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ECONOMIC ASPECTS OF INTERNATIONAL INVESTMENT AGREEMENTS*

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I. INTRODUCTION

International investment agreements ("IIAs") are State-to-State treaties that aim to promote investment, especially foreign direct investment ("FDI"), by protecting foreign investors against host-country policy measures.[1] The first IIAs appeared in the late 1950s, but most of the currently almost 2,700 IIAs in force were formed after the mid-1990s.[2] The vast majority of the agreements are bilateral, but it has become increasingly common for preferential trade agreements to encompass such protections.

Thousands of investment agreements have been formed in the last fifty years, strongly suggesting that both source and host-countries have perceived these agreements to be beneficial. Although initially formed without much political opposition, IIAs have become increasingly controversial.[3] IIAs have been alleged to be beset with a large number of deficiencies that harm host-countries in

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[1] *See* the Annex for a very brief description of the main contents of traditional IIAs.

[2] We will use the terms "investment agreement" or "IIA" interchangeably with "investment treaty."

[3] For reviews of the debate, and comprehensive critical discussions of investment agreements, see Rob Howse, *International Investment Law and Arbitration: A Conceptual Framework*, *in* INTERNATIONAL LAW AND LITIGATION (Helene Ruiz-Fabri ed., 2017); Lise Johnson, Lisa Sachs & Jeffrey Sachs, *Investor-State Dispute Settlement, Public Interest and U.S. Domestic Law*, COLUM. CTR. ON SUSTAINABLE INV. (2015); Joseph E. Stiglitz, *Regulating Multinational Corporations: Towards Principles of Cross-Border Legal Frameworks in a Globalized World Balancing Rights with Responsibilities,* 23 AM. U. INT'L L. REV. 451 (2008). Joachim Pohl reports the outcome of an extensive OECD project to establish an inventory of the societal benefits and costs of investment agreements based on available evidence, as advanced by academia, governments, business and civil society. Pohl also provides extensive references to the huge literature. Joachim Pohl, *Societal Benefits and Costs of International Investment Agreements: A Critical Review of Aspects and Available Empirical Evidence*, OECD WORKING PAPERS ON INTERNATIONAL INVESTMENT 2018/01, http://dx.doi.org/10.1787/e5f85c3d-en (last visited Feb. 26, 2019).

particular. Perhaps the most prominent allegation is that the agreements cause "regulatory chill,"—that they dissuade host-countries from taking actions that are somehow desirable, such as regulations aimed at protecting the health of its citizens or the environment. Another claim is that the possibility for private investors to bring disputes against host-countries outside the host-countries' legal systems—the Investor-State Dispute Settlement ("ISDS") mechanisms that normally are included in the agreements—cause excessive arbitration.

The skepticism regarding traditional investment agreement has also been reflected in changes in the IIA regime itself. A number of countries are changing their agreements, both concerning fundamental undertakings and dispute settlement procedures. The EU has radically changed its position due to the criticism it faced during the EU-Canada Comprehensive Economic and Trade Agreement ("CETA") and the Transatlantic Trade and Investment Partnership ("TTIP") negotiations. The Netherlands recently presented for public comment a revised Model BIT that contains sweeping changes compared to their 2004 Model BIT.[4] There are ongoing efforts in various international organizations, such as the Organization for Economic Co-operation and Development ("OECD") and the United Nations Conference on Trade and Development ("UNCTAD"), to revise the investment regime, and the investment protection chapter of the North American Free Trade Agreement ("NAFTA") has been renegotiated.[5]

Many of the issues brought up in this debate have evident economic aspects. For source-countries, the agreements serve to increase the profits of their outward investment. Host-countries hope to attract inward investment to benefit from externalities in the form of increased employment, technological spill-overs, tax revenues, etc. Furthermore, the agreements seek to achieve these objectives by affecting market interactions. Economic analysis is clearly required in order to understand the working of the agreements in these regards.

Surprisingly however, there is hardly any economic literature on the driving forces behind these agreements, on their appropriate design, and on their actual effects. The main exception to this is somewhat scattered empirical literature that seeks to estimate the effects of investment agreements on FDI.[6] For instance, searches by the authors concluded that there was until recently not a single paper

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[4] Rijksoverheid.nl, Netherlands Model Investment Agreement (Oct. 19, 2018) https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/publicaties/2018/10/26/modeltekst-voor-bilaterale-investeringsakkoorden/modeltekst-voor-bilaterale-investeringsakkoorden.pdf.

[5] *See, e.g.,* OECD Legal Instruments on International Investment and Trade in Services, http://www.oecd.org/daf/inv/investment-policy/investmentinstruments.htm (last visited Feb. 26, 2019); United Nations Conference on Trade and Development, *Reforming the International Investment Regime: An Action Menu*, *in* WORLD INVESTMENT REPORT 2015: REFORMING INTERNATIONAL INVESTMENT GOVERNANCE 120 (2015), https://unctad.org/en/PublicationChapters/wir2015ch4_en.pdf; Office of the United States Trade Representative, *Summary of the Objectives for the NAFTA Renegotiation*, https://ustr.gov/sites/default/files/files/Press/Releases/NAFTAObjectives.pdf (last visited Apr. 3, 2019).

[6] Rod Falvey & Neil Foster-McGregor, *North-South Foreign Direct Investment and Bilateral Investment Treaties*, 41 WORLD ECON. 2 (2017).

in the leading "top-5" economics journals on such agreements—indeed, the notion was *not even mentioned* with one exception. This dearth of economic analysis contrasts sharply with the large literature on the parallel form of international integration schemes—trade agreements.[7]

There is a nascent theoretical literature on investment agreements and regulatory expropriations, however.[8] This literature is still very much in its infancy, and much more work still remains to be done in this area. The purpose of this note is to explain in non-technical terms some observations that emerge from this early literature. The note is based mainly on the paper by Horn and Tangerås,[9] which in turn partly builds on the seminal contribution by Aisbett and others.[10]

In Section II, we will use three very stylized examples to demonstrate the basic economic mechanics of an investment agreement. Section A uses the simplest possible setting: where a host-country can directly expropriate an asset. Section A illustrates the commitment value of the traditional type of investment agreement between a developing and a developed country—what we will denote as a "North-South" agreement.

Section B examines the role of an investment agreement in a more interesting and more complex setting. It assumes that the investment might cause a regulatory problem in the host-country and that the agreement must balance the interests of the host-country to regulate against the interest of the source country to protect its outward investment. Both these Sections assume that the host-country is unable to make credible unilateral commitments to protect inward investment. Section C

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[7] *See, e.g.,* Kyle Bagwell & Robert W. Staiger, *The Design of Trade Agreements, in* HANDBOOK OF COMMERCIAL POLICY 435–529 (Kyle Bagwell & Robert W. Stager eds., 2016).

