

Case Studies in Competition Policy Research: A Systematic Literature Review

Shuping Lyu, Caroline Buts and Marc Jegers*

The case study constitutes an important methodology in academic research, also in the field of competition policy. However, to the best of our knowledge, an elaborate review on how the case study method is applied in competition policy research is still missing. In response, this article presents a systematic literature review that comprehensively explores this topic through seven sub-questions: in which policy areas are case studies applied?; in which jurisdiction?; what are the specific purposes of the case studies applied?; how are the case studies designed (single or multiple)?; what is/are the specific case(s) about (unit of observation)?; how are the case studies undertaken (qualitatively or quantitatively)?; and are there significant relationships among several of these characteristics?. We confirm that the case study method plays an important role in research on competition policy. It is most adopted to study merger cases, especially in the US, the EU and China. It responds to a broad variety of research questions. A single case study is most frequently used. The topic studied can be an organisation, a sector or a location. Both qualitative and quantitative case studies are found, but qualitative case studies are more common. We report a significant relationship between the topic of competition policy and the objective, the unit of observation and the case study methodology applied. Furthermore, there is also a significant relationship between the objective and the case study methodology.

I. Introduction

Case studies are omnipresent in competition policy research as they constitute an ideal methodology to investigate, among others, the impact of a decision regarding a competition case, the consequences of a decision, and the application or interpretation of a certain concept.

This article provides a comprehensive systematic literature review of how the case study methodology

is adopted in research on competition policy. A systematic literature review adheres closely to a set of scientific methods that explicitly aim to limit systematic error (bias), by attempting to identify, appraise and synthesise all relevant studies to answer a particular question or a set of questions¹. The best and most useful systematic reviews are using the literature reviewed to develop a new theory, or evaluate an existing theory, and/or have clear implications for policy or practice, and/or outline important directions for future research.² It is absolutely crucial in the field of evidence-based medicine but is also highly valued in other fields.³ 'Systematic reviews have been in use in one form or other in the social sciences for many decades, and are increasingly being used to support practice and policy, and to direct new research efforts.'⁴ This study is, to the best of our knowledge, the first attempt to use a systematic literature review to investigate how case studies are applied in competition policy research.

This article is organised as follows. The detailed methodology is presented in Section II, including the research questions, the search strategy, the inclusion

* Shuping Lyu is a PhD candidate at the Department of Applied Economics of the Vrije Universiteit Brussel (VUB). Caroline Buts and Marc Jegers are both professors at the same department. We thank the China Scholarship Council (CSC) for financial support. For correspondence: <Caroline.Buts@vub.be>.

1 Mark Petticrew and Helen Roberts, *Systematic Reviews in the Social Sciences: A Practical Guide* (Blackwell Publishing 2006).
 2 Andy P. Siddaway, Alex M. Wood and Larry V. Hedges, 'How to Do A Systematic Review: A Best Practice Guide for Conducting and Reporting Narrative Reviews, Meta-Analyses, and Meta-Syntheses' (2019) 70 *Annual Review of Psychology* 747.
 3 Kakoli Majumder, 'A Young Researcher's Guide to A Systematic Review' (2015) <<https://www.editage.com/insights/a-young-researchers-guide-to-a-systematic-review>> accessed 2 April 2020.
 4 Petticrew and Roberts (n 1) 23.

and exclusion criteria, the literature selection and subsequent quality assessment, the data collection and data analysis, as well as a discussion of risk of bias and appropriate remedies. Section III provides detailed research results corresponding to the seven sub-questions. The main conclusions and discussion follow in Section IV.

II. Method

This study undertakes a systematic literature review, more specifically a mainly qualitative systematic review.⁵ It contains seven steps, as depicted in Figure 1 and described in the following subsections.

1. Research Questions

This article addresses the primary question: how is the case study method applied in research on competition policy? To be able to develop a more targeted approach, we further specify seven sub-questions:

RQ1. In which policy areas are the case studies applied?

RQ2. To which jurisdictions do the cases belong?

RQ3. What is the objective of adopting the case study method?

RQ4. What is the case study category (single or multiple)?

RQ5. What is/are the specific case(s) under review (unit of observation)?

RQ6. How is the case study undertaken (qualitatively or quantitatively)?

RQ7. Are there significant relationships among the categorical variables mentioned in RQ1-6?

The answers to these seven sub-questions will provide a comprehensive understanding of the case study method as it is applied in academic competition policy research.

2. Literature Search

The initial literature search was executed in 2019 targeting five databases, ie Web of Science, Scopus, EBSCOHost, EconLit, and ProQuest (excluding EconLit). Selected relevant terms⁶ were searched in the sections 'title', 'abstract' and 'key words' of the databases leading to 4226 literature records.⁷ As the extant

literature is not too extensive, we did not limit the period of time leading to references from 1984 until 2018. Detailed results for each query term and database are presented in Table 1.

3. Inclusion and Exclusion Criteria

A first screening of the 4226 manuscripts points to 1157 duplicates. The remaining 3069 studies are reviewed by title, abstract and key words for relevance and eligibility. Consequently, 2907 irrelevant texts were excluded resulting in 162 pieces that were subsequently assessed for eligibility based on five inclusion and seven exclusion criteria.

a. Inclusion criteria

Literature is included when it fulfils five inclusion criteria. First, competition policy needs to constitute the main focus of the study. Second, the case study is the main methodology. Third, a detailed illustration of the case is included. Fourth, single, multiple as well as comparative cases are eligible. Finally, case studies can focus on elements of competition policy or be based on location (eg country focus), organisation, or sector.

b. Exclusion criteria

Manuscripts are excluded following seven diverse rules. First, book reviews are ignored. Second, studies focusing on the relationship between competition policy and other policies or regulations, eg anti-dumping policy, foreign direct investment, public broadcasting policies, and regional policy are not considered. Third, manuscripts are excluded when the point of interest relates to topics such as politics, man-

5 Types of systematic reviews: 1) Qualitative: the results of relevant studies are summarised but not statistically combined; 2) Quantitative: using statistical methods to combine the results of two or more studies; and 3) Meta-analysis: using statistical methods to integrate estimates of effect from relevant studies that are independent but similar and summarise them. See Majumder (n 3).

