>>.

¹⁰ Alschuler, 'Plea Bargaining and Its History' (n 4).

¹¹ John H Langbein, 'Understanding the Short History of Plea Bargaining' (1979) 13 Law & Society Review 261 <<https://www.jstor.org/stable/10.2307/3053252?origin=crossref>>.

¹² KL Glen Ueng and CC Yang, 'Plea Bargaining with the IRS: Extensions and Further Results' (2001) 81 Journal of Public Economics 83 <<https://linkinghub.elsevier.com/retrieve/pii/S004727270000089X>>.

¹³ Talia Fisher, 'The Boundaries of Plea Bargaining: Negotiating the Standard of Proof' (2007) 97 Journal of Criminal Law and Criminology 943.

¹⁴ Rebecca K Helm and Valerie F Reyna, 'Logical but Incompetent Plea Decisions: A New Approach to Plea Bargaining Grounded in Cognitive Theory.' (2017) 23 Psychology, Public Policy, and Law 367 <<http://doi.apa.org/getdoi.cfm?doi=10.1037/law0000125>>.

¹⁵ Miko M Wilford, Gary L Wells and Annabelle Frazier, 'Plea-Bargaining Law: The Impact of Innocence, Trial Penalty, and Conviction Probability on Plea Outcomes' (2021) 46 American Journal of Criminal Justice 554 <<https://link.springer.com/10.1007/s12103-020-09564-y>>.

¹⁶ Erika N Fountain and Jennifer Woolard, 'Negotiating with Parents: Attorney Practices in the Juvenile Plea Bargain Process.' (2021) 45 Law and Human Behavior 112 <<http://doi.apa.org/getdoi.cfm?doi=10.1037/lhb0000439>>.

¹⁷ AR Matheny, 'A Bibliography on Plea Bargaining' (1979) 1 Law and Society Review 661 <<http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:A+BIBLIOGRAPHY+ON+PLEA+BARGAINING#3>>.

¹⁸ *ibid.*

¹⁹ *ibid.*

²⁰ *ibid.*

- 3) RQ3: Which topics did scholars focus on and the evolution of research topics from 1975 to 2021?
- 4) RQ4: What are the intellectual structure and social structure of knowledge in plea bargaining research?

METHOD

The researchers applied the bibliometric analysis method to investigate the data associated with published studies on plea bargaining. Notwithstanding the fact that scholars have broadly used this approach in various fields of study,²¹ it was hardly employed in plea bargaining research. Therefore, in this section, the researchers explain how this method was used to identify the sources, extract and analyze data.

1. Identification of Sources

The database adopted in this research was Web of Science (WOS) by Clarivate. The WOS database was chosen because it is one of the most comprehensive databases, comprising multiple academic disciplines.²² The aim of this study was to provide a thorough overview of plea bargaining studies in top-tier journals. Hence, the WOS database is appropriate for this purpose.

The search process complied with the PRISMA (*Preferred Reporting Items for Systematic Reviews and Analyses*) guidelines (Figure 1), which demonstrated steps in identifications and filtering of sources.²³

The authors searched Web of Science using the following Boolean string:

TI=(plea bargain*) AND LANGUAGE: (All) AND DOCUMENT TYPES: (Article)

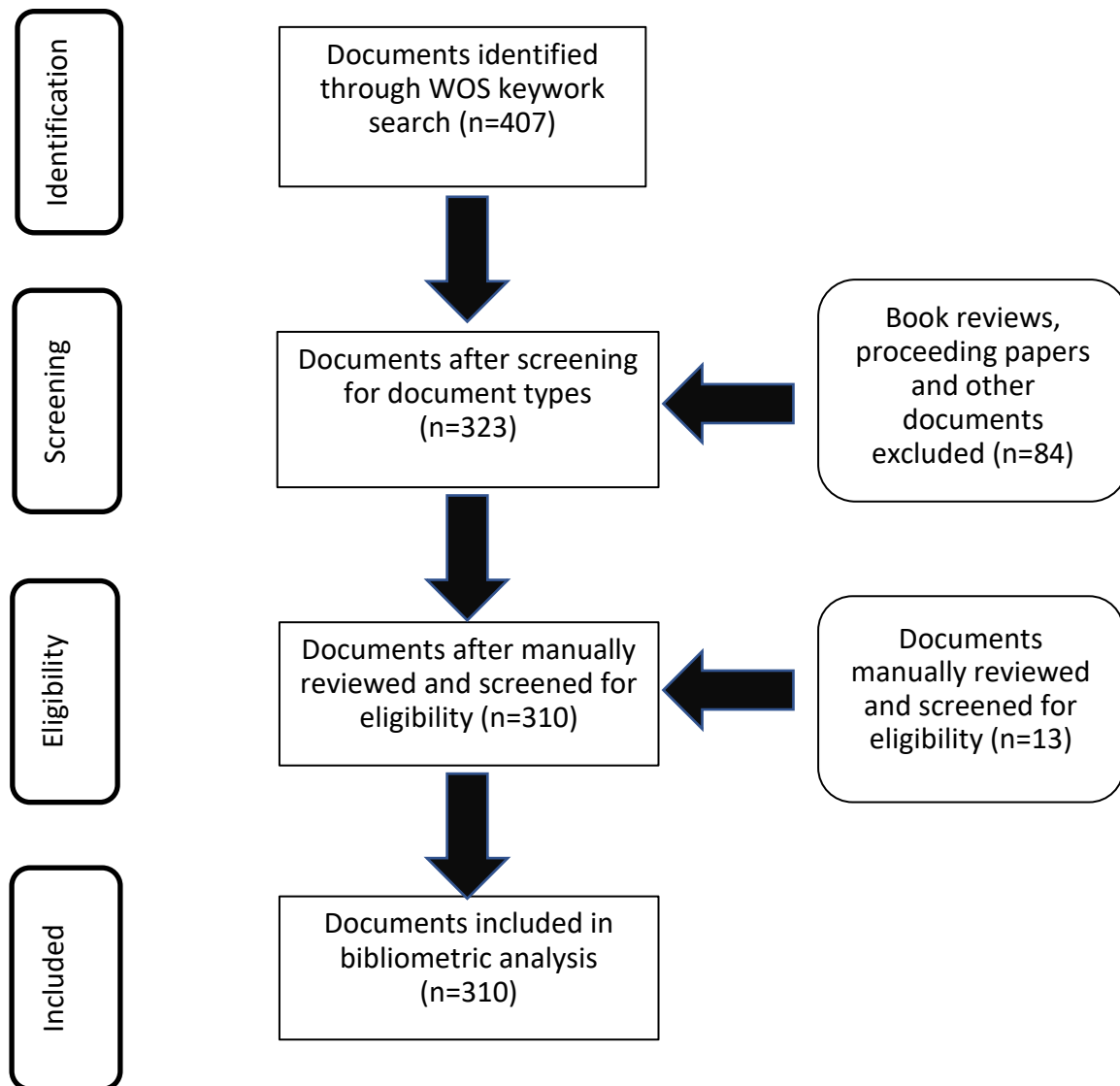
The wildcard “bargain*” ensured that the search engine will include both variations such as bargain, bargaining, bargains, etc. On 19th October 2021, this search yielded a total result of 407 documents. In the screening step, the authors excluded 84 book reviews, proceeding papers, editorial materials, letters, notes, news items and poetry. This process left 323 documents, which were articles, review articles, book chapters, and film reviews. Then, the researchers inspected the titles and abstracts of these documents to screen out the eleven documents that were not relevant to the plea bargaining topic. At the end of the process, all 310 documents, composed of 293 journal articles, 15 review articles, and two book chapters, were taken into the bibliometric analysis.

Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram detailing steps to identify and screen.