[8] *See,* Emma Aisbett et al., *Police Powers, Regulatory Takings, and the Efficient Compensation of Domestic and Foreign Investors,* 86 ECON. REC. 367 (2010) [hereinafter Aisbett et al., *Police Powers*]; Emma Aisbett et al., *Compensation for Indirect Expropriation in International Investment Agreements: Implications of National Treatment and Rights to Invest*, 1 J. OF GLOBALIZATION & DEV. 1 (2010); Henrik Horn & Thomas Tangerås, *Economics and Politics of International Investment Agreements*, CTR. FOR ECON. POL'Y RES. (Feb. 25, 2017), Discussion Paper DP11879; Eckhard Janeba, *Regulatory Chill and the Effect of Investor State Dispute Settlements*, CTR. FOR ECON. STUD. & IFO INS'T. (Nov. 2016), Working Paper No. 6188; Wilhelm Kohler & Frank Stähler, *The Economics of Investor Protection: ISDS Versus National Treatment*, CTR. FOR ECON. STUD. & IFO INS'T., (Feb. 2016), Working Paper No. 5766; Kai A. Konrad, *Large Investors and Permissive Regulation: Why Environmentalists May Dislike Investor-State Dispute Settlement*, 98 EUR. ECON. REV. 341 (2016); Guttorm Schjelderup & Frank Stähler, *Investor State Dispute Settlement and Multinational Firm Behavior,* NOR. SCH. OF ECON., (Jan. 27, 2017), Discussion Paper; Frank Stähler, *An Optimal Investor State Dispute Settlement Mechanism*, NOR. SCH. ECON., (Apr. 21, 2016), Discussion Paper. James Markusen provided an early, more informal, analysis of investment agreements. James R. Markusen, *Commitment to Rules on Investment: The Developing Countries' Stake*, 9 REV. INT'L. ECON. 287 (2001).

[9] *See generally* Horn & Tangerås, *supra* note 8.

[10] *See generally* Aisbett et al., *Police Powers*, *supra* note 8.

sketches the role of investment agreements between countries that are capable of making unilateral commitments to protect inward investment, and where there are two-way flows of investment between the partner countries to the investment agreement—what we will denote a "North-North" agreement.

Section III draws on the modelling framework in Section II to discuss various features of investment agreements, and problems that arise when trying to evaluate their pros and cons. The main findings–summarized in Section IV–are the following: first, economic theory identifies two ways in which an investment agreement might be beneficial to both the source and the host-country. One possible role is to serve as a commitment device for governments that lack the ability to make credible unilateral commitments to protect inward investment; this is the function of the traditional IIA between a developing and a developed country. The other role is to coordinate reciprocal increases in investment protection among countries that are able to make credible unilateral commitments, but that unilaterally chose too low levels of protection since they disregard the benefits of investment protection for source countries; this seems to provide a rationale for IIAs between developed countries.

A second general observation is that since host-countries enter into IIAs without knowing their future regulatory needs, entering into an IIA is akin to a risky investment for a host-country: the host-country might have to pay compensation and/or change its policies, but it is not known with certainty whether it will have to do so. This complicates the evaluation of IIAs. For instance, the mere fact that the agreement triggers increased investment does not mean that the IIA is desirable for the host-country, since there is a potential cost in terms of constraints on host-country freedom to regulate, and/or need to pay compensation to investors. Nor does the mere fact that an IIA constrains domestic policy mean that the agreement is harmful. Like any contract, an IIA must induce host-country to take actions it would not otherwise have chosen to have effect.

Finally, the paper discusses two central tenants in the critique against IIAs. The first is the claim that IIAs cause undesirable regulatory chill. The second is the notion that investor-state dispute settlement is inferior to state-state dispute settlement. The economic analysis points to certain problems with both of these claims.

II. THE ROLE OF INVESTMENT AGREEMENTS

We will start by pointing to some of the roles that an investment agreement might serve, and the mechanics of how it solves the problem.

A. *The Basic Role of the Traditional North-South Agreement*

The following model is an analytically simple representation of an investment agreement, but it captures a mechanism that will be at play in more interesting depictions of such agreements.

Model 1: A foreign investor contemplates whether to make an *irreversible* investment in a host-country absent an investment agreement. If undertaken, the investment will give rise to beneficial effects for the host-country. The precise nature of these benefits is immaterial for our purposes. They could come in the form of, for instance, tax revenues, employment, wage increases, enhanced competition in domestic markets, or spill-overs of technological or managerial knowledge. Absent host-country intervention, the investment will also give rise to operating profits that more than cover the investor's investment cost. An investment can thus potentially benefit both the investor and the host-country.

The complicating factor is however, that once the investment is in place, the host-country has the opportunity to expropriate the assets in order to capture the operating profits from the investment. When deciding whether to expropriate, the host-country *disregards the interests of the investor.* The sequence of events absent an agreement is thus:

1. The foreign investor decides on how much to irreversibly invest in the host-country.
2. The host-country decides whether to expropriate.

Looking ahead at what will unfold once it has invested, the investor realizes that the host-country will expropriate the investment, and therefore refrains from investing.[11] As a result, both parties end up in an inferior situation than if there were an investment and no expropriation. This is an example of a generic type of problem with irreversible investment, denoted the "hold-up problem."[12]

An investment agreement that requests full compensation for foregone operating profits might help the parties overcome this problem if it irrevocably forces the host-country to fully compensate the investor for the foregone operating profits in case it expropriates. The sequence of events will now be:

1. The source and the host-country enter into an agreement that request full compensation whenever there is expropriation.
2. The foreign investor decides on how much to invest in the host-country.
3. The host-country decides whether to expropriate.
4. If there is an expropriation, the host-country pays full compensation to the foreign investor.

[11] We disregard reputational concerns (which will strictly speaking not be relevant in the current setting with a once-and-for-all investment decision). See, for example, Avinash Dixit, *Strategic Aspects of Trade Policy, in* ADVANCES IN ECONOMIC THEORY: FIFTH WORLD CONGRESS 329 (Truman F. Bewley ed., 1988), for a discussion of more complex interactions involving expropriation threats.

[12] For an early treatment of this phenomenon, see Benjamin Klein, *Vertical Integration as Organizational Ownership: The Fisher Body-General Motors Relationship Revisited,* 4(1) J.L. ECON. & ORG. 199 (1988).

In this setting, the investor will no longer fear expropriation, since it will be fully compensated in case expropriation occurs, and it thus invests. If the host-country is less apt at managing the production than the investor, it will abstain from expropriating since the required compensation payment will exceed the profits it could obtain from the expropriated assets.

This simple example captures the essence of the traditional view of investment agreements as means of providing *credible commitment possibilities* for potential host-countries that lack the ability to make such commitments unilaterally.[13] It seems as a reasonable depiction of a *direct expropriation* rule in a traditional "North-South" investment treaty between a developed and a developing country, where investment in the developing country is dissuaded by political instability, corrupt legal institutions, and where the potential investment flow is from the developed to the developing country only.

To summarize, a North-South type investment agreement can benefit both parties by allowing the South to credibly commit to a compensation scheme that it would otherwise be unable to commit to credibly.

B. *The Complicating Factor: Balancing Source and Host-Country Interests*

The example above illustrates a basic mechanism underlying traditional investment agreements. There would probably not be much discussion regarding the desirability of the agreements if this were the full story. It would also be easy to draft an agreement, since the agreement would simply have to request the host-country to compensate the investor with an amount that is sufficient to deter expropriation.

A core problem for actual agreements is, however, the need to *balance the host-country's desire for policy space against protection of investment*. This issue arises as we move from the treatment of direct expropriation to that of *regulatory (or indirect) expropriation* in actual agreements. To capture such aspects, we need to enrich our example in Model 2, as seen below.

