The Coevolution of Child-Flow Networks and Cooperative Behavior: A Network Analysis of Intercountry Adoption

Introduction

When states join efforts to produce multilateral cooperative frameworks, is there any lasting impact on state behavior? Or do states merely ratify agreements with which they can easily comply and advance their interests? The consequences of the answer to that question are vital for researchers and policymakers alike, yet despite the numerous studies investigating the causal power of international law and multilateral cooperative frameworks, researchers in international politics still do not have a solid understanding of whether or not international law effectively shapes or constrains state behavior. The consequences of the answer are particularly vital for cooperation issues that are characterized by the coordination of legal processes across borders, because in these cases the very purpose of multilateral agreements is to shape the way that states coordinate their legal systems and provide a framework within which to process cross-border legal transactions. If international law does not influence the way states coordinate their legal systems across borders or constrain states from operating outside the multilateral framework developed for such coordination, then it is difficult to conceive of any way that international law is an important influence on state behavior in such issues. Thus, I investigate the impact of international law on state behavior by examining how international law impacts the legal transfer of children from one state to another through intercountry adoption.

Analysts have shown that multilateral cooperative frameworks can influence state behavior through various mechanisms such as norm adoption, reciprocity, reputational concerns,
information provision, and signaling.\(^1\) From this perspective, commitment to and compliance with international agreements facilitates and standardizes patterns of behavior between states that can in turn influence the characteristics and interests of states and their behavior toward their own citizens and other states. For cooperation issues characterized by the coordination of legal systems across borders, multilateral cooperative frameworks provide information on how to adjust domestic systems to enable cross-border transactions, operationalize norms of what is expected in such transactions, and standardize cooperation within those multilateral frameworks. These mechanisms in turn influence the characteristics and interests of states, as well as their behavior; as states permanently adjust legal systems in order to comply with the requirements of the multilateral framework, the investment in the cooperative framework should decrease the likelihood that the state would cooperate with states outside that framework.

Some analysts argue that the causal arrow points in the other direction; states only commit to agreements with which they can comply at relatively low cost.\(^2\) Thus, international agreements produce few incentives that change how states interact with each other. For instance, analysts have focused on how states choose certain multilateral cooperative frameworks to further their interests, instead of being influenced by the goals of the intergovernmental organization (IGO) managing such agreements.\(^3\) For cooperation issues characterized by the coordination of legal systems across borders, states will commit to multilateral cooperative frameworks that require little change from the legal status quo. If transactions outside that framework are necessary or beneficial, states will rarely hesitate to cooperate with each other.

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\(^2\) Downs, Rocke, and Barsoom 1996.

outside the framework, since contracting states have not invested heavily in implementing the requirements of the multilateral framework.

Several analysts have acknowledged that both dynamics are likely at work at the same time. Rational choice scholars have identified situations in which states pursue certain cooperative frameworks in order to lock in current policymakers’ choices for future administrations, and have shown that even though states often commit to treaties to further their interests, they are also influenced in the process as they take steps toward compliance. These scholars consider international agreements to be both the tools of states and constraints on their behavior. Constructivist scholars agree that states cooperate in order to more effectively pursue their interests, but they argue that in the process those states’ interests can change through socialization. Institutions can socialize member states to adopt normative values that change their behavior and domestic characteristics through dense interactions, the persuasion of norm entrepreneurs, and cognitive or social pressures to conform.

I examine the impact of international law on state behavior for issues characterized by the coordination of legal systems across borders by examining how a state’s commitment status to the Hague Convention on Intercountry Adoption (HCICA) impacts its choice of intercountry adoption partners, and conversely how the transfer of children across state borders influences states’ decisions to commit to the HCICA. I argue that if international law affects state behavior in the coordination of legal systems across borders, or serves as a tool for facilitating and standardizing patterns of behavior, we should observe two distinct but interconnected phenomena regarding commitment to the HCICA. First, states should choose to interact

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4 Moravcsik 2000.
5 Downs, Rocke, and Barsoom 1996.
8 Patterson 2006; Goodman and Jinks 2004.
primarily with other states that have committed to the HCICA because such cooperation ensures that the adoptions processed are valid across borders and safeguards against corruption in the adoptions. In other words, states should select their partners based on those states’ commitment to the HCICA.