6 The search terms used are: 'case* stud*/AND 'competition policy', 'case* stud*/AND 'antitrust', 'case* stud*/AND 'anticompetitive', 'case* stud*/AND 'cartel', 'case* stud*/AND 'merger' AND 'policy', 'case* stud*/AND 'abuse of domin*', 'case* stud*/AND 'State aid', 'case* stud*/AND 'administrative monopoly'.

7 To facilitate a good understanding and sound analysis of the literature, English is set as the sole search language.

agement, education, ethical restrictions, regulation, corruption, rather than to competition policy. The fourth exclusion criterium is the negative form of the third inclusion determinant, and eliminates studies that do not contain a detailed analysis of the case. Fifth, similarly the negative of the fourth inclusion criterium, disregards manuscripts where a case study does not constitute the main methodology. Sixth, when diverse versions of a study were discovered in multiple journals, only the most complete one is taken into account. Finally, we reject literature that does not focus on a competition authority, but on another international organisation, eg the WTO.

4. Literature Selection and Quality Assessment

Literature searched from Web of Science and EBS-COHost was exported to Endnote Online. Since the literature searched from the other three databases (Scopus, EconLit and ProQuest) could not directly be exported to Endnote Online, we first transfer it to Mendeley Desktop, and subsequently to Endnote Online. When the full-text was not directly available, it was also searched in Google, Google Scholar, Sci-Hub, Research Gate and libraries (including interlibrary loan) or requested directly from the authors. After full text screening and applying the inclusion and exclusion criteria, 104 items were excluded. To assure the quality of the review, grey literature (working papers, conference proceedings and research reports) was excluded. Finally, 48 items are included in the systematic review. The entire selection procedure and quality assessment follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) Statement guidelines. It consists of 27 checks and a flow diagram as depicted in Figure 2.⁸

5. Data Collection

Following the selection procedure, each manuscript is reviewed to obtain the following categories with information: i) title, author(s), publication year, liter-

ature type (eg journal article, book or book chapter) and publisher or journal; ii) policy area ranging from competition /antitrust policy, merger, cartel, abuse of dominance, and State aid, to monopolies; iii) jurisdiction; iv) main purpose or objective; v) case study category, ie single or multiple case study; vi) the specific case or the unit of observation); and vii) the methodology of the case study which is divided into qualitative or quantitative analysis.

6. Data Analysis

Subsequently, the information obtained is integrated into three tables for analysis. We construct a first table containing the 48 selected manuscripts and award literature IDs, conducive to extract and analyse the data (see Appendix A). A second table provides overall information for each literature ID (see Appendix B). The third table contains, for each literature ID, detailed information regarding objective, case studied and methodology (see Appendix C).

Based on the analysis from these three overview tables, the results section includes 10 tables to answer each research question.

As such, RQ1 on policy area is addressed in Table 2. Next, Table 3 answers RQ2 regarding jurisdiction. Table 4 presents detailed information on case study objectives following RQ3. Table 5 discusses case study categories in response to RQ 4. Then, the unit of observation is addressed in Table 6 and RQ5 while the methodological approach features in Table 7 to answer RQ6. Finally, Tables 8 until 11 present the crosstabulations and corresponding statistical tests to verify relationships between the categorical variables, addressing RQ7.

7. Risk of Bias and Remedies

Despite straightforward eligibility criteria, we met several challenges during the assessment procedure deciding to include or exclude a manuscript. To avoid selection bias or an ad-hoc approach, we organised multiple selection rounds and coordination among the three researchers until the protocol was entirely clear. Intense and elaborate reflection took place regarding the grey literature, resulting in the exclusion of these records as most of them did not pass any form of peer review.

⁸ More information can be found on PRISMA (2018) <<http://www.prisma-statement.org/News>> accessed 2 April 2020.

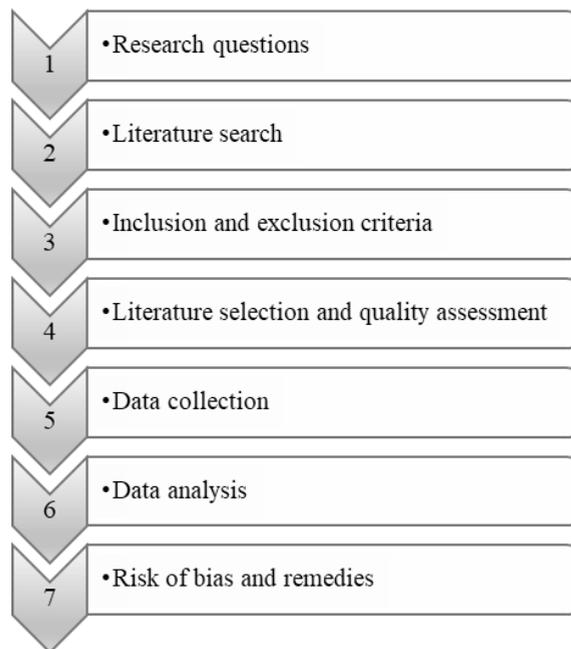


Figure 1. Overview of the seven steps

Source: Own compilation based on methodological literature

III. Results

48 studies are included in the detailed review. To conveniently extract and analyse data, each manuscript is assigned a literature ID (Appendix A). More detailed information on each literature ID is provided in Appendix B, with data on authors, publication year, literature type, and publisher or journal. Interestingly, these 48 studies have an equal percentage of single authors and multiple authors. The publication dates range from 1984 to 2018. The majority of studies are journal articles. We also include three books and four book chapters. Below we present the corresponding evidence for each of our seven sub-questions.

1. Policy Area

The first research question studies the policy area of the case studies. From the 48 studies included, 26 adopt a case study in the field of mergers, covering horizontal, vertical mergers or conglomerate mergers. 11 records discuss competition or antitrust policy. Two manuscripts specifically discuss merger and

competition/antitrust policy simultaneously and five deal exclusively with cartels. Three studies refer to State aid, and only two studies present a case study in the area of abuse of dominance. Three texts study monopolies, such as a private monopoly in Japan and an administrative monopoly in China. As it is difficult to classify them into one of the mentioned areas, we categorise them as ‘monopolies’. Table 2 presents the literature IDs for each policy area (multiple mentions of literature IDs are in bold and sums for each policy area studied are in italic in brackets).

