

Who is the most influential arbitrator in the world?

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Allen & Overy's **Rishab Gupta** and **Katrina Limond** apply citation analysis to measure influence in investment treaty arbitration.

Selection of an arbitrator is one of the most critical phases of international arbitration, yet the selection process is plagued by inefficiencies. Most information about arbitrators is obtained through word-of-mouth enquiries. Such information may be unreliable and is likely, almost certainly, to be incomplete. It is also, by definition, subjective, as it is based on personal experiences and not objective criteria.

Therefore, there is a need to identify neutral attributes of arbitrator quality that can objectively be measured. One such attribute is the influence of an arbitrator, which, as we explain in this article, can be analysed using two measurable proxies: the number of citations of decisions issued by the arbitrators; and the number of appointments received by the arbitrators. Of course, using these two proxies means that other indicators of influence – such as their number of academic publications, institutional appointments and industry recognition – are not captured.

Data collection

This article is based on a database designed specifically to measure arbitrator influence in the field of investment treaty arbitration. It records appointments received by arbitrators and the number of times their decisions were cited, based on publicly available documents.

Due to the large body of potentially relevant data, there are certain methodological assumptions that had to be made at the data collection stage. In particular:

- The database contains only cases in which the consent to arbitration was provided in an investment treaty, rather than a contract or a foreign investment law.

- The database does not include orders that address the procedural mechanisms of the arbitration proceedings, such as an order setting out the hearing timetable. Such orders are unlikely to receive any citations and they are, therefore, of limited relevance to this study. The database, however, includes all decisions that determine an issue or claim in the arbitration, such as final awards, dissenting or concurring opinions, partial awards (such as an award on jurisdiction, damages, costs, etc), decisions on applications for interim relief or disqualification of an arbitrator, and decisions of annulment committees (for ICSID cases).
- The database contains only cases where at least one decision became publicly available before 31 July 2015.
- Finally, as far as citation analysis is concerned, the database excludes citations found in the tribunal's summary of the parties' submissions. Further, only unique citations are included (meaning even if Decision A refers to Decision B on two occasions, it is reflected as a single citation on the database). The citation analysis is up to date as of 31 July 2015.

With these methodological parameters in mind, the study is comprehensive. It covers 664 arbitral decisions from 328 investment treaty arbitrations, the earliest of which dates back to 1990 (*Asian Agricultural Products Ltd v Sri Lanka*).

Citation analysis

Counting citations – or citation analysis – is already a well-established method of empirical research. It has been used to study various forms of social phenomena, such as influence, quality of scholarly output and productivity of institutions. In legal scholarship, citation analysis is often used to measure judicial quality and influence. One popular 2004 study even recommended that rankings based, in part, on citation analysis should be used to evaluate judges for promotion to the US Supreme Court.

Much like other areas of law, investment treaty arbitration is a field that is ripe for citation analysis. A large number of decisions from investment treaty arbitrations are now publicly available (as noted above, this study involved a review of 664 decisions). Moreover, although arbitration lacks any doctrine of *stare decisis*, it is common practice for arbitrators in investment treaty arbitrations to cite decisions issued in earlier cases. In fact, the 664 decisions reviewed for this study involved a total of 5,516 citations.

Table 1: Overall citations count

Total number of investment treaty decisions	644
Total number of citations	5,516

There is, however, significant disparity in the citation count of decisions considered in this study. At one end of the spectrum are decisions that have not received any citations at all, such as the final award in *SwemBalt AB v Latvia*. At the other end are decisions that have citation counts in excess of 100, such as the *Mondev v United States* award. One obvious reason for this disparity is the date on which the decision was issued. Because the totals are cumulative, older decisions are likely to have higher citation counts. A 2002 decision, for example, has had much more time to be cited than a 2012 decision.

The date of the decision is not, however, the only determining factor. There are many other reasons why certain decisions receive more citations than others, including the quality and depth of legal reasoning, the originality of analysis (a decision on a novel point of law is

likely to receive more citations than a “run of the mill” case) and convenience (a decision may be cited not because it contains original or high-quality analysis, but because it contains convenient summaries of previous work). Another common reason for citation is to identify decisions with which the arbitrators of the citing decision disagree (the so-called “negative citation”).

In table 2 below, we have set out the 10 most cited investment arbitration decisions to date. These decisions have been popular for a variety of reasons, including reasons that have been identified above. Take, for example, the *Mondev v United States* award, which, with 103 citations, has received the highest citation count in the study (along with the *TECMED v Mexico* award). While various parts of the *Mondev* award have been cited, the majority of the citations have related to the award’s analysis of the fair and equitable treatment standard. Specifically, *Mondev* is one of the earliest NAFTA cases in which the tribunal found that a state can breach the fair and equitable treatment standard even where it has not acted in bad faith. Future tribunals have cited that finding repeatedly.