Second, uncommitted states should feel pressure to commit to the HCICA as they interact with other states that are committed to the HCICA, especially as more and more states commit to the treaty, for two reasons. First, when committed states interact with uncommitted states the committed state often requires that the uncommitted state conform ad hoc to some HCICA provisions so the committed state can remain in compliance with the HCICA. For example, the committed state might require written documentation that the child is available for adoption, not because the uncommitted state is required to do so, but because the committed state must have the documentation to remain in compliance with the HCICA. Over time, compliance with such procedures should reduce uncommitted states’ costs for implementing the HCICA, because those states are already in compliance with some of the required procedures. Second, as the pool of committed states grows, we should expect that committed states that adopt children will be less likely to interact with uncommitted states that send children out for adoption. Ties between committed and uncommitted states should be more common when there is little choice of partners that are committed to the treaty; once the pool of committed states increases and there are more choices of cooperation partners, committed states should be less willing to form and maintain ties with uncommitted states. For these two reasons, uncommitted states that have ties with committed states should feel increasing pressure to commit to the HCICA. In other words, a state’s partners in intercountry adoption should influence its commitment decisions. Using social network analysis methods I test how the network of states with children flowing among
them has coevolved with those same states’ commitment to the HCICA, and how the two endogenously impact each other.

The evidence suggests that international law does not shape or constrain state behavior or serve as a tool for facilitating and standardizing state relationships in intercountry adoption. My findings show that states are not selecting their intercountry adoption partners based on those states’ commitment status, nor does interaction with committed states influence a state’s decision to commit to the HCICA for the years that I study. Taken as a whole, the findings are most consistent with an interpretation that states only commit to agreements with which they can comply at relatively low cost, and choose cooperative frameworks based on whether or not the framework can further their goals. I find little evidence that the treaty is influencing state behavior through any mentioned mechanism. In fact, despite the fact that the treaty was formed to facilitate and standardize intercountry adoptions, most intercountry adoptions are conducted outside the HCICA framework.

In the first section I provide an overview of the role of the HCICA in intercountry adoption and generate expectations of state behavior as they participate in intercountry adoption from international cooperation literature. I show why intercountry adoption is an appropriate case study for an investigation of the impact of international law on state behavior for issues characterized by the coordination of legal systems across borders, and demonstrate how the results of this study on intercountry adoption can be generalized to teach us something about the impact of international law in general. In the second section I present the data to answer two questions. Do states select their intercountry adoption partners based on their commitment status to the HCICA? Do a state’s network partners influence their decision to commit to the HCICA? Using a stochastic actor oriented model of network dynamics, I examine how international law
influences the relationships that states form with each other, and conversely how those relationships influence states’ commitment patterns to multilateral treaties. With this method I provide a clearer, more comprehensive picture of how international law impacts state behavior in issues characterized by the coordination of legal systems across borders. The third and final section presents and interprets the findings.

**Substance and Expectations from Theory**

The HCICA, which a group of states created in the Seventeenth Session of the Hague Conference in May 1993, is the multilateral treaty that regulates the processing of adoptions across borders, and it serves multiple purposes within that role. First, flowing from the UN Convention on the Rights of the Child, the convention is concerned with protecting the best interests of the child (a concept left largely undefined), and is an attempt to curtail two types of corruption in the processing of international adoptions: child trafficking, and defrauding individuals attempting to adopt. Child trafficking is a serious worldwide problem, as children are bought and sold across borders, often after they are kidnapped or purchased from their birth parents. On the adoptive side, adoptive parents can spend years of their lives and thousands of dollars trying to adopt promised children that were, unbeknownst to them, not even legally available for adoption.

Second, the convention is an attempt to normalize interstate transactions of adoptions, and ensure that the states sending and receiving children have laws that are compatible with each other in order to simplify and institutionalize the process.

There are several mechanisms the treaty puts into place to achieve its objectives. States that sign the treaty are required to establish a central authority to deal with all intercountry

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10 Smolin 2005; Smolin 2010.
adoptions. The central authority’s responsibilities include 1) ensuring that the child is adoptable and that adoption is in the child’s best interests, 2) ensuring that each adoption is free of extortion and corruption, 3) ensuring that adoptive parents are eligible to adopt, 4) accrediting domestic agencies driving the intercountry adoption process, and 5) interacting with the central authorities from other states to ensure that the adoptive process is normalized across states. Committed states are also required to provide an annual report accounting for the numbers of adoptions each year and their partner states in the process.

