Journal of International Dispute Settlement, 2022, 00, 1–24
https://doi.org/10.1093/jnlids/idac015
Article

Mediation in Future Investor–State Dispute Settlement

Catherine Kessedjian*, Anne van Aaken **, Runar Lie****, Loukas Mistelis*** and José Maria Reis**

ABSTRACT

Mediation is an intensely discussed topic as a possibly promising venue for investor–State dispute settlement (ISDS) and conflict prevention. Given that mediation can be used within 'cooling-off' (amicable settlement) periods in International Investment Agreements, this article takes stock of those as well as explicit mediation rules which are on the rise in new IIAs. It draws lessons from the small amount of known cases which went to mediation and presents business view on mediation. It also draws a list of common obstacles for business and states preventing the use of mediation in the investor–State context. Finally, this article attempts to map future work which could be useful in the context of UNCITRAL negotiations towards the reform of ISDS.

1. INTRODUCTION

The ongoing discussions on the reform of investor–State dispute settlement (ISDS), within UNCITRAL's Working Group III (WGIII), shows that there is an appetite, from both investors and States, for prevention of disputes among them.[1] Indeed, several States' submissions underline the importance of measures to prevent disputes from arising and address means to solve disputes through methods alternative to court and arbitration proceedings.[2] Investors, via the Corporate Counsel

* University Pantheon-Assas Paris II, Paris, France; IMI Investor–State Mediation Task Force
Email: Catherine.Kessedjian@u-paris2.fr
** Institute for Law and Economics, University of Hamburg, Hamburg, Germany.
Email: anne.van.aaken@uni-hamburg.de, jose.reis@ile-graduateschool.de
*** Centre for Commercial Law Studies, Queen Mary University of London, UK
Email: l.mistelis@qmul.ac.uk
**** PluriCourts, University of Oslo, Norway
Email: r.h.lie@jus.uio.no

1 The literature available for the use of ADR in ISDS is already significant and has been listed by WP190 (fn 4) prepared by the UNCITRAL Secretariat.

2 See the list of States' submissions in WP 190 prepared by the UNCITRAL Secretariat and available on the ISDS webpage.

International Arbitration Group (CCIAG) and the US Council for International Business (USCIB), have filed submissions for the UNCITRAL discussions and have indicated, via informal conversations with the authors of this article and various interventions, that they are also inclined at favouring prevention and alternative dispute resolution (ADR) to solve the differences that may arise with States.[3] Ultimately, no one likes disputes and any amicable dispute resolution is preferred over a more adversarial method.

The third stakeholder in ISDS, ie civil society or citizens at large, may be more sceptical or concerned that the use of ADR may result in a higher degree of confidentiality and hence it would lessen citizens' awareness and control over the settlements occurring between the State and the investor in any given case. There is also a concern expressed that fundamental rights, if at stake in the dispute, cannot, by their very nature, be the object of mediation/conciliation. However, the recently released Hague Rules on Business and Human Rights Arbitration, which include provisions on mediation, have not so far raised any notable opposition from either the Human Rights community or civil society in general.[4]

This article aims at (i) presenting the current state of affairs of how mediation and dispute prevention have been used in practice including within the use of 'cooling-off' (BIT amicable settlement) periods and (ii) analysing the difficulties identified by stakeholders.[5]

The authors of this article are aware that not all States and stakeholders have acquired experience and knowledge in the field.[6] However, this article will not attempt to rehash the abundant set of publications which explain what mediation is, what are its advantages and inconveniences and, more generally, how it works, whether seen through the lens of law and economics analysis, or that of cognitive sciences and the like.[7] The authors are also aware that, in the context of the UNCITRAL negotiations, an Advisory Centre[8] may be formed in the future. If so, the Centre would also be mandated to provide services for capacity building in mediation/conciliation.[9]

3 https://uncitral.un.org/sites/uncitral.un.org/files/cciag_isds_reform.pdf. CCIAG and QMUL have also conducted a survey on investors view and it is available at <http://www.arbitration.qmul.ac.uk/media/arbitration/docs/QM-CCIAG-Survey-ISDS-2020.pdf> accessed 3 April 2021, pp. 24–25.

4 The Hague Rules were officially launched at the Peace Palace, The Hague, in December 2019. The Rules and more information may be found here: <https://www.cilc.nl/project/the-hague-rules-on-business-and-human-rights-arbitration/>. Anne van Aaken is a member of the drafting team. Catherine Kessedjian participated in the panel discussion during the launch.

5 Future work may propose potential remedies taking into consideration the different options identified by UNCITRAL WG III.

6 The Energy Charter Secretariat, inter alia, has been very active in preparing, with the help of others, a set of papers. See, notably, the Guide on Investor Mediation adopted on 19 July 2016. See a comment of the guide, in M Appel and JM Tirado, 'Investor-State Mediation—New Tools for Policy Makers' (2020) 2 TDM <https://www.transnational-dispute-management.com/article.asp?key=2727> accessed 31 May 2022.

7 Such issues may be addressed at a later stage.

8 See discussions during the 38th session of UNCITRAL Working Group III held at Vienna in October 2019.

9 See also para 27 of WP 190.

The recent reforms of treaties signed by States, either in the form of an investment chapter of an FTA or as stand-alone BITs, show that mediation/conciliation is slowly gaining attention and traction in treaty language. The UNCTAD Report for 2019 identifies a number of treaties signed in 2018, which implements this.[10] A review of these provisions shows that the most advanced text is probably the agreement between the European Union and Vietnam (not yet in force),[11] which includes a full Annex on mediation.[12]

In this article, we will use the two terms of mediation and conciliation as equivalents, even though we are cognizant that, both under domestic law of many States and under international law, the two ADR terms can be understood as different processes which carry different characteristics and may be used in several different formats but the dividing lines have become increasingly blurred.[13] Consequently, the work recently undertaken under the auspices of UNCITRAL, that led to the 2019 Singapore Convention,[14] showed that the concept of 'mediation' is better understood internationally, primarily for business disputes, and is more widely used nowadays in both domestic and international contexts, so much so that UNCITRAL has decided to substitute the concept of conciliation used in previous texts by that of mediation.[15] Conciliation has been used historically in international instruments and it is used in the 1945 UN Charter (United Nations Charter)[16] as well as in the 1965 ICSID Convention (Convention on the Settlement of Investment Disputes).[17] It has seen wider use in the context of traditional public international law. Yet, there are only few reported conciliation cases in investment law. In recent years mediation, a term most commonly used for commercial and private disputes, has acquired relevance and attention in the context of investment disputes. In this respect, international organizations, professional associations and non-governmental organizations refer to investor–State mediation.[18]

10 Argentina–Japan BIT, Argentina–UAE BIT, Armenia–Japan BIT, Australia–Peru FTA, Belarus–India BIT, Canada–Moldova BIT, Central America–Korea FTA, CPTPP, EU–Singapore IPA, Kazakhstan–UAE BIT, Singapore–Sri Lanka FTA, UEA–Uruguay BIT, USMCA.

11 The text is available at <https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/vietnam/eu-vietnam-agreement/texts-agreements_en> accessed 31 May 2022.

12 Annex 15-C at <https://trade.ec.europa.eu/doclib/docs/2018/september/tradoc_157378.pdf> accessed 31 May 2022.

13 The traditional distinction between mediation and conciliation revolved around the degree of involvement of the third-neutral party (mediator/conciliator) and whether this would amount to a facilitative or evaluative model, the former being the traditional form or mediation and the latter being the traditional form of conciliation. In the context of business disputes, the dividing lines have been moved significantly so that in several domestic system one would describe both models are mediation: evaluative mediation/facilitative mediation.

14 United Nations Convention on International Settlement Agreements Resulting from Mediation (New York, 2018) (the 'Singapore Convention on Mediation'), signed in Singapore 7 August 2019.

15 ICSID is in the process of adopting new rules for mediation, in addition to the conciliation rules that exists since the very start of ICSID.