²¹ Philip Hallinger and Dhirapat Kulophas, ‘The Evolving Knowledge Base on Leadership and Teacher Professional Learning: A Bibliometric Analysis of the Literature, 1960-2018’ (2020) 46 Professional Development in Education 521 <<https://www.tandfonline.com/doi/full/10.1080/19415257.2019.1623287>>.

²² Daniela Maria Cretu and Felicia Morandau, ‘Initial Teacher Education for Inclusive Education: A Bibliometric Analysis of Educational Research’ (2020) 12 Sustainability 4923 <<https://www.mdpi.com/2071-1050/12/12/4923>>.

²³ David Moher and others, ‘Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement’ (2009) 6 PLoS Medicine e1000097 <<https://dx.plos.org/10.1371/journal.pmed.1000097>>.



2. Data extraction and analysis

The researchers exported the data of 310 documents to Excel worksheets and plain text files from the WOS database. The metadata included author name, author affiliation, document title, keywords, abstracts, number of citations, etc. Thereafter, the authors read and supplemented some missing indexes such as author names, the year of publication. As for the plain text files, the authors manually replaced similar terms and names. For instance, we replaced “guilty-pleas”, “criminal-justice”, “decision-making”, “gender-differences”, “Hong-Kong” with “guilty plea”, “criminal justice”, “decision making”, “gender differences”, “Hong Kong” respectively. The reason for this substitution was that the analysis software would detect these identical keywords as distinguished ones, which misled the results. Therefore, replacing these terms could improve the output of the analysis. Then, the plain text file was imported into VOSviewer, which synthesized the data to generate bibliometric visualizations. Besides, The authors used graphs, tables and maps to investigate the volume, growth trajectory and distribution of articles in the WOS database.

The authors also included citation, co-citation, keyword co-occurrence and co-authorship analysis in this bibliographic research. Citation analysis measures the total times an author or a document was cited by other authors or documents in the database, with the aim to identify key authors and documents.²⁴ Co-citation analysis calculates the frequency with which two items were cited together to examine their similarity.²⁵ The co-occurrence of keywords (or co-word) analysis evaluates the frequency of which words

²⁴ Hallinger and Kulophas (n 23).

²⁵ Henry Small, ‘Co-Citation in the Scientific Literature: A New Measure of the Relationship between Two Documents’ (1973) 24 Journal of the American Society for Information Science 265
<<https://onlinelibrary.wiley.com/doi/10.1002/asi.4630240406>>.

occurred together in titles, keywords indexes, and abstracts. By co-word analyzing, the authors discover which topics gained the most attention of scholars.²⁶ Co-authorship analysis reveals the connection between authors in researching plea bargaining.

To resolve the research questions, the researchers conducted the data analysis using Excel and VOSviewer version 1.6.17. Excel is a handy tool that enables users to calculate, create graphs and tables. VOSviewer is a software that can visualize bibliographic data into maps, networks.²⁷ Regarding these advantages, the authors employed VOSviewer to analyze co-word and co-authorship.

DESCRIPTIVE RESULTS

1. Volume, Growth Trajectory and Distribution

The data of 310 articles from WOS shows that research on Plea bargaining from 1975 to 2021 mainly belonged to the Law category, with 215 articles (69.35 percent), followed by Criminology Penology and Sociology, with 21.61 percent and 12.25 percent, respectively (Table 1).

Table 1. Most frequent articles categories.

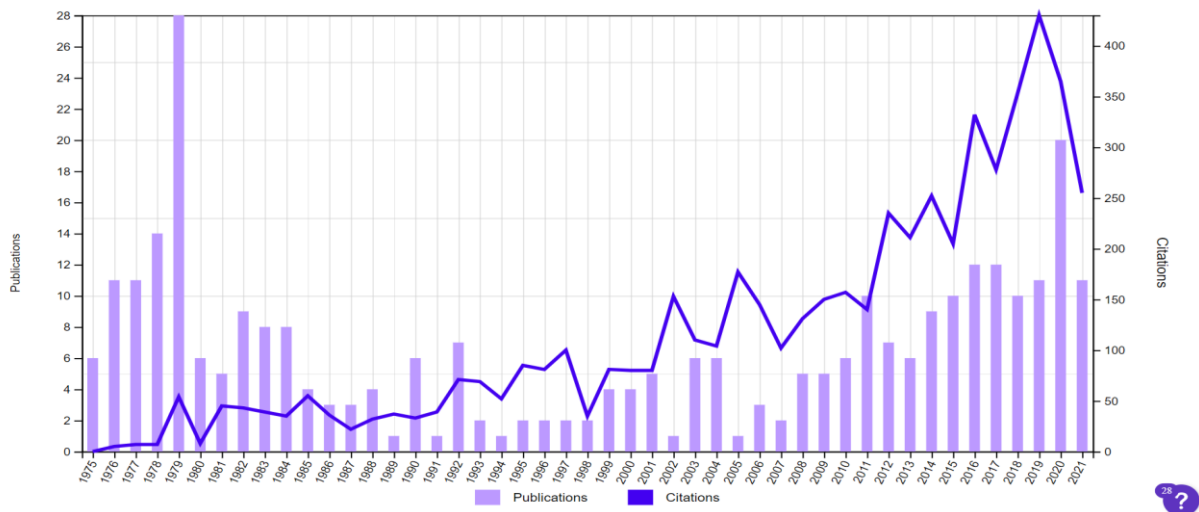
No.	Categories	Quantity
1	Law	215
2	Criminology Penology	67
3	Sociology	38
4	Economics	26
5	Multidisciplinary Psychology	10
6	Social Psychology	10
7	Social Science Interdisciplinary	8
8	Applied Psychology	5
9	Health Policy Service	4
10	Political Science	4

The number of research on this topic did not increase consecutively (Figure 2). In particular, from 1975 to 1979, 70 articles were published. The productivity record on this topic was made in 1979 with 28 articles. Among those, there were 16 original and review articles from Law and Society Review, under its special issue on Plea bargaining (Volume 13, No. 2). Thereafter, the number of publications per year started falling and hit the lowest record in 1989 - with only one published article. Since then, the annual publication productivity remained stable until 2005, when it returned to the growth track.

Regarding 136 articles from 2005 to 2021, half of those had been published in the 2016 - 2021 period. There was no significant change in research productivity on this topic from 2008 to 2014, in which each year had around six to ten published articles. The annual publication productivity continued to rise in the next five years, with an average of about ten to twelve per year. The year 2020 witnessed a dramatic growth with 20 articles, which doubled the average productivity in the last four years. However, those 20 articles came from various journals instead of one special issue as happened in 1979. When the author exported this dataset from the WOS databases on 19th October 2021, a total of eleven articles on plea bargaining were counted for 2021. Therefore, it may be presumed that by the end of 2021, two or three more papers on this topic will be published and indexed in the WOS database for this year. Overall, the growth trajectory of publications on this topic has been stably increasing since 2014.

