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Arbitration by the Numbers: The State of Empirical Research on International Commercial Arbitration*

by CHRISTOPHER R. DRAHOZAL**

I. INTRODUCTION

THE PRESIDENT of the Association of American Law Schools,¹ N. William Hines, in his inaugural address in January 2005, declared that the focus of the Association during his term would be on the ‘empirical dimension’ of legal scholarship.² Although legal scholarship often has been criticised as being too divorced from empirical realities,³ numerous efforts – from hiring faculty with interdisciplinary backgrounds, to conducting training in research methods, to the creation of specialised journals – have sought to encourage and facilitate empirical research on legal issues. On the basis of these efforts (and others), Hines concludes that ‘empirical research in law is alive and flourishing in the twenty-first century’.⁴

The state of empirical research on international commercial arbitration is undergoing a similar transformation. In the past, little systematic information on international arbitration was available – in no small part because arbitration is *private* rather than public judging. As a result, much of what was known about international arbitration was based on anecdote – the facts of individual cases,

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¹ The Association of American Law Schools is the self-described ‘learned society for law teachers’ in the USA. See ‘What is the AALS?’ at www.aals.org/about.html

² N. William Hines, ‘Empirical Scholarship: What Should We Study and How Should We Study It?’ in *AALS Newsletter*, February 2005, pp. 1, 3.

³ E.g., Michael Heise, ‘The Importance of Being Empirical’ in (1999) 26 *Pepperdine L Rev.* 807 at pp. 810–812.

⁴ Hines, *supra* n. 2 at p. 4.

attorney 'war stories', and the like.⁵ Today, however, that is changing, fostered by academic and practitioner interest in the subject⁶ and the increasing willingness of (at least some) arbitration institutions to permit researchers access to case materials.⁷ Indeed, a number of the presentations at the School of International Arbitration's 20th Anniversary Conference relied on empirical data or emphasised the importance of unresolved empirical issues. While much work remains to be done, the existing literature has made important beginnings toward an empirical understanding of international arbitration.⁸

Defined broadly, 'empirical' research (meaning research '[r]elying on or derived from observation or experiment')⁹ includes both quantitative and qualitative research methods.¹⁰ In simple terms, quantitative research methods involve the collection and analysis of numerical data, while qualitative methods involve the collection and analysis of non-numerical data. Perhaps the best known empirical study on international arbitration, *Dealing in Virtue* by Yves Dezalay and Bryant G. Garth, is a qualitative study.¹¹ Dezalay and Garth conducted hundreds of interviews with participants in the international arbitration process,¹² but did not report their results in a quantitative manner.

This article provides an overview of the state of empirical research on international commercial arbitration, focusing on quantitative rather than qualitative studies. Part II discusses published and unpublished sources of data on international commercial arbitration. Part III provides a brief description of empirical research methods as applied to international arbitration, evaluating the strengths and weaknesses of the different methods. Part IV then summarises the existing empirical literature on international commercial arbitration. The array of methodological techniques employed in the studies is impressive. Researchers have surveyed parties, party representatives and international arbitrators;

⁵ See Christopher R. Drahozal, 'Of Rabbits and Rhinoceri: A Survey of Empirical Research on International Commercial Arbitration' in (2003) 20 *J Int'l Arb.* 23.

⁶ E.g., 'Barcelona Symposium: Global Center for Dispute Resolution Research, February 21–22, 2002' in (2003) 20 *J Int'l Arb.* 1.

⁷ See *infra* text accompanying nn. 31–33.

⁸ For a volume collecting most of the empirical studies discussed in this article, see Christopher R. Drahozal and Richard W. Naimark (eds), *Towards a Science of International Arbitration: Collected Empirical Research* (Kluwer Law International, The Hague, 2005).

⁹ *American Heritage Dictionary of the English Language* (4th edn, Houghton Mifflin, Boston, 2000), p. 586; see also Hines, *supra* n. 2 at p. 3 ('research is empirical if it involves a systematic investigation of real world facts or actual societal functioning, whether by quantitative or qualitative methods, for the purpose of making law more effective and just or the administration of justice more fair').

¹⁰ See Shari Seidman Diamond, 'Empirical Marine Life in Legal Waters: Clams, Dolphins, and Plankton' in (2002) *U Ill. L. Rev.* 803 at p. 804 ('[A]n interview study might compile a report on the percentage of respondents who were able to describe a situation in which they thought they were entitled to sue, but chose not to file suit. Alternatively, a nonquantitative version of the same study might focus on describing in detail, based on the interviews, the range of types of responses that injured individuals make regarding their injuries – without attempting to assess the frequency with which the different responses occur. Both studies would be based on observation; both would be empirical.').

¹¹ Yves Dezalay and Bryant G. Garth, *Dealing in Virtue: International Commercial Arbitration and the Construction of a Transnational Legal Order* (University of Chicago Press, Chicago, 1996).

¹² *Ibid.* p. 9.

examined arbitration clauses and arbitration awards; and performed regression analysis using published and unpublished data. The topics studied are diverse as well, ranging from the factors parties view as important in arbitration, to whether arbitrators charge cancellation fees, to whether arbitrators make compromise awards. But the list of topics, while extensive, merely scratches the surface of possible research. The article concludes by suggesting some possible future topics for research, drawing on empirical studies done in related areas of the law.

II. THE INSIDE STORY: DATA SOURCES

Lee Epstein and Gary King have described the three aims of empirical research as follows: ‘*amassing data* for use by the researcher or others; *summarizing data* so they are easier to comprehend; and *making descriptive or causal inferences*, which entails using data we have observed to learn about data we would like to gather’.¹³ In each case, the starting point is the data. For data on international commercial arbitration, researchers can turn to both published sources and unpublished sources.¹⁴

(a) *Published Sources*

Because arbitration proceedings are private, published sources of data on international arbitration are limited. At least two collections of national arbitration laws have been published,¹⁵ and many (but not all) court decisions on international arbitration are publicly available.¹⁶ But neither national laws nor court decisions shed much light on what actually goes on in arbitration proceedings, and are limited as sources of data for empirical research for other reasons as well.¹⁷

Institutions that administer arbitration proceedings have access to vast amounts of information of interest to researchers, but little is in published form. The rules promulgated by the institutions to govern arbitration proceedings are

¹³ Lee Epstein and Gary King, ‘The Rules of Inference’ in (2002) 69 *U Chi. L Rev.* 1 at pp. 19–20.

¹⁴ The discussion in this part draws on Drahozal, *supra* n. 5 at pp. 24–27.