2. Jurisdiction

The second research question investigates which jurisdiction the case belongs to. From the 48 studies included, the majority concerns a single jurisdiction, whereas seven (L16, L25, L40, L41, L47, L48) include multiple jurisdictions. Altogether, 13 texts study the US, ten cases are on China, nine study EU competition policy, three focus on Brazil, Japan and the UK respectively. Detailed information can be found in Table 3 (multiple mention of literature IDs are in bold and sums for each jurisdiction are in italic in brackets). Overall, the US, China and the EU rank as the top three jurisdictions that are studied by means of a case study. Other developed countries (Japan, UK, Australia, Canada and Russia) and emerging economies (Brazil, Argentina, India) also attract relatively high attention. Besides, other jurisdictions, such as individual EU Member States and other European countries, Asian countries, Latin American countries and African countries are also explored.

3. Objective

The third research question explores the objectives of the case studies. From the 48 studies selected, we note that each study has its specific purposes, which are widely diverse. To conveniently illustrate and analyse, we group all 48 studies’ objectives into the following six categories: 18 studies assess the effect or impact of competition policy; 16 studies explore the factors influencing the implementation or the development or the analysis of competition policy; six studies investigate the application of competition regulation in a jurisdiction or an industry; four studies explore the relationship among multiple aspects

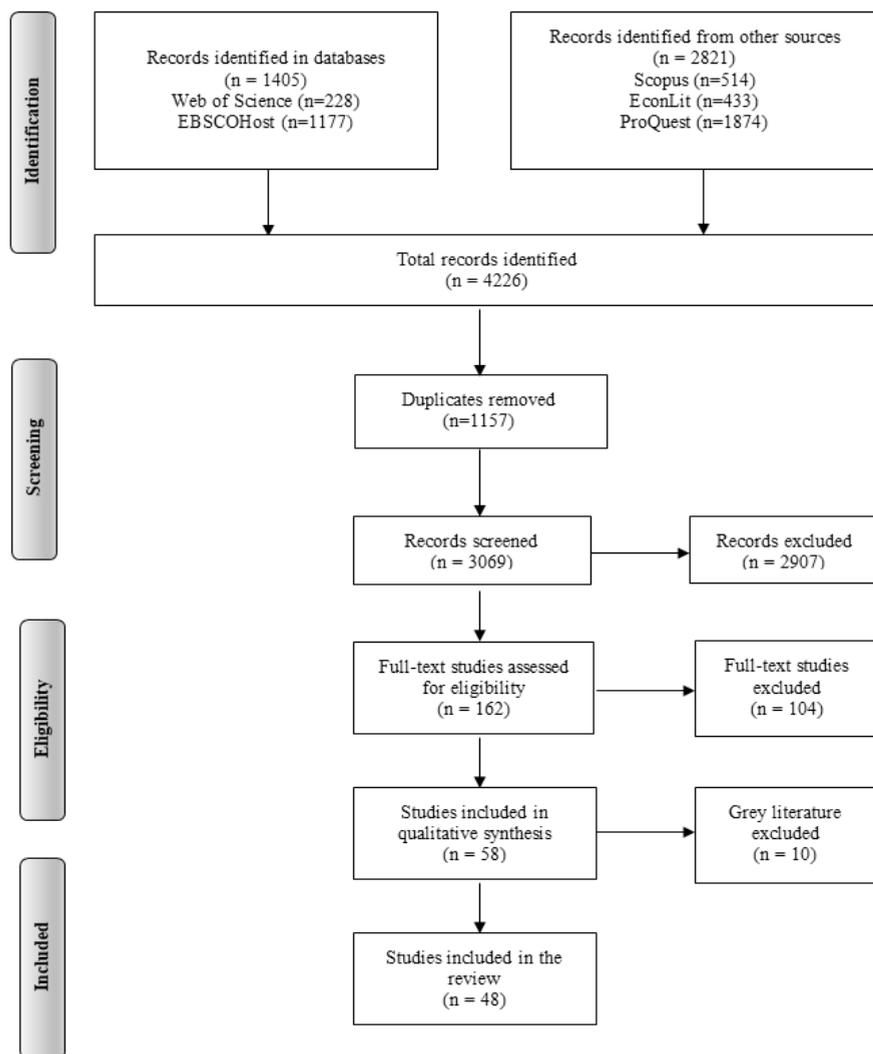


Figure 2. The PRISMA flow diagram illustrates the selection procedure
Source: Own compilation based on systematic literature review

relevant to antitrust; two studies assess the political economy of competition policy; and another two texts identify the challenges of antitrust enforcement. Table 4 presents a detailed summary of the objectives of all 48 studies (sums for each objective are in *italics in brackets*). A more detailed overview of the specific purposes of each of the 48 studies can be found in Appendix C.

4. Case Study Category

Table 5 answers the fourth question on single versus multiple case study (again, sums for each case study

design are in *italics in brackets*). 32 studies entail a single case study whereas 16 carry out multiple case studies. In competition policy research, researchers are clearly more likely to opt for a single case study to achieve their research objectives rather than multiple case studies.

5. Unit of Observation

The fifth sub-question focusses on the unit of observation of each case study. The results show that anticompetitive behaviour of corporations, including non-profit organisations, is widely studied (29 stud-

ies). There are also ten studies with location as unit of observation, mostly at country level. Besides, seven studies investigate an industry and two analyse the development of competition policy. Table 6 presents all of them (sums for each unit of observation are in italic in brackets). A more detailed overview is again provided in Appendix C.

6. Case Study Methodology

The sixth sub-question investigates the kind of case study undertaken. Overall, based on distinct research objectives, different case study approaches are applied. From the 48 studies included, 30 adopt qualitative case studies and 18 apply a quantitative case study. Hence, qualitative case studies are more frequently used. Table 7 presents the evidence (sums for each case study methodology are in italic in brackets). Detailed characteristics of each case study methodology can be found in Appendix C (together with a full overview of the objectives and units of observation).