Model 2: As before we assume that the investor makes an irreversible investment. But the host-country now cannot directly expropriate the assets; for instance, the host-country does not know how to operate production, or cannot market the output since it is part of the investor's supply chain. Instead, once the investment is in place, the host-country will learn whether production gives rise to adverse effects—for the sake of this example, let's assume that the adverse effect is an environmental problem. If such a problem arises, the Environmental Protection Agency ("EPA") in the host-country can decide to abstain from intervening. In other words, they can decide to let the country suffer the

[13] The same basic mechanism, whereby decision makers benefit from committing themselves to avoid or take certain future actions, is pervasive in economic policy; for instance, central bank independence is an application of this notion whereby a government commits not to interfere with monetary policy.

environmental consequences, but gain from the above-mentioned commercial benefits of production. Alternatively, the EPA can impose regulation that takes care of the environmental problem, but in the process also wipes out the operating profits for the investor. When making its decision, the EPA *only* considers national interests; thus disregarding the implications for the investor's profits. The sequence of decisions without an agreement is hence:

1. The foreign investor decides on how much to invest in the host-country.
2. The EPA observes the environmental impact of the production by the foreign investor, and decides whether to regulate, putting no weight on foreign interest.

Again, there can be a form of "hold-up" problem present, since the host-country will regulate whenever it is in its own interest, regardless of the consequences for the foreign investor.[14] If the host-country could commit to reducing its propensity to regulate, or at least commit to compensating the investor in at least some instances of regulation, the investor would invest more. An investment agreement that forces the host-country to compensate the investor in at least some instances of regulation, could achieve this. The events would then unfold in the following sequence:

1. The source and the host-country enter into an agreement that requests full compensation for some situations, but that has a negotiated carve-out from the compensation requirement for other cases.
2. The foreign investor decides on how much to invest in the host-country.
3. The EPA observes the environmental impact of the production by the foreign investor and decides whether to regulate.
4. If there is compensable regulation, the host-country pays full compensation.

Such an arrangement could potentially benefit the host-country since it would yield more production in situations where there are no environmental problems. But whether an agreement benefits the host-country will depend on the design of the agreement.

A more elaborate version of this example is studied in the paper by Horn and Tangerås.[15] They show how an investment agreement that shares certain core features with actual agreements can be designed to benefit both the source and the host-country.[16] The typical feature of an (Pareto) efficient agreement is that it

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[14] *See generally* Klein, *supra* note 12.

[15] *See generally* Horn & Tangerås, *supra* note 8.

[16] More specifically, the agreement in the paper by Horn & Tangerås is assumed to have the following features: (a) the agreement does not contract directly on investment levels or regulation; (b) compensation is paid only in case of regulation; (c) there are no payments to or from outside parties; (d) the agreement specifies a threshold level for regulatory shock, beyond which no compensation is not paid (which determines the carve-out); and (e) any compensation equals foregone operating profits. *Id.*

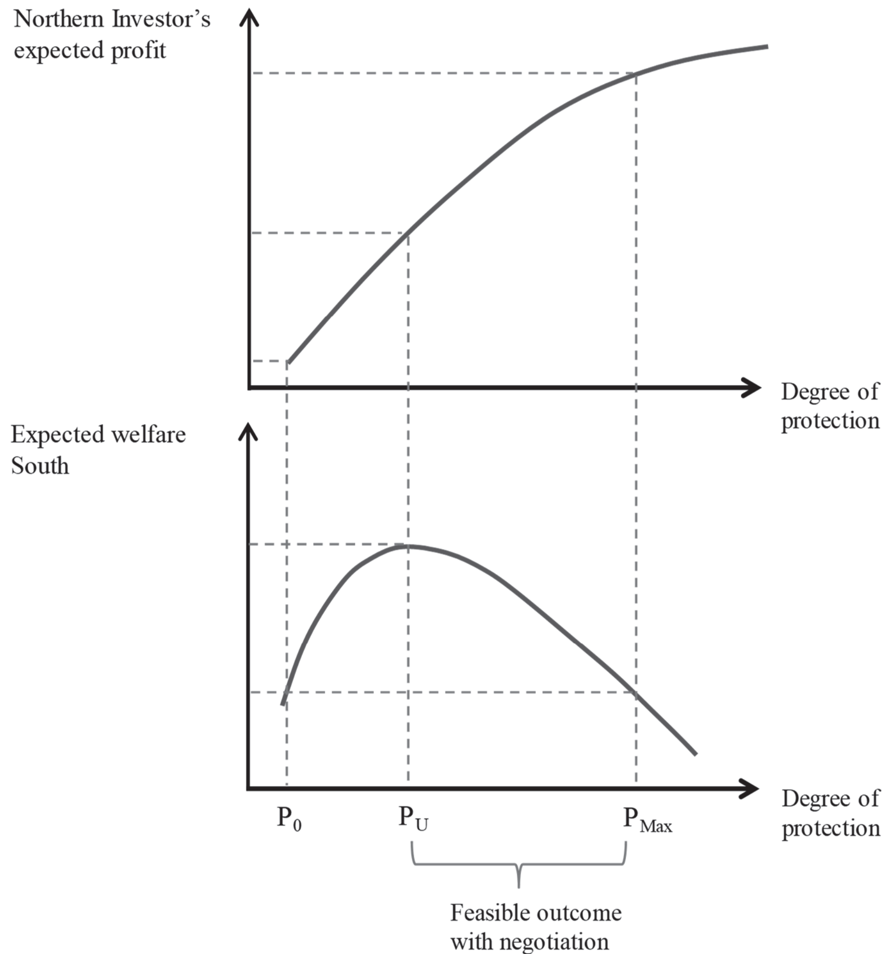
requests the host-country to fully compensate investors in case it regulates for less severe regulatory problems (environmental problems in the example above). But the agreement has a carve-out from the compensation requirement for all shocks that are more severe than a particular benchmark.

The magnitude of the carve-out determines the level of investment protection that the agreement affords—the larger the carve-out, the lower the level of protection. The source country naturally prefers the carve-out to be as small as possible, to maximize the expected profits of its outward FDI. For the host-country, matters are more complex. It will prefer some investment protection to promote inward investment—otherwise, there would not be scope for an investment agreement. But beyond some level of protection, further increases in protection will reduce host-country welfare; an investment agreement might even *reduce* host-country welfare by providing too much protection. The parties hence have at least partly conflicting interests, and the level of protection that the agreement will yield is assumed to be negotiated between the parties when entering into the agreement. To conclude, an investment agreement that requests the host-country to compensate investors for policy measures that reduce operating profits, can benefit both parties if it allows for uncompensated regulation for severe regulatory problems. But an agreement might reduce host-country welfare by requesting too much investment protection.

Figure 1 illustrates the reasoning. The horizontal axis measures the extent of investment protection that the agreement yields. The smaller the carve-outs from compensation requirements are, the more protection the agreements gives, and the more to the right we are on the horizontal axis in the figure. The upper part of the figure shows how the expected profit of the foreign investor increases in the degree of protection. The lower part shows the expected welfare of the host-country. Absent an agreement, the protection level will be at P_0. But the host-country expected welfare increases in the degree of protection up to a point P_U due to the benefits the investment generates. Beyond point P_U the expected welfare starts to fall as the negative impact on the environment becomes stronger.