All states in the world, regardless of their status as Hague members, are able to commit to the treaty. States that were part of the Seventeenth Session were able to sign the treaty as soon as it was available, in May 1993. Other states that were not part of the Seventeenth Session were able to commit to the treaty by acceding once the treaty entered into force. Either form of commitment entails the same responsibilities; the only difference between the two is that states already committed to the treaty can formally object to a country acceding to the treaty, which is entered into record but does not prevent commitment. States can withdraw commitment at any time with no formal consequences, and there is no punishment for defection.

While all the states that adopt children had ratified the HCICA by 2010, not even half of the top ten states that send children had ratified the treaty by the end of my study. In fact, only two of the nine states from which US citizens adopt the most children (China, Guatemala, Russia, Ethiopia, South Korea, Vietnam, Ukraine, Kazakhstan, and Haiti) had ratified the treaty by 2010 (China and Guatemala); intercountry adoptions originating in seven of the main states that send children to the United States are thus conducted outside the Hague framework.

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12 HCICA 1993, 3-4.
13 HCICA 1993, 14.
14 Ireland was the last receiving country to ratify the treaty in 2010.
Worldwide, only four out of the top ten states that send children (to any state that adopts children) had ratified the HCICA in the time period I study. Despite receiving states’ commitment to the HCICA, sending states whose programs are the least institutionalized have largely failed to commit to the treaty.

It is important to understand the intercountry adoption process to fully grasp the important role that states play as gatekeepers of children. Families that want to adopt a child from another state initiate the intercountry adoption process. The family decides the state from which they want to adopt the child based on several factors including the race of the child, ease of process for adopting in the state, availability of adoption agencies in the state, and legal protections for the adoption in the state. Once the adoption has been initiated, states are the pivotal players in every step of the process on both the sending and receiving sides. First, sending states decide whether to allow or prohibit foreign adoption of children. Receiving states decide whether to allow or prohibit their citizens from adopting foreign-born children. Second, sending states decide how restrictive the process of foreign adoptions will be by allowing or restricting foreign adoption agencies, imposing or lifting residency requirements for adoptive parents, requiring few or many visits to the sending state before the adoption can be processed, and lifting or imposing restrictions for adoptive parents regarding their income, health, background, and age. Receiving states also impact the level of difficulty in the process by lifting or imposing restrictions on the requirements necessary to become adoptive parents. Third, both sending and receiving states can restrict intercountry adoption partners to certain states. For example, Russia shows preference in adoptions to receiving states with which it has signed bilateral adoption treaties; China restricts adoptions to receiving states that are Hague committed and adoption agencies within those states that are Hague certified. Receiving states decide from

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15 Breuning and Ishiyama 2009.
which states to allow its citizens to adopt children based on two factors: 1) whether or not the adoption will legally transfer across borders and 2) the level of corruption in the sending state’s intercountry adoption program. For example, the United States has restricted adoptions from both Guatemala and Nepal based on the level of corruption in those programs. Fourth, both sending and receiving states decide whether to commit to the HCICA and to comply with its requirements or to process adoptions outside the Hague framework. Fifth, both sending and receiving states can impede any adoption from processing without any formal legal consequences, although such a move can present serious political consequences.

Because states are so pivotal in the process, it is crucial to understand what is motivating state behavior as they exchange children across borders, especially the role that international law plays in shaping or constraining state choices. But beyond the substantive importance of the investigation, intercountry adoption is both an interesting and appropriate case with which to test the impact of international law on state behavior for several reasons. First, intercountry adoption is essentially a coordination of legal processes across borders. Children’s identity in their birth family and birth country must be severed legally so they can be legally granted a new identity in a family that resides in a different country. Though states that participate in intercountry adoption implicitly agree to process adoptions domestically in a way that allows them to travel across borders, states historically have processed those adoptions in a variety of ways, some of which make the process more difficult for all parties involved (children, birth and adoptive parents, lawyers, judges, states), and less likely to protect the interests of the children and parents. Multilateral agreements are ideal for such situations, and it is vital to understand how international agreements impact such a process. Second, we would expect that states would want to commit to and comply with the boundaries of a multilateral treaty coordinating the process,
primarily because such cooperation provides the most streamlined process and ensures the best protection of legal and human rights. Even a relatively weak institution like the HCICA, with no formal enforcement mechanism, should elicit cooperation in such an issue area because it is in the states’ interests to comply with the treaty. For an issue that is primarily legal in nature like intercountry adoption, legal considerations should be driving states’ choices. A treaty that solves legal complications and provides legal protection for the parties involved should be attractive for states participating in intercountry adoption.