16 art 33 Charter of the United Nations, 1 UNTS XVI, 24 October 1945. See also United Nations Model Rules for the Conciliation of Disputes between States, General Assembly resolution 50/50, done at New York, 11 December 1995.

17 chs III and V–VII of the ICSID Convention and ICISD Conciliation Rules. However, ICSID is now proposing rules on mediation.

18 See, eg, the IBA work on Investor–State Mediation (2012) and also the work and training provided by the Energy Charter Secretariat and the adoption of a Guide to Investment Mediation (2016). We thus use mediation as a 'generic' term. UNCITRAL has done so in its work on the Singapore Convention and

This article analyses first how the cooling-off periods may be used to give room for mediation (Section 2). Secondly, the article tries to draw lessons from the small amount of known cases which went to mediation (Section 3). Thirdly, the article attempts to draw a list of common obstacles preventing the use of mediation in the investor–State context (Section 4). Finally, the article attempts to map future work which could be useful in the context of UNCITRAL negotiations towards the reform of ISDS.

2. PREVENTION—THE USE OF COOLING-OFF PERIODS AND ADR

There are many different measures a State can put in place in order to prevent disputes with investors. One of them is a system of early warning such that the dialogue between the State and the investor does not stop once the investment is initiated but continues throughout the life of the investment.[19] Several States have a formal Dispute Prevention Mechanism in the form of a state agency or an ombudsman.[20]

The UNCTAD paper 'Investor-State Disputes: Prevention and Alternatives to Arbitration'[21] explains that IIAs usually specify a 'cooling-off period' to encourage negotiation before parties can initiate formal arbitration procedures. Conciliation is also regularly mentioned as an option, often next to arbitration. Brief reference to non-binding third-party procedures is hence common in IIAs. The UNCTAD paper contains no more specific data. Cooling-off periods can thus be a vessel which may contain mediation, conciliation or cooling-off periods can stand next those mechanisms. Since it is impossible to have data on how exactly cooling-off periods are used, we thus describe only the possibility of using them in potentially different ways, not describing how those periods are *actually* used.

The UNCTAD mapping project contains no information on cooling-off periods.[22] The WTI EDIT project has not coded cooling-off periods yet. Hence, the first coding exercise is the one undertaken for this article.[23] The numbers reported about UNCTAD, ie the number of treaties containing mediation and/or conciliation

has changed its model law title from conciliation to mediation. And it may be so that within ICSID itself mediation will become the new normal and conciliation will fade away.

19 For example, a system of early warning has been used by Peru. See, CJ Valderrama, 'Peru–Best Practices for Confronting International Lawsuits Brought by Private Investors' (2018) 33(1) ICSID Review e1. The author explains that Peru developed a Guidebook on International Agreements and Preventing International Investment Disputes as well as a presentation on dispute prevention for use in training sessions. Over the year various other States developed Dispute Prevention Mechanisms or Ombudsmen schemes.

20 See, eg, the South Korea Trade-Investment Promotion Agency (KOTRA) <https://www.kotra.or.kr/foreign/kotra/KHENKT010M.html> accessed 31 May 2022.

21 UNCTAD, 'Investor-State Disputes: Prevention and Alternatives to Arbitration' 2010 <https://unctad.org/en/docs/diaeia200911_en.pdf> accessed 31 May 2022.

22 UNCTAD, 'IIA Mapping Project', 19 <https://investmentpolicy.unctad.org/uploaded-files/document/Mapping%20Project%20Description%20and%20Methodology.pdf> accessed 31 May 2022: 'Note: A compulsory period for consultations, negotiations or reaching an amicable settlement between the disputing parties, or a mandatory "cooling-off" period, are not considered to be ADR mechanisms in this section. If the treaty provides only for such procedures, it is marked "None".'

23 See Annex 1 below explaining the method used.

clauses from the UNCTAD's IIA-Mapping website.[24] The research leading to this article was carried out before any clauses had been hand-coded by WTI's EDIT project,[25] we just obtained access to the raw text. To the best of our knowledge, EDIT does not yet provide information on the number of treaties containing *mandatory* ADR and the ones containing *voluntary* ADR before disputes as UNCTAD does.

The UNCTAD database of 2,577 mapped International Investment Agreements[26] search shows[27]

- 627 treaties containing a provision for Voluntary ADR (conciliation/mediation).
- No treaty containing a provision for Compulsory ADR (conciliation/mediation).
- 1,813 treaties containing no provision.
- Two treaties are inconclusive.

Hence, to the best of our knowledge, this is the first estimate of the presence of cooling-off provisions in international investment treaties.

To obtain an estimate for the presence of 'cooling-off' clauses in international investment treaties, we adopted a supervised machine learning approach based on the text of investment treaties.[28] Supervised machine learning refers to several techniques in which an algorithm learns patterns from a set of manually coded documents (the so-called training data).[29] Using the text of 3,127 known treaties collected by WTI's

24 See <https://investmentpolicy.unctad.org/international-investment-agreements/iia-mapping> accessed 31 May 2022.

25 This information can be retrieved from <https://edit.wti.org/document/investment-treaty/search> accessed 21 March 2021.

26 The total number of treaties was the total number of treaties reported in the database when conducting the research in 2020 (then 2,577, the number in 2021 is 2,575). The following queries were selected: (i) 'Investor-State Dispute Settlement (ISDS) > alternatives to arbitration > Voluntary ADR (conciliation/mediation)' (bullet 1); (ii) 'Investor-State Dispute Settlement (ISDS) > alternatives to arbitration > Compulsory ADR (conciliation/mediation)' (bullet 2); (iii) 'Investor-State Dispute Settlement (ISDS) > alternatives to arbitration > None' (bullet 3); (iv) 'Investor-State Dispute Settlement (ISDS) > alternatives to arbitration > None" (bullet 4). For each we reported the number of treaties retrieved from the query.

It should be noted that the number of treaties containing voluntary ADR as of date of revision (March 2021) decreased to 626 possibly related with the decrease in the number of treaties available cited above, though we do not have any information on this.

As for the numbers not adding up to total value reported:

1. We did not include the number of treaties coded as *not applicable* (these can be obtained from the following query 'Investor-State Dispute Settlement (ISDS) > alternatives to arbitration > Not applicable'). As of March 2021, 133 treaties fall under this category.
2. If we include these 133, the number still does not add up to the total number of treaties reported by the website. It adds up to 2,574 and not the reported, as of today, 2,575.
3. However, since we are agnostic about how this database is managed, we cannot discuss the rationale behind this.

27 <https://investmentpolicy.unctad.org/international-investment-agreements/iia-mapping> accessed 31 May 2022.

28 For more details on text-as-data approaches to international economic law, see W Alschner, J Pauwelyn and S Puig, 'The Data-driven Future of International Economic Law (2017) 20(2) Journal of International Economic Law 217.

29 K Welbers, W Van Atteveldt and K Benoit, 'Text Analysis in R' (2017) 11(4) Communication Methods and Measures 245.

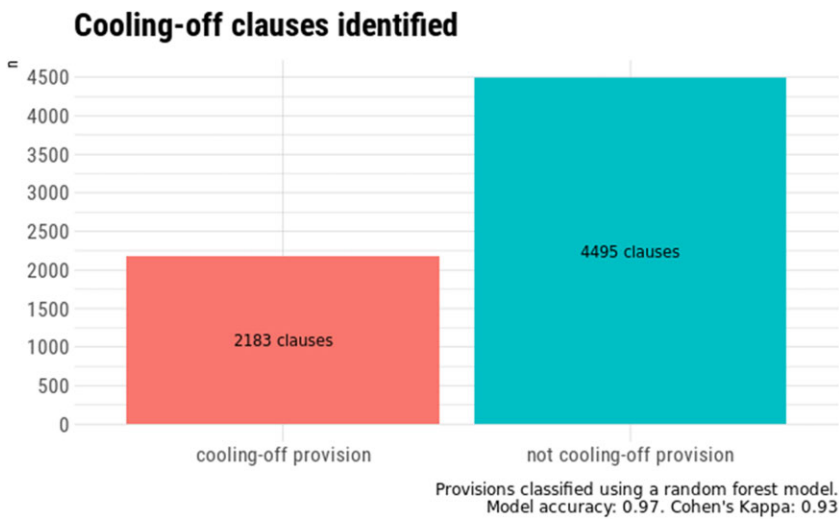


Figure 1. Cooling-off clauses in IIAs.