Similarly, the *TECMED v Mexico* award has received a multitude of citations primarily due to its detailed analysis of the fair and equitable treatment standard. Notably, the *TECMED* award dealt with the concept of legitimate expectations, which has become the most commonly pleaded ground in investor-state arbitrations.

Table 2: Top 10 most cited decisions in investment treaty arbitrations

Rank	Case	Decision	Citation count
1	<i>Monde International Ltd v United States</i>	Final award	103
2	<i>Técnicas Medioambientales Tecmed SA v United Mexican States</i>	Final award	101
3	<i>Waste Management, Inc v United Mexican States (No. 2)</i>	Final award	91
4	<i>Metalclad Corporation v United Mexican States</i>	Final award	89
5	<i>Compañía de Aguas del Aconquija and Vivendi Universal v Argentina (Vivendi I)</i>	Decision on annulment	87
6	<i>SGS Société Générale de Surveillance SA v Republic of the Philippines</i>	Jurisdiction	80
7	<i>Saluka v Czech Republic</i>	Partial award	79
8	<i>CMS v Argentina</i>	Final award	74
9	<i>Maffezini v Spain</i>	Jurisdiction	72
10	<i>Salini Costruttori SpA and Italstrade SpA v Kingdom of Morocco</i>	Jurisdiction	70

It is important to note that there is a difference between the citation count of a “decision” and that of a case. Investment treaty arbitrations often involve multiple decisions: the most obvious example is where the arbitration proceedings are bifurcated and the tribunal issues separate decisions on jurisdiction and liability. As such, the citation count of a case will always be equal to, or greater than, the citation count of a decision. Cases with multiple decisions are, therefore, likely to accumulate more citations, as reflected by table 3 below.

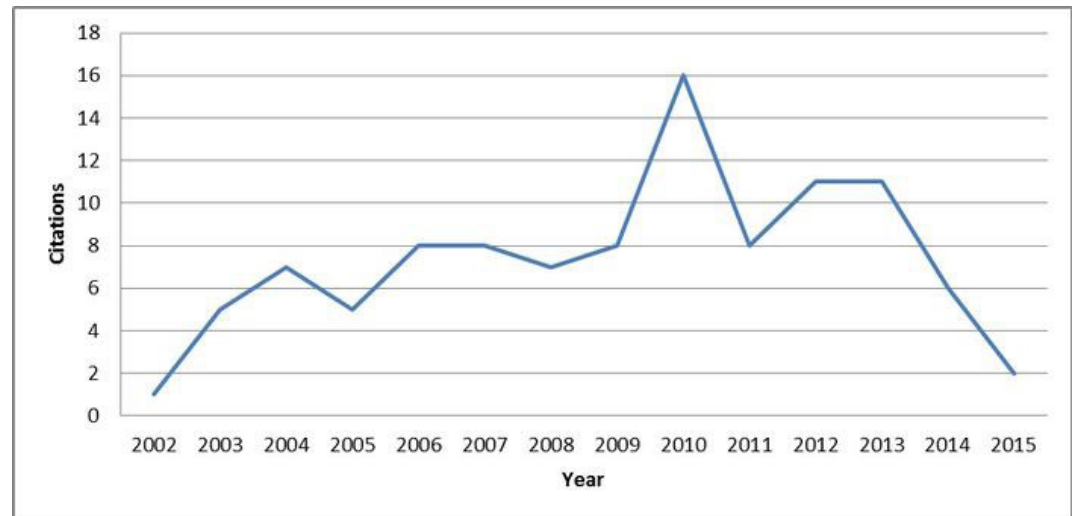
Table 3: Top 10 most cited investment treaty arbitration cases

Rank	Case	Number of decisions	Citation count
1	<i>Compañía de Aguas del Aconquija and Vivendi Universal v Argentina (Vivendi I)</i>	8	173
2	<i>CMS v Argentina</i>	4	159
3	<i>Maffezini v Spain</i>	4	113
4	<i>Azurix v Argentina (No. 1)</i>	4	104
-	<i>Enron v Argentina</i>	7	104
6	<i>Siemens v Argentina</i>	3	103
-	<i>Mondev International Ltd v United States</i>	1	103
8	<i>Técnicas Medioambientales Tecmed SA v Mexico</i>	1	101
9	<i>Waste Management, Inc. v United Mexican States (No. 2)</i>	3	100
10	<i>Wena Hotels Ltd v Egypt</i>	3	98