¹⁵ International Council for Commercial Arbitration, 1–4 *International Handbook on Commercial Arbitration* (Kluwer Law International, The Hague, 2005); H. Smit and V. Pechota (eds), *Smit’s Guides to International Arbitration: National Arbitration Laws*, vol. 1 (Juris Publishing, Huntington, New York, 2001).

¹⁶ Court decisions on arbitration law are, of course, available in the national reporters for each court. In addition, the *Yearbook Commercial Arbitration* collects court decisions from countries throughout the world that interpret the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (the ‘New York Convention’) and other arbitral conventions. See Albert Jan van den Berg (ed.), 1–29 *Yearbook Commercial Arbitration* (Kluwer Law International, The Hague, 1976–2004). Similarly, the United Nations Commission on International Trade Law (UNCITRAL) maintains a searchable online database of court decisions interpreting the UNCITRAL Model Law on International Commercial Arbitration. See UNCITRAL, ‘Case Law on UNCITRAL Texts: UNCITRAL Model Law on International Commercial Arbitration’ at www.uncitral.org/uncitral/en/case_law.html

¹⁷ For example, a further complication for empirical research on court decisions (and arbitration awards as well) is selection bias, which is discussed *infra* text accompanying nn. 44–47.

available on the Internet, but the parties can (and do) change those rules in their arbitration agreements. Some institutions, most notably the International Court of Arbitration of the International Chamber of Commerce (ICC),¹⁸ publish selected arbitration awards, often heavily redacted to remove identifying information.¹⁹ But the sample of published ICC awards is not a random one, making empirical analysis of published awards highly problematic.²⁰ Institutions such as the Cairo Regional Centre for International Arbitration and the Stockholm Chamber of Commerce also have published collections of awards.²¹ The American Arbitration Association (AAA) has amended its International Arbitration Rules to permit publication of selected awards and, my understanding is, will soon begin doing so.²²

Many arbitration institutions publish data on caseloads,²³ but the statistics 'are subject to considerable caution'.²⁴ The problems include the following:

For instance, when institutions report caseload, some report the number of new cases filed in a year, some report the number of open cases in their system, which allows for overlap with the unresolved cases from the previous year; still others report the number of cases filed since the founding of the institution.²⁵

Moreover, the published statistics are difficult to evaluate because some include both domestic and international arbitration filings²⁶ while others 'mix many small matters with the very large ones'.²⁷

The ICC goes beyond simple caseload statistics to publish information on a number of aspects of the arbitration process, including aggregate data on the geographic origins of parties, nationalities of arbitrators and places of arbitration

¹⁸ The ICC has been described as the 'central institution' in international commercial arbitration. Dezalay and Garth, *supra* n. 11 at p. 45.

¹⁹ Jean-Jacques Arnaldez *et al.* (eds), *Collection of ICC Arbitral Awards 1996–2000* (ICC Publishing SA, Paris, 2003); Jean-Jacques Arnaldez *et al.* (eds), *Collection of ICC Arbitral Awards 1991–1995* (ICC Publishing SA, Paris, 1997); Sigvard Jarvin *et al.* (eds), *Collection of ICC Arbitral Awards 1986–1990* (ICC Publishing SA, Paris, 1994); Sigvard Jarvin and Yves Derains (eds), *Collection of ICC Arbitral Awards 1974–1985* (ICC Publishing SA, Paris, 1990).

²⁰ See W. Laurence Craig *et al.*, *International Chamber of Commerce Arbitration* (3rd edn, Oceana Publications, Inc., Dobbs Ferry, New York, 2000), pp. 338 n. 62 and 639 n. 39.

²¹ Julian D.M. Lew *et al.*, *Comparative International Commercial Arbitration* (Kluwer Law International, The Hague, 2003), p. 661 n. 203.

²² American Arbitration Association, International Arbitration Rules, art. 27(8) (effective 15 September 2005) ('Unless otherwise agreed by the parties, the administrator may publish or otherwise make publicly available selected awards, decisions and rulings that have been edited to conceal the names of the parties and other identifying details or that have been made publicly available in the course of enforcement or otherwise.')

²³ See Hong Kong International Arbitration Centre, 'Statistics: International Arbitration Cases Received' at www.hkiac.org/en_statistics.html

²⁴ Dezalay and Garth, *supra* n. 11 at p. 298 n. 19.

²⁵ Richard W. Naimark, 'Building a Fact-based Global Database: The Countdown' in (2003) 20 *J Int'l Arb.* 105.

²⁶ See *e.g.*, Gillis Wetter, 'The Internationalisation of International Arbitration: Looking Ahead to the Next Ten Years' in Martin Hunter *et al.* (eds), *The Internationalisation of International Arbitration: The LCIA Centenary Conference* (Graham and Trotman, London, 1995), pp. 85, 94 n. 9.

²⁷ Dezalay and Garth, *supra* n. 11 at p. 298 n. 19.

in ICC arbitrations.²⁸ But the aggregate nature of the data (*e.g.*, the total number of arbitrators from a country in a given year) limits its usefulness for empirical research: data on individual cases would be more useful.²⁹ Moreover, data from a particular arbitration institution (or arbitration institutions as a whole) necessarily fail to give a complete picture of international arbitration practice because they exclude *ad hoc* arbitrations – proceedings not administered by an arbitration institution.³⁰

(b) *Unpublished Sources*

Many (perhaps most) questions of interest about international arbitration cannot be studied empirically using published data sources. The most obvious source of unpublished data is arbitration institutions, which publish only a fraction of the total information available. One reason is cost: collecting data on case proceedings is expensive and time-consuming. Another reason is confidentiality: arbitration institutions generally restrict access to information on arbitration proceedings because of the private nature of arbitration. There are limited exceptions. For example, the Chairman or Secretary General of the ICC Court ‘may authorize researchers undertaking work of a scientific nature on international trade law to acquaint themselves with awards and other documents of general interest’, provided the researchers maintain the confidentiality of the documents and submit any materials to the Secretary for approval before publication.³¹ However, the rule does not permit access to ‘memoranda, notes, statements and documents remitted by the parties within the framework of arbitration proceedings’.³² The American Arbitration Association/International Centre for Dispute Resolution also has permitted researchers access to case information, both in domestic and international arbitration cases.³³ More

²⁸ The ICC statistical report appears in the spring issue of the *ICC International Court of Arbitration Bulletin*. See *e.g.*, ‘2004 Statistical Report’ in (2005) 16(1) *ICC Int’l Ct Arb. Bull.* 5. In addition, some statistics for years predating publication in the *ICC Bulletin* can be found in Craig *et al.*, *supra* n. 20 at pp. 727–743 tables 3–8, and prior editions. The data in Craig *et al.* are not very useful for empirical work, however, because data covering a number of years are grouped together rather than reported on a year-by-year basis. For other examples of data published by the ICC, see *infra* text accompanying n. 59.

