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CONVERGENCE AND DIVERGENCE IN THE INVESTMENT TREATY
UNIVERSE - SCOPING THE POTENTIAL FOR MULTILATERAL
CONSOLIDATION

WOLFGANG ALSCHNER* & DMITRIY SKOUGAREVSKIY†

How far are we from a multilateral investment treaty? In this paper we answer this question by empirically assessing convergence and divergence in the pool of existing bilateral investment treaties (BITs) scoping the potential for multilateral consolidation. To do so, we introduce a novel automated coding procedure, which investigates investment treaty content across 1628 English-language BITs and their 22,500 articles. We show that treaties are split into older, short and shallow agreements and newer, deep and complex ones. This creates possibilities for consolidation around a lowest common denominator. A multilateral treaty with the 27 most prevalent features (out of a total of 66 coded features) would already substitute the content of 50% of all BITs and one with the 36 features could replace 80% of agreements. In contrast, consolidating practice around deeper agreements balancing investment protection and State sovereignty explicitly is politically more desirable, but also more ambitious. Only a minority of treaties contain non-investment protection features and their design diverges increasingly as States adopt varying architectures to solve similar policy challenges. As a result, further consolidation at the regional level and partial multilateralizations become necessary stepping-stones, if a future multilateral investment agreement is to converge practice around deeper BITs.

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I. INTRODUCTION

With over 3000 international investment agreements (IIAs) protecting foreign capital abroad,¹ the size of the IIA universe has become a challenge for all stakeholders. As the United Nations Conference on Trade and Development (UNCTAD) put it in a recent report “[w]ith thousands of treaties, many ongoing negotiations and multiple dispute-settlement mechanisms, today’s IIA regime has come close to a point where it is too big and complex to handle for governments and investors alike”.² One way to reduce this complexity is to replace the myriad of bilateral investment treaties (BITs) with one multilateral investment agreement. Aside from the political will required for such an endeavour, a key obstacle on the path towards multilateralism is the seemingly divergent content of BITs. But how divergent are BITs in reality? Answering this question will help in the assessment of how difficult it would be to consolidate existing practice under a single

¹UNCTAD, WORLD INVESTMENT REPORT 2016 - INVESTOR NATIONALITY: POLICY CHALLENGES, 101 (2016), http://unctad.org/en/PublicationsLibrary/wir2016_en.pdf.

²UNCTAD, WORLD INVESTMENT REPORT 2011, NON-EQUITY MODES OF INTERNATIONAL PRODUCTION AND DEVELOPMENT, XVII (2011), http://unctad.org/en/PublicationsLibrary/wir2011_en.pdf.

multilateral umbrella.

In this article, we empirically investigate the degree of treaty design convergence and divergence in over 22,500 articles of 1628 English-language BITs that have been concluded from the year 1959 until 2015, involving 171 countries. To this end, we develop a novel automated coding procedure that allows us to compare treaty design in unprecedented breadth and depth. Our analysis reveals that the BIT universe is split into older, short and shallow agreements that focus on investment protection only; and newer, comprehensive and complex ones that treat investment in its wider policy context. This creates a theoretical potential for consolidation at the bottom, around core investment protection standards that virtually every country has accepted in at least one treaty. In contrast, consolidation at the top around more complex treaties with more varied features, only included by a handful of States, is more ambitious.

However, there is a tension between the theoretical possibility of consolidation and its desirability. The current policy discourse has become critical of simple, shallow agreements and favours more complex treaties that strike a balance between protecting investment abroad while safeguarding policy space at home. To assess how difficult it would be to consolidate practice at the top rather than the bottom, we investigate treaty divergence in more detail. We find that although only few States have signed complex agreements, their share is growing. At the same time, the design of these deeper treaties diverges more strongly than that of shallow ones. As treaty elements diffuse selectively and countries cherry-pick design innovations from global practice, the BIT universe is getting increasingly fragmented. As a result, consolidation at the top currently seems elusive and further policy convergence is needed, including thorough regional initiatives or partial multilateralization, to clear the path for an eventual global consensus around deep investment treaty design.

In this article, we begin by conceptualizing the path towards multilateralization of investment law as one of consolidating existing practice. Thereafter, we introduce our automated coding methodology to empirically investigate the scope for consolidation through convergence and divergence across treaties. We subsequently apply that methodology to explore convergence among BITs, outlining the scope for consolidation at the bottom around simple agreements and at the top around complex ones. We then shift the focus to the elements of divergence to identify obstacles for multilateral consolidation at the top. Finally, we conclude by outlining ways to overcome these obstacles and build multilateral consensus incrementally.

II. MULTILATERALIZATION THROUGH CONSOLIDATION

Countries have concluded close to 3000 bilateral investment treaties and almost every State in the world is signatory to at least one of such agreements.³ Not only do investment agreements have global reach, but they are also relatively similar to each other. According to Dolzer and Schreuer, BITs share common principles of investment protection while differing in their fine print.⁴ Salacuse even concludes that BITs have converged into a global regime for investment protection characterized by common structures, principles, norms, rules and decision-making processes.⁵ Given this apparent similarity and worldwide reach, one may think that it should not be too difficult to replace thousands of bilateral deals with a single multilateral one.

Yet, efforts to conclude a multilateral investment agreement have so far been unsuccessful. Attempts to create such a treaty failed under the auspices of the OECD in the 1960s, 1990s and more recently at the WTO.⁶ Although plurilateral and regional investment treaties have been concluded among larger subsets of States, they tend to complement rather than substitute parallel bilateral treaties.⁷ States thus continue to conclude and rely on BITs to protect their investors abroad.

One reason for the popularity of BITs is their adaptability. BITs can be moulded more closely to the treaty design preferences of their signatories than their multilateral counterpart. Indeed, empirical research has shown that negotiated BITs

³ Our sample includes English-language treaties signed by 171 States. The detailed description of the data is given in Wolfgang Alschner & Dmitriy Skougarevskiy, *Mapping the Universe of International Investment Agreements*, 19 J. INT'L. ECON. L. (2016), Appendix (Full text coverage of the data set) [hereinafter *Alschner & Skougarevskiy*].

⁴RUDOLF DOLZER & CHRISTOPH SCHREUER, *PRINCIPLES OF INTERNATIONAL INVESTMENT LAW* (2d ed. 2012) [hereinafter *DOLZER & SCHREUER*].

⁵JESWALD W. SALACUSE, *THE LAW OF INVESTMENT TREATIES* (2010) [hereinafter *SALACUSE, INVESTMENT TREATIES*]; Jeswald W. Salacuse, *The Emerging Global Regime for Investment*, 51 HARV. INT'L L.J. 427, 432–553 (2010) [hereinafter *Salacuse, Global Regime*].

⁶See UNCTAD, *LESSONS FROM THE MAI* (UNCTAD Series on Issues in International Investment Agreements), UNCTAD/TIE/IIT/Misc22, U. N. Sales No. E.99.II.D.26, (1999), <http://unctad.org/en/Docs/psiteit22.en.pdf>; Peter T. Muchlinski, *The Rise and Fall of the Multilateral Agreement on Investment: Where Now?*, INT'L. L. 1033–1053 (2000); Pierre Sauv , *Multilateral Rules on Investment: Is Forward Movement Possible?*, 9 J. INT'L. ECON. L. 325–355 (2006).

⁷Wolfgang Alschner, *Regionalism and Overlap in Investment Treaty Law: Towards Consolidation or Contradiction?*, 17 J. INT'L. ECON. L. 271–98 (2014) [hereinafter *Alschner, Regionalism*].

are often closely tailored to match the treaty templates of developed States.⁸ Therefore, the adaptability of BITs to unilateral preferences is their key advantage over a multilateral treaty, which would require multi-party compromises. We can then scope the potential of the latter by measuring the degree to which States make use of the adaptability of the former. Put differently, by quantifying the degree of convergence and divergence among BITs we can get a sense of how far we are from a multilateral substitute. Hypothetically, if all bilateral investment agreements looked alike, then it would be easy to consolidate them into a multilateral agreement without thereby altering States' legal relations.⁹ If, however, the terms vary starkly across bilateral agreements, then it would be difficult to consolidate them without deviating significantly from the preferences expressed in bilateral treaties. The prospect for multilateralization can thus be reframed and empirically tested as a function of the scope for consolidation of existing bilateral treaty relationships.

III. EMPIRICAL TREATY DESIGN RESEARCH AND THE AUTOMATED CODING OF TREATY PROVISIONS

A. Existing Empirical Analysis of Investment Treaty Content

Empirical research on the content of investment agreements has made significant advances in recent years. Several hand-coding initiatives have shed new light on the design of investment agreements. Chaisse and Bellak have coded 1498 BITs and 158 PTAs across seven core investment treaty categories.¹⁰ UNCTAD went even further investigating 1458 BITs and PTAs along more than one hundred treaty dimensions.¹¹

Complementing these hand-coding efforts, text-as-data approaches have been employed to uncover latent structures in the IIA universe. In their past work, the authors of this article have introduced a textual distance metric and applied it to investigate bargaining asymmetries, treaty network consistency as well as design

⁸BITs of developed countries, for instance, closely resemble their model treaties. Alschner & Skougarevskiy, *supra* note 3, at 6.

⁹ This article focuses on the consolidating effect of multilateralization. Other effects of multilateralization such as the expansion of investment norms to inter-state relationships currently not covered by BITs are left for future work.

¹⁰Julien Chaisse & Christian Bellak, *Navigating the Expanding Universe of International Treaties on Foreign Investment: Creation and Use of a Critical Index*, 18 J. INT'L. ECON. L. 79–115 (2015).