These characteristics make intercountry adoption, and this treaty in particular, an ideal case study for investigating the impact of international law on state behavior for issues characterized by the coordination of legal systems across borders. If international law is influential in intercountry adoption, states should rationally select to interact with other states that share their commitment to the HCICA because commitment provides a reasonable expectation that the adoption will be valid across borders and that citizens will be legally protected. The treaty provides a standardized legal framework, and access to reliable information on their partners’ past behavior and activity patterns, which analysts have shown to be one of the primary benefits of multilateral cooperative frameworks.16 Restricting intercountry adoption partners to committed states also signals the importance of the treaty as a qualification for intercountry adoption partners. If states invest in the treaty such that they adjust their domestic system to comply with the requirements of the treaty, then freely partner with uncommitted states, these actions undermine the value of the commitment as a signal to other

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states. Ultimately, states should select their intercountry adoption partners based on those states’ commitment to the HCICA. This expectation leads to my first hypothesis:

**Hypothesis I:** States that have committed to the HCICA will send and receive children primarily to and from other states that have also committed to the HCICA.

There should also be a strong influence mechanism, because if the treaty provides the most streamlined process and the best protection for citizens, cooperation outside the treaty should be an exception, not the norm. Thus, uncommitted states should move toward commitment in order to ensure that committed states will continue to select them as partners. Beyond the material benefits of committing to the treaty (i.e., being more attractive as a cooperation partner), there are also normative reasons why uncommitted states should be influenced to commit to the treaty as they interact with committed states. First, researchers have shown that actors tend to assimilate to the behavior of the other actors with whom they interact, even if those actors choose each other for instrumental reasons. Thus, as committed states interact with uncommitted states, there are components of that interaction that should influence the uncommitted states to move toward commitment, such as committed states requiring the uncommitted states to uphold certain requirements of the treaty which in turn makes it easier to commit to and comply with the HCICA. Second, as constructivists highlight, dense interactions between states can lead to behavioral change through norm adoption and cognitive or social pressures to conform. This expectation leads to my second hypothesis:

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19 Oetting and Beauvais 1987; Oetting and Donnermeyer 1998; Steglich, Snijders and Pearson 2010.
22 Goodman and Jinks 2004; Patterson 2006.
Hypothesis 2: States that have not committed to the HCICA will move toward commitment over time as they interact with other states that have committed to the HCICA.

Stochastic Actor Oriented Model for Studying Network Dynamics

The challenge to investigating my hypotheses is the intuition that each one informs the other. How can I adequately separate the effects in order to study them, when the direction of influence is unclear? The effects are, in a word, endogenous. Using the stochastic actor oriented model for studying network dynamics, I can “unlock” the reciprocal causation and examine the coevolution of the network of states and state behavior. With a coevolutionary approach I engage in a process-driven analysis while still capturing the outcomes that would indicate causality. But what exactly is coevolution?

My network consists of states that have children flowing among them. When a state decides to allow intercountry adoption, either as a sending or receiving state, that state is choosing to enter the network. States enter into the network with observable traits, like a large number of children who need homes, or a large number of citizens with a demand for adoptable children. States develop intercountry adoption relationships with other states based on those observable traits. As time passes, states add and drop ties to other states in the network. But states also decide whether or not to commit to the HCICA. How does a state’s network ties influence whether or not it will commit to the HCICA? Conversely, how does a state’s commitment to the HCICA determine the other states with which it can form an intercountry adoption relationship? It makes no sense to isolate one from the other, because they move in tandem. A state’s network partners should influence whether or not that state feels compelled to commit to the HCICA, and a state’s commitment status should also impact the network partnerships it forms by limiting or increasing the pool of available network partners. This is the
essence of a coevolutionary approach. You cannot isolate either effect from the other; it is crucial to understand how the two evolve interdependently in order to understand how they influence each other even while they are being influenced in the process.

To illustrate this concept, note figures 1-3. The three panels of observations are hypothetical snapshots of a network of ten states in time. Between the observations, both the network composition (intercountry adoption relationships) and the states’ commitment status to the HCICA change. From the first to the second observation, states’ commitment status to the HCICA change (black nodes are committed states, gray nodes are uncommitted states), but states also start to develop intercountry adoption relationships, or cliques, within the larger group by adding ties to some states and dropping ties with others. Between the second and third observations, there is both an influence effect (some states change commitment status to match their partners’) and a selection effect (states are picking intercountry adoption partners based on those states’ commitment status). The composition of the network is evolving in tandem with the commitment behavior of the states. Thus, both the network and the behavior are coevolving.