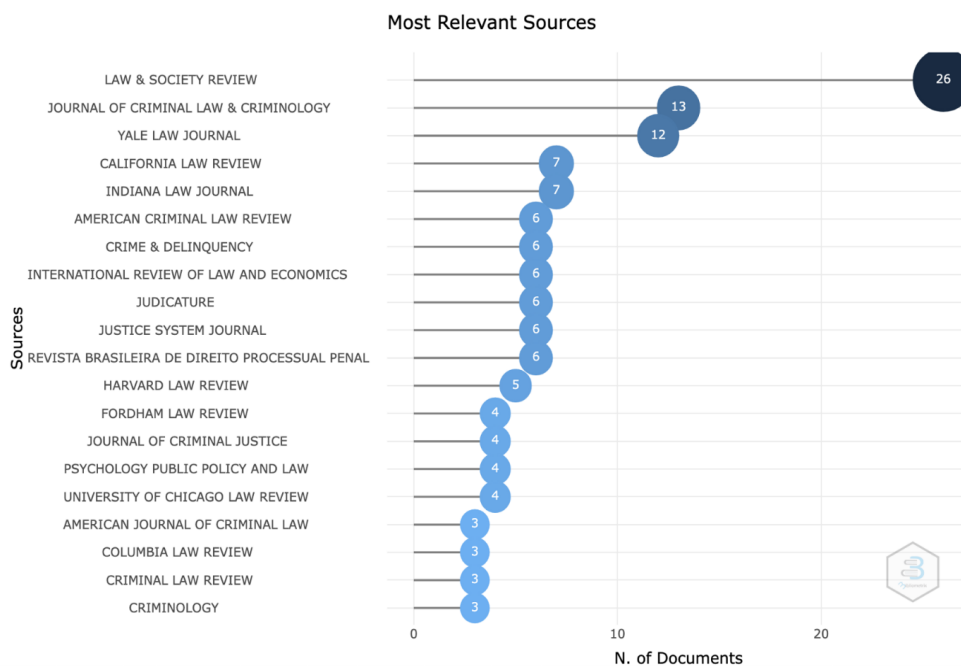
²⁶ Ivan Zupic and Tomaž Čater, 'Bibliometric Methods in Management and Organization' (2015) 18 *Organizational Research Methods* 429 <<http://journals.sagepub.com/doi/10.1177/1094428114562629>>.

²⁷ Massimo Aria and Corrado Cuccurullo, 'Bibliometrix : An R-Tool for Comprehensive Science Mapping Analysis' (2017) 11 *Journal of Informetrics* 959 <<https://linkinghub.elsevier.com/retrieve/pii/S1751157717300500>>.

Figure 2. Publications and citations by year (From 1975 to 19th October 2021).

Considering the sources of publications, there was a clear dominance of three journals: Law and Society Review, Journal of Criminal Law & Criminology and Yale Law Journal (Figure 3), with at least more than ten articles from each journal. Specifically, Law and Society Review had the most articles published on this subject (26 articles). The Journal of Criminal Law & Criminology and Yale Law Journal secured second place and third place with 13 and twelve articles on this topic, respectively. Other journals such as California Law Review, Indiana Law Journal, American Criminal Law Review, published seven or fewer papers on Plea Bargaining.

Notably, the number of articles from Law and Society Review was twice as high as the second-place and the third-place journals, surpassing the remaining journals by a vast quantity. Nevertheless, within 26 articles published by Law and Society Review, 61.5 percent were from the 1979 special issue on Plea Bargaining (Volume 13, No. 2). The remaining ones were published at different times since 1975, but the latest article was dated 1999. On the other hand, the Journal of Criminal Law & Criminology has produced a steady flow of articles on this topic. This journal has continuously published research on Plea Bargaining since 1978, and their latest one was in 2020. In general, this research topic only witnessed a sporadic contribution from a few journals in particular times and did not obtain regular attention from scholars.

**Figure 3. Most frequent journals.**

Next, the researcher analyzes sources of publications on plea bargaining, considering national productivity. We consider the first author and corresponding author's country as the publication's country of origin within this research. Among 310 articles on this database, a remarkable number of articles came from the USA (238 articles, 76.77 percent). This tremendous number was eight times higher than Brazil (ranked second, with 29 articles, 9.35 percent). Other countries such as Israel, the UK and Canada (ranked third, fourth and fifth respectively) did not contribute as much as a half of Brazil's productivity, with only 13 or fewer articles each. Therefore, it can be concluded that the USA was the dominant country in the plea bargaining study. Accordingly, the international collaboration in this research topic mainly tended to link with the authors from the USA. Figure 4 presented that, researchers from the USA are often tied up with their peers from Israel, Argentina and the UK. Also, there was a lack of collaboration between countries across the globe on this topic. For instance, authors from countries with a high ranking in the number of publications like Brazil or Canada mainly conducted their studies without international collaboration. This is an untapped opportunity for cross-national researchers to cooperate in this topic to figure out the common and different issues between jurisdictions, as well as to determine the unknown-unknown trend in this research topic.

Figure 4. Country collaborations.



Table 2 demonstrated an interesting influence of countries with the Common law system. Even though there were twelve countries with the Civil law system, they contributed only 67 works. On the other hand, eight countries with the Common law system conducted 284 articles (with the USA accounting for the lion's share of publications mentioned above). The research focus of scholars from Common law system countries included a wide range of topics such as historical perspectives (e.g. Alschuler (1979),²⁸ discovered the history of Plea bargaining), the fairness of plea bargaining (e.g. Daughety & Reinganum (2020),²⁹ developed a model to reduce unjust conviction), and lawyers (e.g. Stephen et al. (2008),³⁰ investigated how the defense lawyer's fee contract affected the bargain). As for scholars from Civil law countries, they also demonstrated their interest in the history of plea bargaining (e.g. Ribeiro & Régnier Chemim Guimarães (2020),³¹ studied the connection between Salem witchcraft and the origin of the North American plea bargaining), trial penalty (e.g. Alati (2015),³² examined plea bargaining in Canada in order to answer the question "should there be a trial penalty?"), and corruption (e.g. Nelson & Santoso (2020),³³ debated the probability of using plea bargaining in Indonesia to recover financial damages to the states in corruption cases).

²⁸ Alschuler, 'Plea Bargaining and Its History' (n 4).

²⁹ Andrew F Daughety and Jennifer F Reinganum, 'Reducing Unjust Convictions: Plea Bargaining, Trial, and Evidence Disclosure' (2020) 36 The Journal of Law, Economics, and Organization 378 <<https://academic.oup.com/jleo/article/36/2/378/5810156>>.

³⁰ Frank H Stephen, Giorgio Fazio and Cyrus Tata, 'Incentives, Criminal Defence Lawyers and Plea Bargaining' (2008) 28 International Review of Law and Economics 212 <<https://linkinghub.elsevier.com/retrieve/pii/S0144818808000343>>.

³¹ Sarah Ribeiro and Rodrigo Régnier Chemim Guimarães, 'O Caso Das Bruxas de Salem e a Origem Do Plea Bargaining Norte-Americano: Contrapondo o Entendimento Dicotômico Dos Sistemas Processuais Penais' (2020) 6 Revista Brasileira de Direito Processual Penal 835 <<http://www.ibraspp.com.br/revista/index.php/RBDPP/article/view/323>>.

³² Daniel Alati, 'Plea Bargaining and the Trial Penalty in Canada' (2015) 3 International Journal of Human Rights and Constitutional Studies 206 <<http://www.inderscience.com/link.php?id=72474>>.

³³ Febby Mutiara Nelson and Topo Santoso, 'Plea Bargaining in Corruption Cases: A Solution for the Recovery of Financial Losses by Indonesia?' (2020) 28 Pertanika Journal of Social Sciences and Humanities 1233.



Table 2. Publications by countries.

No.	Region	Frequent	Legal system
1	USA	238	Common Law
2	Brazil	29	Civil Law
3	Israel	13	Common Law
4	UK	12	Common Law
5	Canada	8	Common Law
6	China	8	Civil Law
7	Colombia	8	Civil Law
8	Australia	5	Common Law
9	Russia	5	Civil Law
10	Nigeria	4	Common Law
11	South Korea	4	Civil Law
12	Germany	3	Civil Law
13	Malaysia	3	Common Law
14	Croatia	2	Civil Law
15	Indonesia	2	Civil Law
16	Italy	2	Civil Law
17	Spain	2	Civil Law
18	Argentina	1	Civil Law
19	Netherlands	1	Civil Law
20	New Zealand	1	Common Law

2. Influential Authors and Documents

This section analyses scholars' impact on plea bargaining research and articles' citations to identify key authors and documents. Table 3 describes top influencing authors, using total citation (TC) as the primary indicator, together with other metrics such as h-index, number of articles (in total), number of articles fractionalized (AF). Also, we provided the year of the author's first publication on this topic as additional insights to discuss the author's productivity.