¹¹ UNCTAD, *IIA University Mapping Project* (1st & 2d ed., 2013-2014), <http://investmentpolicyhub.unctad.org/Upload/Documents/UNCTAD%20IIA%20MAPPING%20PROJECT%202013-2014.pdf>.

diffusion and innovation.¹² In the process, they found, amongst others, that 81% of the Transpacific Partnership's Investment Chapter has been copied and pasted from an earlier U.S. investment treaty.¹³

Unfortunately, for an investigation of convergence and divergence across investment agreements, both approaches are sub-optimal. Neither the Chaisse and Bellak data nor the UNCTAD mapping yields data at the level of detail that would allow an in-depth comparison across potentially all investment treaties. Since both initiatives involve manual labelling of treaties, any re-coding to add further features or extend the set of coded treaties would prove prohibitively costly for our purposes.

Similarly, existing text-as-data approaches also do not offer satisfying solutions since detecting convergence and divergence at the sub-treaty level is a thorny problem. Comparing two BITs textually is meaningful to the extent that we know that both documents concern the same subject matter and pursue the same function. Since we expect an underlying similarity, differences between two BITs become interpretable. Once we go deeper into the text of treaties, however, this connection is lost as it is *a priori* unknown whether Article 10 in BIT A and Article 10 in BIT B concern the same subject matter. Consequently, any text-as-data analysis on the sub-treaty level first has to match provisions that share a common content.

Yet, borrowing from jargon, matching apples to apples and oranges to oranges is not a trivial problem. Provisions differ on many levels. First, they can concern the same subject matter, but use different words to address it making a purely textual similarity-based matching of articles problematic. Second, article headers can help to cluster provisions that relate to similar issues, but can also confuse the analysis as some articles have the same label, but different content; other treaty clauses contain no titles at all. Finally, provisions differ considerably in scope, with some treaties regulating what is elsewhere dispersed into a handful of separate clauses in a single, extensive provision.

Given that neither hand-coding nor existing text-as-data methods offer optimal results, we break new ground in this article. In order to seize the best of both worlds, we combine feature coding with text-as-data approaches to investigate convergence and divergence across investment treaties in unprecedented breadth and depth. To this end, we develop an automated coding pipeline that assigns feature labels from a codebook to each article of an investment treaty.

¹²Alschner & Skougarevskiy, *supra* note 3.

¹³Wolfgang Alschner & Dmitriy Skougarevskiy, *The New Gold Standard? Empirically Situating the Trans-Pacific Partnership in the Investment Treaty Universe*, 17 J. WORLD INV. TRADE (2016).

B. Two Approaches to Automated Coding

Automated coding combines text-as-data approaches with human guidance. The advantage of automated coding over pure human coding is efficiency. Once the algorithm is written, it can label documents in a matter of seconds, while manual labelling would take months and incur significant costs. The added value of machine coding as compared to pure text-as-data approaches, in turn, is that it proceeds deductively with human supervision. Unsupervised text-as-data approaches challenge the researcher to interpret automatically detected patterns and separate meaningful variation from noise.¹⁴ Machine labelling poses no equivalent difficulty, as the researcher knows from the start what she is looking for.

Automated coding comes in two variations: supervised machine learning and rule-based labelling. Under a supervised machine learning approach, the computer is trained with human-labelled training data and subsequently categorizes unlabelled data.¹⁵ A rule-based approach, in contrast, relies on a number of pre-defined procedures to assign labels to text. One very simple procedure could be that if the word “fair and equitable” is in a document, the computer should mark the treaty as containing a “fair and equitable treatment” clause.

Both approaches have their advantages and drawbacks. Supervised machine learning can successfully classify fuzzy data where rule identification is difficult. Yet workhorse supervised machine-learning algorithms operate as black boxes. The reasons why a specific category is assigned by the machine cannot easily be discerned from the probabilistic algorithm and special effort has to go into testing precision and recall of results to ensure their accuracy.¹⁶ Rule-based approaches, in contrast, are perfectly transparent. Where a label is wrongly assigned, the rule can be amended to remedy the mistake. Yet, rule-based approaches are only sensible if variation in the data is manageable. Where a special rule needs to be written for each new document, such a procedure makes little sense.

In the context of investment treaties, we can capitalize on their boilerplate language, underlying model agreements, and common roots in draft agreements of the 1960s to proceed with a rule-based approach. Part of the automated labelling infrastructure we build, however, also draws from supervised machine learning to label articles without headers. The design and operation of the machine-coding

¹⁴See generally Justin Grimmer & Brandon M. Stewart, *Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts*, POL. ANALYSIS (2013).

¹⁵See generally *id.*

¹⁶*Id.*

procedure is set out in detail in the paper's annex.¹⁷

C. *Dataset and Codebook*

Our dataset consists of 1628 English language BIT full texts spanning from 1959 to 2015 from different sources covering 171 countries.¹⁸ We split these 1628 BIT texts into their roughly 22,500 constituent provisions as corpus for our analysis. While this dataset only encompasses 51% of the investment treaty law universe, we are currently engaged in a research project to build a comprehensive set of IIAs on which our automated coding procedure can subsequently be run.¹⁹

In order to extract legally relevant information from the treaties, we devised an original codebook. The elements of the codebook were identified by consulting international investment law text books,²⁰ reports by international organizations,²¹ BIT model agreements and commentaries²² as well as concluded BIT texts in order to devise a comprehensive list of clauses that are typically encountered in BITs.²³

The codebook follows a tree structure as depicted in Figure 1. Each branch of the tree represents a major section of a treaty, e.g. "definition and scope", "promotion and admission", "standards of protection", "investor-state arbitration", "treaty

¹⁷ An interactive version of our coding results is available on our website mappinginvestmenttreaties.com.

¹⁸ For a detailed description of our data generation technique, see Alschner, *Regionalism*, *supra* note 7.

¹⁹ Swiss Network for International Studies Project *Diffusion of International Law: A Textual Analysis of International Investment Agreements*, http://www.snis.ch/project_diffusion-international-law-textual-analysis-international-investment-agreements.

²⁰DOLZER & SCHREUER, *supra* note 4; SALACUSE, *INVESTMENT TREATIES*, *supra* note 5; Salacuse, *Global Regime*, *supra* note 5.

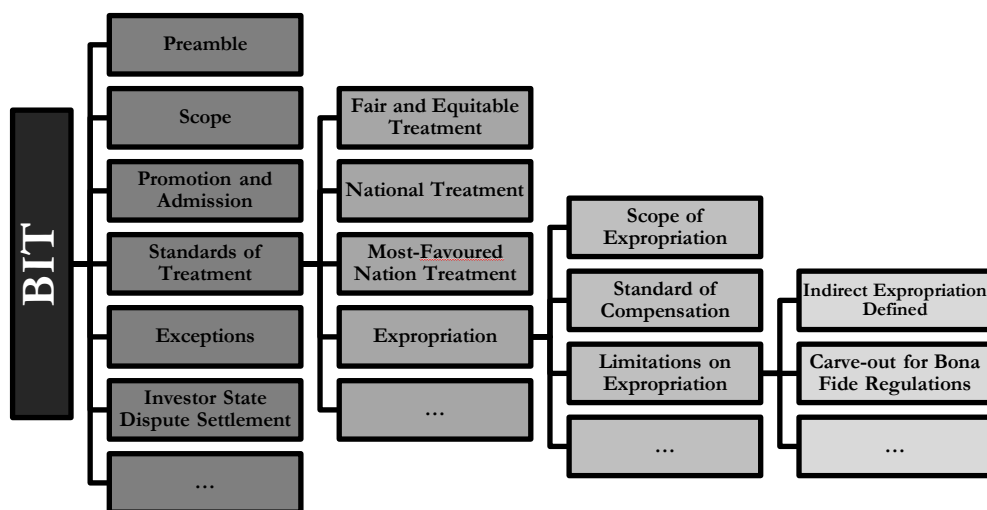
²¹UNCTAD, IDENTIFYING CORE ELEMENTS IN INVESTMENT AGREEMENTS IN THE APEC REGION, (2008), UNCTAD/DIAE/IA/2008/3, U. S. Sales No. E.08.II.D.27.,http://unctad.org/en/Docs/diaeia20083_en.pdf; UNCTAD, INTERNATIONAL INVESTMENT RULE MAKING: STOCKTAKING CHALLENGES AND THE WAY FORWARD, (2009), UNCTAD/ITE/IIT/2007/3, U. N. Sales No. E.08.II.D.1, http://unctad.org/en/Docs/iteiit20073_en.pdf; UNCTAD, BILATERAL INVESTMENT TREATIES 1995-2006: TRENDS IN INVESTMENT RULEMAKING (2007), UNCTAD/ITE/IIT/2006/5, U.N. Sales No. E.06.II.D.16, http://unctad.org/en/docs/iteia20065_en.pdf; UNCTAD, INTERNATIONAL INVESTMENT ARRANGEMENTS: TRENDS AND EMERGING ISSUES (2006), UNCTAD/ITE/IIT/2005/11, U. N. Sales No. 06.II.D.3, http://unctad.org/en/Docs/iteiit200511_en.pdf.

²²CHESTER BROWN & DEVASHISH KRISHAN, *COMMENTARIES ON SELECTED MODEL INVESTMENT TREATIES* (2013).

²³ We thank our SNIS Project colleagues Rodrigo Polanco, Valentino Desilvestro, and Azernoosh Bazrafkan for their assistance in extending the codebook.

administration” etc. Each of these branches has sub-branches that reflect elements typically found within that branch: “fair and equitable treatment”, for instance, is an element of the branch “standards of protection” and “conduct of proceedings” is an element of the branch “investor-state dispute settlement”. Finally, each sub-branch has sub-sub-branches that add further detail to each element, e.g. specifying whether “fair and equitable treatment” is linked to “customary international law”.