²⁹ See also LCIA, *Director General’s Review of 2004* (7 April 2005) available at www.lcia.org/PRINT/NEWS_print.html (reporting data from LCIA).

³⁰ The significance of this omission is uncertain. See *infra* n. 58.

³¹ Internal Rules of the International Court of Arbitration of the ICC, art. 1(4), (5) (effective 1 January 1998).

³² *Ibid.* art. 1(4).

³³ See *e.g.*, Lisa B. Bingham, ‘Employment Arbitration: The Repeat Player Effect’ in (1997) 1 *Employee Rts and Employment Pol’y J* 189; Lisa B. Bingham, ‘Unequal Bargaining Power: An Alternative Account for the Repeat Player Effect in Employment Arbitration’ in *Industrial Relations Research Association 50th Annual Proceedings* (1998), p. 33; Theodore Eisenberg and Elizabeth Hill, ‘Arbitration and Litigation of Employment Claims: An Empirical Comparison’ in *Disp. Resol. J* (November 2003/January 2004), p. 44; Elizabeth Hill, ‘Due Process at Low Cost: An Empirical Study of Employment Arbitration Under the Auspices of the American Arbitration Association’ in (2003) 18 *Ohio St. J on Disp. Resol.* 777; Stephanie E. Keer and Richard W. Naimark, ‘Arbitrators Do Not ‘Split the Baby’: Empirical Evidence from International Business Arbitration’ in (2001) 18 *J Int’l Arb.* 573.

systematic efforts at data collection would provide an invaluable resource for researchers.³⁴

Another unpublished source of data on international arbitration is the participants in the process themselves – the parties, their representatives and the arbitrators. As discussed *infra*, researchers can collect information on arbitration by surveying the participants in the process, asking about matters ranging from why the parties agreed to arbitrate to whether the losing party complied with the award. In addition, researchers can conduct experimental research, gathering data on the arbitration process by using simulations to study how participants respond under controlled circumstances. The next part considers the strengths and weaknesses of these (and other) research methodologies.

III. HOW-TO MANUAL: RESEARCH METHODS AND INTERNATIONAL ARBITRATION

Research methods are the techniques researchers use to collect and evaluate empirical data. Studies based on proper research methods permit researchers to draw inferences about an entire population by examining only a sample of that population. But researchers must be careful in their data analysis not to mislead (no matter how inadvertently).³⁵ This part briefly discusses three empirical research methods – surveys, observational studies and controlled experiments – and their application to empirical research on international commercial arbitration.³⁶

(a) *Surveys*

The empirical research method that first comes to mind for many people is the survey: a questionnaire sent to (or interviews conducted with) individuals who have relevant knowledge on a particular subject (or whose views otherwise are of interest). A well-designed survey can obtain information that cannot be obtained in any other way. Many of the empirical studies of international arbitration published to date are based on surveys of parties, party representatives and international arbitrators.

For survey results to be meaningful, those responding to the survey must be a representative sample of the population being surveyed. The hazards of surveying an unrepresentative sample were starkly illustrated by an early survey of US voters that wrongly predicted Alf Landon to defeat Franklin Roosevelt in the 1936 presidential election. The sample surveyed – those who owned cars,

³⁴ See Naimark, *supra* n. 25 at p. 107.

³⁵ *E.g.*, Darrell Huff, *How to Lie with Statistics* (Norton, New York, 1954); Gary King, 'How Not to Lie with Statistics: Avoiding Common Mistakes in Quantitative Political Science' in (1986) 30 *Am. J. Pol. Sci.* 666.

³⁶ For useful sources on empirical research methods as applied to the law, see *e.g.*, Federal Judicial Center, *Reference Manual on Scientific Evidence* (2nd edn, West Group, St. Paul, 2000) (also available at www.fjc.gov); Howell E. Jackson *et al.*, *Analytical Methods for Lawyers* (Foundation Press, New York, 2003); Hans Zeisel and David Kaye, *Prove It with Figures: Empirical Methods in Law and Litigation* (Springer-Verlag, New York, 1997); Epstein and King, *supra* n. 13.

telephones or subscribed to the *Literary Digest* (which conducted the survey) – was not representative of US voters as a whole.³⁷ Non-response bias is a serious problem as well, because ‘[t]he presumption is well founded that the people who respond [to surveys] are different from the people who do not’.³⁸ Further, designing a valid survey is difficult. Slight changes in the wording of questions can result in significant changes in the responses given.³⁹ And it is all too easy simply to leave out a question that turns out in retrospect to be important. Finally, survey research depends on the ability and willingness of the respondents to answer the question asked. But ‘[p]eople often do not know, or cannot articulate, why they act as they do’⁴⁰ or they may be unwilling to answer a question accurately for any variety of reasons.⁴¹ In short, because people do not always act as they say they act, survey results may not reflect the true state of affairs.

(b) *Observational Studies*

Another research method commonly used by social scientists is the ‘observational study’. Rather than asking people what they think or what they do, researchers observe what people actually do. Observational studies thus avoid the misreporting (intentional or otherwise) that can pose such difficulties for survey research. The data collection can be ‘real time’ (such as observing ongoing arbitration proceedings) or after the fact (such as using published data from the ICC or reviewing arbitration filings or awards).

One difficulty with observational studies is the need to control for other factors that might explain the observed results. Even if the study is structured so that there is some sort of control group (such as by comparing countries that recently enacted new arbitration laws with countries that did not), factors other than the statutory change may explain differences in the variable of interest (such as the number of arbitration proceedings held in the countries). Statistical analysis provides techniques, such as multiple regression, to control for such confounding factors.⁴²

³⁷ See Maurice C. Bryson, ‘The *Literary Digest* Poll: Making of a Statistical Myth’ in (1976) 30 *Am. Statistician* 184.

³⁸ Zeisel and Kaye, *supra* n. 36 at p. 111, para. 7.6; see also Shari Seidman Diamond, ‘Reference Guide on Survey Research’ in *Reference Manual on Scientific Evidence*, *supra* n. 36 at p. 245 (discussing ‘tolerable level of non-response’ for surveys).

³⁹ See e.g., Jackson *et al.*, *supra* n. 36 at p. 504 (‘polls regularly find much less public support for “a constitutional amendment prohibiting abortion” than they do for a “constitutional amendment protecting the life of an unborn child”’). See generally, Earl R. Babbie, *Survey Research Methods* (2nd edn, Wadsworth Publishing Co., Belmont, CA, 1990); Floyd J. Fowler, Jr, *Survey Research Methods* (2nd edn, Sage Publications, Beverly Hills, 1988); Diamond, *supra* n. 38 at pp. 248–260.