As noted above, citation analysis favours older decisions. One way to demonstrate this phenomenon is to compare the average citation count of decisions issued in the periods 1991–2000 and 2001–2010. By 31 July 2015, the 36 decisions issued in the period 1991–2000 had received 789 citations in total, which means that the average citation count for that period is 21.92. By contrast, during the period 2001–2010, 387 decisions were issued (that is, 351 higher than in the preceding 10 years). However, those decisions have accumulated only 4,298 citations, leading to a lower average citation count of 11.1 (or approximately 50 per cent less citations per decision than the 1991–2000 period).

Another way of studying the same phenomenon is to consider the “lifeline” of a decision; that is, the number of citations a decision has received each year since it was issued. Take, for example, the final award in *Mondev v United States*. As figure 1 below shows, in the first five years since its publication in 2000, that decision received 18 citations in total; however, in the next five years it received 47 citations. In fact, the decision hit its peak only in 2010 – 10 years after publication – when it was cited 16 times (surprisingly, the decision received only six citations in 2014 and two citations in the first half of 2015, suggesting that there may be a ‘shelf life’ to a decision’s influence).

Figure 1: Number of decisions citing the *Mondev v United States* award



Having counted the number of citations to decisions issued in investment treaty arbitrations, we extend the analysis to the arbitrators who are responsible for writing those decisions. For example, the tribunal in *Tecmed v Mexico* comprised three arbitrators: **Horacio Grigera Naón** (president), **José Carlos Fernández Rozas** and **Carlos Bernal Vereza**. As noted above, the final award in *TECMED v Mexico* has received 101 citations. It was a unanimous opinion. Therefore, in the study, the *TECMED v Mexico* award contributes 101 points to the citation count of all three arbitrators. The point allocation assumes that each arbitrator equally contributed to the drafting of the award and, therefore, deserves equal recognition for its citation.

By contrast, the jurisdiction award in *Abaclat & Others v Argentina* was a majority opinion, authored by **Albert Jan van den Berg** and **Pierre Tercier**; the third arbitrator – **Georges Abi-Saab** – issued a dissenting opinion. The majority opinion has received 20 citations and, therefore, van den Berg and Tercier each receive 20 points. As for Abi-Saab, his dissenting opinion has been cited eight times, which would be added to his citation count.

Table 4 below sets out the citation count for the 10 most cited arbitrators in investment treaty arbitrations.

Table 4: Top 10 most cited arbitrators in investment treaty arbitrations

Rank	Arbitrator	Citation count
1	Francisco Orrego Vicuña	638
2	James Crawford SC	492
3	Gabrielle Kaufmann-Kohler	458
4	LYves Fortier QC	444
5	Marc Lalonde QC	413
6	Albert Jan van den Berg	369
7	Bernardo Cremades	342

Rank	Arbitrator	Citation count
8	Brigitte Stern	305
9	Charles N Brower	301
10	Karl-Heinz Böckstiegel	300

While the total number of citations captures an arbitrator's overall impact, it is an ineffective measure of arbitrator influence for a variety of reasons. First, it favours arbitrators who have been on the "circuit" for longer, as that gives them time to receive more appointments and, therefore, publish more decisions. Older decisions are able to accumulate more citations, which further favours arbitrators with longer tenures. For example, the most cited arbitrator in the study, **Francisco Orrego Vicuña**, published his first decision – on a decision on jurisdiction in *Fedax v Venezuela* – in 1997, which is nine years before **Brigitte Stern** – who is at number 8 in table 4 above – issued her first decision.

Secondly, the total number of citations received by an arbitrator can be disproportionately affected by a small number of "big hits" (decisions that were widely cited). For example, of the 444 citations of the decisions of **L Yves Fortier QC**, 166 (nearly 37 per cent) are of two very popular decisions authored by him, namely the decision on annulment in *Vivendi I* (87 citations) and the partial award in *Saluka v Czech Republic* (79 citations).

Thirdly, a simple citation count would include "self-citations" (an arbitrator's citation of his or her own previous decisions). It is possible that arbitrators self-cite because they have greater familiarity with their previous works, or because they want to be consistent in their legal analysis. In any event, self-citations have the effect of promoting an arbitrator's own decision and it therefore makes sense to not include them in the overall citation count.