7. Significant Relationships

With regard to RQ7, whether there is a significant relationship between two of the above six categorical variables, chi-square tests are applied. As a bivariate table of policy area and jurisdiction becomes extremely complicated, only 14 (out of 15 possible) bivariate tables are created. It appears that most cell sizes in four bivariate tables containing the categorical variable 'jurisdiction' are too small so that we have to ignore them. Hence, ten bivariate tables are left (with some columns and rows combined or deleted when the cell sizes are very small) for chi-square tests (with a 95% confidence level). The results reveal four significant relationships which will be discussed in detail below. The p-values of the remaining six bivariate analyses⁹ are higher than 0.05. The variables involved are thus independent of each other as there is no statistically significant relationship among them. As a result, these are not discussed.

a. Policy Area * Objective

The Asymptotic Significance (P-value) of policy area*objective amounts to 0.024. Therefore, we conclude that there is a significant relationship between

the competition policy area and the objective of the case study. Table 8 presents the details, ie a crosstabulation and chi-square test. Case studies are more applied for merger assessments and the effect or impact of the policy. Four other objectives (including investigating the application of competition regulation in a certain jurisdiction or in a selected industry, exploring the relationship among multiple aspects relevant to antitrust, assessing the political economy of competition policy, and identifying the challenges of antitrust enforcement) are potentially equally applied to any competition policy area.

b. Policy Area * Unit of Observation

Since one cell size in the matrix of policy area*unit of observation is zero, we opt for the Fisher's exact test. Table 9 shows a result of 0.002, which is far lower than the reference value of 0.05. Therefore, there is a statistically significant relationship between policy area and the unit of observation. Table 9 presents the detailed results. Organisations are primarily chosen for case studies in the merger area. Industries are mainly used as case studies in competition/antitrust policy and other areas, except for mergers. Location could constitute a focus in any competition policy area, with the highest counts for antitrust policy and mergers.

c. Policy Area * Case Study Methodology

We again perform a Pearson chi-square test to investigate a potential relationship between policy area and case study methodology. A score of 0.018 clearly indicates that policy area is not independent from the case study methodology. Table 10 presents the details. Qualitative case studies are applied to study any area of competition policy with relatively similar percentages. However, a quantitative case study is mostly adopted when studying mergers.

d. Objective * Case Study Methodology

The p-value reported by the Pearson chi-square test verifying a potential relationship between objective

9 Policy area*case study category, objective*case study category, objective*unit of observation, case study category*unit of observation, case study category*case study methodology, unit of observation*case study methodology

of the case study and case study methodology equals 0.028. Therefore, there is again a significant relationship between both variables. Table 11 presents the crosstabulation and test results. To assess the effect or impact of competition policy, researchers mostly opt for a quantitative case study. Qualitative case studies are primarily applied to explore the factors that influence the implementation, development or analysis of competition policy as well as for the category containing the group of four objectives (including investigating the application of competition regulation in a certain jurisdiction or in a selected industry, exploring the relationship among multiple aspects relevant to antitrust, assessing the political economy of competition policy, and identifying the challenges of antitrust enforcement). Overall, a qualitative case study is more used.

IV. Discussion and Conclusion

The systematic literature review presented in this article provides a comprehensive understanding of how the case study methodology is applied in academic competition policy research. The case study is an acknowledged effective and mainly qualitative method in academic research of competition policy. While this study provides information and guidance regarding the case study method in competition policy research, it inevitable has certain limitations. First, this study tries to answer how the case study methodology is applied in research on competition policy and aspires to find all the relevant literature. Thereto, we focus on five data sources with selected search terms. While there are other potential sources of literature, we believe that these five databases contain most of the relevant literature. Furthermore, the principles of systematic literature review discuss the difficult area of grey literature. Mainly as a result of large differences in quality, we decide to exclude this type of manuscripts as a form of peer review is mostly missing, which inevitably means a loss of several manuscripts.

The remainder of this section discusses the main findings and their implications for case study research regarding competition policy, focussing on six

categorical variables as well as potential relationships between them.

First, the case study method is extensively applied to study mergers, followed by competition policy more in general. For other policy areas, such as cartels, abuse of dominance, State aid or monopolies, a case study is not often used and warrants more attention from scholars. Also, more discipline oriented approaches (as opposed to policy), and especially interdisciplinary contributions would add value. Second, most case studies concern the US, the EU and China. Other developed countries as well as emerging economies are also attracting scholars' attention, but many jurisdictions remain insufficiently studied. Third, the case study method is applied in competition policy research to achieve diverse purposes. Overall, assessment of the effect or impact of competition policy and analysis of the factors that influence the implementation, the development or the analysis of competition policy constitute the most spotted objectives. Additional efforts to systematically map the outcome of existing case studies and the determinants thereof would be valuable. Fourth, single case studies are mostly preferred and well-suited to answer very well-defined and targeted research questions, whereas there also seems to be a growing interest in comparative case studies covering multiple jurisdictions. As Yin reminds us: 'Single-case designs are vulnerable if only because you will have put 'all your eggs in one basket''.¹⁰ Fifth, cases can target diverse observational levels, such as profit and non-profit organisations, industries and localities (eg district or country), anticompetitive behaviours, competition performance in specific sectors or competition policy development in selected jurisdictions. Sixth, we observe that case studies in competition policy can take a qualitative and/or quantitative approach, but a qualitative case study is more frequently used. To study mergers and to assess the impact or effect of antitrust behaviours of profit or non-profit organisations, a quantitative case study approach seems to constitute a suitable design. However, a quantitative case study can be desirable to assess the impact or effect of competition policy.

Finally, regarding the relationships between the categorical variables studied, we report a statistically significant relationship between the area of competition policy and the objective of the study, the unit of observation and the methodology. Assessing the effect or impact of competition policy is mainly re-

¹⁰ Robert Yin, *Case Study Research: Design and Methods* (Sage 2009) 61.

searched for mergers, organisations being the most frequently studied cases, primarily by means of a quantitative approach. We also find a significant re-

lationship between objective and case study methodology. A quantitative case study is mainly adopted to assess the effect or impact of competition policy.

Tables and Appendices

Tables 1-11

Table 1. Detailed search results by search term and database

Database Search term	Web of Science	Scopus	EBSCOHost	EconLit	ProQuest
'case* stud*'AND 'competition policy'	37	77	52	74	84
'case* stud*'AND 'antitrust'	67	86	605	155	310
'case* stud*'AND 'anticompetitive'	13	17	31	57	34
'case* stud*'AND 'cartel'	49	72	50	32	303
'case* stud*'AND 'merger' AND 'policy'	39	212	134	98	792
'case* stud*'AND 'abuse of domin*'	0	4	4	1	2
'case* stud*'AND 'State aid'	21	44	301	15	346
'case* stud*'AND 'administrative monopoly'	2	2	0	1	3
Total 4226	228	514	1177	433	1874

Source: Own compilation based on systematic literature review.