EDIT project,[30] we labelled several articles as 'cooling-off' provisions or not and used them to train the model to identify patterns of words strongly associated with those categories. Using, *inter alia*, a random forests model, we identified 2,183 cooling-off clauses in provisions of 2,885 treaties with strong accuracy.[31]

We predicted whether or not the remaining provisions[32] were 'cooling-off provisions' using *inter alia* the random forests model,[33] using text, as well as grammatical information and named entities as the unit of analysis.[34] The model identified 2,183 clauses as cooling-off provisions in the 3,127 treaties. It should be noted that these predictions are at the *article* level and that some treaties have more than one cooling-off provision.[35]

At *treaty* level, the model identified cooling-off provisions in 2,052 treaties. If we take the 2,885 treaties with ISDS-related articles identified, this would represent 71% of the treaties.

As with any machine learning-based classification task, these values contain false positives and false negatives.[36] If the evaluation dataset, which was randomly sampled

30 We would like to thank the WTI and specially Wolfgang Alschner for granting us access to EDIT's database. We only used the WTI corpus for the empirical analysis. The rationale was two-folded: (i) it was more complete and (ii) the content of the treaties was rendered into html format. On this last point, UNCTAD only provided the texts of the treaties in pdf format with varying quality levels. That made parsing the text into a machine-readable format very hard. Hence, we decided to use EDIT's corpus.

31 More specifically, the model correctly predicted 0.97 of the observations in the evaluation dataset with a Cohen's Kappa of 0.93. For more details on the analysis, please see the annex.

32 Remaining provisions are the provisions which were not labelled and, consequently, not used to train the model.

33 The random forest is a classification algorithm consisting of many decisions trees.

34 See for details the Annex where also the different numbers of treaties are explained.

35 Eg, the Spain-Argentine BIT which has 1 cooling off for inter-state (art IX) and two in the ISDS (art X).

36 A false-positive error, or false positive, is a result that indicates a given condition exists when it does not whereas a false negative indicates that a condition does not exist when it exists.

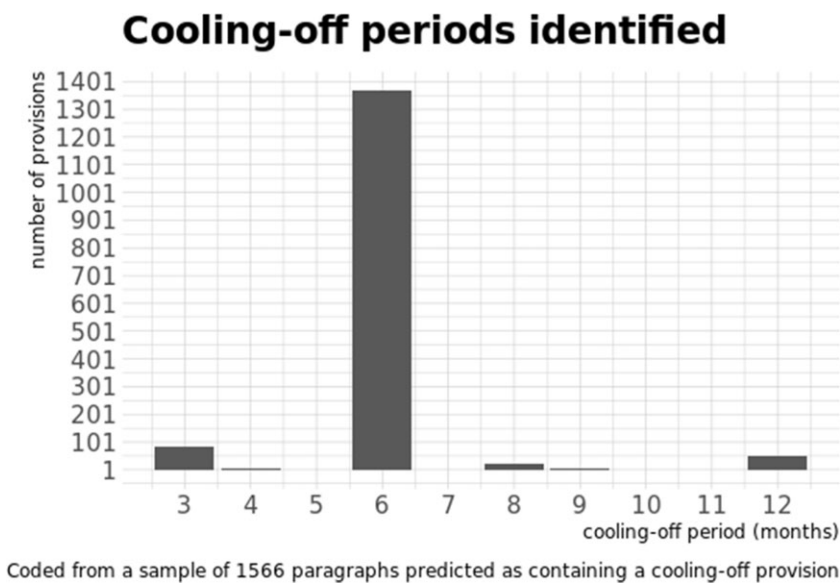


Figure 2. Cooling-off periods in IIAs.

from the main dataset, represents the data well, then we should expect around 3%[37] of articles as possibly being false negatives, that is actual cooling-off provisions classified as not being so. Similarly, by adopting the above-mentioned assumption, we should expect that around 4%[38] of articles might be false-positives.

The UNCTAD publication entitled 'Investor-State Disputes: Prevention and Alternatives to Arbitration'[39] finds that the 'time frame of three to six months usually allocated' for the purpose of cooling-off periods 'is rather short'. The article also stresses that, frequently, States will need a substantial amount of time to discern the source of the breach and responsible institutions among a myriad of government agencies. However, if the cooling-off period is combined with a constant dialogue

37 Computed the specificity of the predictions. Specificity is defined as the proportion of actual negatives, which got predicted as the negative (or true negative).

$$\text{Specificity} = \frac{\text{TrueNegatives}}{\text{TrueNegative} + \text{FalsePositive}}$$

38 Computed the sensitivity of the predictions. Sensitivity is a measure of the proportion of actual positive cases that got predicted as positive (or true positive).

$$\text{sensitivity} = \frac{\text{TruePositive}}{\text{TruePositive} + \text{FalseNegative}}$$

39 UNCTAD (2010) xxv, <https://unctad.org/en/docs/diaeia200911_en.pdf> accessed 31 May 2022.

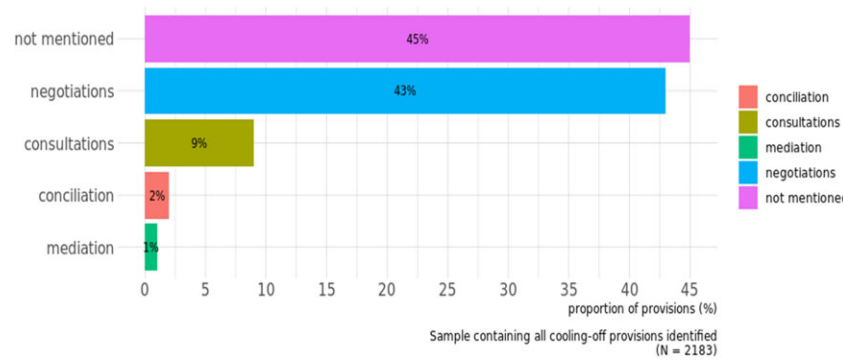


Figure 3. Type of ADR mentioned in (*absolute numbers and percent*).

with investors as mentioned above, 6 months may be sufficient. All depends, therefore, on how the State organizes its governance of foreign investments.

We also coded what sort of ADR was specified in the investment treaties. This showed that while the relative majority of treaties does not mention any ADR, negotiations were dominant conflict resolution mechanism but mediation was explicitly mentioned only in 1% of the cases. That does not exclude mediation to be used in the cooling-off periods of course, but it clearly gives room for improvement in treaty drafting.

The information available for cooling-off periods does not allow a more refined analysis, ie whether, when conciliation or mediation is contemplated, the resort to these mechanisms is mandatory or not. As such a 'cooling-off' period is provided for in order to facilitate direct negotiations between investors and States, often with use of lawyers, however, they would not qualify as conciliation or mediation.

In the 2019–20 QMUL investors' survey[40] mentioned above, investors stated that if cooling-off periods are provided for by treaties, mandatory mediation would be undesirable and constitute an unnecessary step for the parties towards the resolution of their dispute, which would potentially lead to an increase both in time and cost. In other words, while investors do have a strong preference for dispute avoidance and ADR, they do not appear to opt for a staged or multi-tiered approach which provides for a cooling-off period first followed by mandatory mediation. The perception is that if amicable settlement during cooling-off periods does not produce settlement it is unlikely that mandatory mediation will and hence it appears to investors as a further delay before dispute resolution can start. This finding does not provide any guidance as to whether investors would favour a mandatory mediation as part of the cooling-off period, but it seems a reasonable conclusion to draw that they would accept mandatory mediation in lieu of a cooling-off period.