Figure 1: Tree structure of the codebook (partial illustration)



Note: This figure exemplifies the tree structure of our codebook. Each BIT is represented as a set of categories (e.g. “Standards of Treatment”) with sub-categories (e.g. “expropriation”) and sub-sub categories (e.g. “Standards of Compensation”). In total, our codebook has four levels of detail and consists of 204 features at the fourth, most detailed level.

In total, our codebook has four levels of depth. The fourth and most detailed layer currently comprises 204 specific elements capturing a significant part of the content variation encountered across investment treaties. The important advantage of the tree structure we devised is that it is self-populating. Once an inferior category is filled, this information is communicated up the branch to its superior category. Thus, we only need to check for the existence of fourth-layer-categories to fill the entire tree structure.

The codebook is connected to the automated rule-based coding pipeline that draws on BIT article headers as well as article text information to identify whether a given feature from the codebook is present in each of our 22,500 BIT articles. By

implementing the pipeline, we obtain a detailed mapping of the content of each BIT and its constituent articles.

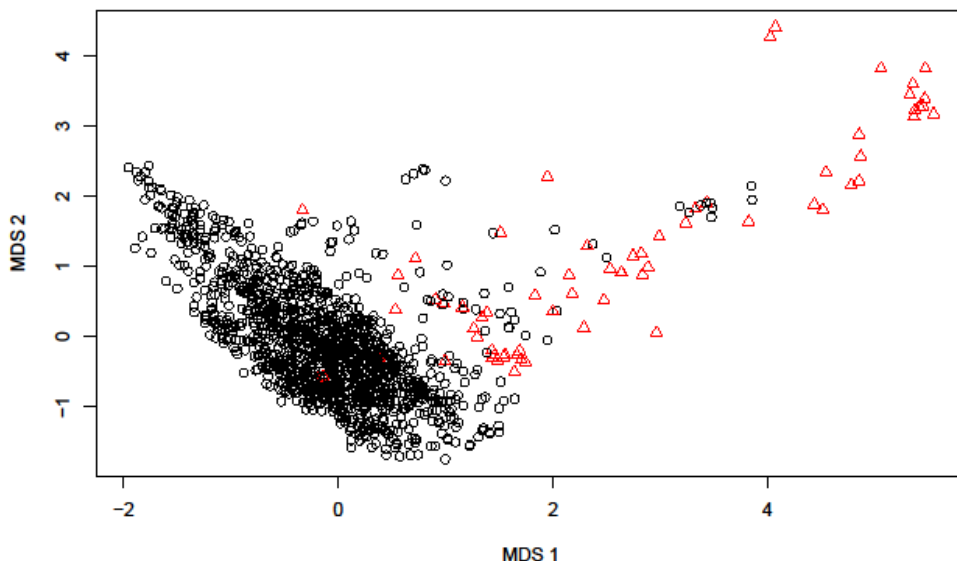
IV. CONVERGENCE AS BASIS FOR CONSOLIDATION

A. The Structure of the BIT Universe

In this section, we use our automated coding pipeline to understand the scope for potential convergence in the BIT universe. To get a sense of the structure of the BIT universe and the variation encountered therein, we begin our scoping exercise by reducing the results from the most detailed layer of our coded data consisting of 204 treaty elements to two dimensions using metric multi-dimensional scaling (MDS).²⁴ To facilitate the visual inspection of our figure, we introduce a simple distinction. We assume that treaties that contain more articles are on average more complex and comprehensive agreements; conversely, treaties with fewer articles regulate investment relations in a simpler and more limited manner. On that basis, we visualize treaties with more than 20 articles as triangles and those with fewer articles as circles.

²⁴ All computations are performed in R programming language with *cmd scale* command from package *stats*.

Figure 2: The structure of the BIT universe based on a MDS representation of coding results



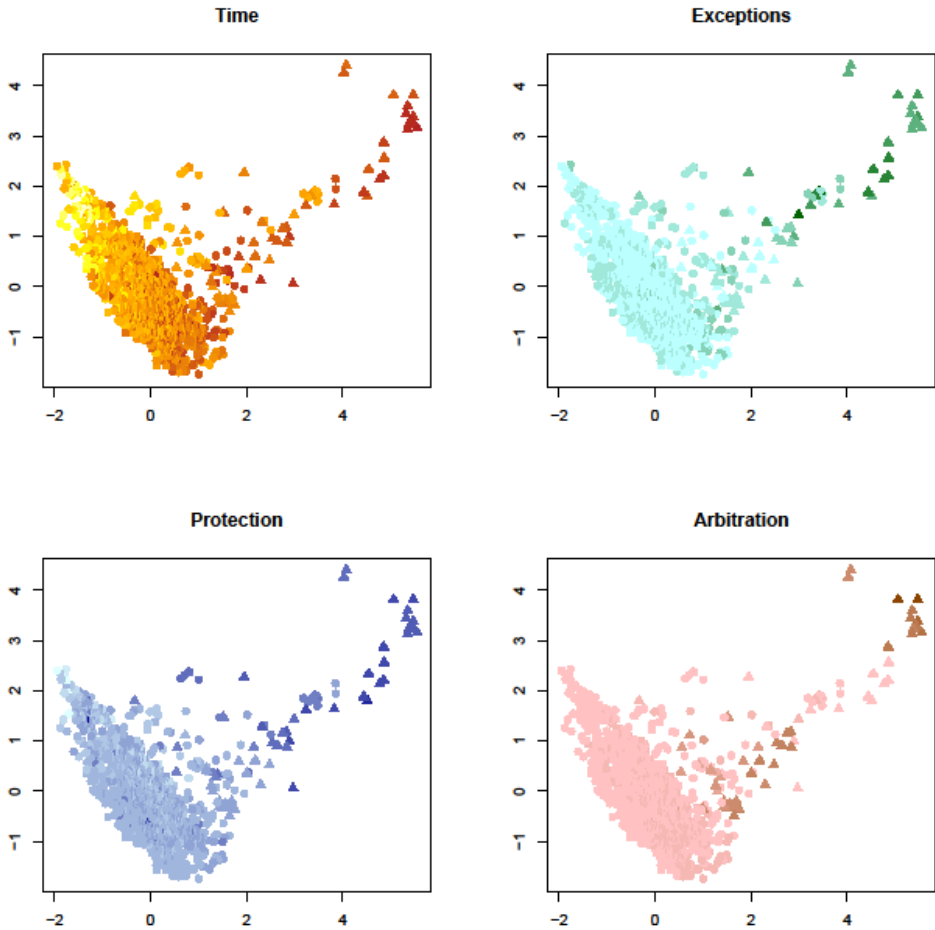
Note: This figure reduces the matrix of 1628 BITs (rows) and the coding of their 204 design features (columns) to two dimensions using metric multidimensional scaling (MDS). The dimensional reduction clusters BITs that share common features together and those that contain different elements apart. Circles represent BITs that contain less than 20 articles, while triangles represent BITs with more than 20 articles.

Figure 2 shows that the BIT universe is divided into two clusters. First, the overwhelming majority of treaties is concentrated on the lower left corner of the space. Treaties in that cluster are almost exclusively short agreements with less than 20 articles. Second, departing from the first cluster and extending towards the upper right edge of the scale is a second cluster that consists of a majority of longer agreements with more than 20 articles.

These two clusters, however, are set apart by more than just treaty length. Figure 3 integrates four new dimensions into the same image by introducing a shade gradient that depicts (clockwise from upper left) the treaty's year of signature as well as its number of exception, arbitration and protection provisions. Light

shading signifies lower scores (earlier agreements or fewer provisions) while dark shading represents higher scores (later agreements or more provisions).

Figure 3: The structure of the BIT universe with different variables as shade gradient (brighter shading: low numbers; darker shading: high numbers)



Note: This figure introduces a colour gradient to the two-dimensional space of Figure 2 which characterizes each treaty along four variables: (1) the treaty's year of signature as well as its number of (2) exception, (3) arbitration and (4) protection provisions. Light shading signifies lower scores (earlier agreements or fewer

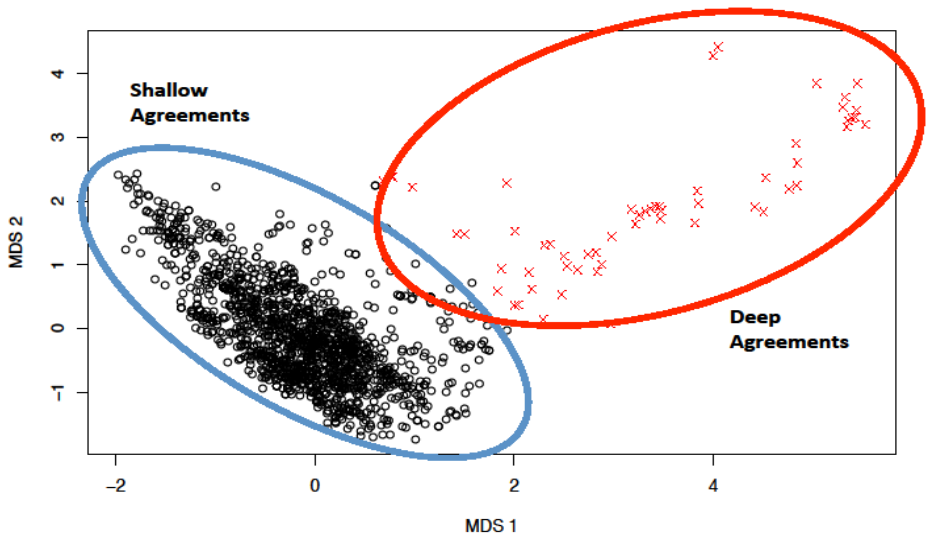
provisions) while dark shading represents higher scores (later agreements or more provisions).