Table 2. Detailed information on policy areas

Areas	Literature IDs
Merger	L1, L3, L5, L6, L7, L8, L9, L12, L14 , L15, L19, L21, L23, L24 , L25, L26, L27, L35, L36, L37, L38, L40, L41, L42, L43, L45 (26)
Competition /Antitrust policy	L4, L10, L13, L14 , L16, L20, L24 , L29, L39, L46, L48 (11)
Cartel	L18, L31, L32, L34, L44 (5)
Monopolies	L17, L22, L30 (3)
State aid	L28, L33, L47 (3)
Abuse of dominance	L2, L11(2)

Source: Own compilation based on literature review in decreasing order and alphabetically.

Table 3. Detailed information on jurisdictions studied

Jurisdictions	Literature IDs
---------------	----------------

US	L1, L2, L3, L6, L8, L9, L11, L19, L23, L26, L27, L36, L42 (13)
China	L15, L16, L17, L22, L35, L38, L39, L40, L43, L47 (10)
EU	L10, L11, L19, L20, L28, L31, L33, L45, L48 (9)
Brazil	L24, L25, L47 (3)
Japan	L12, L30, L32 (3)
UK	L21, L29, L37 (3)
Argentina	L13, L25 (2)
Australia	L4, L41 (2)
Canada	L7, L41 (2)
India	L16, L47 (2)
Russia	L40, L47(2)
Bulgaria	L48
Chile	L44
Croatia	L48
Czech	L48
Estonia	L33
Hungary	L48
Lithuania	L34
Malaysia	L16
Netherlands	L18
Norway	L5
Poland	L48
Romania	L48
Slovakia	L48
Slovenia	L14

South Africa	L47
South Korea	L16
Sweden	L46
Thailand	L16
Vietnam	L16

Source: Own compilation based on literature review in decreasing order and alphabetically

Table 4. Detailed information on objectives

Objectives	Literature IDs
Assessing the effect or impact of competition policy	L1, L3, L5, L7, L8, L9, L13, L18, L21, L23, L26, L27, L34, L36, L37, L38, L41, L43(18)
Exploring the factors influencing the implementation, the development or the analysis of competition policy	L4, L6, L10, L11, L12, L14, L28, L30, L31, L32, L35, L39, L40, L44, L45, L48(16)
Investigating the application of competition regulation in a specific jurisdiction or to a specific industry	L15, L16, L29, L33, L46, L47(6)
Exploring the relationship among multiple aspects relevant to antitrust	L2, L17, L22, L42(4)
Assessing the political economy of competition policy	L19, L20(2)
Identifying the challenges of antitrust enforcement	L24, L25(2)

Source: Own compilation based on literature review in decreasing order and alphabetically

Table 5. Case study category

Case Study Design	Literature IDs
Single case study	L1, L2, L4, L5, L7, L9, L10, L11, L12, L13, L15, L17, L18, L19, L20, L22, L23, L24, L26, L27, L29, L30, L33, L34, L35, L36, L37, L38, L39, L42, L43, L44 (32)
Multiple case study	L3, L6, L8, L14, L16, L21, L25, L28, L31, L32, L40, L41, L45, L46, L47, L48 (16)

Source: Own compilation based on literature review

Table 6. Unit of observation of the included studies

Units of Observation	Literature IDs
Organisation	L1, L2, L3, L5, L6, L8, L9, L10, L11, L12, L14, L19, L21, L23, L26, L27, L28, L30, L32, L33, L35, L36, L37, L38, L40, L42, L43, L45, L46 (29)

Location	L7, L13, L16, L24, L25, L34, L41, L44, L47, L48 (10)
Industry	L4, L17, L18, L20, L22, L29, L31 (7)
Development of competition policy	L15, L39 (2)

Source: Own compilation based on literature review in decreasing order

Table 7. Case study methodology

Case Study Methodology	Literature IDs
Qualitative case study	L2, L4, L6, L7, L10, L11, L12, L13, L14, L15, L16, L17, L18, L21, L24, L25, L28, L29, L31, L32, L33, L37, L39, L40, L41, L43, L44, L46, L47, L48 (30)
Quantitative case study	L1, L3, L5, L8, L9, L19, L20, L22, L23, L26, L27, L30, L34, L35, L36, L38, L42, L45 (18)

Source: Own compilation based on literature review

Table 8. Crosstabulation of policy area * objective and chi-square test

			Policy Area			Total
			Competition/antitrust policy	Merg-er	Other areas	
Objective	Assessing the effect or impact of competition policy	Count	1	15	2	18
		% within objective	5.6%	83.3%	11.1%	100.0%
	Exploring the factors influencing the implementation or development or analysis of competition policy	Count	5	6	6	17
		% within objective	29.4%	35.3%	35.3%	100.0%
	Other four objectives	Count	5	5	5	15
		% within objective	33.3%	33.3%	33.3%	100.0%
Total	Count	11	26	13	50	
	% within objective	22.0%	52.0%	26.0%	100.0%	
	Value	df	Asymptotic Significance (2-sided)		Exact Sig. (2-sided)	
Pearson Chi-Square	11.239	4	.024		.022	
N of Valid Cases	50					

Source: Own compilation based on SPSS analysis.

Table 9. Crosstabulation of policy area * unit of observation and Fisher's exact test.

			Policy Area			Total
			Competition/ Antitrust poli- cy	Merger	Other ar- eas	
Unit of Obser- vation	Organisation	Count	3	21	6	30
		% within Unit of observation	10.0%	70.0%	20.0%	100.0%
	Industry	Count	3	0	4	7
		% within Unit of observation	42.9%	0.0%	57.1%	100.0%
	Location	Count	4	4	3	11
		% within Unit of observation	36.4%	36.4%	27.3%	100.0%
Total		Count	10	25	13	48
		% within Unit of observation	20.8%	52.1%	27.1%	100.0%
	Value	df	Asymptotic Significance (2-sided)		Exact Sig. (2-sided)	
Fisher's Exact Test	14,349				.002	
N of Valid Cases	48					

Source: Own compilation based on SPSS analysis

Table 10. Crosstabulation of policy area * case study methodology and Pearson chi-square test

			Policy Area			Total
			Competition/antitrust policy	Merger	Other ar- eas	
Case Study Methodology	Qualitative case study	Count	10	12	10	32
		% within case study methodology	31.3%	37.5%	31.3%	100.0%
	Quantitative case study	Count	1	14	3	18
		% within case study methodology	5.6%	77.8%	16.7%	100.0%
Total		Count	11	26	13	50
		% within case study methodology	22.0%	52.0%	26.0%	100.0%