While there is hardly any reliable empirical data on the use and impact of cooling-off periods there is some data on the use of mediation which is addressed in the following section. It suffices to state, in respect of cooling-off periods, that with the increasing transparency in investment disputes and reports by specialist journalist

40 The survey is available at <http://www.arbitration.qmul.ac.uk/media/arbitration/docs/QM-CCIAG-Survey-ISDS-2020.pdf> accessed 9 April 2021.

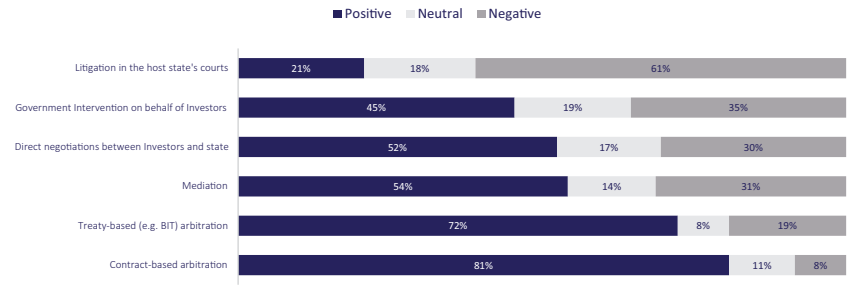


Figure 4. Q4 investor views on dispute resolution mechanisms.

Source: QMUL-CCIAG ISDS Survery 2020, available at: https://arbitration.qmul.ac.uk/media/arbitration/docs/QM-CCIAG-Survey-ISDS-2020.pdf at p. 7.

reports[41] there is more information emerging as to the notice of disputes and the initiation of cooling-off periods.[42] The specific research on the effectives of cooling-off periods is yet to be conducted.

3. CASES WHERE MEDIATION OR FACILITATED NEGOTIATIONS HAVE BEEN USED

It is very difficult to find out concrete information on the use of mediation/conciliation in investor–State disputes.[43] When running an electronic check in all submissions by States the term 'negotiation' results in thousands of hits. However, negotiation is a broad

41 Eg Investment Arbitration Reporter and Global Arbitration Review.

42 See, eg, the report in <https://www.iareporter.com/articles/west-africa-round-up-an-update-on-arbitration-disputes-involving-mali-senegal-sierra-leone-and-ghana/> (9 March 2021) accessed 8 April 2021 and <https://globalarbitrationreview.com/uk-energy-company-threatens-kazakhstan> (1 April 2021) accessed 8 April 2021.

43 Several methods were used to inform this section. One of them is described as follows: To determine the practical use of mediation in ISDS, three strategies have been employed. A survey of available databases has been conducted investigating all cases that list or have indication of having been subject to mediation or arbitration. The second related method is a review of news articles in key online resources such as IAReporter, Investor–State Law Guide and ITALaw. The third is a comprehensive electronic review of all available ISDS-related documents.

Before addressing this method further, a significant caveat should be emphasized. The availability of detailed documentation of ISDS proceedings, despite being more voluminous than commercial arbitration cases, is limited, and the availability of documentation of mediation and conciliation is almost non-existent. Due to the lack of documentation, it is as such hard to determine at what frequency such methods are used in practise. The lack of documented occurrences could either mean that such practice is rare, or that documentation of such practice is not publicly available.

The currently available documentation consists of 4,975 documents, containing in excess of 250,000 pages. The documents vary in their contents, covering awards, decisions, parties submissions, as well as transcripts and municipal court decisions. These documents have been processed for key terms by two different types of search engines. The first is a traditional search engine where all documents were searched for a set of key terms related to mediation and conciliation. The second engine is the one based on named entity recognition. This is a machine learning assisted method where the engine is trained on extremely large data sets, and where the system is able to find matches even if they are spelled differently, addressed indirectly or apply a synonym to the main search term.

The results from the engines were combined and manually reviewed to ensure that the results accurately represented an indication of conciliation/mediation.

concept and no detail is available about concrete cases of negotiation. For example, we know that 71 new cases were launched in 2018.[44] But we have little information about these cases and what kind of efforts were made in the period preceding the launching of these cases. For example, in the ECT context,[45] we know that ECT cases have used mediation/conciliation. The ECT published data on these cases. But an analysis of these processes has not been provided so far. Moreover, thanks to the UNCTAD 2019 Report, we know that 23% of all known cases (from 1987 to 2018) have settled and 10% have been discontinued,[46] but there is no information available about the reasons for discontinuation and there is no precise information on the cases settled. Furthermore, the mere existence of conciliation or negotiation cases does not inform about the use of mediation, nor about its success. A country could, eg, negotiate but not mediate for a settlement. More data and research are needed on this matter.

In the ICSID system, 13 cases have been reported under the ICSID conciliation rules (Table 1), out of these 9 are concluded/settled, while 4 are still pending. Seven of these cases are from the last 10 years, while the remaining six spread from 1982 to 2007. Little is known of the results of these cases as the reports remain confidential.

This small number of ICSID conciliation cases does not include cases where a dispute may have settled amicably in the cooling-off period and no such reliable data exist.

Beyond the cases that have entered formal conciliation we have identified 11 cases where mediation/conciliation has been attempted (Table 2). These can be divided into four main types of mediation/conciliation.

The first and most common scenario is where some form of mediation has taken place prior to the notice of arbitration. The common denominator is that the mediation is connected to the underlying conflict (that is the same factual circumstances potentially giving rise to an arbitration), rather than being used as a direct mediation between the investor and State on the basis of protections pursuant to the IIA. Through an analysis of the underlying documents, we have found indications of such conciliation/mediation efforts in seven cases.

The second type of cases is where some form of pre-ISDS mediation/conciliation effort is started after notice of arbitration is served. Two such instances were found in the material, in the first an unsuccessful mediation lasting 5 hours was conducted. In the second, three mediation sessions were held before the endeavour was deemed unsuccessful.

The third type currently consists of one case heard by the ICC. The case between Systra and the Philippines was mediated under the IBA rules for investor–State mediation. The parties in this case have agreed to conduct mediation to avoid having to conduct a full arbitral proceedings. Little further is known of this case.[47]

The fourth type also consists of one case. In *Pan African Burkina and others v Burkina Faso* the investors conducted mediation in parallel to pursuing arbitration.

44 UNCTAD World Investment Report 2019, 102.

45 The ECT experience is particularly significant since ECT cases count for around 15% of all ISDS known cases (source: UNCTAD Report).

46 See Figure III.10.

47 <https://www.iareporter.com/articles/in-an-apparent-first-investor-and-host-state-agree-to-try-mediation-under-iba-rules-to-resolve-an-investment-treaty-dispute/> (14 April 2016) accessed 8 April 2021.

Table 1. List of ICSID conciliation cases—retrieved 8 April 2021 from icisd.worldbank.org.

Case no	Claimant(s)	Respondent(s)	Status
CONC/20/1	Barrick (Niugini) Limited	Independent State of Papua New Guinea	Pending
CONC/19/1	La Camerounaise des Eaux (CDE)	Republic of Cameroon and Cameroon Water Utilities Cooperation (CAMWATER)	Pending
CONC/18/1	Société d'Energie et d'Eau du Gabon	Gabonese Republic	Concluded
CONC/16/1	Xenofon Karagiannis	Republic of Albania	Pending
CONC(AF)/12/2	Republic of Equatorial Guinea	CMS Energy Corporation and others	Concluded
CONC(AF)/12/1	Hess Equatorial Guinea, Inc. and Tullow Equatorial Guinea Limited	Republic of Equatorial Guinea	Pending
CONC/11/1	RSM Production Corporation	Republic of Cameroon	Concluded
CONC/07/1	Shareholders of SESAM	Central African Republic	Concluded
CONC/05/1	Togo Electricité	Republic of Togo	Concluded
CONC/03/1	TG World Petroleum Limited	Republic of Niger	Concluded
CONC/94/1	SEDITEX Engineering Beratungsgesellschaft für dieTextilindustrie m.b.H.	Madagascar	Concluded
CONC/83/1	Tesoro Petroleum Corporation	Trinidad and Tobago	Concluded
CONC/82/1	SEDITEX Engineering Beratungsgesellschaft für die Textilindustrie m.b.H.	Democratic Republic of Madagascar	Concluded

The investors had cited their lack of success in the mediation as one of the reasons for seeking arbitration.[48]

In addition, some states, notably Egypt and Argentina, engaged in settlement discussions after the arbitration has started. The common feature of these cases is that the States which have effectively used settlement discussion and mediation have

48 <https://www.iareporter.com/articles/icc-tribunal-refuses-to-grant-provisional-measures-absent-irreparable-harm/> (3 July 2018) accessed 8 April 2021.