In terms of TC, the author with the most citation on plea bargaining research was Alschuler, with six published papers since 1975 and a total of 627 citations in the WOS database. Maynard is another author who published six articles, starting from 1982. However, the total of 118 citations of Maynard only secured this author 10th place. Regarding the second position, even though Bibas' first work on this topic was published in 2003, their five publications gained a total of 464 citations, which was 18% higher than Stuntz - the third-place author. A notable insight was that both Alschuler and Bibas conducted all of their publications on this topic without any collaboration. Despite the fact that both Alschuler and Bibas

criticized against Plea Bargaining, Alschuler aimed to replace this procedure,³⁴ while Bibas considered *“there is no need to abolish plea bargains, which resolve most adjudicated criminal cases”*.³⁵

Nevertheless, those top influencing authors have no longer published their studies on this topic in recent years. To be exact, their latest works on this topic have been published 38 years ago (see Alschuler, 1983³⁶) or 15 years ago (see Bibas, 2012³⁷). Ever since, Alschuler has shifted their interest to several other topics, such as the history of the criminal jury in the US (Alschuler & Deiss, 1994³⁸), Miranda Rights (Alschuler, 2017³⁹), the pardon power of the President (Alschuler, 2021⁴⁰). Bibas conducted research on sentencing equality (Bibas, 2016⁴¹) and the psychological aspect of plea decision making (Redlich et al., 2017⁴²).

Among the other influencing authors on this list, several rising stars have published their first publication on this topic within the last 20 years but gained much attention. For instance, Langer M (ranked 7th) was the sole author of two publications published in 2004 and 2021 (see Langer, 2004⁴³; Langer, 2021⁴⁴). Without regard to those papers' short periods of appearance, Langer received 159 citations in the WOS database. Other notable authors are Redlich and Bushway, who both have their first work on this topic in 2012. Rather than independently conducting research like Alschuler and Bibas, Redlich and Bushway often collaborate with other scholars. The AF index of Redlich and Bushway is 1.17 (over three articles) and 0.83 (over two articles), accordingly. Taken as a whole, co-authorship was not a widespread practice in plea bargaining research. Besides, as most of the authors in the top 20 only conducted one or two research on this topic over many years, we can see that this topic has not received much attention from scholars across the globe.

Table 3. Top influencing authors.

No	Author	TC	h-index	Articles	AF	Started
1	Alschuler AW	627	6	6	6.00	1975
2	Bibas S	464	5	5	5.00	2003
3	Stuntz WJ	393	2	2	1.50	1992
4	Schulhofer SJ	264	3	3	3.00	1984
5	Langbein JH	254	3	4	4.00	1978
6	Scott RE	253	1	1	0.5	1992
7	Langer M	159	2	2	2.00	2004
8	Reinganum JF	132	2	3	2.50	1988
9	Heumann M	118	2	2	1.50	1975
10	Maynard DW	118	6	6	6.00	1982
11	Redlich AD	97	2	3	1.17	2012
12	Bushway SD	96	2	2	0.83	2012
13	Grossman GM	95	1	1	0.50	1983

³⁴ Albert W Alschuler, 'Implementing the Criminal Defendant's Right to Trial: Alternatives to the Plea Bargaining System' (1983) 50 The University of Chicago Law Review 931 <<https://www.jstor.org/stable/1599531?origin=crossref>>.

³⁵ Stephanos Bibas, 'Plea Bargaining Outside the Shadow of Trial' (2004) 117 Harvard Law Review 2463 <<https://www.jstor.org/stable/4093404?origin=crossref>>.

³⁶ Alschuler, 'Implementing the Criminal Defendant's Right to Trial: Alternatives to the Plea Bargaining System' (n 36).

³⁷ Stephanos Bibas, 'Incompetent Plea Bargaining and Extrajudicial Reforms' (2012) 126 Harvard Law Review 150 <<https://www.jstor.org/stable/23415894>>.

³⁸ Albert W Alschuler and Andrew G Deiss, 'A Brief History of the Criminal Jury in the United States' (1994) 61 The University of Chicago Law Review 867 <<https://www.jstor.org/stable/1600170?origin=crossref>>.

³⁹ Albert W Alschuler, 'Contributions: Miranda's Fourfold Failure' (2017) 97 Boston University Law Review 849 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2969143>.


⁴⁰ Albert W Alschuler, 'Limiting the Pardon Power' (2021) 63 Arizona Law Review <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3933343>.

⁴¹ Stephanos Bibas, 'What's Wrong With Sentencing Equality?' (2016) 102 Virginia Law Review 1447 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2821239>.

⁴² Allison D Redlich and others, 'The Psychology of Defendant Plea Decision Making.' (2017) 72 American Psychologist 339 <<http://doi.apa.org/getdoi.cfm?doi=10.1037/a0040436>>.

⁴³ Langer (n 10).

⁴⁴ Langer (n 6).



14	Katz ML	95	1	1	0.50	1983
15	Miethe TD	90	1	1	1.00	1987
16	Easterbrook FH	88	1	1	1.00	1992
17	Fisher G	87	1	1	1.00	2000
18	Kellough G	85	1	1	1.00	2001
19	Wortley S	85	1	1	1.00	2001
20	Standen J	84	1	1	1.00	1993

To examine the most influencing articles on this topic, the researcher also investigated the number of total citations of each article. It was found that most of the articles with a high impact on plea bargaining research were conducted by scholars from the Common law countries. Table 4 highlights that the most influential study was written by Bibas,⁴⁵ with a total of 334 citations and an average of 18.56 citations per year from 2004 to 2021. A study's local citation means the total time the other work within this set of 310 articles about Plea Bargaining has cited it. This work of Bibas gained 49 local citations, which is slightly higher than the work of Scott & Stuntz,⁴⁶ and Alschuler,⁴⁷ with 45 and 44 local citations, respectively. In this article, Bibas pointed out the shadow of the trial model *"ignored how structural distortion all skewed bargaining outcomes"* and proved that *"psychological biases and heuristics warp judgments"*.⁴⁸ To tackle these problems, Bibas proposed some possible solutions without abolishing plea bargaining. Besides this work, Bibas also conducted four other studies on this topic but did not receive as much attention as this one.

The second-ranked document was undertaken by Scott & Stuntz.⁴⁹ They examined plea bargaining under the classical contract theory perspective and argued that abolishing plea bargaining was not necessary. This paper had a number of citations (253 times) and was one of the two documents that were cited more than 200 times in total (Table 4).

Remarkably, among the top 10 most cited documents, three out of ten were written by Alschuler, each of those reaching at least 115 citations. Within these three articles, Alschuler debated on the defense attorney's role in plea bargaining;⁵⁰ proved plea bargaining was an inequitable and irrational process;⁵¹ and stated that jury waiver bargaining should be taken into account to replace the plea bargaining system.⁵² Alschuler strongly disapproved of the plea bargaining system and was recognized as the *"harshes and most influential critic"* on this topic.⁵³

Further citation analysis also showed that among the top 10 most cited documents, three articles published in the year 2004 (ranked 1st, 4th and 6th) had an enormous influence on plea bargaining studies. To be specific, the number of citations of these articles in total was 627, which was equivalent to nearly 60.3 percent of total citations yielded by seven other articles (1040 times). Moreover, the average citations per year of these three documents, especially the one written by Bibas, were significantly higher than the remaining (Table 4). This result indicated that research undertaken in 2004 was rapidly increasing its influence on plea bargaining studies in recent times. Overall, it was still a gold mine for scholars in the law field and required further research.

⁴⁵ Bibas, 'Plea Bargaining Outside the Shadow of Trial' (n 37).