Table 5 below shows the overall citation count of the 10 most cited arbitrators, after removing all self-citations. This has the effect of slightly altering the ranking of the most cited arbitrators. For example, **Gabrielle Kaufmann-Kohler** was at third position in table 4 above; however, after her self-citations are removed, her rank falls to fifth. Similarly, on excluding self-citations, **Brigitte Stern** is no longer one of the top 10 most cited arbitrators, whereas **Andrés Rigo Sureda**, who was previously at 11th place, rises to ninth place.

Table 5: Top 10 most cited arbitrators in investment treaty arbitrations, after removing self-citations

Rank	Arbitrator	Self-citations	Citation count after excluding self-citations
1 (1)	Francisco Orrego Vicuña	91	547
2 (2)	James Crawford SC	29	463
3 (5)	Marc Lalonde QC	26	387
4 (4)	L Yves Fortier QC	63	381
5 (3)	Gabrielle Kaufmann-Kohler	90	368
6 (6)	Albert Jan van den Berg	39	330

Rank	Arbitrator	Self-citations	Citation count after excluding self-citations
7 (7)	Bernardo Cremades	25	317
8 (10)	Karl-Heinz Böckstiegel	24	276
9 (11)	Andrés Rigo Sureda	11	272
10 (9)	Charles N Brower	41	260

Number of appointments

The second measure of arbitrator influence used in this study is the number of appointments received by an arbitrator. The 328 cases selected for this study involved 352 different arbitrators. The majority of these individuals (nearly 55 per cent) were appointed on only one occasion, while others received repeat appointments. In fact, the study shows that 23 arbitrators have received 10 appointments or more in investment treaty arbitrations.

Table 6 below identifies the 10 arbitrators who have received the highest number of appointments in investment treaty arbitrations. Arbitration tribunals are typically composed of three arbitrators. Each party appoints one arbitrator and the third arbitrator is appointed by the administering institution (such as ICSID), by agreement of the arbitrators or by agreement of the parties. The “neutral appointment” column below represents appointment as the third arbitrator, who will typically be the chair of the tribunal. However, it also includes occasions where the institution made an arbitrator selection after the parties failed to appoint, or for annulment proceedings, or where it is not clear from the publicly available documents which party appointed which arbitrator. For completeness, the instances where each arbitrator acted as tribunal chair are indicated in brackets.

Table 6 below suggests a level of polarisation in the appointment of arbitrators, with certain arbitrators receiving a large majority of their appointments from one type of litigant. That is particularly true in the case of two of the top 10 most appointed arbitrators – **Brigitte Stern** and **Charles N Brower**. In the case of Stern, 30 of her 36 appointments have come from states (and none from investors), whereas Brower has received 20 of his 21 appointments from investors (and none from states).

However, the appointment scorecard of other frequently appointed arbitrators is not similarly polarising: most of the remaining individuals in the list of the top 10 most appointed arbitrators have received repeat appointments from both investors and states, as well as neutral appointments.

Table 6: Top 10 most appointed arbitrators in investment treaty arbitrations

It is important to note that the study only includes investment treaty arbitrations where at

Rank	Arbitrator	Appointments by States	Appointments by Investors	Neutral Appointments	Total Appointments
1	Brigitte Stern	30	0	6 (3)	36

Rank	Arbitrator	Appoint-ments by States	Appoint-ments by Investors	Neutral Appoint-ments	Total Ap-pointments
2	Gabrielle Kaufmann-Kohler	1	8	17 (17)	26
3	L Yves Fortier QC	2	10	14 (14)	26
4	Albert Jan van den Berg	5	11	7 (7)	23
5	Bernardo Cremades	6	8	8 (8)	22
6	Francisco Orrego Vicuña	1	7	14 (13)	22
7	Charles N Brower	0	20	1 (0)	21
8	Piero Bernardini	2	7	10 (7)	19
9	Marc Lalonde QC	4	13	2 (2)	19
10	Karl-Heinz Böckstiegel	0	5	13 (10)	18

least one relevant decision became publicly available before 31 July 2015. In other words, the study does not include appointments received in cases that have been reported in trade publications, such as *GAR* and *IA Reporter*, but continue to remain confidential. If those appointments were also to be counted, the scorecards of the 10 arbitrators identified in table 6 above would almost certainly improve even further. For example, a review of the *ITA Law* website [www.italaw.com] suggests that **Brigitte Stern** was appointed in eight cases that were not made publicly available before 31 July 2015 and are, therefore, excluded from the study. Moreover, the study does not take into account appointments received, but not accepted, by the arbitrators due to conflicts or lack of availability.