Table 2. List of non-ICSID conciliations/mediations

Parties	Case ID	Type of attempt
Autopista Concesionada de Venezuela, CA v Bolivarian Republic of Venezuela	ICSID Case No ARB/00/5	Non-ISDS conciliation attempt of underlying breach
Balkan Energy (Ghana) Limited v Republic of Ghana	PCA Case No 2010-7	Non-ISDS conciliation attempt of underlying breach
Gramercy Funds Management LLC and Gramercy Peru Holdings LLC v Republic of Peru	ICSID Case No UNCT/18/2	Non-ISDS conciliation attempt of underlying breach
Italba Corporation v Oriental Republic of Uruguay	ICSID Case No ARB/16/9	Pre-ISDS conciliation
KBR, Inc. v United Mexican States	ICSID Case No UNCT/14/1	Non-ISDS conciliation attempt of underlying breach
Maritime International Nominees Establishment v Republic of Guinea	ICSID Case No ARB/84/4	Pre-ISDS conciliation
Methanex Corporation v United States of America	UNCITRAL	Non-ISDS conciliation attempt of underlying breach
Noble Energy, Inc and Machalapower Cia. Ltda v The Republic of Ecuador and Consejo Nacional de Electricidad	ICSID Case No ARB/05/12	Non-ISDS conciliation attempt of underlying breach
Olyana Holdings v Rwanda		Non-ISDS local mediation
Pan African Burkina v Burkina Faso		Parallel mediation and arbitration
Systra SA v Philippines		Mediation under IBA rules

Sources: The pitad.org database, ITALaw and IAReporter.

made a decision to mediate and/or settle the case at the highest governmental level: Either there was an inter-ministerial committee under the prime minister or direct involvement of the head of state or a someone with delegated authority.

Queen Mary University of London conducted in December 2019 and January 2020 a survey to canvas the views of investors from around the world in respect of proposed ISDS reforms.[49] Several of these questions related to investor–State

49 See fn 41. As part of the survey an online questionnaire of 52 questions was completed by 86 respondents between 28 November 2019 and 31 December 2019. While 315 responses were received, only 86 came from eligible respondents. The survey sought the views exclusively of in-house counsel or management representatives of organisations that invest internationally. Around 62% of the respondents represent multi-national corporation while 38% represents small- and medium-size enterprises. Every region of the world was represented. More on the methodology at <http://www.arbitration.qmul.ac.uk/media/arbitration/docs/QM-CCIAG-Survey-ISDS-2020.pdf> accessed 31 May 2022 27–29.

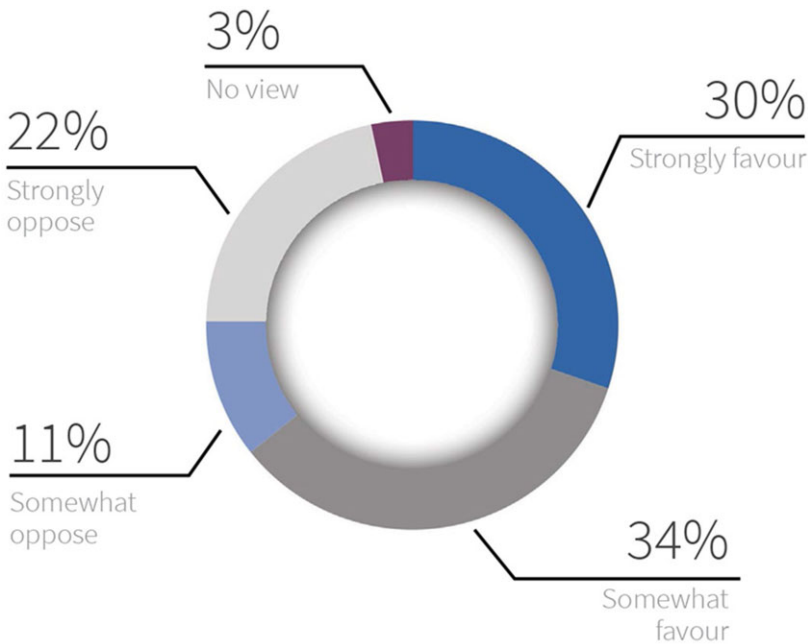


Figure 5. Views on mandatory mediation prior to arbitration.

Source: QMUL-CCIAG ISDS Survey 2020, available at Source: QMUL-CCIAG ISDS Survery 2020, available at: https://arbitration.qmul.ac.uk/media/arbitration/docs/QM-CCIAG-Survey-ISDS-2020.pdf at p. 7. at p. 24.

mediation. The background is that as mediation is increasingly thought about as a helpful mechanism to resolve, mitigate or prevent disputes it is useful to know what investor think. Hence the survey asked respondents their views on whether they would welcome the introduction of a mandatory requirement to go through mediation before commencing arbitration proceedings. Respondents were given five options: 'strongly favour', 'somewhat favour', 'no view', 'somewhat oppose' and 'strongly oppose'.

Overall respondents considered the introduction of such requirement favourably (64%), with 34% of respondents 'somewhat favouring' and 30% of respondents 'strongly favouring' the proposal.[50]

The interviews allowed the researchers to explore how investors might perceive the mediation of investment disputes. An interviewee expressed the view that mediation was not appropriate for all investment disputes and should therefore be available on a voluntary basis to the parties. The latter point was echoed by interviewees generally who said that mediation should not be forced upon the parties.

Other comments made by interviewees were as following:

- mediation is better suited than formal means of dispute resolution to achieve the parties' commercial or business objectives as it has less of a negative impact on the parties' relationship;

50 ibid 24, Chart 19.

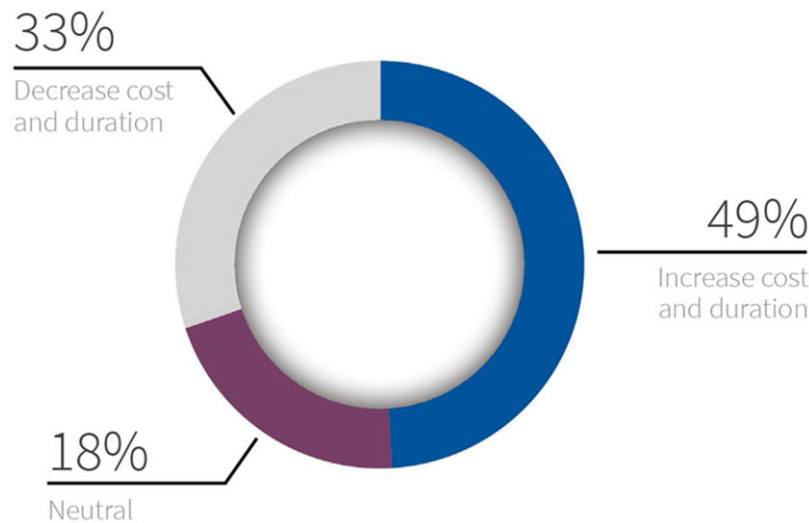


Figure 6. Impact of mandatory mediation on cost and duration of ISDS.

Source: QMUL and CCIAG ISDS Survey 2020 availble at https://arbitration.qmul.ac.uk/media/arbitration/docs/QM-CCIAG-Survey-ISDS-2020.pdf, at p. 25.

- mediation may not be appropriate where there is an imbalance of power between the parties, as could be the case for smaller sized investors;
- the commencement of formal proceedings and the institution of an arbitral tribunal can be used as leverage by the investor to get settlement discussions started with the state; and
- a mandatory mediation phase could undermine the position of investors and not encourage fruitful discussions.