⁴⁶ Robert E Scott and William J Stuntz, 'Plea Bargaining as Contract' (1992) 101 The Yale Law Journal 1909 <<https://www.jstor.org/stable/796952?origin=crossref>>.

⁴⁷ Albert W Alschuler, 'The Defense Attorney's Role in Plea Bargaining' (1975) 84 The Yale Law Journal 1179 <<https://www.jstor.org/stable/795498?origin=crossref>>.

⁴⁸ Bibas, 'Plea Bargaining Outside the Shadow of Trial' (n 37).

⁴⁹ Scott and Stuntz (n 48).

⁵⁰ Alschuler, 'The Defense Attorney's Role in Plea Bargaining' (n 49).

⁵¹ Albert W Alschuler, 'The Changing Plea Bargaining Debate' (1981) 69 California Law Review 652 <<https://www.jstor.org/stable/3480237?origin=crossref>>.

⁵² Alschuler, 'Implementing the Criminal Defendant's Right to Trial: Alternatives to the Plea Bargaining System' (n 36).

⁵³ Scott and Stuntz (n 48).

Table 4. Most cited documents (WOS cited).

Rank	Doc	Year	Journal	DOI	Total Citations	Average per year	Local Citations
1	Bibas, S	2004	Harvard Law Review	10.2307/4093404	334	18.56	49
2	Scott, R.E and Stuntz, W. J	1992	Yale Law Journal	10.2307/796952	253	8.43	45
3	Schulhofer, S.J	1992	Yale Law Journal	10.2307/796954	158	5.27	21
4	Langer, M	2004	Harvard International Law Journal	NA	153	8.5	7
5	Alschuler, A.W	1975	Yale Law Journal	10.2307/795498	152	3.23	44
6	Stuntz, W.J	2004	Harvard Law Review	10.2307/4093405	140	7.78	20
7	Langbein, J.H	1978	University of Chicago Law Review	10.2307/1599287	131	2.98	19
8	Alschuler, A.W	1981	California Law Review	10.2307/3480237	117	2.85	25
9	Alschuler, A.W	1983	University of Chicago Law Review	10.2307/1599531	115	2.95	20
10	Reinganum, J.F	1988	American Economic Review	NA	114	3.35	26

3. Most popular research topic

Regarding a threshold of three, the co-occurrence of 568 keywords came up with five clusters displaying 63 keywords (Figure 5), which were examined in order to discover main research topics in plea bargaining studies. Located at the top of the co-occurrence map, the green cluster represented scholars' critical discussion on the plea bargaining in the shadow of the trial and criminal procedure (e.g. Bushway & Redlich,⁵⁴ proved that the shadow of the trial model was false, based on the analysis of evidentiary factors). The yellow cluster, placed to the right of the map, mainly discussed trials, the matter of race, judges (e.g. Savitsky⁵⁵ found that plea bargaining was the main factor causing high incarceration and high levels of racial stratification in prisons). The red cluster mostly debated on the guilty plea, plea bargain, the decision-making process of plea bargaining (e.g. Helm & Reyna,⁵⁶ examined decisions in cases involving plea bargaining to find out how cognition cast effect on plea decision and how it could lead to suboptimal decision making, especially among defendants who are young adults). The purple cluster concentrated on justice, law, legal history and judicial reform (e.g. Sontag,⁵⁷ studied the origin of plea bargaining in Brazil). The blue cluster focused on defense attorneys, defendants, prosecutors and the system (e.g. Metz et al. (2020)⁵⁸, collected qualitative data on the use of risk assessment by prosecutors and defense attorneys in Virginia).

⁵⁴ Shawn D Bushway and Allison D Redlich, 'Is Plea Bargaining in the "Shadow of the Trial" a Mirage?' (2012) 28 Journal of Quantitative Criminology 437 <<http://link.springer.com/10.1007/s10940-011-9147-5>>.

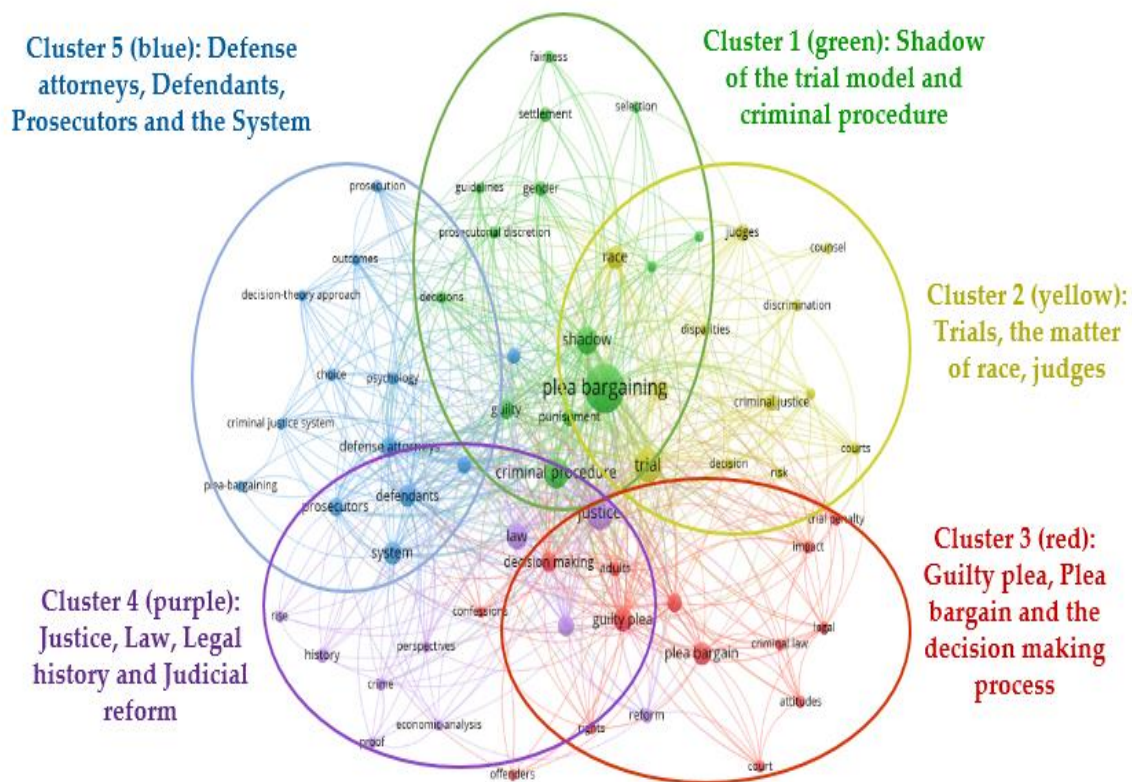
⁵⁵ Douglas Savitsky, 'Is Plea Bargaining a Rational Choice? Plea Bargaining as an Engine of Racial Stratification and Overcrowding in the United States Prison System' (2012) 24 Rationality and Society 131 <<http://journals.sagepub.com/doi/10.1177/1043463112441351>>.

⁵⁶ Helm and Reyna (n 16).

⁵⁷ Ricardo Sontag, 'Para Uma História Da Delação Premiada No Brasil' (2019) 5 Revista Brasileira de Direito Processual Penal 441 <<https://revista.ibraspp.com.br/RBDPP/article/view/220>>.

⁵⁸ Anne Metz and others, 'Valid or Voodoo? A Qualitative Study of Attorney Perceptions of Risk Assessment in Sentencing and Plea Bargaining' (2020) 48 Journal of Community Psychology 2053 <<https://onlinelibrary.wiley.com/doi/10.1002/jcop.22404>>.

Figure 5. Co-occurrence of keywords (N= 568 keywords; threshold 3 co-occurrences, display 63 keywords).