⁴⁰ See e.g., Epstein and King, *supra* n. 13 at p. 93.

⁴¹ See e.g., Jackson *et al.*, *supra* n. 36 at p. 504 (‘Some survey participants may, for example, be set on presenting a positive image (or at least not a negative image) of themselves ... Others may want to further their own personal or political goals.’)

⁴² Epstein and King, *supra* n. 13 at p. 79 (‘investigators can use statistical methods to “statistically hold constant” control variables’). According to Jackson *et al.*, ‘[m]ultiple regression is eminently suited to the task of analyzing complex phenomena that are the outcome of the interplay of many variables’: Jackson *et al.*, *supra* n. 36 at p. 555. For not overly technical discussions of multiple regression, see e.g., Michael S. Lewis-Beck, *Applied Regression: An Introduction* (Sage Publications, Beverly Hills, 1980); Daniel L. Rubinfeld, ‘Reference Guide on Multiple Regression’ in *Reference Manual on Scientific Evidence*, *supra* n. 36 at pp. 179–227.

But statistical analysis does not resolve whether the relationship is a causal one: correlation is not the same as causation.⁴³

For observational studies (like surveys), the sample that is being observed must be representative of the relevant population. For studies of outcomes in arbitration (*e.g.*, do claimants or respondents win more often in arbitration? how do claimant win-rates in arbitration compare to plaintiff win-rates in court?), case selection bias is a particularly severe problem.⁴⁴ Cases are not assigned randomly to courts or to arbitration. Rather, the parties choose between a judicial forum and an arbitral forum by including (or not including) an arbitration clause in their contract.⁴⁵ Moreover, parties do not randomly settle disputes, so that observed arbitration awards (and court decisions) are not a random sample of the entire population of cases filed.⁴⁶ As a result, observational studies comparing outcomes in arbitration with outcomes in court must be carefully qualified because of the likelihood that arbitrators will decide different cases than judges and juries decide.⁴⁷ Case selection bias also can interfere with attempts to compare litigation with arbitration in other respects, such as cost or speed of case resolution.

(c) *Controlled Experiments*

A third empirical method, very common in the natural sciences but less common in the social sciences, is controlled experiments. The researcher conducts a laboratory experiment and measures how the experimental subjects respond under controlled circumstances.⁴⁸ A handful of studies have used arbitrators as research subjects.⁴⁹

A clear advantage of experimental research is the ability of the researcher to hold constant the facts of the case, unlike observational studies in which every case is unique in some respect. Moreover, by coupling a control group with random assignment of subjects, researchers may be able to draw inferences of

⁴³ Epstein and King, *supra* n. 13 at p. 37; Jackson *et al.*, *supra* n. 36 at p. 539 ('correlation doesn't imply causation; even a very strong correlation between two variables isn't in and of itself conclusive evidence that a change in one causes a change in the other').

⁴⁴ Christopher R. Drahozal, 'The Non-Random Vanishing Trial: Arbitration and the Ex Ante Selection of Disputes for Litigation' (working paper 2005).

⁴⁵ Stephen J. Ware, 'The Effects of *Gilmer*: Empirical and Other Approaches to the Study of Employment Arbitration' in (2001) 16 *Ohio St. J. on Disp. Resol.* 735 at p. 757 ('Empirical studies are vulnerable to the possibility that the studied cases going to arbitration are systematically different from the studied cases going to litigation. This will remain true as long as the law allows contracts to determine whether or not a case goes to arbitration.').

⁴⁶ See *e.g.*, George L. Priest and Benjamin Klein, 'The Selection of Disputes for Litigation' in (1984) 13 *J. Legal Stud.* 1; Joel Waldfogel, 'Selection of Cases for Trial' in Peter Newman (ed.), *The New Palgrave Dictionary of Economics and the Law*, vol. 3 (Macmillan Reference Ltd, London, 1998).

⁴⁷ *E.g.*, Eisenberg and Hill, *supra* n. 33 at p. 51.

⁴⁸ Experimental research can at times overlap with survey research, as the experiments sometimes consist of surveys asking for answers to hypothetical problems.

⁴⁹ See Lisa B. Bingham and Debra J. Mesch, 'Decision Making in Employment and Labor Arbitration' in (2000) 39 *Indus. Rel.* 671; Neil Vidmar and Jeffrey J. Rice, 'Assessments of Noneconomic Damage Awards in Medical Negligence: A Comparison of Jurors with Legal Professionals' in (1993) 78 *Iowa L. Rev.* 883; Ray Friedman *et al.*, 'Chinese and American Arbitrators: Examining the Effects of Attributions and Culture on Award Decisions' (IACM, 18th Annual Conference, 1 June 2005).

causation from experimental results, rather than just correlation.⁵⁰ But results from experimental research (particularly experimental research in the social sciences) can be difficult to extrapolate to real-world settings. Selection effects may ‘drive a big wedge’ between experimental results and real-world behaviour because experimental subjects may differ systematically from the relevant real-world population.⁵¹ Furthermore, experimental research subjects are less accountable for their actions than persons making real-world decisions⁵² and may have much less information available to them than would decision-makers in real-world settings.⁵³ Nevertheless, despite these limitations, experimental research on international commercial arbitration is likely to become increasingly common in the future.⁵⁴

IV. A WORK IN PROGRESS: THE STATE OF EMPIRICAL RESEARCH

This part provides an overview of the state of empirical research on international commercial arbitration. It begins by setting out some basic quantitative facts about international arbitration, and then surveys the existing empirical studies.

(a) *By the Numbers: Basic Facts on International Arbitration*

Published reports highlight some basic facts about the use of international arbitration and its growth over time. From 1993 to 2001, annual case filings with 11 leading international arbitration institutions⁵⁵ almost doubled, from 1,392 cases per year to 2,628 cases per year.⁵⁶ Over roughly the same time period, the cumulative number of treaty-based investment arbitrations before the World Bank’s International Centre for Settlement of Investment Disputes (ICSID) has increased from only three through 1994 to 106 through November 2004.⁵⁷

⁵⁰ Zeisel and Kaye, *supra* n. 36 at pp. 1–4; Clay Helberg, ‘Pitfalls of Data Analysis (or How to Avoid Lies and Damned Lies)’ (June 1995) at my.execpc.com/~helberg/pitfalls/

⁵¹ Richard A. Posner, ‘Rational Choice, Behavioral Economics, and the Law’ in (1998) 50 *Stan. L. Rev.* 1551 at pp. 1570–1571.