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	7.993	2	.018	.021
N of Valid Cases	50			

Source: Own compilation based on SPSS analysis

Table 11. Crosstabulation of objective * case study methodology and Pearson chi-square test

				Case Study Methodology		Total
				Qualitative case study	Quantitative case study	
Objective	Assessing the effect or impact of competition policy	Count	7	11	18	
		% within Objective	38.9%	61.1%	100.0%	
	Exploring the factors influencing the implementation or development or analysis of competition policy	Count	13	3	16	
		% within Objective	81.3%	18.8%	100.0%	
	Other four objectives	Count	10	4	14	
		% within Objective	71.4%	28.6%	100.0%	
Total		Count	30	18	48	
		% within Objective	62.5%	37.5%	100.0%	
		Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	
Pearson Chi-Square		7.158	2	.028	.027	
N of Valid Cases		48				

Source: Own compilation based on SPSS analysis

Appendices A-C

Appendix A. 48 studies included and their Literature ID.

Title	Literature ID
The Price and Profit Effects of Horizontal Merger: A Case Study	L1
Microsoft: A Case Study in International Competitiveness, High Technology, and the Future of Antitrust Law	L2

Vertical Mergers and Firm-Specific Physical Capital: Three Case Studies and Some Evidence on Timing	L3
The Potential for Local Diversity in Implementation of The National Competition Policy	L4
On the Consistency of Merger Policy	L5
New Factors in the Antitrust Regulation of Hospital Mergers	L6
Assessing the Impact of Proposed Bank Mergers on Rural Communities: A Case Study of British Columbia	L7
Is the Bank Merger Wave of the 1990s Efficient? Lessons from Nine Case Studies	L8
The Competitive Effects of Not-For-Profit Hospital Mergers: A Case Study	L9
Decision-Making in A Complex Environment: A Sociological Institutional Analysis of Competition Policy Decision-Making in The European Commission	L10
A Case Study for International Antitrust: Pepsi Versus Coke	L11
An Airline Merger in Japan: A Case Study Revealing Principles of Japanese Merger Control	L12
Competition Policies and Competitive – A View from the Literature and the Case of Argentina	L13
Development of Competition Policy and Merger Control in Slovenia	L14
Antitrust Control of Mergers and Acquisitions: A Case Study of China	L15
Competition Policy and Development in Asia	L16
Managing the Transition from Administrative Monopoly to Regulated Monopoly in China's Strategic Sectors: A Case Study of China's Oil Industry	L17
On the Allegedly Invisible Dutch Construction Sector Cartel	L18
The Economics and Politics of International Merger Enforcement: A Case Study of the GE/Honeywell Merger	L19
The Political Economy of European Union Competition Policy: A Case Study of The Telecommunications Industry	L20
The Use of Customer Surveys for Market Definition and The Competitive Assessment of Horizontal Mergers	L21
Administrative Monopoly, Market Economy and Social Justice: An Anatomy of The Taxi Monopoly	L22
Non-profit Mergers: Assessing the Motivations and Means	L23
The Challenges of Private Antitrust Enforcement in Transition Economies: The Case of Brazil	L24
Merger Remedies Imposed by the Competition Authorities of the Emerging Economies	L25
The Effect of Hospital Mergers on Inpatient Prices: A Case Study of The New Hanover-Cape Fear Transaction	L26

The Price Effects of Hospital Mergers: A Case Study of The Sutter–Summit Transaction	L27
Compensating Competitors or Restoring Competition? EU Regulation of State Aid for Banks During the Financial Crisis	L28
Too Much or Not Enough? Competition Law and Television Broadcasting Regulation in The United Kingdom	L29
Damages Calculations in Private Monopolization: A Japanese Case Study	L30
Anticompetitive Behaviour of Undertakings- Case Studies	L31
Indirect Evidence in Japanese Cartel Control	L32
Shortcomings of The EU State Aid Model from Peripheral Perspective: The Case of Estonian Air	L33
The Impact of Cartels on National Economy and Competitiveness: A Lithuanian Case Study	L34
The Role of Economics in Chinese Merger Appraisal	L35
The Impact of a Conglomerate Merger on Its Vendors and Rivals – A Case Study of Google's Acquisition of Motorola	L36
To What Extent Can We Rely on Contestability in Merger Policy? Ex Post Evidence from McGill's/AWS	L37
Vertical Mergers & Acquisitions, Industrial Competitiveness and Antitrust Issues — Based on The Case Study	L38
Beyond Legal Transplant: China's 'Shopping Around' Approach and Formation of Anti-Monopoly Law	L39
Cultural and Organizational Integration in Cross-Border M&A Deals: The Comparative Study of Acquisitions Made by EMNEs from China and Russia	L40
How Do Mega-Bank Merger Policy and Regulations Contribute to Financial Stability? Evidence from Australia And Canada	L41
Market Competition and Market Price: Evidence from United/Continental Airline Merger	L42
Sustaining the Status Quo: The Use of Conditions in Chinese Merger Clearance	L43
Cultural and Political Forces in the Criminalization of Cartels: A Case Study on the Chilean Experience	L44
Online Platforms and Vertical Integration: The Return of Margin Squeeze?	L45
Overcoming Methodological Challenges in The Application of Competition Law to Digital Platforms- A Swedish Perspective	L46
State-Aid Programs of BRICs Countries: Case of Transport Equipment Trade	L47
The Right of Defence in the Decentralized System of EU Competition Law Enforcement: A Call for Harmonization from Central and Eastern Europe	L48

Source: Own compilation based on literature review. Chronological and then alphabetical