Finally, in this respect, investors were asked what impact mandatory mediation would have on the cost and duration of ISDS proceedings on a scale from '0' (substantially reduce cost and duration) to '10' (substantially increase cost and duration). Respondents believed that the introduction of mandatory mediation would lead to an increase on costs, with the majority of responses ranging between 6 and 10 (49%). This finding was confirmed by interviewees, who expressed their concerns over the introduction of mandatory mediation with respect to the potential increase of time and costs.[51]

4. WHAT ARE THE OBSTACLES FOR THE USE OF MEDIATION IN INVESTOR–STATE DISPUTES?

There is no hard evidence, only anecdotal evidence, on the obstacles preventing the use of mediation. Some limited evidence emerges from the QMUL ISDS survey interviews but the sample is rather limited. However, it is important to understand the different levels of obstacles so that the analysis is able to guide potential reform. Below, we summarize four obstacles identified from the anecdotal or other evidence collected.

51 ibid 25, Chart 20.

A. Civil Society Concerns

First, civil society has expressed concerns repeatedly about mediation not only because of the nature of the interests at stake,[52] but also because mediation is commonly conducted with heightened confidentiality and opacity. Civil society has historically strived for increased transparency in relation to ISDS and any limits to the access to information. It is notable in this regard that civil society refers to arbitral tribunals as 'secret courts' and one would suggest that this pejorative label could be used in the context of mediation. Interestingly enough, civil society does not appear to acknowledge that mediation in investor–State dispute may have a significant impact of dispute prevention or at least limiting the dispute and associated costs.

B. State Governance

Secondly, it is often posited that the main impediment to settlement in ISDS matters is that it is difficult within a state for any minister or public official or civil servant to come forward with a settlement proposal which involves the state making a substantial payment to an investor without a very complex and time-consuming governmental decision-making and approval process, or without a formal legal determination by a court or arbitral tribunal. Indeed, in mediation it is critical that those involved have an express authority to make decisions and settle the dispute. It is encouraging to identify the examples of Egypt and Argentina which appear to be notable exceptions in having been involved in a number of successful settlement discussion. In all these instances, there was a political will to settle cases and it was also understood that settlement was preferable to long dispute settlement processes. In addition, some countries appear to suggest that mediation and settlements done in private have a positive effect on a State's credit rating.

C. Legislative Impediments

Thirdly, it is a matter of further research whether States' domestic legislation contains an express prohibition for public authorities or their employees to mediate and settle disputes. In some instances, there may be an express provision in the legislation. For example, in France, Article 2045 of the civil code provides: 'Les établissements publics de l'Etat ne peuvent transiger qu'avec l'autorisation expresse du Premier Ministre'[53]. This provision is clearly not a prohibition *per se*. Requiring that a specific authorization be obtained is a matter of good governance to ensure that the process through which settlement is reached complies with good administrative practice and the requirements of the law.

Some States may, instead of a specific provision, have to respect legislation dealing with accountability of public officials, need of transparency in the way public administrative tasks are discharged or anti-corruption laws. Such internal governance and accountability measures are present in many jurisdictions and have been promoted by many international organizations.

52 See above, p 1 the example of Human Rights issues.

53 In English: 'The public establishments of the State can only settle a claim with the express authorization of the Prime Minister' [unofficial translation by the authors].

D. Policy Impediments—A Matter of Accountability

Fourthly, some countries may not have any legislative impediments, but may still be reluctant to go to mediation for at least the following reasons: (i) the need to prove to the citizens that they are acting in the best interests of the country; (ii) the fact that it is easier for them to pay money out because there is a binding decision against the State rather than paying willingly after an obscure process; and (iii) heightened confidentiality of the mediation process.

Some of these impediments may be classified as political or policy ones. In addition, there are several answers that can be developed to counter these arguments. One of the options to alleviate the accountability of public servants is to entrust all negotiations and use of mediation to a special, independent, body (accountable to the highest political body and certainly to the Parliament) so that no civil servant alone carries the burden and responsibility of agreeing to a settlement with an investor.[54]

5. OUTLOOK: SOME IDEAS FOR FUTURE WORK

It is not the purpose of this article to reach specific conclusions. Rather, it aims first, to build an informational basis in order to show the possibilities of investor–state mediation *de lege lata* as well as its use. Secondly, it aims to discuss the perceived legal and political obstacles to the acceptance of mediation and potential solutions to them. It appears that investor–State mediation will have to be further encouraged and may provide a useful tool in ISDS which is to a great extent in the control of the disputing parties and States. Given that most States do not have experience in investor–State mediation and may only have limited developed formal mediation processes for commercial disputes within their domestic legal systems, a significant amount of work would have to be undertaken in respect of investor–State mediation. Some ideas are identified and briefly presented below.

A. Guidelines As to How to Frame the Mediation to Make Sure it Fits the Specific Needs of States

Some of these guidelines would include:

- Timing of the mediation (very early and/or while the arbitration takes place). If mediation takes place at an early stage, the dispute is not crystalized and there are good reasons to believe that it may be easier to mediate the entire relation and not only the financial aspects. This is key to a long-term solution. But there are also strong arguments to give mediation opportunities (windows) during the arbitration process.
- A line of authority will have to established within the State and participants in the mediation must have decision-making capacity.

54 Valderrama (n 11) explains that this role was devoted to the Commission he chaired for several years in Peru. He further explains that the Commission did not hesitate to gather the assistance of well-known independent institutions such as the Mediation clinical programme at Harvard Law School or the Columbia University's Centre on Sustainable Investment. Another example is that of the Egyptian interministerial committee which has both the support of the head of state and political accountability at the same time.

- Monitoring the work of the person(s) participating in the mediation.
- Transparency and adaptation of the confidential parts of the process (drawing for example on (parts of) the Mauritius Convention or the Hague Rules on Business and Human Rights Arbitration).

B. Guidelines As to How to Frame the Mediation to Meet Civil Society's Concerns

One special feature of mediation (contrary to arbitration) is that all stakeholders may be heard and collaboratively included in the process. Some techniques have already been developed (for example in collective labour mediation) to overcome the obstacle of confidentiality while giving access to the process to all stakeholders concerned.

Guidelines as to what happens with the documents and arguments used during the mediation, if it is unsuccessful and the case proceeds to arbitration/litigation. In civil and commercial matters, these documents and arguments are strictly confidential and nothing said or done during the mediation can be used in the arbitration. Is there any reason to change that practice for investment? It may be appropriate to maintain confidentiality of (some) documents and arguments even if investor–State mediation has a degree of transparency. There may be issues if third parties have interests or there is a general public interest—the discussion would be along the lines of transparency in ISDS 15 years ago.

C. Enforcement

The 2018 Singapore Convention on International Settlement Agreements (already alluded to above) applies to settlements in an ISDS context. However, the negotiators granted States the right to make a reservation to the effect that a State 'shall not apply this Convention to settlement agreements to which it is a party, or to which any governmental agencies or any person acting on behalf of a governmental agency is a party, to the extent specified in the declaration'.[55] Consequently, the ISDS reform process undertaken within UNCITRAL has the capacity of fostering a culture through the creation of rules or through the capacity building of the Advisory Centre to change perceptions of States and significantly increase compliance with settlement agreements and by avoiding expressing any reservations to the Singapore Convention.

D. Link between Mediation and Third-Party Funding

If the dispute is financed via a Third-Party Funding mechanisms, the financier's interests (strictly financial) may become an obstacle for that party to accept a settlement. Work must be undertaken in order to put in place rules to avoid that unfortunate result.

55 art 8.1.(a) Singapore Convention. As of 10 July 2022, ten states have ratified the Convention with Iran and Saudi Arabia reserving under art 8.1.(a). The remaining 55 signatory states could ideally refrain from making a reservation in this respect.

E. Code of Conduct for Mediators

A code of conduct must be drafted for mediators. While there are already many such codes of conduct in existence, a future paper may compare these codes and provide some guidance about its drafting. One issue to cover is whether a mediator may accept *amici curiae* to understand the dispute better and how to interact with non-disputing parties. Another issue would be to clarify whether a mediator may also assume the role of arbitrator and vice versa.