⁵² Gregory Mitchell, ‘Why Law & Economics’ Perfect Rationality Should Not Be Traded for Behavioral Law and Economics’ Equal Incompetence’ in (2002) 91 *Geo. L.J.* 67 at pp. 110–114; Philip E. Tetlock, ‘Accountability and Complexity of Thought’ in (1983) 45 *J. Personality and Soc. Psychol.* 74 at pp. 74–75.

⁵³ Gregory Mitchell, ‘Taking Behavioralism Too Seriously? The Unwarranted Pessimism of the New Behavioral Analysis of Law’ in (2002) 43 *Wm and Mary L. Rev.* 1907 at p. 1985.

⁵⁴ For further discussion of experimental research (specifically dealing with experimental studies of decision-making by judges, jurors and arbitrators), see Christopher R. Drahozal, ‘A Behavioral Analysis of Private Judging’ in (2004) 67 *Law and Contemp. Probs.* 105.

⁵⁵ The institutions are the following: American Arbitration Association; China International Economic and Trade Arbitration Commission; Hong Kong International Arbitration Centre; International Chamber of Commerce; Japan Commercial Arbitration Association; Korean Commercial Arbitration Board; Kuala Lumpur Regional Centre for Arbitration; London Court of International Arbitration; Singapore International Arbitration Centre; Arbitration Institute of the Stockholm Chamber of Commerce; and British Columbia International Commercial Arbitration Centre.

⁵⁶ Drahozal and Naimark, *supra* n. 8 at p. 341 app. 1.

⁵⁷ United Nations Conference on Trade and Development (UNCTAD), Occasional Note, ‘International Investment Disputes on the Rise’ (UNCTAD/PRESS/EB/2004/013, 29 November 2004). In addition, UNCTAD reported that ‘there are at least 54 [investment] cases (cumulative) outside ICSID as compared to two at the end of 1994’: *ibid.*

Meanwhile, the total number of ad hoc arbitrations remains unknown, with reports ranging from many fewer to many more ad hoc arbitrations than institutional arbitrations.⁵⁸

Among the international arbitration institutions, the ICC publishes the most data about its arbitration caseload. Some notable aspects of ICC arbitrations from the ICC's *2004 Statistical Report* include the following:⁵⁹

- Of the cases filed with the ICC in 2004, 31 per cent were multiparty disputes. The average number of parties in a multiparty case was 5.24 (although the 10 cases with more than 10 parties – including one with 81 respondents – no doubt pulled up the average).
- Parties specified the place of arbitration in their contract in 74 per cent of cases and agreed on the place of arbitration after the dispute arose in another 12 per cent of cases. In the remaining 14 per cent of cases the ICC Court determined the place of arbitration.
- Parties nominated the co-arbitrators/party-appointed arbitrators in 94.1 per cent of the cases involving three-arbitrator tribunals, and the parties or party-appointed arbitrators nominated the chair in 53.9 per cent of those cases. Of the cases with a single arbitrator, the parties nominated the sole arbitrator in only 27.3 per cent of the cases. In the rest of the cases, the ICC Court appointed the arbitrators, either directly or based on a proposal by an ICC National Committee.
- During 2004, 37 arbitrators were challenged after appointment; the ICC Court rejected 35 of the challenges.
- Of the contracts giving rise to ICC arbitrations in 2004, 79.1 per cent specified a governing national law, 19.6 per cent specified no governing law, and 1.3 per cent specified some non-national rules of decision, such as equity or international commercial law.
- The ICC Court approved 345 awards in 2004. Of those awards, the ICC approved 252 only after setting out modifications as to form or drawing the arbitrators' attention to issues of substance. An additional 11 awards were sent back to the arbitrators to rework particular aspects of the award before being approved.

It would be helpful both to practitioners and to researchers if other arbitration institutions published similar sorts of information.

⁵⁸ According to Richard Naimark: 'These ad hoc cases are much harder to track. I have been doing an informal word-of-mouth survey of lawyers who specialize in international commercial arbitration. The question I ask them is very simple, 'compared to the institutionally conducted arbitrations, how many ad hoc cases are taking place every year?' A number of attorneys have said that there were just a few of these cases, with most of the cases going through institutions; others have said that there were a significant number of ad hoc cases and estimated that the number might approximate the number of institutional cases; and two attorneys told me that they thought there were far more ad hoc cases taking place around the world each year than all the arbitral institutions put together. So what is the correct answer?': Naimark, *supra* n. 25 at p. 106.

⁵⁹ '2004 Statistical Report', *supra* n. 28.

(b) A Survey of Empirical Research on International Arbitration

In addition to descriptive data, the empirical literature on international commercial arbitration includes a growing number of studies on issues of interest in arbitration law and practice. The existing studies cover topics across the full scope of an international arbitration proceeding: (1) the agreement to arbitrate; (2) arbitral procedures; (3) the arbitrators and arbitrator selection; (4) rules of decision and applicable law; and (5) awards and arbitral decision-making. The studies are listed in the appendix; this part briefly describes their findings.

(i) The agreement to arbitrate

A pair of studies have looked at why parties agree to arbitrate. An extensive survey (coupled with interviews) by Christian Bühring-Uhle supports the conventional wisdom, finding that the 'two most important reasons' parties to international contracts agree to arbitrate are (1) to avoid the other parties' home court system and (2) to take advantage of the international legal framework governing the enforceability of arbitration awards.⁶⁰ A study by Richard W. Naimark and Stephanie E. Keer asked participants in AAA international arbitrations to rank a list of attributes in order of importance in that particular proceeding.⁶¹ They found that 'an overwhelming majority of the parties ranked a fair and just result as the most important attribute, even above the receipt of a monetary award, speed of outcome, cost or arbitrator expertise'. Interestingly, the confidentiality of the arbitration proceeding, which Bühring-Uhle found to be an 'important' advantage of arbitration, ranked quite low in the Naimark and Keer study. The explanation may be that before a dispute arises, parties prefer a private method of dispute resolution, but that after a dispute arises they may see less need for privacy in that particular case.

Other studies have looked at the provisions of arbitration clauses. Such studies are of interest both to drafters (because they illustrate common drafting practices) and to researchers (because they provide evidence of parties' preferences for arbitration procedures). A classic study by Stephen R. Bond examined the terms of arbitration clauses giving rise to ICC arbitrations in 1987 and 1989.⁶² Among Bond's findings was that the provision most commonly added to ICC arbitration clauses was a choice-of-law clause specifying a particular national law to govern the contract. Meanwhile, very few clauses provided for a dispute to be resolved under principles of 'transnational law' or without regard to any national law. Drahozal and Naimark presented data on the terms of dispute resolution clauses from a small sample of international joint venture agreements.⁶³ Although the sample was too small to draw any firm conclusions, a benefit of the approach is

⁶⁰ Christian Bühring-Uhle, *Arbitration and Mediation in International Business* (Kluwer Law International, The Hague, 1996), pp. 135–136.