Several distinctions thus become visible. First, whereas treaties on the left of the space are predominantly early agreements; those on the right are mostly recent treaties. Second, these early agreements on the left contain several protection clauses, but very few exception or arbitration provisions. Those on the right, in contrast, contain considerably more exceptions, provide for more detailed arbitration procedures and also entail more protective provisions. The divide between the two clusters is thus one of scope, content and complexity as well as time. Finally, the two clusters differ in their internal homogeneity. While the denser one on the left is also relatively uniform in its protection, exception and arbitration dimension, the cluster on the right is more scattered both spatially and in terms of its varying content.

In summary, the BIT universe is marked by a two-part structure, which we retrace in Figure 4.²⁵ In shorthand, we describe the two types of agreement areas as a “shallow” versus a “deep” cluster. On the one hand, there is the large group of older, short and relatively similar treaties that are “shallow” in scope since they contain fewer protection and exception clauses and provide little detail on the procedure of investor-state arbitration. On the other hand, there is the smaller group of more complex and comprehensive agreements. These “deeper” treaties have emerged more recently, and generally contain more protection, exception and arbitration features, but also diverge more strongly in content.

²⁵ We identify and colour-code the two clusters by using a means algorithm with the centroids at the coordinates (-1,0) and (3.5,2).

Figure 4: The Two Clusters within the BIT Universe



Note: This figure annotates Figure 2 distinguishing the two BIT clusters of deep agreements (crosses) and shallow ones (circles).

In consequence, the structure of the IIA universe points to two theoretical consolidation options. Existing treaties can either be consolidated at the bottom taking the cluster of shallow agreements as benchmark or they can be consolidated at the top aiming for a multilateral treaty that is deeper and more ambitious.

B. Shallow vs. Deep Consolidation

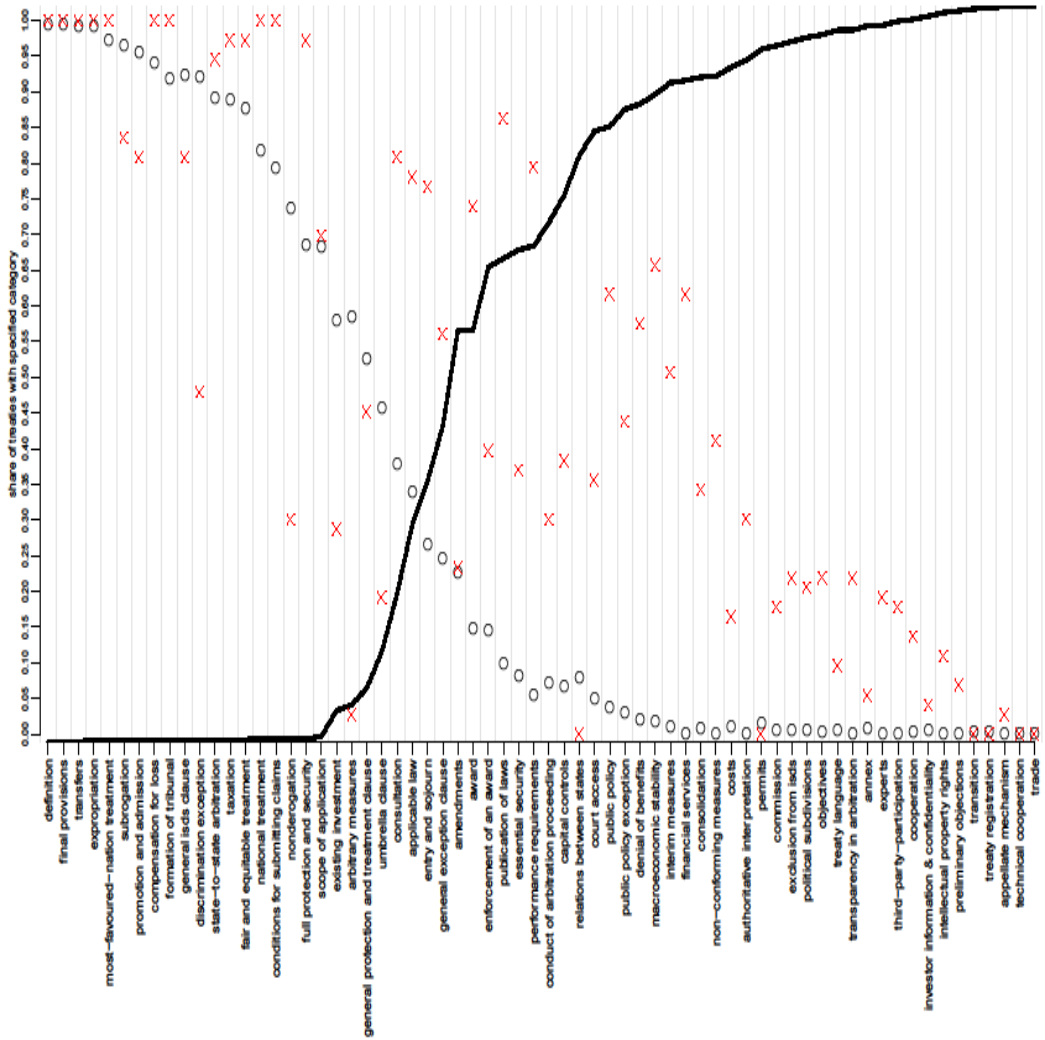
The question then arises how easy it is to consolidate investment law at the top or at the bottom? To provide a nuanced answer, we assess the prevalence and consensus surrounding the different clauses that States commonly insert into their investment treaties. For that we use the second-level of our four-level coding, which roughly corresponds to a list of 66 core treaty features.

We begin by plotting the relative prevalence of each treaty feature in its respective cluster in Figure 5. The x-axis orders the treaty features in our codebook by their prevalence in the entire BIT universe. While both clusters share a number of prominent treaty features, such as expropriation or transfer clauses, they otherwise diverge in scope. The shallow cluster is dominated by relatively few, pervasive features that primarily deal with investment protection; the deeper cluster, in turn, is characterized by a broader range of clauses on investment protection, arbitration and exceptions. Moreover, the relative prevalence of individual features differs between the shallow and deep clusters. For example, shallow agreements contain higher frequencies of umbrella or arbitrary measures clauses, whereas these provisions have fallen into disuse in deeper BITs. Other elements that are rare or non-existent in shallow BITs have proliferated in deep agreements. Performance requirements or capital controls, for instance, have become more common and new elements such as transparency in arbitration have been added to deeper BITs.

These differences have repercussions for the consolidation potential of BITs from each cluster. The dark line in Figure 5 traces the share of treaties that would be completely substituted by a multilateral treaty containing the most prevalent features up to a given rank. For instance, a treaty containing the 19 most prevalent treaty features would fully substitute the content of around 5% of existing BITs. That share would quickly rise with every new feature. A treaty with the 27 most prevalent features would already substitute 50% of BITs and one with the 36 most prominent features could replace 80% of agreements. Thereafter, the substitution rate slows down considerably with every new feature adding only small increments of substituted treaties. Differently put, while at first it is worthwhile to add more features to augment the share of substituted treaties, the marginal benefit of every new feature starts to decline after the 30th feature. As a result, it would be comparatively easier to replace most shallow BITs with a multilateral substitute consisting of the 30 or so most prevalent features, but it would get progressively more difficult to also consolidate deep agreements that are more varied and contain less common provisions.

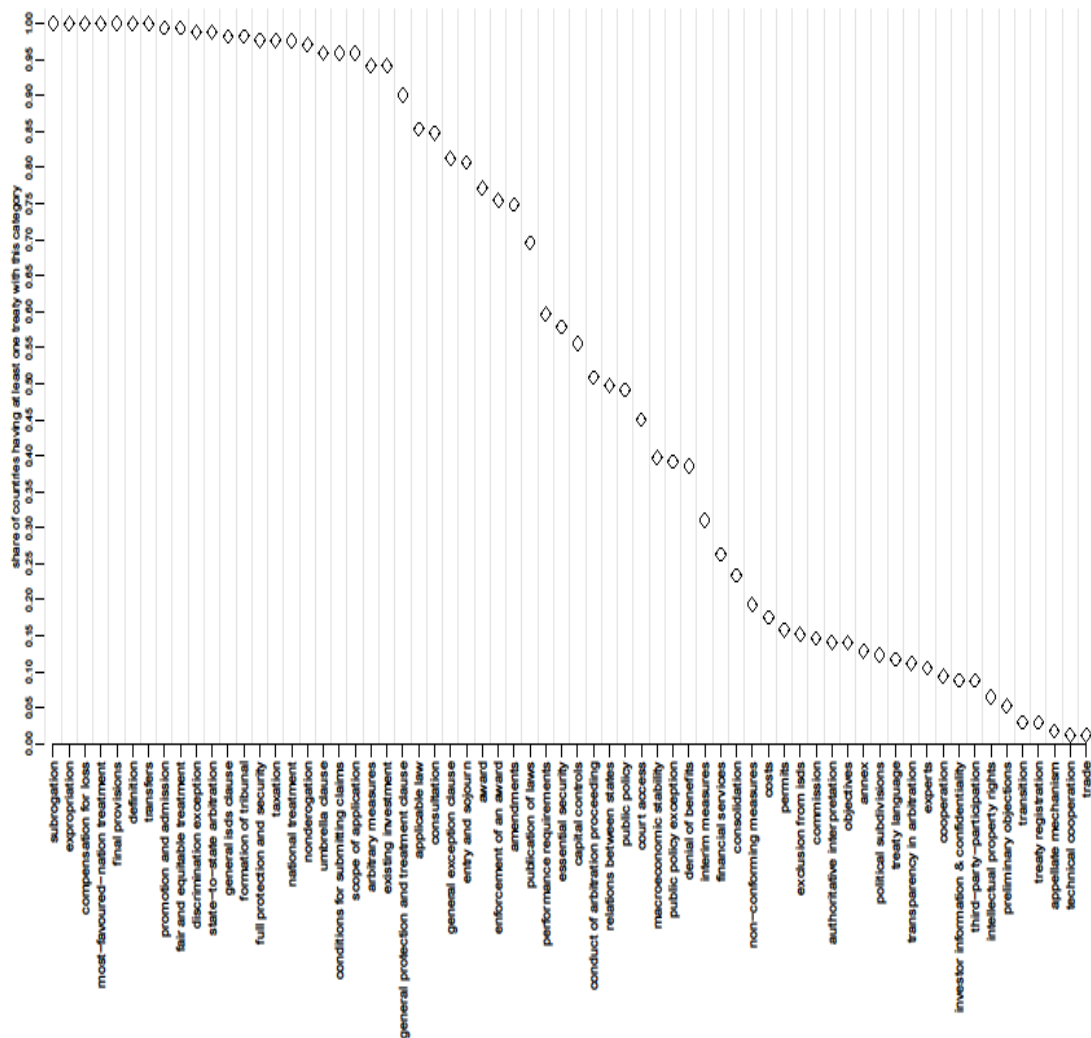
Figure 5: Relative prevalence of coded features in the shallow (black circles) and

deep (red crosses) cluster and a black line tracing the potential for multilateral consolidation, i.e. the share of BITs substituted by a future multilateral agreement that contains all the features left of a given point on the x-axis.