Appendix B. Detailed information for each manuscript

Literature ID	Author	Date	Literature type	Publisher/Journal
L1	D. M. Barton & R. Sherman	1984	Article	The Journal of Industrial Economics
L2	A.C. Page	1994	Article	Federal Communications Law Journal
L3	A. Weiss	1994	Article	The Journal of Industrial Economics
L4	E. J. Harman & F. J. Harman	1996	Article	Australian Journal of Public Administration
L5	T. Nilssen	1997	Article	The Journal of Industrial Economics
L6	B. D. Gifford	1999	Article	Journal of Healthcare Management
L7	P. Bowles	2000	Article	Social Indicators Research
L8	C. W. Calomiris & J. Karceski	2000	Book chapter	University of Chicago Press
L9	M. G. Vita & S. Sacher	2001	Article	The Journal of Industrial Economics
L10	J. From	2002	Article	Journal of European Public Policy
L11	L. S. Hamilton & L. B. Flecher	2004	Article	Journal of Euromarketing
L12	K. Arai	2004	Article	Journal of Industry, Competition and Trade
L13	C. Winograd, M. Celani and J. W. Kim	2004	Book chapter	OECD
L14	P. Mikek, M. Šlebinger & F. Mlinarič	2004	Article	Acta Oeconomica
L15	K.X. Li, P. Che & M. Du	2005	Article	Journal of business law
L16	D. H. Brooks & S. J. Evenett	2005	Book	Palgrave Macmillan
L17	Y. Chen & R. Sanders	2007	Book chapter	Routledge
L18	P. A. Van Bergeijk	2007	Article	Journal of Competition Law & Economics
L19	J. P. Choi	2007	Book chapter	Emerald Group Publishing Limited
L20	T. Baskoy	2008	Book	Routledge
L21	G. Reynolds & C. Walters	2008	Article	Journal of Competition Law & Economics
L22	J. Li	2010	Article	China: An International Journal
L23	J. Pietroburgo & S. P. Wernet	2010	Article	Journal of Leadership Studies
L24	J. Kirkbride, S. Letza & D. Yuan	2010	Article	International Journal of Law and Management

L25	M. Botta	2011	Article	World Competition
L26	A. Thompson	2011	Article	International Journal of The Economics of Business
L27	S. Tenn	2011	Article	International Journal of The Economics of Business
L28	B. Lyons & M. Zhu	2013	Article	Journal of Industry, Competition and Trade
L29	P. Smith	2013	Article	Westminster Papers in Communication and Culture
L30	K. Arai	2014	Article	Journal of Competition Law & Economics
L31	M. Busu & B. Cimpan	2015	Article	Procedia-Social and Behavioural Sciences
L32	K. Arai	2015	Article	IIC - International Review of Intellectual Property and Competition Law
L33	V. Veebel, I. Ploom & L. Kulu	2015	Article	Baltic Journal of Economics
L34	J. Bruneckiene <i>et al</i>	2015	Book	Springer
L35	F. Deng & S. Sun	2015	Article	Journal of Antitrust Enforcement
L36	J. Chiu, H. Chung & Y.N. Yang	2016	Article	Technology Analysis & Strategic Management
L37	P. Crocioni	2016	Article	European Competition Journal
L38	J. Hu & C. Ji	2016	Article	Management & Engineering
L39	L. Wang & I. Krizic	2017	Article	World Competition
L40	A. Panibratov	2017	Article	Journal of Organizational Change Management
L41	C. Bakir	2017	Article	Journal of Economic Policy Reform
L42	Y. Shen	2017	Article	Economics of Transportation
L43	D. Healey, C. Zhang & J.Coles	2017	Article	Tsinghua China Law Review
L44	C. Muraca	2018	Article	World Competition Law and Economics Review
L45	F. Bostoen	2018	Article	Journal of Antitrust Enforcement
L46	M.C. Iacovides & J. Jeanrond	2018	Article	Journal of Antitrust Enforcement
L47	A. G. Koval & A. B. Mogucheva	2018	Article	St Petersburg University Journal of Economic Studies

L48	M. Bernatt, M.Botta & A. Svetlicinii	2018	Article	World Competition
-----	--------------------------------------	------	---------	-------------------

Source: Own compilation based on literature review

Appendix C. Detailed information on objective, case and characteristics of the methodology

Literature ID	Objective	Case	Methodology
L1	Assess the price and profit effects of horizontal merger	Xidex corporation's acquisition of Scott Graphics and Kalvar	Structure-performance paradigm; econometric model
L2	Investigate the international competitiveness, high technology and the future of competition law	Microsoft	Investigation of antitrust enforcement; Microsoft's place on the information superhighway
L3	Assess the timing of a vertical merger or divestiture	Three mergers	'Firm-Specific Capital' (FSC) theory; two hypotheses; regression equation
L4	Assess the local diversity in implementation of the national competition policy	Access to gas pipelines in Western Australia	Three themes: the potential for diversity in institutional, administrative and governance arrangements; treatment of the public interest; regional, national and international competitiveness
L5	Assess the consistence of merger policy	Two Norwegian insurance companies' merger	A theoretical framework; an oligopoly model
L6	Assess the factors used by authorities to analyse a merger's effect on market	Four recent hospital mergers	Each case discusses merger progress and interaction with competition authorities
L7	Assess the potential impact of proposed bank mergers on financial accessibility in rural communities	The Province of British Columbia	The current situation of geography of finance in British Columbia; proposed bank merger impacts
L8	Assess the efficiency of bank merger wave of the 1990s	Nine cases of banks' mergers and acquisitions	Cross-regime comparisons; micro econometric analysis of bank consolidation; selection, overview and evaluation
L9	Assess the competitive effects of non-profit hospital mergers	Dominican Santa Cruz Hospital's acquisition of AMI-Community Hospital	Econometric analysis; empirical analysis with basic price regressions
L10	Investigate the decision-making analysis in the DG COMP from a sociological institutionalist	Competition in the Elsinore ferry route between Denmark and Sweden in the mid-1990s	DG Competition's involvement in the Elsinore case in four stages: the case, the complaint and its revival; investigation and consultation; decision-making
L11	Explore the antitrust policies difference regarding abuse of a dominant market position in US and EU	Pepsi versus Coke	Pepsi's suit against Coke in New York and Italy; comparison of US and EU antitrust regulations