⁶¹ Richard W. Naimark and Stephanie E. Keer, 'International Private Commercial Arbitration: Expectations and Perceptions of Attorneys and Business People' in (2002) 30 *Int'l Bus. Lawyer* 203.

⁶² Stephen R. Bond, 'How to Draft an Arbitration Clause (Revisited)' in (1990) 1(2) *ICC Int'l Ct Arb. Bull.* 14.

⁶³ Drahozal and Naimark, *supra* n. 8 at pp. 59–63.

that the sample is not limited to arbitration clauses naming a particular arbitration institution.

(ii) *Arbitral procedures*

The procedures in arbitration present a wide-ranging topic for empirical research, and the existing studies merely scratch the surface of possible research. The earliest study is a survey of US views on international arbitration by Robert Coulson, with questions on arbitrator selection, pre-hearing arrangements, the hearing procedure and award enforcement.⁶⁴ A recent survey by Mathematica Policy Research, Inc., done for the Global Center for Dispute Resolution Research, identified common features of the arbitration process and likely future trends.⁶⁵ A study by Drahozal finds that the number of ICC arbitration proceedings held in a country increased after the country enacted a new or revised arbitration law, although the financial benefit of a new law appears far less than sometimes suggested.⁶⁶ Naimark and Keer surveyed arbitrators on the AAA's international arbitration panel about their experience with provisional measures.⁶⁷ Of the 64 attorneys who responded, 38 reported involvement with a total of 50 cases in which interim relief was sought, most commonly an order preliminarily enjoining a party from engaging in some activity. Ali Yeşilirmak, in his book on *Provisional Measures in International Commercial Arbitration*, reports on the use of interim measures in ICC and AAA/ICDR arbitrations, based on his examination of a sample of case files.⁶⁸ Interestingly, he reports finding no 'ex parte decision on an interim measure in his research at the AAA and the ICC out of thousands of decisions'.⁶⁹ Finally, an article by Bühring-Uhle discusses preliminary results of a survey (for an updated edition of his book) on settlement practices and techniques in international arbitration, highlighting differing views on the extent to which arbitrators act to mediate disputes.⁷⁰

⁶⁴ Robert Coulson, 'Survey of International Arbitration Procedures' in *NYLJ*, 11 June 1981.

⁶⁵ Mathematica Policy Research Inc., *Recent Practice/Future Possibilities: A Survey of Practitioners in International Commercial Arbitration* (Final Report, 4 April 2005). For example, the survey identified the use of 'counsel for the parties representing different legal traditions, and tribunals with multiple arbitrators' as 'very common in the recent case experience of the respondents' and 'expected to be very strong, positive trends in the next five years': *ibid.* p. 77.

⁶⁶ Christopher R. Drahozal, 'Regulatory Competition and the Location of International Arbitration Proceedings' in (2004) 24 *Int'l Rev. L and Econ.* 371.

⁶⁷ Richard W. Naimark and Stephanie E. Keer, 'Analysis of UNCITRAL Questionnaires on Interim Relief' in (2001) 16(3) *Mealey's Int'l Arb. Rep.* 23.

⁶⁸ Ali Yeşilirmak, *Provisional Measures in International Commercial Arbitration* (Kluwer Law International 2005), pp. 165–166 (finding 30 English-language ICC awards addressing interim measures issued during 1999, and 22 requests for interim relief in 613 English-language AAA/ICDR cases from late 1997 through early 2000); see also M.I.M. Aboul-Enein, 'Issuing Interim Relief Measures in International Arbitration in the Arab States' in (2002) 3 *J World Inv.* 77 at p. 81 (reporting that provisional measures were ordered in four arbitrations administered by the Cairo Regional Centre for International Commercial Arbitration in 2000, all of which were complied with).

⁶⁹ Yeşilirmak, *supra* n. 68 at pp. 221–222.

⁷⁰ Christian Bühring-Uhle *et al.*, 'The Arbitrator as Mediator: Some Recent Empirical Insights' in (2003) 20 *J Int'l Arb.* 81.

(iii) Arbitrators and arbitrator selection

Another topic ripe for empirical research is international arbitrators and their selection. Benjamin G. Davis surveyed attorneys involved in international arbitration (64 responses, consisting of 20 US nationals and 44 non-US nationals), asking them: ‘How many US minorities are found in international commercial arbitration?’⁷¹ Among other results, he found that over 80 per cent of US nationals reported participating in an international arbitration proceeding with a US minority, while over two-thirds of the non-US nationals had not. Douglas Earl McLaren reports the results of a survey of US in-house lawyers finding a split in preferences as to the neutrality of party-appointed arbitrators.⁷² Although a majority of the respondents believed that all arbitrators, including party-appointed arbitrators, should always be neutral, a significant minority favoured the traditional default rule in US domestic arbitration that party-appointed arbitrators need not be neutral. A study by Drahozal examined the effect of a country’s enactment of a new arbitration law on arbitrator selection in ICC arbitrations.⁷³ The study provides evidence that local arbitrators benefit from new arbitration laws, both because of the increased number of arbitrations held in the country after enactment and because of the increased rate at which local arbitrators are selected in those arbitrations. Arbitrators’ fees were the subject of a survey by John Yukio Gotanda.⁷⁴ The results of the survey revealed that most arbitrators charge fees based on the amount of work done (rather than a fixed fee or a fee based on a percentage of the amount in dispute), unless the practice of the administering institution is otherwise. In addition, a sizable percentage (although less than half) of the arbitrators who responded stated that they charged cancellation fees if a case settled before the hearing.

(iv) Rules of decision and applicable law

Three studies address the rules of decision in international arbitration, by which I mean any applicable national law, as well as transnational legal principles (*e.g.*, the *lex mercatoria*) and business custom. Klaus Peter Berger and a research team at CENTRAL administered an extensive survey seeking to collect information on the use of transnational law in international commercial arbitration.⁷⁵ Berger reports that a ‘high percentage’ of the survey respondents (33–42 per cent) ‘indicated their awareness of the use of transnational law in legal practice’, with

⁷¹ Benjamin G. Davis, ‘The Color Line in International Commercial Arbitration: An American Perspective’ in (2003) 14 *Am. Rev. Int’l Arb.* 461 at p. 466.