It is natural to assume that the parties will agree on at least the level P_U, since this is in both parties' interest. But the host-country will not voluntarily accept a level above P_{max} since it would then be better off without an agreement. Hence, the negotiated outcome will likely be somewhere between P_U and P_{max}. If the source country can dictate the terms of the agreement, it will choose something just below P_{max}, just enough to ensure that the host-country accepts the agreement. The source country would benefit from more protection than at P_{max}, but the host-country would then lose from the agreement.

Figure 1: Feasible outcomes with a North-South agreement



Enhanced view of figure 1 also available at https://arbitrationlaw.com/books/american-review-international-arbitration-aria.

C. *The Role of a North-North Agreement: Exchanging Protection Concessions*

The essence of the "hold-up" problem is that the host-country loses from its inability to constrain its regulatory decision to factor in the implications for the investor.[17] It seems plausible that developed countries would not face the same problem of credibly committing to a certain treatment of inward FDI. For instance, both the EU and the U.S. can presumably make credible unilateral commitments to protect inward FDI through their domestic constitutions, laws, and regulations. For these economies it seems more appropriate to view the extent

[17] *See generally* Klein, *supra* note 12.

of protection of inward FDI absent an agreement as resulting from a deliberate choice that balances the benefits from increased FDI, against costs in terms of constraints on various policies, rather than as a result of an inability to determine ex ante the level of protection. Hence, the pure hold-up model does not seem to be an appropriate description of an agreement such as *e.g.* TTIP.[18]

It is still possible to identify a possible role for an investment agreement, as long as there are two-way FDI flows between the countries, although there is no well-developed formal economic theory to lean against.[19] But we have to enrich the example above further.

Model 3: Let us assume that the two countries are fully symmetric, both having the capacity to commit to the protection of inward FDI and each having an investor that might invest in the other country. Assume the following sequence of interaction absent an agreement:

1. Each country unilaterally decides on the weight that its EPA will put on foreign investor interests in regulatory decisions.
2. Each investor decides on how much to invest in the other country.
3. Each EPA observes the environmental impact of production by the foreign investor in its respective market, and decides whether to regulate, using the weight on foreign interests laid down in its instructions.

The assumption that the weight on the EPA's objective function is determined in the first stage, is meant to capture the long-run nature of for example, laws and constitutions of countries.

Here, the outcome would be the same as in Model 2 (outlined in the Section II.B) if the countries decide in the first stage to request their respective EPA to put a zero weight on foreign investor interests in the regulatory decision. But this need not be the outcome of the first stage decisions, due to the adverse effects this might have on inward FDI. The EPA might, therefore, be instructed to take certain account of investor interest, not out of a concern for their wellbeing, but since this will affect the inflow of FDI. But it is unlikely that the EPA will be instructed to put equal weights on foreign and domestic interests since when the constitution is drafted, it is designed only with the interests of local citizens in mind (or at least so we assume).

The outcome absent an investment agreement will again be suboptimal from the perspective of the parties, since there will be a too low-level protection of foreign investment. Both countries could gain by agreeing to increase their respective level of investment protection since each state is adversely affected by too low investments protection abroad. An investment agreement can be the device to coordinate such an exchange. The sequence of events would then be that after the countries have chosen their respective constitutions in the first stage, the rest of the interaction is as in Model 2, starting with the formation of the

[18] *See, e.g.*, Transatlantic Trade and Investment Partnership ("TTIP"), http://ec.europa.eu/trade/policy/in-focus/ttip/ (last visited Mar. 8, 2019) [hereinafter TTIP].

[19] This draws on our earlier informal work with Chad P. Bown, and on our ongoing work.

agreement.[20] This seems to be a more plausible description of a North-North investment agreement between two reasonably symmetric parties, such as the TTIP between the EU and the U.S. than the pure hold-up problem described in Sections II.A and II.B, which is driven by the lack of unilateral commitment possibilities.[21]

Summarizing the above, an investment agreement can help to coordinate reciprocal and mutually beneficial increases in the levels of investment protection in a setting with two-way investment flows between countries that can make credible unilateral commitments to protect inward FDI.

To illustrate graphically, and to make a further observation regarding the distributional impact of a North-North agreement, we use a simple modification of Figure 1. Whereas the lower graph in Figure 1 depicted the expected welfare of the host-country, and the upper graph the expected profit of the foreign investor (and thus the expected welfare of the source country), all three graphs in Figure 2 can be taken to pertain to the same country, say Country 1.

The middle graph is now the expected profits from Country 1's *outward* FDI. It will depend on the protection the investment receives in Country 2, but since we are considering a fully symmetric situation, where both countries make the same unilateral decision, it will be the same as is afforded to inward investment in Country 1. The lower graph now represents all welfare aspects in Country 1 other than the expected profits from its outward FDI—what we will call the *domestic* welfare of Country 1.

The uppermost chart in Figure 2 is the *total* expected welfare of Country 1. It is the (possibly weighted) sum of expected domestic welfare and expected profits on outward FDI; in the chart it is the derived by combining the curves in the two lower graphs vertically when—due to symmetry—both countries set the same level of protection.

The distinguishing feature of the Northern countries is that they are able to credibly commit to protecting inward FDI also absent an agreement. Country 1 will thus, absent an agreement, choose the level of protection P_U that maximizes its expected domestic welfare (illustrated in the lower graph), and so will Country 2 by symmetry. As argued above, these choices do not maximize the aggregate expected welfare, since they are set without taking account of the positive effects of protection of foreign investors; it is only the effect of foreign investment on the domestic welfare that is taken into account. This can be seen from the middle chart, which shows how expected profits from Country 1's outward FDI would benefit from higher protection than P_U in Country 2. The role of the investment agreement is hence to *internalize* these effects. Due to the assumed symmetry of the countries, they will have a common interest in setting the level of protection at the level P_N that maximizes the aggregate expected welfare for each country.