Note: This figure ranks 66 coded features in accordance with their prevalence in the BIT universe (x-axis) and shows (1) the share of treaties (y-axis) that contain that feature per cluster – differentiating between the shallow (black circles) and deep (red crosses) cluster - and (2) the share of BITs that a multilateral treaty containing all features up to a given point on the x-axis would substitute in terms of content.

Figure 6: Share of State consensus per coded features (share of countries with at least one BIT with coded feature)



Note: This figure ranks 66 coded features in accordance with their prevalence in the BIT universe (x-axis) – but this time relates them to the share of States that have adopted it in at least one BIT (y-axis).

Looking exclusively at the relative prevalence of features in a treaty network,

however, comes with the risk of underestimating the degree of convergence in the BIT universe. First, if a State has already agreed to a feature once, it is more likely to accept it again. Second, most-favoured nation (MFN) clauses are widely understood as extending concessions given in one treaty to all other treaties, since MFN operates so as to incorporate the more favourable treatment granted in other agreements also into the MFN's base treaty.²⁶ Investment protection obligation included once will thus often bind a State *vis-à-vis* all its treaty partners.²⁷ The degree of consensus is thus considerably larger than what the feature prevalence in individual BITs suggests. Figure 6 therefore displays the same features as Figure 5, but this time ranks them by the underlying State consensus operationalized as the share of States that include a given feature at least once. By that measure, the 21 most prevalent features are supported by 95% or more of the 171 countries involved in our dataset. After that every new feature leads to a significant decline in the underlying State consensus so that at the 35th feature the support drops below the 50% level before it begins to level off at around the 42nd feature with consensus of less than 20%.

Both figures convey a common insight. On the one hand, there is a significant body of features that finds almost universal acceptance across treaties and countries. These core elements could form the nucleus of future consolidation efforts. On the other hand, there is also a wide range of features concentrated primarily in deep agreements on which consensus is lacking based on our data.²⁸ Whereas protective features dominate the former camp, exception features populate the latter. Table 1 illustrates this division highlighting the different levels of State consensus. There is wide support for core investment protection clauses with features reaching State acceptance rates of 95% or more. Among these features is investor-state arbitration that has been accepted by all States in our dataset apart from Liberia, Lesotho and Somalia. Hence, there is ample consensus in past practice for consolidating treaties around a core of investment protection clauses present in both, shallow and deep agreements. At the same time, the propensity to accept public policy exception, denial of benefit clauses or non-conforming measures is only present in less than 40% of States. Furthermore, these features are disproportionately found in deep agreements and almost entirely absent in shallow ones. Measured by past practice, consolidation around these exception features thus currently lacks wider consensus.

²⁶Stephan W. Schill, *Multilateralizing Investment Treaties through Most-Favored-Nation Clauses*, 27 BERKELEY J. INT'L L. 496(2009), <http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1373&context=bjil>.

²⁷*Id.*

²⁸These results are preliminary only given that we do not consider Free Trade Agreements with investment chapters where much innovation takes place and currently only capture a part of the BIT universe.

Table 1: State consensus around selected protection and exception features

Top Protection Features	State Consensus	Top Exception Features	State Consensus
Expropriation	100% (171)	Economic integration exception	98% (169)
Fair and equitable treatment	99% (170)	General exception clause	81% (139)
ISDS	98% (168)	Essential security	57% (99)
Full protection and security	97% (167)	Capital controls	55% (95)
National treatment	97% (167)	Not weakening standards	49% (84)
Umbrella clause	95% (164)	Macroeconomic stability exception	39% (68)
MFN treatment	95% (163)	Public policy exception	39% (67)
Arbitrary measures	94% (161)	Denial of benefits	38% (66)
Personnel's entry & sojourn	80% (138)	Non-conforming measures	19% (33)
Performance requirements	59% (102)	Exclusion from ISDS	15% (26)

Note: This table tracks state consensus in % and absolute numbers (171 States are in our dataset). Following Figure 6, the definition of State consensus for this table is that a State has accepted a given feature in at least one BIT.

These numbers show that if investment treaties were only about the protection of investors, there would be ample room for consolidating practice around a lowest common denominator of core protective features. In that case, States could concentrate on updating and fine-tuning the language of their protective provisions in light of recent practice in deeper BITs achieving a more precisely worded multilateral substitute that replaces older and shallow BITs that are thereby made redundant. In contrast, consolidating practice around more complex and comprehensive agreements that address a broader range of non-investment protection concerns seems more elusive based on past practice. Only a minority of States currently include these features and even within the cluster of deep agreements there is considerable variation. Consolidation of existing practice thus seems easier at the bottom around a lowest common denominator of core protection clauses, but is more ambitious at the top when encompassing non-investment protection concerns.

C. Deep Consolidation is Ambitious, yet Desirable

Focusing consolidation efforts exclusively on a common denominator of core investment protection provisions may be theoretically possible, but arguably neither practical nor desirable.

On the one hand, consolidation irrespective of its scope has positive effects. It reduces inconsistencies across agreements and helps to foster a predictable and stable jurisprudence around a limited set of common core provisions. Aside from

remedying unwanted consequences of fragmentation, it can also help alleviate power asymmetries, as currently, developing countries, more than developed countries, suffer from a patchwork of inconsistent treaties.²⁹ Perhaps most importantly in the BIT context, consolidating practice can also be used to update outdated treaty language. While most agreements have fair and equitable treatment provisions, for instance, these clauses differ in their degree of precision.³⁰ A limited multilateral deal that builds on consensus around protective clauses in past practices, but codifies their more precise variations in recent deep BITs or free trade agreements could achieve that.

On the other hand, any consolidation effort focusing exclusively on shallow BITs and investment protection would arguably fail to address sustainability concerns currently voiced in investment law policy debates. In July 2016, G20 countries agreed on *Guiding Principles for Global Investment Policymaking*, placing investment treaties within the pursuit of sustainable development objectives and affirming States' right to regulate the importance of transparency and the responsibility of investors.³¹ Shallow BITs fall short of these objectives. They largely lack public policy exceptions or transparency-oriented procedural refinements of investor-state arbitration delegating the task to fill gaps left open by the treaty drafters to *ad hoc* arbitrators resulting in an often unpredictable and inconsistent jurisprudence.³² For these reasons, international organizations and scholars have forcefully argued that recent deeper agreements are more sustainable than shallow older ones as they strike a more careful balance between investment protection and non-investment concerns.³³ In that vein, consolidating practice at the bottom would go against current trends in policy-making by codifying a model of investment protection

²⁹ Alschner & Skougarevskiy, *supra* note 3 at 19.

³⁰ See e.g. Caroline Henckels, *Protecting Regulatory Autonomy through Greater Precision in Investment Treaties: The TPP, CETA, and TTIP*, 19 J. INT. ECON. LAW 27–50 (2016).

³¹ G20 GUIDING PRINCIPLES FOR GLOBAL INVESTMENT POLICYMAKING, *available at*: <http://www.oecd.org/daf/inv/investment-policy/G20-Guiding-Principles-for-Global-Investment-Policymaking.pdf>.

³² UNCTAD, *Interpretation of IILAs: What States Can Do*, UNCTAD IIA ISSUE NOTE (2011), http://unctad.org/en/Docs/webdiaeia2011d10_en.pdf.

³³A. Van Aaken, *International Investment Law between Commitment and Flexibility: A Contract Theory Analysis*, 12 J. INT'L. ECON. L. 507–38 (2009); S. A. Spears, *The Quest for Policy Space in a New Generation of International Investment Agreements*, 13 J. INT'L. ECON. L. 1037–75 (2010); MARIE-CLAIRE CORDONIER SEGGER ET. AL EDS., *SUSTAINABLE DEVELOPMENT IN WORLD INVESTMENT LAW* (2011); UNCTAD, *WORLD INVESTMENT REPORT - TOWARDS A NEW GENERATION OF INVESTMENT POLICIES* (2012), http://unctad.org/en/PublicationsLibrary/wir2012_embargoed_en.pdf; J. ANTHONY VAN DUZER, PENELOPE SIMONS & GRAHAM MAYEDA, *INTEGRATING SUSTAINABLE DEVELOPMENT INTO INTERNATIONAL INVESTMENT AGREEMENTS: A GUIDE FOR DEVELOPING COUNTRY NEGOTIATORS* (2013).

agreements that is not sustainable.