F. Cost and Duration Allocation

This issue is important to clarify at the outset of the mediation process so that parties understand how the settlement will impact on their potential rights to cost shifting. The span of mediations/conciliations seen as a whole range from 5 hours to 1,047 days (Table 3). [56] As the available data on non-ICSID mediations/conciliation is scarce we have removed these from the following data.

For ICSID conciliation, the average time from registration to termination event (either the issuance of a report, or a settlement) is 541 days, with 173 days being the shortest and 1,047 days being the highest. The median is 487 days (Table 4). [57]

The average number of days from registration to constitution of the conciliatory committee is 103 days, with the fastest coming a mere week while the slowest taking 175 days.[58]

The cost of these proceedings is currently unknown as the reports are not public. Pertaining to the non-ICSID cases, costs of mediation/conciliatory efforts are not discussed in any publicly available documents.

G. Effectiveness and Rebounding of Cases that Have Been Mediated/Conciliated

Out of the 13 cases conciliated under the ICSID, 2 cases have been settled without a report being issued (Table 4). Two cases where reports were issued, reappear later as investment arbitrations. In the remaining five cases the parties do not appear to pursue further ISDS litigation as of the time of writing. Presupposing greater availability of documentation, further research into the specifics of these cases, along with the larger corpus of settled cases may provide insight into how mediation contributes to the final outcomes.

By way of outlook and assuming that there is an emerging broader consensus amongst States to explore and develop mediation for investor–State mediation it is essential to have a collaborative approach. A number of institutions, such as the IMI, CEDR, the Energy Charter Secretariat and ICSID, have developed expertise in training and rule-making. However, perhaps the first steps ought to be smaller. After some targeted research amongst states (about perceptions and obstacles to the development of mediation), the next step would be raising awareness and demystifying the mediation process.

56 Mediation was attempted for 5 hours in *Italba Corporation v Oriental Republic of Uruguay*, ICSID Case No ARB/16/9. The longest was held for 1,047 days in *Republic of Equatorial Guinea v CMS Energy Corporation and others* ICSID conciliation CONC(AF)/12/2.

57 Based on data from the ICSID conciliation cases database—retrieved 13 February 2020 from <icisd.worldbank.org>.

58 ibid.

Table 3. Length of mediation/conciliation in cases not proceeded under the ICSID conciliation rules

Parties	Case ID	Type of attempt	Length of mediation
Autopista Concesionada de Venezuela, CA v Bolivarian Republic of Venezuela	ICSID Case No ARB/00/5	Pre-trial Conciliation attempt of underlying breach	Unknown
Balkan Energy (Ghana) Limited v. Republic of Ghana	PCA Case No 2010-7	Pre-trial Conciliation attempt of underlying breach	Unknown
Gramercy Funds Management LLC and Gramercy Peru Holdings LLC v Republic of Peru	ICSID Case No UNCT/18/2	Pre-trial Conciliation attempt of underlying breach	Unknown
Italba Corporation v Oriental Republic of Uruguay	ICSID Case No ARB/16/9	Pre-trial Conciliation attempt of underlying breach	5 hours
KBR, Inc v United Mexican States	ICSID Case No UNCT/14/1	Pre-trial Conciliation attempt of underlying breach	Unknown
Maritime International Nominees Establishment v Republic of Guinea	ICSID Case No ARB/84/4	Pre-ISDS conciliation	Unknown
Methanex Corporation v United States of America	UNCITRAL	Pre-trial Conciliation attempt of underlying breach	Unknown
Noble Energy, Inc and Machalapower Cia Ltda v The Republic of Ecuador and Consejo Nacional de Electricidad	ICSID Case No ARB/05/12	Pre-trial Conciliation attempt of underlying breach	Three sessions without result. Notified 23 November 2004. Mediation ended on 22 April 2005
Olyana Holdings v Rwanda		Pre-trial local mediation	Unknown
Pan African Burkina v Burkina Faso		Parallel mediation and arbitration	Unknown
Systra SA v Philippines		Mediation under IBA rules	Unknown

Source: documents retrieved from ITALaw and IAReporter.

Table 4. Length of conciliations under ICSID.

Case no	Claimant(s)	Respondent(s)	Status	Length of proceeding registration to report/ settlement	Length of proceeding	Time from registration to constitution
CONC/82/1	SEDITEX Engineering Beratungsgesellschaft für die Textilindustrie m.b.H.	Democratic Republic of Madagascar	Concluded	258	258	
CONC/83/1	Tesoro Petroleum Corporation	Trinidad and Tobago	Concluded	824	691	133
CONC/94/1	SEDITEX Engineering Beratungsgesellschaft für dieTextilindustrie m.b.H.	Madagascar	Concluded	767	665	102
CONC/03/1	TG World Petroleum Limited	Republic of Niger	Concluded	487	487	
CONC/05/1	Togo Electricité	Republic of Togo	Concluded	321	197	124
CONC/07/1	Shareholders of SESAM	Central African Republic	Concluded	366	191	175
CONC/11/1	RSM Production Corporation	Republic of Cameroon	Concluded	631	480	151
CONC(AF)/12/1	Hess Equatorial Guinea, Inc. and Tullow Equatorial Guinea Limited	Republic of Equatorial Guinea	Pending			
CONC(AF)/12/2	Republic of Equatorial Guinea	CMS Energy Corporation and others	Concluded	1047	1040	7
CONC/16/1	Xenofon Karagiannis	Republic of Albania	Pending			
CONC/18/1	Société d'Energie et d'Eau du Gabon	Gabonese Republic	Concluded	173	142	31
CONC/19/1	La Camerounaise des Eaux (CDE)	Republic of Cameroon and Cameroon Water Utilities Cooperation (CAMWATER)	Pending		244	103

Calculated based on data from icsid.worldbank.org.

Further, and most importantly, mediation is a consensual process and experiences with compulsory mediation are rather mixed and often compulsory mediation is not conducive to settlement. It is for this reason that raising awareness and familiarization with the process would be a threshold process.

Last, not the least, as part of work within international organizations, especially ICSID, mediation rules for investor–State disputes would have to be further developed and such rule-making would also impact on familiarization and awareness.

6. ANNEX 1: REMARKS ON METHOD USED

To obtain an estimate for the usage of 'cooling-off' clauses in international investment treaties, we adopted a supervised machine learning approach based on the texts of the articles.[59] Supervised machine learning refers to several techniques in which an algorithm learns patterns from a set of manually coded documents (the so-called training data).[60] More specifically in our case, we labelled several articles as 'cooling-off' provisions or not and used them to train the model to identify patterns of words strongly associated with those categories.

This analysis was done in three stages:

a. identifying a relevant population of BITS and creating a corpus of documents with the requisite provisions;
b. labelling some provisions as 'cooling-off' provisions or not in order to train the models;
c. evaluating the models' performance in classifying the text, ie assessing how accurately a model predicts a 'cooling-off' provision in comparison to the actual hand-coded classification; and
d. selecting the model with best performance and classifying the provisions to generate a database.[61]

A. Creating the Corpus

We were granted access to the text of 3,127 treaties collected by WTI's EDIT project.[62] The text of each treaty was prepared by first splitting each treaty by article. Then, all articles not containing words associated with disputes[63] and with time units[64] were removed. This streamlines the dataset to 7,095 provisions belonging to 2,885 treaties. Finally, the text was cleaned by turning all words into lower-case, removing punctuation, identifying the syntactic function of each word and named entities[65] as well as by stemming each word.[66]

59 For more details on text-as-data approaches to international economic law, see Alschner, Pauwelyn and Puig (n 28).
60 Welbers, Van Atteveldt and Benoit (n 29).
61 The software for processing the text and the data analysis were written in Python (version 3.7.3) and in R (version 3.5.3) programming languages.
62 We would like to thank the WTI and specially Wolfgang Alschner for granting us access to EDIT's database.
63 Eg words such as dispute, claim or arbitration.
64 Eg words such as 'months' or 'days'.
65 For this, we used the 'spacy' python module (https://spacy.io/). Spacy's named entity recognition algorithm encompasses categories such as 'date', 'person' or 'law'.
66 Stemming is the process of reducing words to their word stem, base or root form. For example, the word 'interpretation' becomes 'interpret'. This reduces word variance by removing, for example, plurals or verb conjugations.