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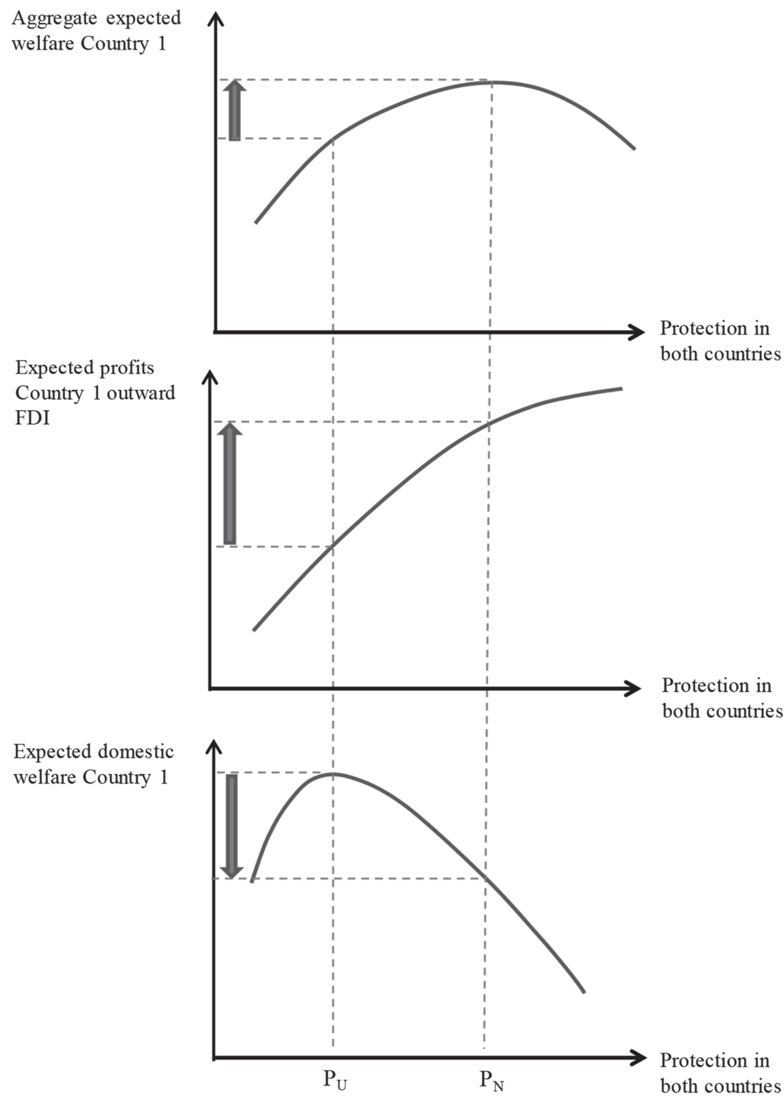
[20] We thus assume that the agreement does not affect the constitutionally decided weight that the EPA uses in its decision making, but instead imposes compensation requirements on the EPA.

[21] TTIP, *supra* note 18.

As we saw from Figure 1, a North-South agreement must increase the expected domestic welfare of South at least marginally, as long as the agreement is entered into voluntarily, since domestic welfare is for South equivalent to total welfare (South having no outward FDI).[22] And it will of course benefit Northern investors.

Figure 2: A North-North agreement between two symmetric countries*



*Enhanced view of figure 2 also available at https://arbitrationlaw.com/books/american-review-international-arbitration-aria.

[22] There will of course still be distributional implications also in South, since the expected domestic welfare is an aggregate measure.

The North-North agreement above will benefit foreign investors in both countries by increasing the level of protection, and it will be beneficial for each country from an aggregate expected welfare point of view—otherwise, it would not be formed. But as can be seen from the bottom graph in Figure 2, the agreement will *reduce the expected welfare of the rest of society combined*—what we have denoted expected domestic welfare.[23]

This is because the countries absent an investment agreement have already chosen the level of investment protection that is optimal from a domestic point of view. The countries will nevertheless gain from the agreement despite the fact that the resulting increase in inward investment is not worth its price in terms of expected compensation payments or reduced policy space. Hence, applied to say the TTIP,[24] the prediction would be that the agreement would be beneficial overall for both economies, and would benefit EU investors in the U.S., and U.S. investors in the EU. But rest of society in the EU and in the U.S. would lose as an aggregate. [25] Consequently, *in our setting, an agreement between symmetric countries that can make credible unilateral commitments regarding protection of inward FDI will benefit foreign investors at the expense of rest of society.*

In the introduction we pointed out the recent trend to introduce more carve-outs in investment agreements, and thereby to reduce their bite. The EU's change in position in response to the criticism it faced during the CETA and TTIP negotiations, and the change in the investment protection chapter of NAFTA, were examples.[26] A combination of Model 2 and Model 3 can be used to shed light on this development.

Start from the North-South agreement explored in Model 1. Let Country 1 be a developed Northern country, while initially Country 2 is a developing Southern country. Assume also that Country 1 has most of the bargaining power at the outset. Country 1 will then impose a level of protection that is close to what the Southern partner could maximally, P_{Max}. But as Country 2 develops and become similar to the developed Country 1, it will increasingly invest in Country 1. Should the investment agreement then be renegotiated?

This will induce *both* countries to want to revise their agreement. Since Country 1 has become a host for investment from Country 2, the initial protection level P_{Max} will be too high for Country 1. And it is still too high for Country 2, which will increasingly prefer the same level of protection as preferred by

[23] Again, this is not to say that each interest will lose, only that domestic interests will lose in the aggregate.

[24] *See* TTIP, *supra* note 18.

[25] The EU Commission's and the U.S. Administration's depiction of the benefits of an investment protection chapter in TTIP tended to emphasize the benefits from enhanced protection of their respective outgoing investment, rather than the benefits from constraining domestic policy space to increase inward FDI.

[26] For a quantitative assessment of the extent of "legal scrubbing" of the 2014 version of the *Comprehensive Economic Trade Agreement* between Canada and the EU, and the final agreement from 2016, see CETA Chapter 8 Special, http://mappinginvestment treaties.com/specials/ceta/ (last visited Feb. 26, 2019).

Country 1, the more similar the countries become. In Figure 2, the two countries should agree to reduce the level of protection from P_{max} to P_N when renegotiating the old investment treaty.

III. IMPLICATIONS FOR THE POLICY DEBATE

In the previous Section, we laid out our view of how investment agreements can be understood from the perspective of current economic theory. In what follows, we will draw on the framework above to discuss some issues of relevance to the policy debate.

A. *Investment Agreements Are Fundamentally Risky Investments*

An important feature of the regulatory expropriations framework above is that decisions are made under *uncertainty*. The investor makes long-term investment decisions without knowing the regulatory circumstances that will arise. For the agreement to stimulate investment, it must therefore in an *expected* sense increase the investor's profits. This can either take the form of expected compensation payments and/or the expectation of more beneficial host-country policies. Either way it will come at an *expected cost* to the host-country: *for an IIA to stimulate investment the host-country must expect to abstain from certain policy measures that it would otherwise take, and/or compensate investors for certain measures.*

A second point to note is that while the agreement will impose expected costs on the host-country, these costs need *not be realized in actuality*. This will complicate the practical assessment of an agreement.

To illustrate, returning to the example in Model 2, and assuming that an investment agreement is formed and that an investment is made. As it turns out, production is environmentally safe, and there is thus no need to regulate production. Hence, there will neither be compensation payments, nor any change in policies as a result of the agreement. Observing this, it would be tempting to conclude that the agreement works well for the host-country and that it thus should be retained.

But it might alternatively be discovered after the investment is made that production instead causes a severe environmental problem. The host-country decides to regulate, and as a result is requested by the agreement to compensate the investor. The host-country might then even find itself in a *worse* position than if there had been no agreement.[27] It might be tempting to conclude that the agreement is harmful and should not be retained, despite the fact that it is the same agreement that in the previous scenario was considered desirable.

It should be clear that neither of the two conclusions is warranted, as long as the agreement at hand is a long-term commitment that will handle an indefinite

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[27] For instance, it would be better with no agreement and therefore no investment, than having to pay compensation to shut down production (and thus forego any benefits of the investment).

stream of potential and realized investment. Instead, the decision should evaluate the *expected stream of future favorable and unfavorable outcomes.*

In sum, entering into, or deciding to retain, an investment agreement is similar to a risky investment by the host-country. Consequently, observed compensation payments or constraints on host-country policy actions do not necessarily show the desirability of the agreement for the host-country.