That means the consolidation at the bottom, though seemingly easier, is ultimately undesirable. We are thus left with a consolidation at the top. Consolidating best practices rather than lowest common denominators offers countries the opportunity to make their existing treaty networks more sustainable. Yet while desirable, an ambitious, deep agreement is also more difficult to achieve since it cannot be built around existing consensus. How difficult deep consolidation will be then, again, depends on the scope of policy convergence found among those States engaged in it. We will thus devote the remainder of the paper to investigate the potential for consolidation at the top by identifying areas of convergence and divergence in the practice surrounding deep investment agreements.

V. DIVERGENCE AS OBSTACLE FOR CONSOLIDATION

Our data exposes three main sources of divergence in existing State practice in relation to deep agreements that pose obstacles for future consolidation and multilateralization to varying degrees. First, most obviously, there is a gap between States that sign deep agreements and those that sign shallow agreements. Second, even where States sign deep agreements, they diverge in the issues they prioritize, resulting in deep agreements that vary more strongly in treaty design than their simpler counterparts. Third, even where States share common policy priorities, their strategies to address the same policy challenges often diverge. While the rift created by diverging treaty scope and depth seems to be closing, divergence on policy preferences persists, and the gap on finding common design solutions to common policy problems is ever-widening.

A. Divergence I: Shallow vs. Deep Agreements

Over the past two decades, investment treaty-making has changed. Deeper agreements are increasingly trendsetters, rather than outliers, as more and more countries depart from signing short and simple agreements and turn towards increasingly comprehensive and complex agreements. The United States, Canada, Japan and Mexico have long been at the forefront of countries concluding deeper agreements with 20 articles or more, whereas States in Asia or Europe lagged behind, signing short and simple treaties. Yet, when we look at the current policy of these latter States, the picture changes. India, for instance— the country that has signed most shallow agreements since 2000 —has halted its investment treaty program after being subjected to investment claims and has published a revised, deeper model BIT in early 2016 containing 24 articles.³⁴ Similarly, European States

³⁴MODEL TEXT FOR THE INDIAN BILATERAL INVESTMENT TREATY, *available at*

used to sign predominately short and simple agreements.³⁵ Yet, with the shift of competency over investment policy to the EU, the EU Commission has championed a more complex and comprehensive investment treaty design.³⁶ The investment chapter of the FTA between the EU and Canada (CETA), for instance, contains 45 provisions. In short, as more and more countries shift towards more complex and comprehensive agreements, the divide between proponents of shallow and deep agreements becomes less important. Figure 4's bifurcation of the IIA universe into those States favouring shallower agreements and those States preferring deeper agreements is thus likely to be only temporary. The global turn towards more complex agreements, in turn, paves the way towards future multilateralization at the top.³⁷

B. *Divergence II: Differing Policy Preferences*

Even though consensus is beginning to form around more complex and comprehensive treaty design, countries' preferences increasingly diverge on what specific content such deeper agreements should contain.

Figure 7 compares the average distribution of the content of the last five BITs concluded by Japan, Canada, Mexico, Belgium, Turkey, and Germany. Each of these countries has a distinct approach when it comes to treaty content. Canada dedicates significant treaty space to investor-state arbitration (ISDS), but also has sections on general exceptions and non-investment obligations. Mexico, on the other hand, equally extensively deals with investor-state arbitration procedures but devotes little attention to non-investment interests. The opposite is true for Belgium that has few clauses on ISDS, but accords considerable space to non-protection obligations, or Turkey that includes elaborate general exceptions.

https://www.mygov.in/sites/default/files/master_image/Model%20Text%20for%20the%20Indian%20Bilateral%20Investment%20Treaty.pdf [hereinafter Indian Model BIT].

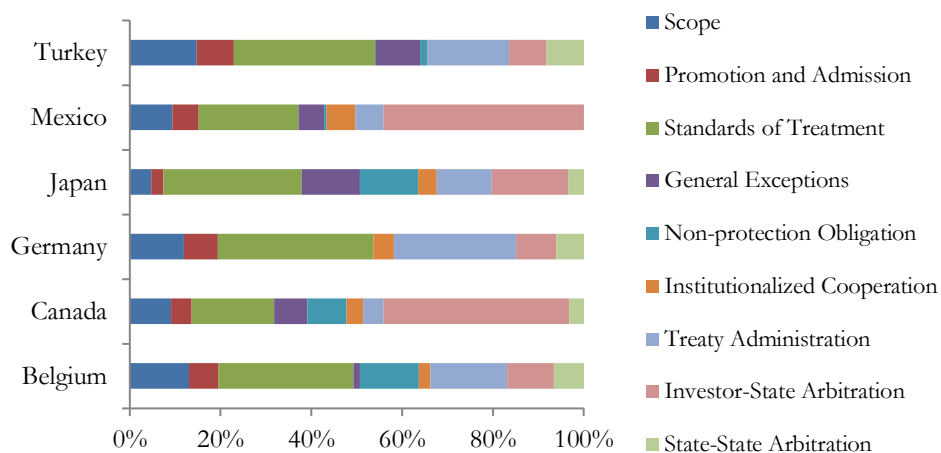
³⁵Nikos Lavranos, *The New EU Investment Treaties: Convergence towards the NAFTA Model as the New Plurilateral Model BIT Text?*, SSRN (2013), <http://papers.ssrn.com/abstract=2241455>.

³⁶ See Article 188 C (1) of the Treaty of Lisbon (Article 207 (1) Treaty on the Functioning of the European Union (TFEU)). See Julien Chaisse, *Promises and Pitfalls of the European Union Policy on Foreign Investment—How will the New EU Competence on FDI affect the Emerging Global Regime?*, 15 J. INT'L. ECON. L. 51–84 (2012); August Reinisch, *Putting the Pieces Together ... an EU Model BIT?*, 15 J. WORLD INV. & TRADE 679–704 (2014).

³⁷ Given that the drive towards greater complexity and depth has been spearheaded by the United States, one of us has termed this development an “Americanization” of the BIT universe. See Wolfgang Alschner, *Americanization of the BIT Universe: The Influence of Friendship, Commerce and Navigation (FCN) Treaties on Modern Investment Treaty Law*, 5 GOETTINGEN J. INT'L. L. 455–86 (2013) [hereinafter *Alschner*]; Filippo Fontanelli & Giuseppe Bianco, *Converging Towards NAFTA: An Analysis of FTA Investment Chapters in the European Union and the United States*, 50 STAN. J. INT'L. L. 211–359 (2014) [hereinafter *Fontanelli & Bianco*].

Finally, Japan divides its treaties relatively evenly among all subject matters while Germany does not devote any attention to non-investment concerns. We thus see considerable divergence among countries' approaches to the expanding issues covered in BITs.

Figure 7. BIT article content of selected countries



Note: This figure measures the average share of articles per subject matter for the last five BITs each of the selected countries has signed.

Differing preferences over what issues investment treaties are to cover are therefore an important source of divergence among States. As countries move towards deeper and more complex agreements, further consensus needs to be built to allow preferences to converge and to prepare the ground for multilateral consolidation.

C. Divergence III: Design Fragmentation

Yet even where States agree on the policy objectives that investment treaties should pursue, they often disagree on how to get there. Recent negotiations and draft agreements illustrate this development. While, for instance, the United States, the EU, and India, all agree that investor-state arbitration has to be embedded in an institutional set-up capable of reining in arbitral misinterpretation and conflicts of interest, they disagree on how this is to be done. The United States favours an *ad hoc* investor-state arbitration architecture that dates back to NAFTA, which has

been further refined in the recent TPP in light of lessons learned from litigation.³⁸ The EU, in contrast, wants to replace investment arbitration with a permanent investment court system.³⁹ India, in turn, in its recently published model BIT, accepts investor-state arbitration but limits access to it by requiring an exhaustion of local remedies.⁴⁰ Even though all these three States pursue the same goal – fixing a dispute settlement architecture that suffers from conflicts of interest and inconsistent outcomes – they follow very different strategies.

This example illustrates another important source of divergence –treaty design fragmentation– where States increasingly choose different options from a menu of design alternatives to remedy similar policy concerns. While this is a perfectly rational strategy for individual States, it also makes future consolidation more difficult by further fragmenting treaty design. In the past, treaty design variations were limited as States largely opted into a set of core protection elements that were in turn derived from a small number of draft conventions.⁴¹ This is beginning to change as countries like Brazil⁴² invent new approaches to treaty design or combine existing treaty formulations of other states. Often, countries do not take these formulations as a package deal, but rather pick individual elements that are then joined in novel combinations thereby increasing fragmentation. We illustrate this trend by reference to selective copying from North American treaty practice and by introducing the 2016 Iran–Slovakia BIT as a mosaic of existing practices.

The investment treaty practice of the United States has been a source of inspiration for many States when formulating their investment policy. Joining the BIT universe only in 1982, it became one of the first countries to face investment claims in the late 1990s.⁴³ Its 2004 model BIT that resulted from its experience as

³⁸ For commentary on the approach, see Lisa Sachs & Lise Johnson, *The TPP's Investment Chapter: Entrenching, Rather Than Reforming, a Flawed System*, CCSI POLICY PAPER, November 2015, available at: <http://ccsi.columbia.edu/files/2015/11/TPP-entrenching-flaws-21-Nov-FINAL.pdf>.

³⁹ European Commission, *EU Finalises Proposal for Investment Protection and Court System for TTIP*, Press Release (12 November 2015), available at http://europa.eu/rapid/press-release_IP-15-6059_en.htm.

⁴⁰ Article 14(3) of the Indian Model BIT, available at https://www.mygov.in/sites/default/files/master_image/Model%20Text%20for%20the%20Indian%20Bilateral%20Investment%20Treaty.pdf.