Based on the growth trajectory of publications on this topic (as shown in Figure 2), the researchers explored the evolution of plea bargaining across three main stages: the Declining period (1975-1990); the Low-productivity period (1991-2010); and the Growing period (2011-2021). As shown in the Sankey flow (figure 6), in the 1975-1990 period, research on Plea bargaining focused on Criminal, Process, Bargain, Analysis, Prosecutors, and Justice. Among those, Criminal and Prosecutor were topics that stood out, which formed the basis for many studies in the next stage (e.g. Legal, Trial, Defense). On Criminal topics, scholars debated on matters relevant to the criminal justice system such as how the decision in which the Supreme Court of the USA sanctioned plea bargaining infringed constitutional law;⁵⁹ petition to replace plea bargaining with another type of bargaining.⁶⁰ Regarding Prosecutor topics, scholars discussed several aspects like the discretion power of prosecutors;⁶¹ the relation between prosecutors' values, social background and the rates of plea bargaining.⁶²

In the 1991-2010 period, two new topics on System, Prosecutorial were developed from former studies of plea bargaining. Scholars only conducted a small amount of research on Prosecutorial. For instance, Baker & Mezzetti examined the connection between the prosecutorial resources and the defendant's guilty plea rate;⁶³ Bibas investigated how the Feeney Amendment affected the prosecutorial power to plea bargain.⁶⁴ The Sankey flow also reveals that studies on the Prosecutorial topic were not developed

⁵⁹ Malvina Halberstam, 'Towards Neutral Principles in the Administration of Criminal Justice: A Critique of Supreme Court Decisions Sanctioning the Plea Bargaining Process' (1982) 73 *The Journal of Criminal Law and Criminology* (1973-) 1 <<https://www.jstor.org/stable/1143024?origin=crossref>>.

⁶⁰ Alschuler, 'Implementing the Criminal Defendant's Right to Trial: Alternatives to the Plea Bargaining System' (n 36).

⁶¹ Alissa Pollitz Worden, 'Policymaking by Prosecutors: The Uses of Discretion in Regulating Plea Bargaining' (1990) 73 *Judicature* 335.

⁶² JB Jones, 'Prosecutors and the Disposition of Criminal Cases: An Analysis of Plea Bargaining Rates' (1978) 69 *The Journal of Criminal Law and Criminology* (1973-) 402 <<https://www.jstor.org/stable/1142335?origin=crossref>>.

⁶³ S Baker and Claudio Mezzetti, 'Prosecutorial Resources, Plea Bargaining, and the Decision to Go to Trial' (2001) 17 *Journal of Law, Economics, and Organization* 149 <<https://academic.oup.com/jleo/article-lookup/doi/10.1093/jleo/17.1.149>>.

⁶⁴ Stephanos Bibas, 'The Feeney Amendment and the Continuing Rise of Prosecutorial Power to Plea Bargain' (2004) 94 *The Journal of Criminal Law and Criminology* (1973-) 295
<<https://www.jstor.org/stable/10.2307/3491371?origin=crossref>>.

further in the next stage (Figure 5). In this stage, topics that gained the attention of scholars were Legal, System and Defense. On System topics, scholars considered the influence of plea bargaining on the criminal justice system (e.g. Sanborn conducted interviews with 100 workers from three different juvenile courts and concluded that if plea bargaining was abolished, the juvenile's best interest would be harmed⁶⁵). As for Legal and Defense (e.g. Blank considered the legality of plea bargaining;⁶⁶ Winick, studied the role of defense lawyers at plea bargaining⁶⁷), these topics created a foundation for further studies in Attorneys. It was clear that there was a shift of interest among scholars from Prosecutors in the Declining period to Defense in the Low-productivity period. In fact, the Defense topic in this stage solely evolved from the previous studies of Prosecutors.

In the Growing period, scholars focused on Negotiations, Bargain, Criminal, Attorneys, Study, Corruption and Justice. Figure 6 showed that new topics on Plea bargaining research were Negotiations, Attorneys and Corruption. The Negotiations topic was developed from studies on Systems and Trial in the previous stage. Scholars in this period primarily focused on the Negotiation topic, which was pivotal to Plea bargaining (e.g. King & Wright interviewed judges and attorneys in ten states to evaluate the innovations in managerial judging and judicial participation in plea negotiations⁶⁸). In addition, the topic Attorneys was taken into consideration, and in general, created a flow of study focus which changed from the first stage to the last: from Prosecutors to Defense and Attorneys (e.g. Moiseeva debated on the role of defense attorneys in Russia;⁶⁹ Fountain & Woolard,⁷⁰ studied how defense attorneys confer with their juvenile clients about plea bargaining). Corruption was another new branch in this topic, as it emerged from Plea bargaining research in the 1991-2010 stage. To be exact, some scholars in recent years have treated Plea bargaining as a powerful tool to fight against corruption in countries such as Indonesia and Nigeria (see Nelson & Santoso, 2020⁷¹; Aniche et al., 2021⁷²).

⁶⁵ Joseph B Sanborn, 'Philosophical, Legal, and Systemic Aspects of Juvenile Court Plea Bargaining' (1993) 39 *Crime & Delinquency* 509 <<http://journals.sagepub.com/doi/10.1177/0011128793039004006>>.

⁶⁶ Daniel P Blank, 'Plea Bargain Waivers Reconsidered: A Legal Pragmatist's Guide to Loss, Abandonment and Alienation' (2000) 68 *Fordham Law Review* 2011 <<https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=3648&context=flr>>.

⁶⁷ Bruce J Winick, 'Redefining the Role of the Criminal Defense Lawyer at Plea Bargaining and Sentencing: A Therapeutic Jurisprudence/Preventive Law Model.' (1999) 5 *Psychology, Public Policy, and Law* 1034 <<http://doi.apa.org/getdoi.cfm?doi=10.1037/1076-8971.5.4.1034>>.

⁶⁸ Nancy J King and Ronald F Wright, 'The Invisible Revolution in Plea Bargaining: Managerial Judging and Judicial Participation in Negotiations' (2016) 95 *Texas Law Review* 324.

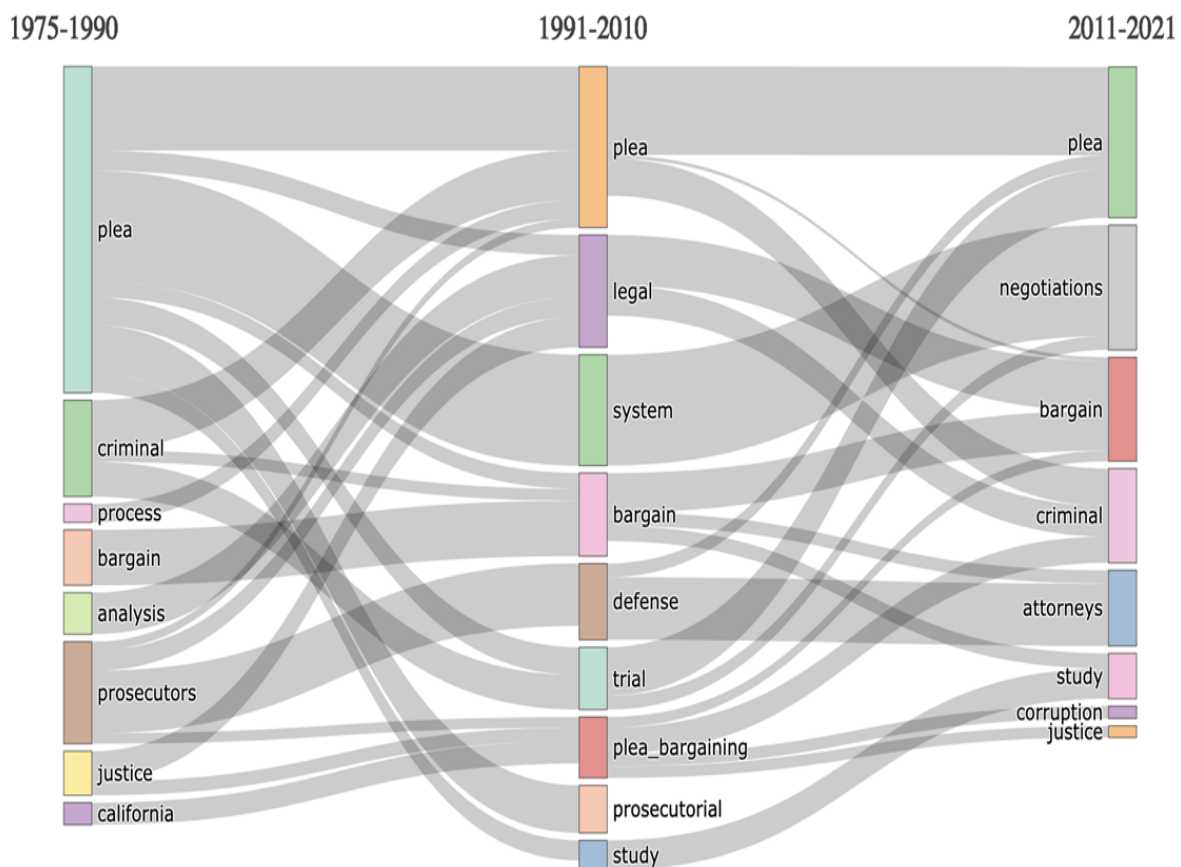
⁶⁹ Ekaterina Moiseeva, 'Plea Bargaining in Russia: The Role of Defence Attorneys and the Problem of Asymmetry' (2017) 41 *International Journal of Comparative and Applied Criminal Justice* 163 <<https://www.tandfonline.com/doi/full/10.1080/01924036.2016.1233441>>.