B. *The Contractual Incompleteness of Investment Agreements*

To extract the maximum surplus from their collaboration, the parties to an investment agreement should negotiate an agreement that for each conceivable type of situation specifies the amount of investment that should be made, the policies that the host-country should pursue, etc. But this is not practically feasible of course, since the long-term nature of the agreements implies that an indefinite number of regulatory problems might arise, or circumstances will differ sector by sector. Due to these complexities, agreements are highly *incomplete*, in economic jargon. This incompleteness takes different forms.

We have already implicitly assumed one form of incompleteness that is found in all investment agreements: rather than specifying investment levels or policies, we have assumed the agreement leaves *discretion* to the investor to decide on the investment, and to the host-country to decide whether to regulate. Instead, the agreement discussed above specified when compensation is required in case of regulation (that is, the size of the carve-out from the compensation requirement).

The above approach to capture the incomplete investment agreements is, at least in our view, a natural first step from an economic perspective. But it still falls short of capturing another central manifestation of the incompleteness of these agreements: an essential manifestation of the incompleteness of actual investment agreements is that they are *vaguely formulated*, leaving for future dispute settlement to determine their more exact meanings. This is the source of much contention with actual investment agreements, since it leaves significant leeway for arbitrators to interpret agreements in ways that were unintended by the parties. Unfortunately, economic analysis has very little to contribute to the understanding of the nature and implications of this important form of contractual incompleteness.[28]

The fact that investment agreements are vague is very significant from the point of view of economic theory. It takes the analysis from situations where it is well-defined how to derive an optimal or efficient agreement, or a negotiated agreement according to some bargaining format, into an area where there is no clear correspondence between contracting terms and outcomes. Economic analysis has very little insight to offer with regard to how the parties choose to use this

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[28] Related, following standard procedures in economics, it is assumed that the agreement is entered into by decision makers that rationally maximize some notion of expected national welfare.

vagueness to ease their contracting problems, nor with regard to how the vagueness affects the performance of the agreement.[29]

We noted above that an investment agreement should be evaluated as a risky investment. The pervasive vagueness of these agreements does not challenge this conclusion. But it does imply that past realizations of outcomes under an agreement might provide important information regarding these expected (future) costs and benefits. For instance, the contracting parties might not know how strongly FDI responds to investment protection but might learn about the true sensitivity from actual changes (or lack thereof) in FDI flows. Also, case law might be informative of how future arbitrators will interpret agreements and might suggest a need to reduce the ambiguity of the agreement.

C. *Regulatory Chill*

One of the most pervasive claims is that IIAs cause regulatory chill—that is, they induce host-countries to refrain from taking regulatory actions that somehow are desirable. But it also figured prominently in the policy debate during the TTIP and CETA negotiations. The argument has even been put forth by the U.S. government.[30]

While the exact mechanisms for this chill are often not spelled out, several core features of traditional IIAs might jointly work to constrain host-country policy space. The first is the *ambiguity* of the wording in some of the core substantive undertakings, such as the fair and equitable treatment standard, and the notion of indirect expropriation, which have allowed arbitration panels to interpret the agreements to impose what has been claimed to be overly stringent restrictions on host-countries. For instance, in the infamous *Tecmed vs. Mexico*,[31] the panel interpreted the "fair and equitable treatment" standard as imposing very far-reaching constraints on host-countries:

> The foreign investor expects the host State to act in a consistent manner, free from ambiguity and totally transparently in its relations with the foreign investor, so that it may know beforehand any and all rules and regulations that will govern its

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[29] Economic analyses might still explain the incentives of the parties, the problem they encounter in their interaction, and how the parties in theory could resolve the problems contractually. Whether the latter suggestion in practice will be fully implementable, is another matter. It can still serve as a guideline for interpretation, for instance.

[30] The following statement regarding the renegotiation of NAFTA was made by Trade Representative Robert Lighthizer before the House Ways and Means Committee on March 21, 2018: "More importantly, we had situations where real regulation which should be in place, which is bipartisan and in everybody's interest, has not been put in place because of fears of ISDS. . . ." *See* C-SPAN, *Brady-Lighthizer ISDS Discussion,* C-SPAN (Mar. 21, 2018), https://www.c-span.org/video/?c4719932/brady-lighthizer-isds-discussion.

[31] Tecnicas Medioambientales TECMED S.A. v. United Mexican States, ICSID Case No. ARB(AF)/00/2, Award (May 29, 2003).

> investments, as well as the goals of the relevant policies and administrative practices or directives . . . . Any and all State actions conforming to such criteria should relate not only to the guidelines, directives or requirements issued, or the resolutions approved thereunder, but also to the goals underlying such regulations.[32]

The second feature of relevance to the regulatory chill notion is the magnitude of the *arbitration and compensation costs* that host-countries might be exposed to. As an illustration, investors have claimed a total of USD $21.2 billion from Ecuador as compensation for alleged breaches of commitments in investment agreements.[33] Out of this, Ecuador has thus far paid investors USD $1.5 billion, representing thirty-one percent of the government education budget, or sixty-two percent of the health budget. There are still pending claims for USD $13.4 billion.[34] Ecuador has also spent USD $156 million on international law firms.[35] As a result, Ecuador has terminated all its investment treaties, and it has recently presented a new model BIT with significant carve-outs for host-country policies, and with major changes to the dispute settlement mechanism.[36]

The third important feature is the *potency of the enforcement mechanisms* in agreements. In contrast to trade agreements, investment agreements rely on a form of third-party enforcement.

According to the regulatory chill argument, host-countries are deterred from pursuing desirable measures due to the combination of vague undertakings in investment agreements, the magnitude of the compensation payments and arbitration costs, and the strong enforcement of the agreements. Plausible as this might seem, it can be noted that there is very little systematic empirical evidence to support the claims. This obviously does not imply that the claims are necessarily wrong since there could be other reasons for the lack of systematic observations, such as the inherent difficulties in obtaining data on, in particular, governments' decision not to abstain from certain policy measures.

1. Remarks

To evaluate the plausibility and consequences of regulatory chill, we need a precise definition. One possibility would be to define regulatory chill as arising when the agreement induces the host-country to abstain from some decision that it

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[32] *Id* at ¶ 154.

[33] *Caitisa Entregó Informe final*, CAITISA.ORG (May 8, 2017), http://www.caitisa.org/index.php/noticias/boletines/informeejecutivo; Cecilia Olivet, *Why Did Ecuador Terminate All Its Bilateral Investment Treaties*, TRANSNAT'L INST. (May 25, 2017), https://www.tni.org/en/article/why-did-ecuador-terminate-all-its-bilateral-investment-treaties.

[34] Olivet, *supra* note 33.

[35] *Id.*

[36] Javier Jaramillo, *New Model BIT Proposed by Ecuador: Is the Cure Worse than the Disease?*, KLUWER ARB. BLOG (July 20, 2018), http://arbitrationblog. kluwerarbitration.com/2018/07/20/new-model-bit-proposed-ecuador-cure-worse-disease/.

would have taken absent the agreement; this seems to be how the concept is used in much of the policy debate. It follows from the above that such regulatory chill *should be expected* to occur from time to time.