L12	Investigate the underlying principles of the merger control policy of the Fair-Trade Commission of Japan	Two Japanese Airline companies' merger	An analysis of the case; remedial measures; assessment of the JFTC's decision
L13	Assess the impact of competition policy on economic performance	Argentina	Historical illustration of competition policy set up in Argentina; economic performance in the specific year in five sectors
L14	Review and assess the institutional (legal) and economic framework for merger control and competition policy in Slovenia	Three merger cases: Merger of two larger trade companies; Vertical merger in the transportation sectors; Merger of two banks	Detailed explanation of each case with information on merging companies, chronology of the merger and discussion
L15	Investigate the merger control regulations in China	Antitrust control of Merger & Acquisition development in China	Background; recent developments; critical analysis of important issues
L16	Investigate the development of competition policy in Asia	Six country studies: People's republic of China; India; Republic of Korea; Malaysia; Thailand; Vietnam	Each case presents a discussion of competition issues, the relationship with international trade and investment policies, and its interaction with industrial policies; comparative synthesis
L17	Assess the transitional possibility of administrative monopoly to regulated monopoly	China's oil industry	Historical review of the two oil companies' relationship in the context of the development and transition of China's oil and petroleum industry; Monopolistic regulation
L18	Assess the contamination of cartel on markets	The Dutch construction sector fraud	Detailed information about the Dutch construction sector with history and examples; errors in economic analysis; distilling economic evidence from the sector accounts
L19	Assess the political economy of international antitrust, especially for merger	Proposed merger between General Electric and Honeywell approved by US but blocked by EU	A brief history of the case; economic theory behind the European Commission's decision; the American criticism and 'politicisation' of the case
L20	Investigate the political economy of EU competition policy	European telecommunications industry between 1980 and 2004	Reasons for the case selected; a 'single case, embedded' design; data sources; three levels of analysis: the theoretical, European, and industry level
L21	Assess competitive effects of Horizontal mergers within the relevant market	Using a survey to define the relevant market; using a survey to assess the competitive effects of a merger	Using customer surveys with case-study examples; illustrate and discuss two cases separately
L22	Assess the relationship between administrative monopoly, market economy and social justice	Taxi monopoly in Beijing	Analytical framework: competition, monopoly and government regulations; taxi operations in China; detailed introduction to the case; a management model

L23	Assess the motivations and means of non-profit mergers	Bowling association merger	Merger success; data sources; merger process model
L24	Examine the practical and legal challenges of the development of the private antitrust enforcement	Brazil	Overview of recent private antitrust litigation activity; the challenges of private enforcement in Brazil
L25	Analyse the challenges faced by the National Competition Authorities (NCAs) of the emerging economies in imposing structural remedies on the proposed mergers	Two country studies: Brazil and Argentina	Legislative analysis of Brazilian and Argentinian Systems of merger control; behavioural remedies; structural unilateral remedies
L26	Assess the effects of hospital mergers on inpatient prices	Two hospitals merger	Patient-level claims data from four different insurers; econometric model (difference-in-difference approach)
L27	Assess the price effects of hospital merger	The Sutter and Summit hospital merger in 1999	Model specification; using claims data
L28	Assess how EU undertook bank restructuring aid during the financial crisis	Four cases of different types of banks in financial distress	Detailed introduction to each bank and the performance during the financial crisis
L29	Examine the application of competition regulation to the contemporary television industry	United Kingdom television industry	UK television broadcasting and competition regulation; the application of competition law to UK television broadcasting
L30	Explore damages calculation in private monopolisation	A Tokyo High Court case decision on damages calculation in the private monopolisation of Nipro Corporation	Model analysis (supply relationship, demand function)
L31	Assess anticompetitive behaviour of undertakings in terms of cartels	Three cases at EU level: cartel on banana market; cartel on household washing powder market; cartel in the natural gas field	Each case is discussed in light of the European Commission's investigation
L32	Explore how indirect evidence from business communications can be used to establish proof of cartel agreements	Four cartel cases	Each case is discussed in detail and analysed; implications
L33	Assess the rational and flexible of EU State aid regulation regarding joint values of the European single market and specific needs of peripheral Member States	Estonian national flag carrier-Estonian Air	Framework of State aid regulation model; the case was analysed detailly from background, Commission's decision and options for exceptions

L34	Assess the impact of Cartels on national economy and competitiveness	Lithuania	Cartel statistics in Lithuanian; legal regulation of cartels; an empirical model of cartel impact on the national economy and competitiveness
L35	Investigate the role of economic analysis in China's Anti-monopoly Law, merger regulations and guidelines	The proposed acquisition between two US-based life science companies	Market definition; competitive effects quantitative and qualitative analyses
L36	Assess the impact of conglomerate merger on its vendors and rivals	Google's acquisition of Motorola	Detailed description of the case; empirical analysis (seemingly unrelated regression)
L37	Assess the role of contestability in merger policy	A local bus merger	Background of the case; ex post evaluation
L38	Assess the impact on industry competitiveness of vertical mergers & acquisitions	State Grid's acquisitions of Pinggao Group and Xuji Group	General situation of the case; analysis of the case (industry competitiveness evaluation with econometric theory)
L39	Analyse the internal and external drivers in the formation of new competition regimes	The enactment of China's Anti-Monopoly Law (AML)	AML overview; template diffusion of competition law for the AML (exchange with the EU, cooperation with Japan)
L40	Identify key factors influencing the integration process among cross-border mergers and acquisitions (M&A) deals of emerging multinational enterprises	Four cases of cross-border M&A deals of Russian and Chinese MNEs	Case selection; data collection; Chinese and Russian context for cross-border M&A
L41	Investigate the impact of bank merger policy and regulations on financial stability	Australia and Canada	The potential of bank merger policy and regulation in enhancing financial stability; the limit of merger policy and regulation in informing prudent bank behaviour
L42	Investigate the relationship between market competition and market price in the airline industry	United and Continental Airlines merger	History of united/continental airlines merger; data sources; econometric model (difference-in-difference approach)
L43	Investigate the role of conditions or remedies in Chinese merger approvals	Chinese banks merger	Background; recent reforms; the impact of MOFCOM's approach on potential mergers in the banking sector
L44	Investigate the cultural and political forces in the criminalisation of cartels	Chile	Qualitative interviews with the main stakeholders of the criminalisation process in Chile; the institutional background; lessons from the law-making process

L45	Investigate whether margin squeeze could be applied to online platforms in terms of vertical integration	Three cases: The Apple store and Apple music; Google search; Amazon marketplace	Each case is discussed related to margin squeeze
L46	Investigate the methodological challenges with competition policy applied in the digital platforms	Three digital platforms cases	Study of detailed procedures of dealing with Swedish Competition Authority (SCA)
L47	Investigate characteristics of State aid programs in BRICS countries	Five cases of programs in Brazil, Russia, India, China and South Africa	Reasons for choosing the case study method; detailed discussion
L48	Assess the application of the right of defence in the decentralised system of EU competition law enforcement	Central and Eastern European country studies: Bulgaria; Croatia; Czech Republic and Slovakia; Hungary; Poland; Romania;	Right of defence: right to be informed; right to access the file; privilege against self-incrimination and legal professional privilege

Source: Own compilation based on literature review