⁷⁰ Erika N Fountain and Jennifer L Woolard, 'How Defense Attorneys Consult with Juvenile Clients about Plea Bargains.' (2018) 24 *Psychology, Public Policy, and Law* 192 <<http://doi.apa.org/getdoi.cfm?doi=10.1037/law0000158>>.

⁷¹ Nelson and Santoso (n 35).

⁷² Ernest T Aniche, Ikenna M Alumona and Ugochukwu S Obiwulu, 'Temper Justice with Mercy: A Public Perception of the Use of Plea Bargain in the Fight against Corruption in Nigeria' (2021) 21 *Journal of Public Affairs* <<https://onlinelibrary.wiley.com/doi/10.1002/pa.2212>>.

Figure 6. Evolution of research focuses from 1975 to 2021.



4. Document co-citation

The researcher performed the co-citation analysis using the threshold of ten, which came up with five clusters displaying 86 documents in order to identify the similarity of documents from 1968 to 2021 within the WOS database. The red cluster discussed the historical perspectives of plea bargaining (e.g. Alschuler, 1979⁷³; Langbein, 1979⁷⁴; Friedman, 1979⁷⁵). The green cluster represented scholars' interest in factors that affected the plea bargaining process, as well as the impact that the guilty procedure had on criminal justice (e.g. Bibas, 2004b;⁷⁶ G. Fisher, 2000;⁷⁷ Tor et al., 2010⁷⁸). The blue cluster were the criticism against plea bargaining (e.g. Alschuler, 1981⁷⁹; Alschuler, 1983⁸⁰; Schulhofer, 1992⁸¹). The yellow cluster examined the role of participants in the plea bargaining process (e.g. Alschuler, 1968⁸²;

⁷³ Alschuler, 'Plea Bargaining and Its History' (n 4).

⁷⁴ Langbein (n 13).

⁷⁵ Lawrence M Friedman, 'Plea Bargaining in Historical Perspective' (1979) 13 *Law & Society Review* 247 <<https://www.jstor.org/stable/3053251?origin=crossref>>.

⁷⁶ Bibas, 'Plea Bargaining Outside the Shadow of Trial' (n 37).

⁷⁷ George Fisher, 'Plea Bargaining's Triumph' (2000) 109 *The Yale Law Journal* 857 <<https://www.jstor.org/stable/797483?origin=crossref>>.

⁷⁸ Avishalom Tor, Oren Gazal-Ayal and Stephen M Garcia, 'Fairness and the Willingness to Accept Plea Bargain Offers' (2010) 7 *Journal of Empirical Legal Studies* 97 <<https://onlinelibrary.wiley.com/doi/10.1111/j.1740-1461.2009.01171.x>>.

⁷⁹ Alschuler, 'The Changing Plea Bargaining Debate' (n 53).

⁸⁰ Alschuler, 'Implementing the Criminal Defendant's Right to Trial: Alternatives to the Plea Bargaining System' (n 36).

⁸¹ Stephen J Schulhofer, 'Plea Bargaining as Disaster' (1992) 101 *The Yale Law Journal* 1979 <<https://www.jstor.org/stable/796954?origin=crossref>>.

⁸² Albert W Alschuler, 'The Prosecutor's Role in Plea Bargaining' (1968) 36 *The University of Chicago Law Review* 50 <<https://www.jstor.org/stable/1598832?origin=crossref>>.

felony drug cases,⁹⁸ how the matter of race affected plea bargaining,⁹⁹ and factors that had an impact on the possibility of taking a misdemeanor case to trial and the probability of acquittal upon reaching trial.¹⁰⁰ The red cluster involves Nagel and Neef, studying how plea bargaining cast its effect on the judicial process¹⁰¹, using decision theory and equilibrium models to analyze plea bargaining¹⁰². The brown cluster, situated at the bottom of the map, shows the collaboration between Metz and Monahan, focusing on risk assessment in plea bargaining¹⁰³. The green cluster represents McAllister and Bregman, investigating plea bargaining under the decision-theory method¹⁰⁴. The gray cluster presents the association between Rubinstein and White, exploring the impact of Alaska's plea bargaining ban on the criminal justice system¹⁰⁵. The orange cluster reveals the collaboration between Golding, Riederer and Malik, scrutinizing perceptions of plea bargaining in cases involving child and adult females sexual assault,¹⁰⁶ elder financial abuse,¹⁰⁷ and driving under the influence of alcohol and marijuana¹⁰⁸.

⁹⁸ Besiki L Kutateladze, Victoria Z Lawson and Nancy R Andiloro, 'Does Evidence Really Matter? An Exploratory Analysis of the Role of Evidence in Plea Bargaining in Felony Drug Cases.' (2015) 39 *Law and Human Behavior* 431 <<http://doi.apa.org/getdoi.cfm?doi=10.1037/lhb0000142>>.

⁹⁹ Besiki Luka Kutateladze, Nancy R Andiloro and Brian D Johnson, 'Opening Pandora's Box: How Does Defendant Race Influence Plea Bargaining?' (2016) 33 *Justice Quarterly* 398 <<https://www.tandfonline.com/doi/full/10.1080/07418825.2014.915340>>.

¹⁰⁰ Besiki L Kutateladze and Victoria Z Lawson, 'Is a Plea Really a Bargain? An Analysis of Plea and Trial Dispositions in New York City' (2018) 64 *Crime & Delinquency* 856 <<http://journals.sagepub.com/doi/10.1177/0011128717695224>>.

¹⁰¹ Stuart S Nagel and Marian Neef, 'Impact of Plea Bargaining on Judicial Process' (1976) 62 *American Bar Association Journal* 1020.

¹⁰² Stuart S Nagel and Marian Neef, 'Plea Bargaining, Decision Theory, and Equilibrium Models: Part I' (1976) 51 *Indiana Law Journal* 987; Stuart S Nagel and Marian Neef, 'Plea Bargaining, Decision Theory, and Equilibrium Models: Part II' (1976) 52 *Indiana Law Journal*.