B. Labelling the Data

For a machine-learning classification model to 'learn' how to classify a provision, it needs to be provided with examples of articles coded as 'cooling-off' provisions and some coded as 'not cooling-off provision'. This essentially means that hand-annotated articles are required to train the model. The larger the target text, the more training examples one needs to feed into the model in order to increase the accuracy of its predictions. Due to the large size of the text at hand, an approach combining hand coding with regular expressions and topic modelling[67] was adopted. Articles mostly composed by words associated with unrelated topics, such as public procurement, application of the treaty or trade policy, were coded as 'not cooling-off provision'. The remaining were coded as 'cooling-off' provision or not on a case-by-case basis with the help of regular expressions. We labelled 6,687 articles.

C. Training the Models

The 6,687 labelled articles were then used to train several different machine learning-based text classification models. First, each article was turned into a '*bag of words*' where each word is represented by a numerical value. This numerical representation can take values such as 0 or 1, depending on whether the word is present in the document or not, the amount of times a word is present in the document, or other metrics. For our analysis, we represented words by their 'term frequency–inverse document frequency' which is similar to measuring term-frequency in a document but also weighting the word's frequency by the (logarithmically scaled) inverse fraction of the documents that contain the word.[68] This metric measures how idiosyncratic a word since it proportionally 'reduces' the weight with respect to how frequently it appears in the corpus. For performance comparison purposes, the '*bags of words*' were created using two different text units of analysis. In the first one, our unit of analysis was each word in the corpus (hereinafter 'cleaned' approach); in the second, each word was concatenated with its syntactic function and, where existing, named entity type identified (hereinafter 'postag&entities' approach).

In the analysis, a random sample of 80% of the data was used for training the model and the remaining 20% to evaluate the different models' performance (hereinafter 'evaluation dataset'). The following models[69] were used: support vector machines,[70] naive bayes,[71] logitboost[72] and random forest.[73]

67 For the topic model, we resorted to the 'correlated topic model', DM Blei and JD Lafferty, 'A Correlated Topic Model of Science' (2007) 1(1) The Annals of Applied Statistics 17, in its implementation in the 'stm' package for R, ME Roberts, BM Stewart and D Tingley, 'stm: R Package for Structural Topic Models' (2014) 10(2) Journal of Statistical Software 1.

68 Obtained by dividing the total number of documents by the number of documents containing the term, and then taking the logarithm of that quotient.

69 All models were fitted using their implementation in the 'caret' package for R, M Kuhn, 'Building Predictive Models in R Using the Caret Package' (2008) 28(5) Journal of Statistical Software 1.

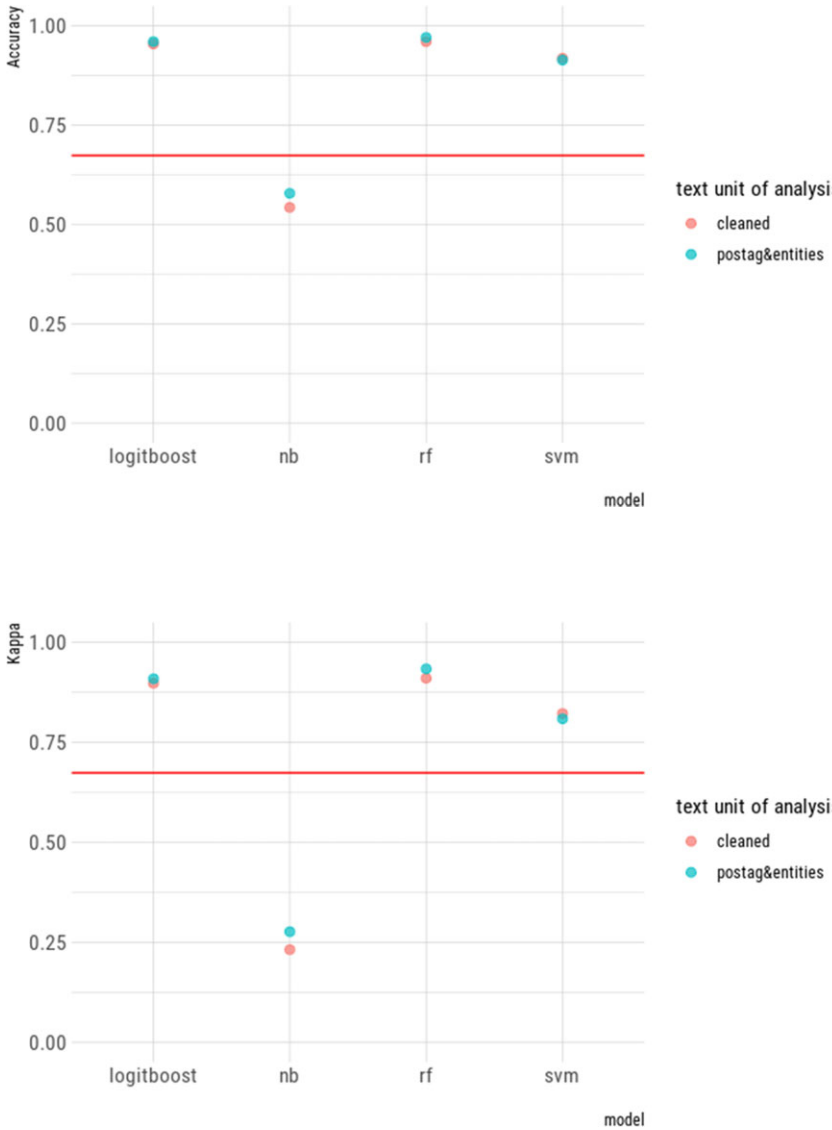
70 See N Cristianini and J Shawe-Taylor, *An Introduction to Support Vector Machines and Other Kernel-based Learning Methods* (CUP 2000). For an intuitive explanation, see also <https://medium.com/machine-learning-101/chapter-2-svm-support-vector-machine-theory-f0812effc72> accessed 31 May 2022

71 See S Raschka, 'Naive Bayes and Text Classification I-introduction and Theory' (2014) *arXiv preprint arXiv:1410.5329 <https://doi.org/10.48550/arXiv.1410.5329>*.

72 See SB Kotsiantis, 'Logitboost of Simple Bayesian Classifier' (2005) 29(1) Informatica 53.

73 See L Breiman, 'Random Forests' (2001) 45(1) Machine Learning 5.

After training the models, we evaluate their performance by comparing the predicted classifications, 'cooling-off provision' or not, with the manually labelled ones. The plot below shows two very relevant metrics. The accuracy of the classifier, ie, the ratio of number of correct predictions to the total number labels; as well as each model's Cohen's Kappa,[74] a metric that compares an observed accuracy with an expected accuracy (random chance). The plot below suggests that the model that



74 JR Landis and GG Koch, 'The Measurement of Observer Agreement for Categorical Data' (1977) 33(1) Biometrics 159.

better predicted the labelled data was the random forests using text as well as grammatical information and named entities as the unit of analysis. Under this specification, the random forests correctly predicted 0.97 of the observations in the evaluation data set with a Cohen's Kappa of 0.93.

More specifically, in the random forests model, using text, grammatical information and named entities as the unit of analysis, correctly predicted 417 articles of the evaluation data set as cooling-off provision and, similarly, its predictions matched the 'not cooling-off' provisions in 875 of the cases. In 19 cases, it classified incorrectly 'cooling-off provisions' as not 'cooling-off provisions'. In 24 cases, it incorrectly classified not 'cooling-off provisions' as 'cooling-off' provisions.

correctly identified: cooling-off	false negatives	false positives	correctly identified: not cooling-off
417	19	24	875