The purpose of any contract (except pure risk-sharing contracts) is to constrain the behavior of one or several of the parties, and investment agreements are no different in this regard. Indeed, the basic mechanism in these agreements is to force host-countries to abstain from actions that it otherwise would have taken, or else to pay compensation that it otherwise would not have paid. Hence, regulatory chill in this sense is not a meaningful measure of the usefulness of an investment agreement to a host-country since it *disregards the benefits that the host-country can have from the increase in investment that the agreement triggers.* Put differently, the basic functioning of any IIA is to cause regulatory chill in the sense of inducing the host-country to change certain policy measures or to compensate, in order to simulate investment.

Another deficiency is that this definition of regulatory chill does not consider the *cost to the investor* of the measure that the host-country abstains from taking. Such chill can hence arise in a situation where the host-country's regulation would cause a large loss to the investor but only a minimal gain to the host-country.[37] As long as there is some means of transferring surplus between the source and the host-country, they should have a joint interest in preventing host-country policy measures that in the aggregate reduce welfare, and should therefore accept that the agreement causes such chill.

As a final word on regulatory chill, there seems to be a perception in policy debates that the undesirable chill takes the form of preventing host-countries from undertaking highly desirable policies. But the agreements allow host-countries to take any regulatory action they desire, as long as they compensate investors in case this is required by the agreement. For instance, in the above example, in case the investment turns out to cause environmental damage, the host-country has two options. It can choose to regulate, thus avoiding the environmental problem, but at the cost of having to pay compensation and foregoing the benefits from the

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[37] An alternative would be to consider the aggregate welfare of the parties, and define regulatory chill as a situation where an agreement induces the host-country to abstain from regulating even though the benefit to the host-country exceeds the costs to investors. Such "joint regulatory chill" would indicate a more severe problem, since the agreement would then induce the host-country to abstain from measures for which it would be willing to fully compensate investors. Horn and Tangerås, *supra* note 8, note that this could arise if a host-country government accepts more investment protection than what is in the public interest, perhaps due to corruption, or if a host-country enters into an agreement without understanding the nature of the commitments it takes on, or without correctly foreseeing how agreement will be interpreted by future arbitration panels. In the example above, joint regulatory chill would arise if the agreement requests the host-country to compensate the investor with more than the foregone operating profits. Conversely, joint chill will not arise if the required compensation equals (or is less than) the foregone operating profits of the investor. Full compensation for foregone operating profits might thus reflect basic economic as well as legal principles.

investment in terms of local employment etc. Alternatively, the host-country can allow production and thus suffer the environmental damage, but then benefit from avoiding having to pay compensation and also from the positive effects from the investment. If the environmental problem is severe enough, the host-country will regulate, even if it has to pay compensation (assuming it has the financial means of doing so). Therefore, at least as a matter of the present theory we conclude that the host-country's freedom to choose whether to abstain from regulation, or to regulate and compensate, implies that it will regulate for sufficiently severe regulatory shocks despite the agreement. Investment agreements should hence tend to cause "regulatory chill" for regulatory problems of intermediate severity.

D. *Investor-State versus State-State Dispute Settlement*

Of particular concern in the policy debate has been the possibility for foreign private investors to bring claims against host-countries—the *ISDS mechanism*.[38] The democratic legitimacy of allowing foreign investors to litigate has often been put into question. Perhaps, the most economically relevant assertion is that ISDS leads to *excessive requests for arbitration* relative to some benchmark. Excessive arbitration can be costly in several ways: it might cause unwarranted direct arbitration costs, it might cause or add to regulatory chill, and it might induce countries to abstain from participating in agreements that if designed or implemented differently would bring benefits.

But the ISDS mechanisms have also been defended. A common argument is that State-State Dispute Settlement ("SSDS") on behalf of investors often causes political and/or diplomatic costs that do not arise when private parties litigate on purely commercial grounds.[39] The home country governments of investors will therefore litigate only when enough is at stake politically. This will hurt smaller investors in particular, since they might not have enough political clout to induce their governments to litigate on their behalf, partly since the compensation that they might claim will be relatively small.

Another line of defense for ISDS is that SSDS will hurt investors in general, since the source and the host-country governments will often negotiate forms of compensation other than financial payments. Moreover, even if there is a financial settlement, there is no guarantee that the compensation will end up with investors. Furthermore, while it would not be possible to have the same strong enforcement mechanism with SSDS as currently exists for ISDS, SSDS in practice requires that a losing responding country voluntarily implements the arbitral rewards.[40]

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[38] In the policy debate as well as in some of the legal literature, the notion ISDS is used as synonymous to "investment treaty." We use it in the more restrictive sense of allowing foreign *private* investors to litigate against host-countries.

[39] *See, e.g.*, Kenneth J. Vandevelde, *The Political Economy of a Bilateral Investment Treaty,* 92 AM. J. INT'L L. 621 (1998).

[40] The "under-litigation" with SSDS can be seen in the trade agreement area where firms have to lobby their governments to pursue disputes on their behalf. Governments will typically only pursue some of the disputes that could have been successfully litigated,

1. Remarks

A particularly contentious feature of investment agreements has been the possibility for foreign investors bringing claims against host-countries—the ISDS mechanisms. We will here conceptually highlight the most commonly suggested difference between ISDS and SSDS—the political and/or diplomatic costs associated with SSDS. We will draw on our ongoing work in the paper "Investor-State vs. State-State Dispute Settlement"[41] which extends the model in "Economics of International Investment Agreements"[42] in an analytically straightforward fashion, this being the only economic analysis of differences between ISDS and SSDS that we know of.

To examine the differences between ISDS and SSDS, we need to extend our analysis to include some form of arbitration. We do this by extending Model 2 above in the following simple fashion.

Model 4: Assume that the interaction is as in Model 2 (described in Section II.B). Assume further that if a compensable regulation has occurred, the host-country will not pay unless there is arbitration. Arbitration is costlier to the source country with SSDS than ISDS due to political/diplomatic costs.[43] Hence, the order of decisions is as follows:

1. The investor decides on how much to invest in the country.
2. The EPA observes the environmental impacts of the production by the foreign investor and decides whether to regulate.
3. If there is compensable regulation, the investor in case of ISDS, or the source country government in case of SSDS, decides whether to litigate to extract the compensation payment.

The interaction in this model is more complex than in previously described models. What follows is just sketch of a few mechanisms in this model in order to lay out the gist of the findings.

For expositional reasons, assume that the level of investment protection with ISDS and SSDS is the same. With ISDS, the interaction is basically as described in Section II.B, since the addition of the private arbitration stage does not affect the outcome within the model. But with SSDS, the associated political/diplomatic arbitration costs will dampen the willingness of the source country government to

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partly since governments have to take into account the costs of pursuing disputes in terms of diplomatic or political conflicts, and the risk of facing tit-for-tat arbitration by the trading partner. These costs would be disregarded by private parties.

[41] Henrik Horn, *Investor State vs. State-State Dispute Settlement* (Nov. 14, 2018), Research Institute of Industrial Economics Working Paper No. 1248, https://www.ifn.se/eng/publications/wp/2018/1248.

[42] Horn & Tangerås, *supra* note 8.

[43] We could have arbitration costs also for private investors. What is essential for the qualitative results is that the costs are higher for the source country government.

litigate, since it will only do so if the compensation payments at stake are large enough. Here, we have two possibilities.