Figure 1 placed here.
I use a stochastic actor oriented model that Burk, Steglich, and Snijders\textsuperscript{23} developed to analyze whether or not this phenomenon is occurring in the actual child-flow network. The model projects an overall network space (multiple possible network configurations), and then estimates the statistical likelihood of the current configuration of the network based on that projection.\textsuperscript{24} The model then uses a continuous-time Markov chain to analyze how states change their behavior and their network ties based on two main factors: their current network ties and the behavior of others in the network. States make policy choices that allow them to pursue their interests while still influencing the behavior of other states in the network;\textsuperscript{25} these choices lead to changes in the network structure (ties states have to other states) and commitment behavior to the HCICA.

**Data and Tests: Investigating the Questions**

**A Child-Flow Network?**

At the heart of social network analysis is the claim that agency lies not just in the units themselves, or the actions of the units, but also the structures in which those units are embedded.\textsuperscript{26} There are three basic assumptions to my application of social network analysis to the study of international politics: 1) states interact with each other in a social environment, 2) states are interdependent with other states in a way that shapes and constrains policy choices, and 3) states’ relational properties can be observed through states’ interaction with each other.\textsuperscript{27}

These simplifying assumptions make SNA particularly effective for studying intercountry adoption, because there is something fundamentally relational about having children flowing from one state to another. For instance, at the micro-level, communities in the United States

\textsuperscript{23} Burk, Steglich, and Snijders 2007.
\textsuperscript{24} Burk, Steglich, and Snijders 2007, 398.
\textsuperscript{25} Burk, Steglich, and Snijders 2007, 398.
\textsuperscript{26} Pescosolido 2010.
\textsuperscript{27} Wasserman 2010.
with large numbers of children adopted from the same region often have a special connection with the state from which their children originated.\textsuperscript{28} When children are adopted from developing states, the presence of adopted children in the developed state can create a longer-term relationship in which other things like aid, resources, and training will also flow from the developed state to the developing state. In addition to the relational content of intercountry adoption (children), the actual exchange of the children is relational. Adopted children’s citizenship is transferred through a long process of give and take where both the sending and receiving state make choices based on state-specific characteristics and interaction with each other. While both the sending and receiving states maintain agency in the process as important gatekeepers in the transfer of children, in order to understand accurately intercountry adoption we must analyze how the relationships between states also constrain states’ agency and influence states’ choices.\textsuperscript{29}

In Graphs 1-5, I present the child-flow network with all ties between all participating states from 2005 to 2009.\textsuperscript{30} Circles represent states that send children and squares represent states that adopt children. States that are committed to the HCICA have gray nodes, while uncommitted states in the year represented have black nodes. The child-flow network is a directed network; states that adopt children request the orphan from the states that send children. I model the receiving state as the state that controls the outgoing tie because although sending states respond to the request of the receiving state, the orphan cannot be sent if there is no state

\textsuperscript{28} There are many examples of this phenomenon. For example, Ordinary Hero (http://ordinaryhero.org/Ordinary_Hero/Home/Home.html) and 147 Million Orphans (http://www.147millionorphans.com/) are two organizations created by families in Tennessee who adopted children from Africa and Asia. These organizations advocate for other waiting children in the sending countries from which they adopted children, raise funds for individuals to adopt these waiting children, and fund development programs for orphanages from which they adopted children.

\textsuperscript{29} McClurg and Young 2011.

\textsuperscript{30} See appendix for a full explanation of the data collection criteria, the sources for the data, and the reasoning for choosing these five years.
to receive them. I represent the tie as a line with an arrow pointing from the receiving state of the orphan to the sending state of the orphan (the direction of the request for the orphan). I only represent active ties between states in each year; states not sending or receiving any ties drop out of the network for that year. Though the volume of children flowing between countries varies, the model itself only measures the presence of a tie, not the size of the tie. Thus, my analysis is focused on how the presence of ties between states influences their behavior, instead of differentiating between stronger and weaker ties.