⁷² Douglas Earl McLaren, ‘Party-Appointed vs List-Appointed Arbitrators: A Comparison’ in (2003) 20 *J Int’l Arb.* 233.

⁷³ Christopher R. Drahozal, ‘Arbitrator Selection and Regulatory Competition in International Arbitration Law’ in Drahozal and Naimark, *supra* n. 8 at p. 167.

⁷⁴ John Yukio Gotanda, ‘Setting Arbitrators’ Fees: An International Survey’ in (2000) 33 *Vand. J. Transnat’l L.* 779.

⁷⁵ Klaus Peter Berger *et al.*, ‘The CENTRAL Enquiry on the Use of Transnational Law in International Contract Law and Arbitration’ in Klaus Peter Berger (ed.), *The Practice of Transnational Law* (Kluwer Law International, The Hague, 2001), p. 91.

roughly 10 per cent aware of two to five cases and another 3 to 4 per cent aware of 6 to 10 cases involving the use of transnational law. But the survey provides no basis for determining the relative extent to which parties used transnational law: it asked only for the absolute number of cases, not the relative number (*i.e.*, the percentage) of cases in which transnational law was used. Drahozal presented data from various sources on the use of transnational law in international arbitration agreements, finding only limited reliance on non-national rules of decision – in both relative and absolute terms.⁷⁶ In an earlier study, Drahozal examined the use of business custom (*i.e.*, trade-specific norms) in international arbitration.⁷⁷ The study found that a significant number of arbitration laws, rules and awards relied on trade usages (but not prior dealings between the parties) as a basis for resolving disputes.

(v) *Awards and arbitral decision-making*

An important subject of empirical research is the arbitration award, including both the making of the award by the arbitral tribunal and the enforcement of the award in court. One study examined the post-award experience of parties to AAA/ICDR arbitrations.⁷⁸ The study revealed the business realities of award enforcement (*e.g.*, that parties often renegotiate the award after it is made) as well as a significant degree of court involvement.⁷⁹ Two other studies present competing views of the enforcement of arbitration awards in China. Wang Sheng Chang reports that Chinese courts ‘have enforced more than 87.8% of awards (as against the non-enforcement of 12.2% of CIETAC awards and 7.14% of foreign awards ...)’⁸⁰ while Randall Peerenboom finds that the ‘enforcement rate for foreign awards was 52%, slightly higher than the 47% success rate for CIETAC awards’.⁸¹ Peerenboom explains the differing results as ‘most likely’ due to non-response bias in the results reported by Wang.⁸² Another study by Naimark and Keer addressed an age-old question about arbitral decision-making: do

⁷⁶ Christopher R. Drahozal, ‘Contracting Out of National Law: An Empirical Look at the New Law Merchant’ in (2005) 80 *Notre Dame L Rev.* 523.

⁷⁷ Christopher R. Drahozal, ‘Commercial Norms, Commercial Codes, and International Commercial Arbitration’ in (2000) 33 *Vand. J Transnat'l L* 79.

⁷⁸ Richard W. Naimark and Stephanie E. Keer, ‘Post-Award Experience in International Commercial Arbitration’ in Drahozal and Naimark, *supra* n. 8 at p. 269.

⁷⁹ See also Quentin Tannock, ‘Judging the Effectiveness of Arbitration Through the Assessment of Compliance with and Enforcement of International Arbitration Awards’ in (2005) 21 *Arb. Int'l* 71 (calling for empirical research ‘to track and understand the ultimate fate of international commercial arbitration awards’).

⁸⁰ Wang Sheng Chang, ‘Enforcement of Foreign Arbitral Awards in the People’s Republic of China’ in Albert Jan van den Berg (ed.), *Improving the Efficiency of Arbitration Agreements and Awards: 40 Years of Application of the New York Convention* (Kluwer Law International, The Hague, 1999), pp. 461, 483. CIETAC is the China International Economic and Trade Arbitration Commission.

⁸¹ Randall Peerenboom, ‘Seek Truth from Facts: An Empirical Study of Enforcement of Arbitral Awards in the PRC’ in (2001) 49 *Am. J Comp. L* 249 at p. 254. Peerenboom also provides a more detailed breakdown based on his full sample: ‘For the entire 72 cases, an applicant had a 17% chance of recovering 100%, a 17% chance of recovering 75–99%, a 7% chance of recovering 50–74%, and a 10% chance of recovering less than half of the award’: *ibid.* pp. 264–265.

⁸² *Ibid.* pp. 258–259, 267–268.

arbitrators make compromise awards (what is sometimes called ‘splitting the baby’)?⁸³ Based on a sample of AAA international arbitration awards, they conclude that ‘the results from this study show emphatically that arbitrators do not engage in the practice of “splitting the baby” in their awards.’⁸⁴ Finally, an as-yet unpublished study by Ray Friedman *et al.* used experimental research methods to compare decision-making by Chinese arbitrators and US arbitrators.⁸⁵ In a hypothetical problem involving a wool supply company’s failure to ship wool due to possible *force majeure* events, they found that: (1) ‘Chinese arbitrators gave higher awards than did American arbitrators’ on the same facts; and (2) ‘Chinese [arbitrators] were far more likely to attribute the negative behavior reported in our scenario to internal causes than external causes’.⁸⁶

V. CONCLUSION: FUTURE RESEARCH

The body of empirical research on international commercial arbitration, while growing, is merely the beginning. Much more remains to be done.⁸⁷ Empirical research in related fields suggests some possible future topics for research on international arbitration: a study of why parties include pre-dispute arbitration clauses in their international contracts based on statistical analysis of a sample of contracts rather than a survey;⁸⁸ a study of bias or predisposition by international arbitrators using characteristics such as nationality and appointing party as the basis for the test;⁸⁹ and a study of the effects of international arbitration on economic growth.⁹⁰ Whatever the directions future empirical research takes, it can only benefit parties, party representatives and arbitrators by providing a better understanding of the practice of international commercial arbitration.

⁸³ Keer and Naimark, *supra* n. 33.

⁸⁴ *Ibid.* p. 578.

⁸⁵ Friedman *et al.*, *supra* n. 49.

⁸⁶ *Ibid.* p. 16. For general discussions of experimental research on arbitrator decision-making, see Shari Seidman Diamond, ‘Psychological Aspects of Dispute Resolution: Issues for International Arbitration’ in Albert Jan van den Berg (ed.), *International Commercial Arbitration: Important Contemporary Questions* (ICCA Congress Series No. 11, Kluwer Law International, The Hague, 2003), pp. 327, 342; Drahozal, *supra* n. 54 at p. 105.