One type of situation is where the source country government's arbitration costs are sufficiently low relative to the potential compensation payments that it finds it worthwhile to litigate occasionally. The outcome will then be the same as with ISDS. For the host-country there will then be no difference between the two dispute settlement mechanisms.

The alternative situation is where arbitration costs are too high relative to the compensation to make arbitration worthwhile. There will now be a direct positive impact on the host-country that switches to SSDS, since it can now avoid paying the requested compensation if it chooses to regulate. It will therefore regulate as long as this is unilaterally optimal, just as it did absent the agreement.

This is not the whole story, however. The host-country's incentive to regulate will be foreseen by the investor, which will not invest more than it would have done absent an agreement. Hence, with SSDS the agreement effectively unravels in this case. This will tend to harm the host-country, and this effect must be set against the benefit of being able to regulate more often. But the switch to SSDS will benefit the host-country if the level of investment protection is so high that the host-country prefers no agreement over an agreement for the same level of investment protection (recall we are assuming an exogenously given level of protection).

We have here two "situations." What we really have in mind is that the economy consists of many industries, and that in each industry there is the type of interaction we have described above. We could then in some industries, have the first type of situation, where the agreement is enforced as with ISDS. In another set of industries, there will not be arbitration in case of compensable regulation, so the agreement effectively unravels, and the host-country welfare is reduced because of the fall in investment. Finally, in a third set of industries there will again not be arbitration with SSDS, so the agreement effectively unravels, but this is instead beneficial to the host-country since agreement specifies too restrictive compensation requirements for these industries. The implication for the host-country of switching to SSDS will then depend on the balance of the consequences in these latter two sets of industries. But, the host-country might benefit from an exogenous switch from ISDS to SSDS for a given level of investment protection, if the resulting reduction in the frequency of arbitration is worth its price in terms of reduced investment, and the unravelling of the agreement in some industries.

We have thus far considered the implications for the host-country. For the source country, matters are more straightforward: it will lose from the switch to SSDS either from having to pay arbitration costs in the instances where it enforces compensation requirements, and/or from the reduced profits on its outward investment. We can therefore conclude that the switch to SSDS is Pareto inefficient when the host-country is unaffected by the switch, since the source country loses from the switch. It is also Pareto inefficient when the host-country loses from the switch, since both parties then lose. It hence seems plausible that

neither party would push for a switch to SSDS in these cases. But in the third type of situation, the parties have conflicting interests, given our assumptions.

We have for simplicity examined the implications of an exogenous switch to SSDS, assuming that the level of investment protection is constant, and the same with ISDS and with SSDS. But it would be more natural to assume that the parties simultaneously negotiate the level of investment protection and the type of dispute settlement system. Could such a negotiation lead to SSDS?

Suppose the host-country prefers an SSDS agreement over an ISDS agreement with the same protection level, perhaps due to the lower frequency of arbitration with SSDS. Now consider a modification of the ISDS agreement such that there are no compensation requirements for those situations where the SSDS agreement does not lead to arbitration. The outcome would then be the same as the SSDS agreement, implying that the host-country would be indifferent between this modified ISDS agreement and the SSDS agreement. But the source country would strictly prefer the ISDS agreement since it would not have to pay arbitration costs for those situations where it will litigate to enforce compensation payments. Both parties could then be made to gain from the ISDS agreement, if the level of protection is lowered somewhat. Hence, the ISDS agreement Pareto dominates the SSDS agreement. That is, in our setting, if both the level of investment protection and the form of dispute settlement system are negotiated when the agreement is formed, any Pareto efficient agreement will stipulate ISDS if the parties have access to side payments.

This finding is not very surprising from an analytical point of view, since the only difference between SSDS and ISDS here is that the former is associated with arbitration costs that do not exist in the latter scenario. While not very surprising analytically, it should be recalled that such costs are alleged to be the main basic difference between the two systems.[44]

We believe that two more general conclusions can be drawn. First, when arguing for the benefit of SSDS for host-countries, we cannot just claim or assume that there is less arbitration with SSDS and that this benefits the host-country. We have to identify the reason for the lower propensity to litigate, and to consider the consequences of this particular reason for the comparison of ISDS and SSDS.

Second, if a host-country is dissatisfied with an agreement, the problem is not necessarily the ISDS mechanism per se, but rather that it is more effective in enforcing substantial undertakings that are too restrictive.

E. *The Discriminatory Nature of Investment Agreements*

Another contentious issue is the fact that IIAs only protect the interests of foreign investors. By solely protecting foreign investors, investment agreements might squeeze out domestic investment, causing too much inward FDI relative to domestic investment. It might also cause source country investors to invest too

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[44] Similar results would arise if we instead assumed that the source country government value the compensation payment less than do the investors themselves.

much abroad relative to their domestic investment, in order to benefit from the protection provided by a host state.

Discrimination in favor of foreign inward FDI could still be economically justified for several reasons. The models we examined above did not include any investment by host-country investors in the domestic market, but they could easily be extended in this direction. As long as the domestic regulatory decisions put more weight on the interests of domestic investors than on those of foreign investors, there might be reason to discriminate in favor of the latter. This would introduce another form of discrimination: between foreign investments that are covered by the agreement and those that are not covered.

There might also be other reasons why a country might want to stimulate inward FDI specifically. There might be too little inward FDI due to investment frictions. For instance, foreign investors might lack of information regarding profit opportunities in the host-country. It is also possible that inward foreign investment is undersupplied relative to domestic investment, since the positive externalities of foreign investment are stronger. For instance, it is well documented that multinational firms pay higher wages, are more productive, more technology intensive, *etc*. If either or both of these circumstances are at hand, it would in principle be desirable to discriminate in favor of inward FDI. However, whether these effects are significant enough in practice to provide a solid base for such discrimination is another matter.

IV. CONCLUSION

The economic analysis of international investment agreements is still in its infancy, despite there being several thousands of these agreements in force, and despite the long-running (and in our view often justified) critique of these arrangements. In this piece, we have drawn on recent and ongoing theory work to illuminate the mechanics and possible effects of these arrangements. More research, empirical as well as theoretical, is needed before a field the "Economics of International Investment Agreements" can be said to be established. But based on the current state-of-the-art we have drawn the following broad conclusions:

First, investment agreements can serve two alternative roles. One is to help governments that lack the ability to make credible unilateral commitments to protect inward investment, to attract inward investment. The other role is to coordinate reciprocal increases in investment protection among countries that have the ability to make credible unilateral commitments.

Second, investment agreements should be evaluated as risky investments, where expected costs and benefits have to be assessed. Hence, the mere fact that the agreement triggers increased investment does not mean that the IIA is desirable for the host-country, since there is a potential cost in terms of constraints on host-country freedom to regulate, and/or need to pay compensation. Nor does the mere fact that an IIA constrains domestic policy mean that the agreement is harmful. Like any contract, an IIA must induce host-country to take actions it would not otherwise have chosen to have effect.

Finally, it has been shown why it is not meaningful to define regulatory chill as a case where the agreement induces the host-country to abstain from policy measures it would otherwise take. Furthermore, there is very little economic analysis of the distinction between ISDS and SSDS. But what exists suggests that if a host-country can choose the level of investment protection that an agreement provides, it should prefer ISDS to SSDS.