**Graphs 1-5 placed here**

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31 Because the network has no reciprocity (states are generally locked into their position as sending or receiving state), I model the ties as directed from one state to another. It is always the receiving state (of the child) that initiates an intercountry adoption, thus I model the tie as directed from receiving to sending state.
Graph 1: International Child-Flow Network: 2005
Circles: Sending States
Squares: Receiving States
Gray: HCICA Committed
Black: Not HCICA Committed
Graph 2: International Child-Flow Network: 2006
Circles: Sending States
Squares: Receiving States
Gray: HCICA Committed
Black: Not HCICA Committed
Circles: Sending States
Squares: Receiving States
Gray: HCICA Committed
Black: Not HCICA Committed
Circles: Sending States
Squares: Receiving States
Gray: HCICA Committed
Black: Not HCICA Committed
Graph 5: International Child-Flow Network: 2009
Circles: Sending States
Squares: Receiving States
Gray: HCICA Committed
Black: Not HCICA Committed
The first step in analyzing the data is to examine the structural properties of the network dynamics. Structural effects (see Table 1 below) demonstrate how the ties between states in the child-flow network mutually depend on each other. There are three key parameters in the model (see Table 1): the out-degree effect, the in-degree popularity effect, and the out-in degree assortivity effect. When interpreting the effects, it is important to remember that ties are directed from the receiving state of the child to the sending state of the child; the directionality of the ties is the reverse of the directionality of the child. Thus, a receiving state (of the child) sends out a tie to the sending state (of the child) by requesting that child. The out-degree effect reflects the likelihood that a state will send out a tie, or a request for a child from another state. The negative significant coefficient (-7.382*) indicates that states in the network do not request children indiscriminately from a large number of states; rather, they request children from a very limited set of states. This suggests that they follow some guiding criteria, which necessitates an investigation of the criteria by which states are choosing their partners. The in-degree popularity effect reflects the tendency for actors with many in-coming ties to attract more ties because they are so “popular.” The positive significant coefficient (0.070*) indicates that states that receive requests for their children from a large number of states will tend to continue to receive that many ties, or even receive ties from additional states based on their status as a popular sending state of children. The out-in degree assortivity effect reflects the tendency for actors sending a lot of ties to be tied especially to actors that likewise receive a lot of ties. The positive significant coefficient (0.406*) indicates that the top receiving states of children request children more than proportionately from the top sending states. Thus, when states achieve status in the child-flow network, either as a top sending or a top receiving state, those positions of status tend
to mutually reinforce each other. While peripheral states can enter and exit the network, the top
sending and receiving states tend to prefer to establish relationships with each other.

Table 1 located here
### Table 1

<table>
<thead>
<tr>
<th>Structural Network Effects</th>
<th>Coefficient (SE)</th>
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<tbody>
<tr>
<td>Out-degree effect</td>
<td>-7.382 (0.206)*</td>
</tr>
<tr>
<td>In-degree popularity effect</td>
<td>0.070 (0.018)*</td>
</tr>
<tr>
<td>Out-in degree assortivity effect</td>
<td>0.406 (0.019)*</td>
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*p < 0.01
These structural effects demonstrate how network embeddedness can shape and constrain states’ actions.\textsuperscript{32} For the global child-flow network, states’ positions in the network determine the likelihood that they will receive ties, and the type of state they are more likely to choose as a network partner. The results in Table 1 show that states choose their network partners based on their own position in the network and the position of their potential partners. These findings support the study of intercountry adoption as a larger networked structure that shapes and constrains the choices of states because they show that states’ choices are interdependent on the choices of other states and influenced by the larger network structure within which they are embedded. The results are consistent with a network that has a “center-periphery structure.”\textsuperscript{33}

**Testing HI: Is the Treaty Driving Partner Selection?**

If international law facilitates and standardizes state behavior as states exchange children, commitment to the HCICA should impact states’ choices of intercountry adoption partners. We should be able to observe a selection effect such that states requesting children (who were all committed to the HCICA by 2010) should request those children primarily from states that are also committed to the HCICA. Though adoptive parents are the initiators of the adoption process and decide the states from which they want to adopt, states restrict their available partners by closing and opening intercountry adoption relationships with other states. If the treaty has no observable selection effect, it is doubtful that the treaty is important in intercountry adoption.

Using the stochastic actor oriented model, I test for a selection effect in the evolution of the child-flow network. The model tests whether or not states consider HCICA commitment when they develop a new tie with another state (open an intercountry adoption relationship), or

\textsuperscript{32} The study of dyads is nothing new for international political research, but showing how these dyads are embedded in a larger network structure is an important contribution of social network analysis methods to the study of international political relationships. See Maoz 2010.