⁴¹STEPHAN W. SCHILL, *THE MULTILATERALIZATION OF INTERNATIONAL INVESTMENT LAW* 89–98 (2009).

⁴² *The Brazil–Mozambique and Brazil–Angola Cooperation and Investment Facilitation Agreements (CIFAs): A Descriptive Overview*, INVESTMENT TREATY NEWS, May 21, 2015, available at <https://www.iisd.org/itn/2015/05/21/the-brazil-mozambique-and-brazil-angola-cooperation-and-investment-facilitation-agreements-cifas-a-descriptive-overview/>.

⁴³See generally KENNETH J. VANDEVELDE, *U.S. INTERNATIONAL INVESTMENT*

respondent in investment arbitration has since served as reference point for other countries seeking to adjust their treaty models.⁴⁴ Yet, as we illustrate, this inspiration typically takes the form of selective copying rather than a full endorsement of the American design, in relation to national treatment as well as fair and equitable treatment provisions.

When entering the BIT universe, the United States introduced two changes to national treatment clauses as compared to existing BIT practices by European States. First, drawing on its prior Friendship, Commerce and Navigation (FCN) treaties, the country extended national treatment to the acquisition and establishment phase.⁴⁵ Thereby, it added a liberalization component to BITs that were hitherto exclusively concerned with behind-the-border protection.⁴⁶ In addition, it also made clear that an assessment of discrimination between foreigners and nationals needed to compare investors and investments that are “in like situations” or “in like circumstances”. This addition became important in subsequent litigation as tribunals struggled to define suitable comparator groups for claiming investors in national treatment disputes.⁴⁷

Our data shows how both sub-elements of national treatment have subsequently spread throughout the BIT universe. Although their relative frequency is still quite modest, with about 4% of all BITs containing liberalization elements and 10% providing comparator terms, these shares are much greater when we consider the countries party to such BITs. In fact, 36% of all signatories to BITs have concluded at least one BIT with a pre-establishment national treatment clause and 63% have signed on to a clause with comparator terms.

A similar process can be observed in relation to clarifications to the fair and equitable treatment standard. In July 2001, the Free Trade Commission (FTC) of

AGREEMENTS (2009).

⁴⁴On the 2004 innovations, see Kenneth J. Vandavelde, A Comparison of the 2004 and 1994 US Model BITs: Rebalancing *Investor and Host Country Interests*, in YEARBOOK ON INTERNATIONAL INVESTMENT LAW AND POLICY 2008-9 (Karl P. Sauvant ed., 2009); On States being inspired by the 2004 model, see M. Kinnear & R. Hansen, *The Influence of NAFTA Chapter 11 in the BIT Landscape*, 12 UC DAVIS J. INT'L. POL. 101 (2005); Efraim Chalamish, *An Oasis in the Desert: The Emergence of Israeli Investment Treaties in the Global Economy*, 32 LOY. L.A. INT'L. & COMP. L. REV. 123 (2010); Fontanelli and Bianco, *supra* note 37.

⁴⁵Alschner, *supra* note 37.

⁴⁶UNCTAD, ADMISSION AND ESTABLISHMENT, UNCTAD/ITE/IIT/10 (vol. II), U.N. Sales No. E.99.II.D.10. (1999), http://unctad.org/en/Docs/iteiit10v2_en.pdf; PATRICK JUILLARD, L'ÉVOLUTION DES SOURCES DU DROIT DES INVESTISSEMENTS (1994).

⁴⁷Nicholas DiMascio & Joost Pauwelyn, *Non-Discrimination in Trade and Investment Treaties: Worlds Apart or Two Sides of the Same Coin?*, 102 AM. J. INT'L. L. 48-89 (2008).

NAFTA, consisting of representatives of Mexico, Canada and the United States, issued an authoritative interpretation pursuant to Article 1131(2) of NAFTA's fair and equitable treatment clause in Article 1105. Reining in expansive interpretations by prior arbitral awards, the Commission stated that the obligation to provide investors with "fair and equitable treatment" (FET) does not require a treatment above or beyond the customary international law minimum standard of treatment.⁴⁸ After the decision, the link between FET and customary international law was explicitly taken up in the subsequent treaty practice of the United States, Canada and Mexico from where it diffused to other countries.⁴⁹ Today at least 42 countries are parties to BITs that explicitly root FET in the customary international law minimum standard of treatment (Figure 8).

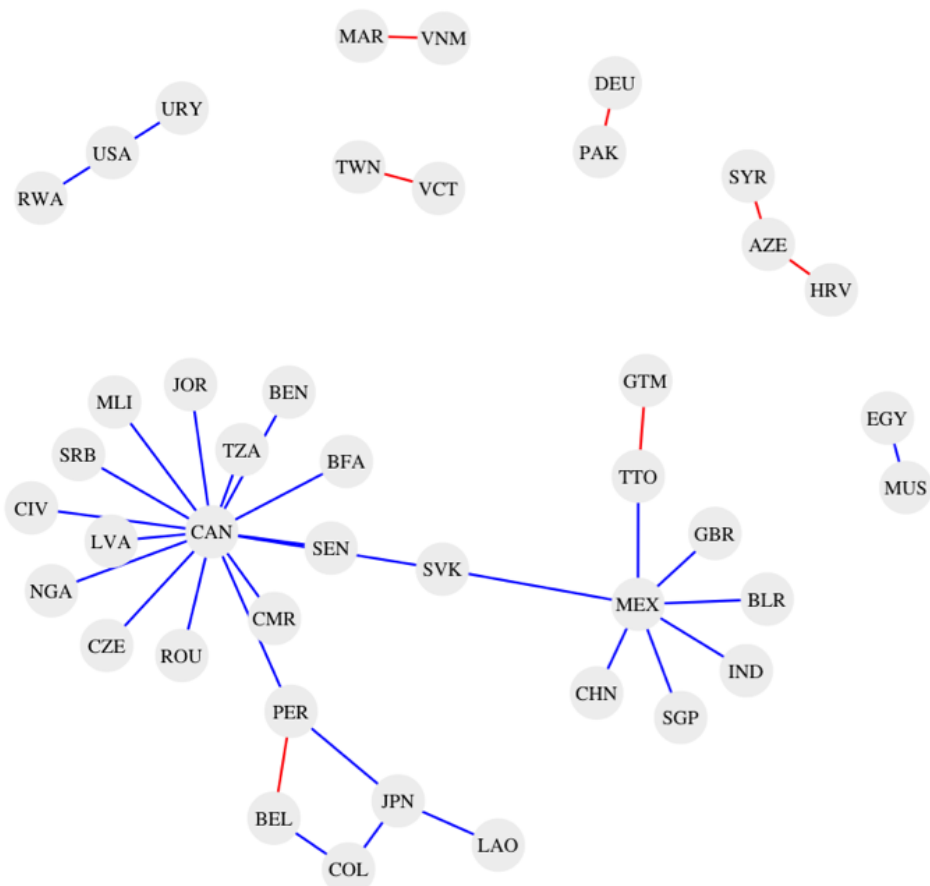
Aside from linking FET to custom, the Commission also stated that "[a] determination that there has been a breach of another provision of the NAFTA, or of a separate international agreement, does not establish that there has been a breach of [FET]."⁵⁰ As Figure 8 highlights, Canada, Mexico and the United States included the FTC interpretation as a package deal into their BITs. Other countries, at the periphery of the figure, however only incorporated the link to custom, but not the indirect breach exclusion. This illustrates the effect of selection. Where diffusion takes place through imitation, rather than through treaty-making with the innovative core, countries are selective in terms of the innovation they adopt. Such selection then becomes a source of design divergence and fragmentation.

⁴⁸ NAFTA Free Trade Commission, NOTES OF INTERPRETATION OF CERTAIN CHAPTER 11 PROVISIONS, sec. B (2), July 31, 2001, *available at* http://www.sice.oas.org/tpd/nafta/Commission/CH11understanding_e.asp.

⁴⁹ UNCTAD, FAIR AND EQUITABLE TREATMENT, (UNCTAD ed., 2012), http://unctad.org/en/Docs/unctaddiaeia2011d5_en.pdf.

⁵⁰ NAFTA Free Trade Commission, NOTES OF INTERPRETATION OF CERTAIN CHAPTER 11 PROVISIONS, sec. B (3), July 31, 2001, *available at* http://www.sice.oas.org/tpd/nafta/Commission/CH11understanding_e.asp.

Figure 8: Country network of BITs involving FET clauses linked to customary law with (blue) and without (red) indirect breach carve-out



Note: This figure represents BITs as ties between signatory countries as nodes. Ties are colour-coded to show when diffusion occurred as package deal (blue) versus selective cherry-picking (red).

Selective adoption and recombinations of existing features are likely to become a growing source of treaty design divergence. The recently concluded 2016 BIT between Iran and Slovakia epitomizes this trend. Rather than being rooted in any specific BIT tradition, the agreement is a mosaic of clauses taken and adapted from different sources.⁵¹ Article 3 on the standard of treatment, which includes fair and

⁵¹ For an in-depth discussion, see Wolfgang Alschner & Dmitriy Skougarevskiy, *BITs*

equitable treatment and full protection and security, is textually most closely related to Article X.10 of CETA (2015), while excluding some of the latter's features such as the admissibility of the investor's legitimate expectations. Article 11 on general exceptions partially mirrors Article 10 of the Canada–Jordan BIT (2010). Article 20 on claims manifestly without merit relies on the language from the Australia–Chile FTA (2009) Investment Chapter Article 10.20. Particularly surprising is that the Iran-Slovakia BIT's closest overall neighbour is the 2004 U.S. model BIT with 51% of textual overlap, rather than CETA or another European country's BIT. This highlights the emerging trend that BIT design is growing more diverse as countries select, mix and match innovations from different parts of the globe. This starkly increases design variation and fragmentation in a field historically marked by path dependent treaty design rooted in influential model or draft agreements rather than organic innovation.