¹⁰³ John Monahan and others, 'Risk Assessment in Sentencing and Plea Bargaining: The Roles of Prosecutors and Defense Attorneys' (2020) 38 *Behavioral Sciences & the Law* 1 <<https://onlinelibrary.wiley.com/doi/10.1002/bsl.2435>>; Metz and others (n 60).

¹⁰⁴ Hunter A McAllister and Norman J Bregman, 'Plea Bargaining by Prosecutors and Defense Attorneys: A Decision Theory Approach.' (1986) 71 *Journal of Applied Psychology* 686

<<http://doi.apa.org/getdoi.cfm?doi=10.1037/0021-9010.71.4.686>>; Hunter A McAllister and Norman J Bregman, 'Plea Bargaining by Defendants: A Decision Theory Approach' (1986) 126 *The Journal of Social Psychology* 105 <<http://www.tandfonline.com/doi/abs/10.1080/00224545.1986.9713576>>.

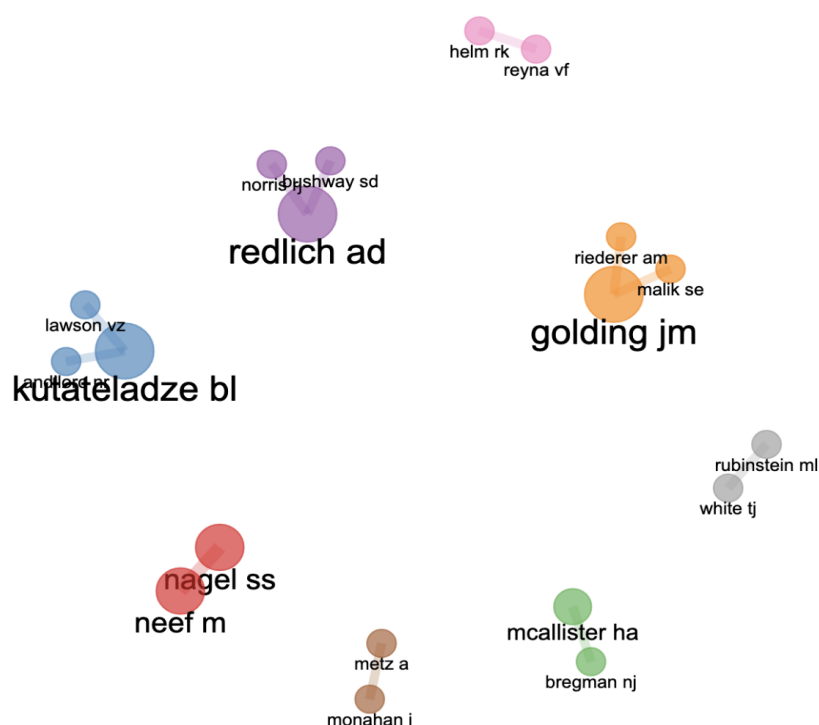
¹⁰⁵ Michael L Rubinstein and Teresa J White, 'Alaska's Ban on Plea Bargaining' (1979) 13 *Law & Society Review* 367 <<https://www.jstor.org/stable/10.2307/3053259?origin=crossref>>; Michael L Rubinstein and Teresa J White, 'Plea Bargaining: Can Alaska Live without It' (1979) 62 *Judicature* 266.

¹⁰⁶ Jonathan M Golding and others, 'Justice Served? Perceptions of Plea Bargaining Involving a Sexual Assault in Child and Adult Females' (2018) 45 *Criminal Justice and Behavior* 503 <<http://journals.sagepub.com/doi/10.1177/0093854817743538>>.

¹⁰⁷ Andrea M Riederer and Jonathan M Golding, 'Perceptions of Plea Bargaining in Cases of Elder Financial Abuse' (2020) 32 *Journal of Elder Abuse & Neglect* 217 <<https://www.tandfonline.com/doi/full/10.1080/08946566.2020.1738300>>.

¹⁰⁸ J Matthew Webster and others, 'Perceptions of Plea Bargains for Driving under the Influence (DUI) Cases Involving Alcohol and Marijuana' (2020) 26 *Psychology, Crime & Law* 950 <<https://www.tandfonline.com/doi/full/10.1080/1068316X.2020.1742342>>.

Figure 8. Author's collaboration network from 1975 to 2021.



LIMITATIONS, INTERPRETATIONS OF THE FINDINGS AND IMPLICATIONS

The increasing importance of plea bargaining in recent decades has encouraged scholars to conduct their research in order to comprehend this procedure.¹⁰⁹ This review was undertaken to provide an overview of the knowledge base on plea bargaining. In this final section, the authors pointed out the limitations, as well as presented the interpretations of the findings and further implications.

The researchers conducted this research by evaluating 310 documents exported solely from the Web of Science database. These documents are journal articles, review articles, early access, book chapters, and film reviews; they did not comprise all accessible published works from other databases. Therefore, the findings of this research represents a portrait of plea bargaining on top-tier journals only, rather than a panorama view from all databases.

Regarding the first research question, this review showed that the number of studies on plea bargaining had increased dramatically in the last ten years. Even though the number of articles did not increase consecutively, the overall growth trajectory of publications was upward. This result suggested that scholars have developed their interest in this topic in recent years. The authors also found that the contribution of articles was from a few leading journals (Law & Society Review, Journal of Criminal law & Criminology, Yale Law Journal), which published more than ten papers. The analysis of geographical distribution revealed that the USA was the dominant country in the plea bargaining study. However, this topic was not only studied by the adversarial system but also by inquisitorial system countries such as Brazil, Russia and China.

As for the second research question, the citation analysis identified the most influencing authors were Alschuler, Bibas and Stuntz. The citation result also revealed that Langer, Redlich and Bushway were the rising stars. In addition, this topic had not gained much attention from scholars, as a large portion of the top 20 most influential authors published only one or two articles. Concerning influential documents, the article having the highest impact on plea bargaining studies was written by Bibas,¹¹⁰ and it was followed by the research undertaken by Scott & Stuntz¹¹¹.

¹⁰⁹ Langer (n 10).

¹¹⁰ Bibas, 'Plea Bargaining Outside the Shadow of Trial' (n 37).

¹¹¹ Scott and Stuntz (n 48).

The third research question concentrated on the key topics and the evolution of research from 1975 to 2021. The keywords co-occurrence analysis discovered five main topics: the green cluster discussed on the plea bargaining in the shadow of the trial and criminal procedure; the yellow cluster, represented trials, the matter of race, judges; the red cluster mainly concentrated on the guilty plea, plea bargain, the decision-making process of plea bargaining; the purple cluster focused on justice, law, legal history and judicial reform; the blue cluster debated on defense attorneys, defendants, prosecutors and the system.

The evolution of this literature on plea bargaining was divided into three stages: the Declining period (1975-1990), mainly researched Criminal, Process, Analysis, Prosecutors, Justice; the Low-productivity period (1991-2010), focused on Legal, System, Defense, Trial, Prosecutorial; the Growing period (2011-2021), studied Negotiations, Criminal, Attorneys, Corruption and Justice.

The last research question was the intellectual structure and social structure of knowledge in plea bargaining research. It was found that most of the top co-cited studies on Plea bargaining were conducted before the year 2005; among those, the most outstanding works were written by Alschuler and Bibas. Concerning the authors' collaboration, there were eight groups of co-authorships as follows: Helm and Reyna; Redlich, Bushway and Norris; Kutateladze, Lawson and Andiloro; Nagel and Neef; Metz and Monahan; McAllister and Bregman; Rubinstein and White; Golding, Riederer and Malik.

The authors concluded that this topic did not obtain regular attention from scholars, and therefore, we suggest further research should be conducted on this matter. Plea bargaining study is still an open opportunity for researchers across the globe to study, collaborate on this topic to compare the similarity and differences between jurisdictions, as well as to discover the new trend in this research topic.

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