\textsuperscript{33} Wasserman and Faust 1994, 419-420.
drop an existing tie (close an intercountry adoption relationship).\textsuperscript{34}\textsuperscript{35} This is carried out within the same model specification from which Table 1 was derived, thus controlling for the consequences of the network structure. The model thus calculates how HCICA commitment influences a state’s partner selection while holding constant the impact of the likelihood that a state will send out or receive ties based on that state’s position in the network. Network evolution (the changes in ties between network panels) is the dependent variable, and HCICA commitment (0,1) is the independent variable. There are three key parameters in the model that indicate how commitment to the HCICA impacts the evolution of the network: the HCICA commitment alter effect, the HCICA commitment ego effect, and the interaction between these two. The HCICA commitment alter effect reflects the tendency for sending states that have committed to the HCICA to develop more ties more rapidly with receiving states (because they are receiving requests for children) than sending states that have not committed to the HCICA.

The negative significant coefficient (-0.466*) indicates that sending states that have not committed to the HCICA are actually developing more ties more rapidly with receiving states than states that have committed to the HCICA. The HCICA commitment ego effect reflects the tendency for receiving states that are committed to the HCICA to develop more ties more rapidly with sending states (because they are sending out requests for children) than receiving states that have not committed to the HCICA; the positive significant coefficient (1.804*) indicates that states committed to the HCICA increased their requests for children more rapidly than uncommitted states. This finding is quite obvious, because all receiving states except Ireland were either already committed by the beginning of the study time period (2005) or committed during the time period (2005-2009). The interaction between the HCICA commitment alter

\textsuperscript{34} See the appendix for information on the level of change in each variable.

\textsuperscript{35} Burk, Steglich, and Snijders 2007, 400.
effect and the HCICA commitment ego effect is the coefficient that most clearly answers the research question because it reflects the tendency for states that are committed to the HCICA to prefer ties to other states that have also committed to the HCICA (homophilous selection). The positive but insignificant coefficient (0.787) indicates that committed states do not show a statistically significant preference for requesting children from other committed states. Instead, commitment to the HCICA does not increase the likelihood in any statistically significant way that a sending state will receive a tie, or a request for their children, from the almost exclusively committed receiving states.

Table 2 located here
<table>
<thead>
<tr>
<th>Covariate Effects</th>
<th>Coefficient (SE)</th>
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<tbody>
<tr>
<td>HCICA commitment alter effect</td>
<td>-0.466 (0.224)*</td>
</tr>
<tr>
<td>HCICA commitment ego effect</td>
<td>1.804 (0.391)*</td>
</tr>
<tr>
<td>HCICA commitment ego x HCICA commitment alter effect</td>
<td>0.787 (0.451)</td>
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</tbody>
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*p < 0.05
These results clearly answer the first research question and show a lack of support for the first hypothesis. Interestingly, there does appear to be a selection mechanism, because HCICA committed receiving states seem to prefer (if only slightly) to request children from sending states that are not committed to the HCICA. But there is a lack of the homophilous selection that the theory predicts. States do not show a statistically significant tendency to send and receive children from states that match their own commitment to the HCICA; rather, they frequently send and receive children outside the HCICA framework. If an HCICA committed receiving state wishes to request children from a sending state, it has a number of HCICA committed sending states from which to choose. The results indicate that receiving states do not show a preference for choosing those committed sending states over uncommitted sending states as network partners. Lack of commitment on the part of sending states does not limit the number of receiving states from which it receives requests for children.

**Testing H2: Are Network Partners Influencing Behavior?**

Even if the HCICA is not driving partner selection, if committed states in the network influence uncommitted states to commit to the HCICA the treaty can still facilitate and standardize interstate intercountry adoption relationships. The very fact that committed states are interacting with uncommitted states could influence the uncommitted states to commit to the treaty through multiple mechanisms like coercion, persuasion, or imitation. If the treaty is not driving states’ selection of intercountry adoption partners, and interaction between committed and uncommitted states does not influence uncommitted states to commit to the treaty, it is questionable that the treaty is having any important impact on intercountry adoption beyond

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36 This is evident from the HCICA commitment alter effect which shows that uncommitted sending states develop more ties more rapidly with receiving states (who are all HCICA committed) than sending states that have committed to the HCICA.
standardizing and streamlining the limited number of adoptions processed between HCICA committed states.