⁸⁷ For extensive discussion of possible future topics for empirical research, see Drahozal and Naimark, *supra* n. 8, *passim*; Jack J. Coe Jr, ‘From Anecdote to Data: Reflections on the Global Center’s Barcelona Meeting’ in (2003) 20 *J Int’l Arb.* 11.

⁸⁸ Cf. Christopher R. Drahozal and Keith N. Hylton, ‘The Economics of Litigation and Arbitration: An Application to Franchise Contracts’ in (2003) 32 *J Legal Stud.* 549.

⁸⁹ Cf. Eric A. Posner and Miguel F.P. de Figueiredo, ‘Is the International Court of Justice Biased?’ in (2005) 34 *J Legal Stud.* 599.

⁹⁰ Cf. Dani Rodrik *et al.*, ‘Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development’ in (2004) 9 *J Econ. Growth* 131; Priya Ranjan and Jae Young Lee, ‘Contract Enforcement and the Volume of International Trade in Different Types of Goods’ (working paper May 2003); Eric Neumayer and Laura Spess, ‘Do Bilateral Investment Treaties Increase Foreign Direct Investment to Developing Countries?’ in (2005) 33 *World Dev.* 1567; Jennifer Tobin and Susan Rose-Ackerman, ‘Foreign Direct Investment and the Business Environment in Developing Countries: The Impact of Bilateral Investment Treaties’ (working paper 2 May 2005); Andrew K. Rose, ‘Do We Really Know that the WTO Increases Trade?’ in (2004) 94 *Am. Econ. Rev.* 98; Arvind Subramanian and Shang-Jin Wei, ‘The WTO Promotes Trade, Strongly but Unevenly’ (NBER Working Paper 10024, October 2003).

APPENDIX. EMPIRICAL STUDIES ON INTERNATIONAL
COMMERCIAL ARBITRATION

(i) *The arbitration agreement*

Stephen R. Bond, 'How to Draft an Arbitration Clause (Revisited)' in (1990) 1(2) *ICC Int'l Ct Arb. Bull.* 14

Christian Bühring-Uhle, *Arbitration and Mediation in International Business* (Kluwer Law International, The Hague, 1996), pp. 129–156 (reporting results of survey on why parties agree to arbitrate)

Christopher R. Drahozal and Richard W. Naimark (eds), *Towards a Science of International Arbitration: Collected Empirical Research* (Kluwer Law International, The Hague, 2005), pp. 59–63 (reporting results of study of arbitration clauses in international joint venture contracts)

Richard W. Naimark and Stephanie E. Keer, 'International Private Commercial Arbitration: Expectations and Perceptions of Attorneys and Business People' in (2002) 30 *Int'l Bus. Lawyer* 203

(ii) *Arbitral procedures*

Christian Bühring-Uhle, *Arbitration and Mediation in International Business* (Kluwer Law International, The Hague, 1996), pp. 157–195 (reporting results of survey on settlement in international arbitration)

Christian Bühring-Uhle *et al.*, 'The Arbitrator as Mediator: Some Recent Empirical Insights' in (2003) 20 *J Int'l Arb.* 81

Robert Coulson, 'Survey of International Arbitration Procedures' in *NYLJ*, 11 June 1981

Christopher R. Drahozal, 'Regulatory Competition and the Location of International Arbitration Proceedings' in (2004) 24 *Int'l Rev. L and Econ.* 371

Mathematica Policy Research Inc., *Recent Practice/Future Possibilities: A Survey of Practitioners in International Commercial Arbitration* (Final Report, 4 April 2005)

Richard W. Naimark and Stephanie E. Keer, 'Analysis of UNCITRAL Questionnaires on Interim Relief' in (2001) 16(3) *Mealey's Int'l Arb. Rep.* 23

Ali Yeşilirmak, *Provisional Measures in International Commercial Arbitration* (Kluwer Law International, 2005), pp. 165–166

(iii) *Arbitrators and arbitrator selection*

Benjamin G. Davis, 'The Color Line in International Commercial Arbitration: An American Perspective' in (2003) 14 *Am. Rev. Int'l Arb.* 461

Christopher R. Drahozal, 'Arbitrator Selection and Regulatory Competition in International Arbitration Law' in Christopher R. Drahozal and Richard W. Naimark (eds), *Towards a Science of International Arbitration: Collected Empirical Research* (Kluwer Law International, The Hague, 2005), p. 167

John Yukio Gotanda, 'Setting Arbitrators' Fees: An International Survey' in (2000) 33 *Vand. J Transnat'l L* 779

Douglas Earl McLaren, 'Party-Appointed vs List-Appointed Arbitrators: A Comparison' in (2003) 20 *J Int'l Arb.* 233

(iv) *Rules of decision and applicable law*

Klaus Peter Berger *et al.*, 'The CENTRAL Enquiry on the Use of Transnational Law in International Contract Law and Arbitration' in Klaus Peter Berger (ed.), *The Practice of Transnational Law* (Kluwer law International, The Hague, 2001), p. 91

Christopher R. Drahozal, 'Commercial Norms, Commercial Codes, and International Commercial Arbitration' in (2000) 33 *Vand. J Transnat'l L* 79

Christopher R. Drahozal, 'Contracting Out of National Law: An Empirical Look at the New Law Merchant' (2005) 80 *Notre Dame L Rev.* 523

(v) *Awards and arbitral decision-making*

Ray Friedman *et al.*, 'Chinese and American Arbitrators: Examining the Effects of Attributions and Culture on Award Decisions' (IACM, 18th Annual Conference, 1 June 2005)

Stephanie E. Keer and Richard W. Naimark, 'Arbitrators Do Not "Split the Baby": Empirical Evidence from International Business Arbitration' in (2001) 18 *J Int'l Arb.* 573

Richard W. Naimark and Stephanie E. Keer, 'Post-Award Experience in International Commercial Arbitration' in Christopher R. Drahozal and Richard W. Naimark (eds), *Towards a Science of International Arbitration: Collected Empirical Research* (Kluwer Law International, The Hague, 2005), p. 269

Randall Peerenboom, 'Seek Truth from Facts: An Empirical Study of Enforcement of Arbitral Awards in the PRC' in (2001) 49 *Am. J Comp. L* 249

Wang Sheng Chang, 'Enforcement of Foreign Arbitral Awards in the People's Republic of China' in Albert Jan van den Berg (ed.), *Improving the Efficiency of Arbitration Agreements and Awards: 40 Years of Application of the New York Convention* (Kluwer Law International, The Hague, 1999), p. 461