That said, the study includes appointments in “active” cases – for example, cases for which a decision on jurisdiction was publicly available before 31 July 2015 even though the final award had not been published by that date (such as *Quiborax v Bolivia*). Also included are instances where the composition of a tribunal has changed during the life of the proceedings. For example, in *Enron v Argentina*, a tribunal comprising **Francisco Orrego Vicuña**, **Héctor Gros Espiell** and **Pierre-Yves Tschanz** issued the decision on jurisdiction. At the award stage, however, van den Berg had replaced Gros Espiell. As such, the study attributes appointments to all four of these arbitrators for this case.

Calculating “AI index”

As explained above, there are two metrics for measuring arbitrator influence that can objectively be studied: the number of citations to decisions issued by the arbitrators; and the number of appointments received by the arbitrators. The next step is to construct a mathematical

index that can capture the effect of both metrics. To that end, we propose using a single number – which we call the “AI index” (or the “Arbitrator Influence index”) – to measure the influence of individual arbitrators.

We define the AI index as follows: an arbitrator has an AI index of n if n of his or her decisions issued in investment treaty arbitrations have at least n citations. (The definition is based on the so-called Hirsch index or “H index” suggested by **Jorge Hirsch**, a physicist at the University of California, in 2005 as a tool for determining theoretical physicists’ relative quality.) Therefore, to calculate the AI index of an arbitrator, two pieces of information are required: the total number of decisions that the arbitrator has published – which, in turn, depends on the total number of appointments received – and the number of citations of each decision.

The AI index measures the “broad impact” of an arbitrator’s work. It is not possible to have a high AI index by simply publishing a few highly cited decisions, or by publishing many poorly cited decisions. An arbitrator with very few high-impact decisions or, alternatively, many low-impact decisions will have a low AI index. On the other hand, a “consistent performer” – one who regularly publishes high-impact decisions – will have a high AI index.

To address some of the concerns identified above, we make two further adjustments to the calculation of the AI index. First, we exclude “self-citations”. Secondly, for each arbitrator, we separately calculate three AI indexes, depending on whether his or her appointment was by an investor, a state or a neutral appointment. Next, we take an average of those indexes. We do so because, as noted above, certain arbitrators tend to receive repeat appointments from one type of litigant. By taking an average of the three indexes, we are effectively giving a 33 per cent weighting to each type of appointment. As a result, an arbitrator who happens to be very popular among investors but not states or who is repeatedly appointed by institutions but rarely by parties is likely to have a low AI index. On the other hand, an arbitrator with a balanced appointment record is likely to have a higher AI index.

Table 7 below identifies the ten most influential arbitrators for investment treaty arbitrations, following application of the AI index.

Table 7: Top 10 most influential arbitrators in investment treaty arbitrations, based on the AI index

Rank	Arbitrator	AI index
1	Gabrielle Kaufmann-Kohler	5.66
2	Francisco Orrego Vicuña	5.33
3	Albert Jan van den Berg	5
-	Marc Lalonde QC	5
5	Bernardo Cremades	4.66
-	L Yves Fortier QC	4.66
7	Piero Bernardini	4.33
-	Brigitte Stern	4.33
9	Karl-Heinz Böckstiegel	4

Rank	Arbitrator	AI index
10	VV Veeder QC	3.66
-	James Crawford SC	3.66

The table reveals that **Gabrielle Kaufmann-Kohler** is the most influential arbitrator in the field of investment treaty arbitration, based on the AI index.



Gabrielle Kaufmann Kohler - the most influential arbitrator in the world

Final observations

Having completed the research, it is worth repeating that the AI index favours arbitrators who regularly produce highly influential decisions. It is not possible to have a high AI index by simply receiving lots of appointments, or by producing a few highly cited decisions. Indeed, Kaufmann-Kohler is neither the most appointed nor the most cited arbitrator. The AI index also favours arbitrators who are influential across the board, as opposed to those who have pockets of extreme influence. As explained above, we had to calculate three separate AI indexes depending on the type of appointment. Although Kaufmann-Kohler did well on all those three indexes, she did not top any of the charts. **Marc Lalonde QC** had the highest AI index for investors, **Brigitte Stern** had the highest AI index for states and **Francisco Orrego Vicuña** had the highest AI index for neutral appointments.

The statistical tool we have used to measure arbitrator influence in this article captures the effect of two proxies: number of citations to decisions issued by the arbitrators, and the number of appointments received by the arbitrators. The main advantages of our approach are that it relies on quantitative measures of influence and uses well-known statistical techniques. That said, it is important to appreciate that the job of an arbitrator is complex and multi-dimensional and, therefore, an empirical study based on counting discrete data points can never capture all aspects of arbitrator influence.

Note

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