VI. MANAGING CONVERGENCE AND DIVERGENCE: THE PATH TOWARDS MULTILATERALIZATION

The above empirical assessment of the scope for multilateral consolidation based on the convergence and divergence of existing BIT practice yielded two major insights. First, while shallow consolidation around a dozen investment protection provisions is supported by ample practice, it is not desirable given the current policy discourse that favours deeper and more sustainable treaties that strike a balance between investment protection and non-investment concerns. Second, consolidation around such deeper, more ambitious agreements, whilst desirable, is currently not backed by up by common and widespread State practice. Indeed, deeper agreements tend to diverge more strongly as variation across BITs is increasing through selective adaptation and recombination.

What does that mean for the consolidation of BITs? On the one hand, current trends indicate that States have little appetite for consolidation. Countries from India and Brazil to Slovakia or the European Union are instead experimenting with new treaty design challenging IIAs' hitherto prevalent path dependency.⁵² Innovation rather than consolidation seems to be the primary objective of States' investment policy at least in the short term. On the other hand, this quest for change also constitutes an opportunity for consolidation in the medium term as States are increasingly swayed by the current policy discourse to sign deeper

reloaded – *How European States are Rebooting their Investment Treaty Programs*, Mapping BITs Blog, July 29, 2016, available at <http://mappinginvestmenttreaties.com/blog/2016/07/european-bit-programme-reload/>.

⁵²See also Wolfgang Alschner, *Locked-in Language: Historical Sociology and the Textual Path Dependency of International Investment Treaties*, in RESEARCH HANDBOOK ON THE SOCIOLOGY OF INTERNATIONAL LAW (Moshe Hirsch & Andrew Lang eds., Forthcoming 2017).

agreements. Seizing the occasion, efforts should be concentrated towards ensuring that the drive towards deeper agreements reduces rather than exacerbates treaty design divergence and fragmentation.

Managing the tension between the innovation and consolidation thus emerges as one of the primary challenges for investment policy-makers in our time. Even as experimentation with respect to specific treaty design choices continues, States will need to agree on what policy areas should form part of an investment agreement. Similarly, as countries increasingly diverge on the remedies they choose to address the same policy problems, they should keep track of what works and what does not in order to incrementally build consensus around the best performing design choices. Innovation, selective diffusion and recombination will thus lead to a proliferation of varying deep treaty design architectures in the short run, but may facilitate convergence around a gold standard in the medium term.

The primary order of the day for those aiming for gradual multilateral convergence will thus have to be to better manage further BIT differentiation. Rather than leaving it to each country to design individual remedies to policy problems faced by every State, the system would benefit from a greater emphasis on joint efforts on two levels.

First, consolidation can come through regionalization. As regional blocks develop common approaches to investment policy making, regional investment agreements can serve as stepping-stones for eventual multilateralization. Yet, currently regional agreements are not used effectively enough for this purpose. Outdated and diverging BITs are not phased out and continue to exist in parallel to regional agreements.⁵³ Moreover, new BITs are signed that deviate from regional benchmarks. Although the EU Commission has to authorize and approve new BITs concluded by its member States,⁵⁴ the Slovakia–Iran BIT illustrates that such agreements can differ markedly from regional benchmarks. Hence, more emphasis should be placed on streamlining investment treaty content regionally to permit innovation while promoting convergence.

Second, multilateralization of selected issues can help clear the path for a broader global umbrella treaty. Efforts by the EU to multilateralize its proposed investment court system go into that direction. Similarly, the Mauritius Convention, which updates the BITs of its signatories with respect to transparency in investment arbitration, is another means by which a fragmented treaty practice can be

⁵³Alschner, *Regionalism*, *supra* note 7.

⁵⁴Commission Regulation 1219/2012, Establishing Transitional Arrangements for Bilateral Investment Agreements Between Member States and Third Countries, 2012 O. J. (L 351/40).

converged.⁵⁵ Finally, international fora such as the G20 can foster multilateral consensus building, including through follow-up work on their *2016 Guiding Principles for Global Investment Policymaking*.⁵⁶

The common thread of these strategies should be the insight that converging practice facilitates consolidation, which, in turn, is a precondition for multilateralism.

VII. CONCLUSION

This article has empirically investigated convergence and divergence in the BIT universe in order to scope the potential for multilateral consolidation. While it found consensus in treaty practice for consolidation around short and shallow agreements, current policy discourse favours the more ambitious consolidation around deep, complex and more sustainable treaties. To achieve the latter goal, further consensus-building is needed. Specifically, those advocating for multilateralism should strive to manage further differentiation and fragmentation among BITs, reducing the sources of divergence identified in this article while permitting design innovation. Regional consolidation and partial multilateralization are important strategies to this effect.

⁵⁵ UNITED NATIONS CONVENTION ON TRANSPARENCY IN TREATY-BASED INVESTOR-STATE ARBITRATION (2015), *available at* <https://www.uncitral.org/pdf/english/texts/arbitration/transparency-convention/Transparency-Convention-e.pdf>.

⁵⁶*Supra* note 31.

ANNEX

We developed an automated coding pipeline that proceeds in several steps in order to identify whether a given feature from the codebook is present in a given BIT article.

First, we begin by extracting all article headers from our data, resulting in over 1200 unique article titles. We then manually match each article header to a first and second level branch of our tree structure. We allow for multiple assignments of the same article header to different branches. By placing each article into a branch (or branches) of the tree, we add efficiency and precision to our subsequent key word search, because we can thereby limit the scope of the search to sub-branches of the tree. For example, an article named “Definition” will prospectively be searched for elements from the “definition” branch, e.g. the notion of “investor” or “investment”, but not for features contained in the “standards of protection” branch or other branches. Differently put, article headers limit the search to elements typically found in articles with that article header.

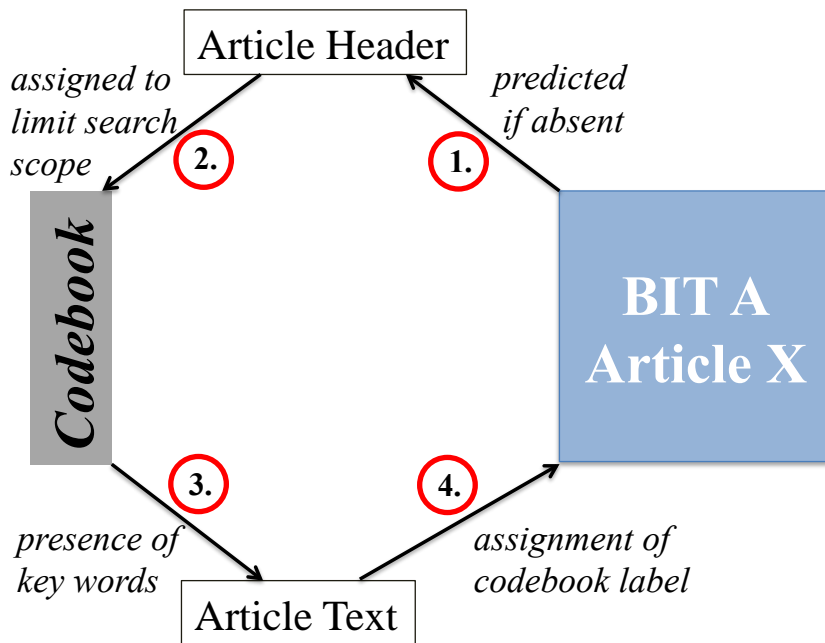
The main problem we encounter, however, is that not all articles have article headers. We thus use a supervised machine-learning algorithm to predict article titles for those articles that do not have article headers.⁵⁷ Now, each article can be assigned to at least one branch and sub-branch of the tree based on its real or inferred article header.

Second, we assign more detailed sub-branches of the tree to each article based on key words contained in its article texts. For each fourth-level sub-branch of the tree, we identify associated key words and terms, e.g. the words “fair and equitable” will be assigned to the part of the tree dealing with “fair and equitable treatment”, “expropriate” will denote “expropriation” and “health” will connect to “public policy exception”. We then search for these key words in the article full texts. Crucially, as discussed above, we limit the scope of search to those articles, which have been assigned branches of the tree based on their article headers,

⁵⁷ We rely on Matt Taddy, *Multinomial Inverse Regression for Text Analysis*, 108 J.AM. STAT. A. 755–70 (2013) to conduct this task. We learn the inverse relationship between article header and its text word counts by regressing the latter on the former in the first stage (gamma-LASSO multinomial regression with regularization) for the BIT articles with headers. We then compute the sufficient reduction of those article texts, and in the second stage learn the relationship between them and article headers with a multinomial forward regression of the incidence of article header on sufficient reduction of its text. In the third stage we construct the sufficient reduction of the texts of header-less articles and predict their headers with the aid of the relationship estimated by the forward model trained on articles with headers in the previous step.

where we would expect a conceptual category represented by a key word to occur. For instance, “health” may appear in the preamble of a treaty or in a public policy exception. By excluding preambles from the scope of the search where we are looking for health public policy exceptions, we prevent false positives. Figure 9 summarizes the procedure.

Figure 9: Description of automated pipeline to extract features from article-level treaty data



Finally, we combine the output of the key word and the article header-based assignment into a data set that lists the presence or absence of each element of our tree for each of our articles. As a result, we can easily identify in which articles a specific treaty feature is present and aggregate this information for each treaty or year. We can also embark on more general queries by aggregating this information, e.g. by counting the number of exceptions or protection provisions in an agreement or checking whether an agreement provides consent to investor-state arbitration. Our automated coding thus allows for a versatile analysis of treaty content in unprecedented depth and breadth.