I intended to use the same model that Burk, Steglich, and Snijders\textsuperscript{37} developed to test for an influence effect, with HCICA commitment as the dependent variable and the evolution of the network as the independent variable. Interestingly, it was impossible to estimate the model because there was so little change in states’ commitment behavior between 2005 and 2009. This complication itself tells an interesting story, making it necessary to go deeper into the data to understand how the evolution of the network is or is not influencing states’ commitment patterns. We should expect that states in the network will behave in a way that makes them more attractive as partners in intercountry adoption, and a commitment to the HCICA should signal commitment to institutionalization and legal security for citizens and foreigners. This should especially be the case as more and more states commit to the HCICA and it becomes the norm to conduct adoptions within the HCICA framework because states that depend on the revenue generated through intercountry adoption should want to commit to the HCICA so they do not get eliminated from the practice, or dropped as network partners. Between 2005 and 2009, an examination of the data makes it clear that states do not see commitment to the HCICA as a signal that makes them more attractive to the receiving states of children.

By the time of the first network panel, 2005, fifty-one percent of all states in the network had committed to the HCICA; in the first ten years of the treaty’s existence, there was an average of six new commitments to the treaty every year. Every receiving state of children had implemented the treaty by 2005 except for the United States (which implemented in 2007) and Ireland (which implemented in 2010). This indicates that every time a state sent children abroad to be adopted between 2005 and 2009 (especially after 2007 when the United States

\textsuperscript{37}Burk, Steglich, and Snijders 2007.
implemented the treaty), regardless of that sending state’s commitment status, they sent that child to a committed state. We would think that this dense interaction would present significant pressure on the sending states of children to commit to the treaty. But only nine of the network states committed to the HCICA between 2005 and 2009, including the United States; China was the only top ten sending state of children to commit. Compared to the six new commitments per year for the first ten years of the treaty’s existence, between 2005 and 2009, there were only 2 commitments per year. Table 3 shows the top ten sending states of children for each of the years of the study. Several things are apparent from looking at this table. First, there is very little change in states’ positions as sending states for the five years of the study; this confirms the finding that sending states’ popularity tends to cement their position as a top sending state. Second, over the course of the five years of the study, there is very little change in the commitment status of the top sending states of children, except for the increase from three committed states to four committed states from 2005 to 2006 (with China’s implementation of the treaty). Third, the committed states in the top ten list do not enjoy an elevated position due to their commitment to the HCICA, they are scattered at random throughout the list. In fact, for every year of the study, the top three sending states included at least one, and sometimes two uncommitted states.

Table 3 located here
Table 3: Top Ten Sending States of Children: 2005-2009

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States are listed in order of the number of children they sent in each year; each state sent more than 200 children per year. HCICA committed states are in bold.
Even without a sophisticated statistical analysis, the answer to my second research question, and resulting lack of support for the second hypothesis, is quite clear. Uncommitted states that interacted densely with committed states from 2005-2009 were not compelled to commit to the treaty during that time. The table above demonstrates that only ONE of the top five sending states of children committed to the treaty in the studied time period (China). In fact, Guatemala, the other top three sending state that was already committed to the treaty dropped out of the top ten sending states by 2009, when the United States dropped their tie with Guatemala due to corruption in the program. The lack of an influence mechanism is likely due to two trends in intercountry adoption relationships. First, as the previous analysis showed, states that are requesting children do not exclude their requests to committed states. Thus, it is quite easy to cooperate outside the HCICA framework and still be a top sending state of children. Second, the benefits of committing to the HCICA do not clearly outweigh the costs of committing to the treaty. Even benefits that are difficult to measure like relieved social pressure and the adoption of network partners’ norms do not appear to be impacting the likelihood that states will commit to the HCICA.

**Conclusion**

The heart of cooperation literature is the question of the effectiveness of international law. Do international agreements actually change state behavior, or at the very least facilitate and standardize patterns of behavior, for issues that are characterized by the coordination of legal systems across borders? If international law is not effective in such issue areas, can it shape and constrain state behavior in other areas that are less intrinsically connected to legal coordination? Years of analysis have not led to consensus about the mechanisms producing the observed outcomes in state behavior. I used these disagreements over international law as a springboard
into a study that examines the effectiveness of international law at governing the process of children flowing across borders through intercountry adoption. I found that states are not compelled to commit to the HCICA because of their interaction with other states that have committed to the HCICA, and they do not limit their choices of network partners to other states that match their own commitment to the HCICA. Essentially, international law is not an influential driving force in the evolution of intercountry adoption practices in the past five years; it is not effectively shaping and constraining state behavior or effectively facilitating and standardizing patterns of behavior as states exchange children. International demand for and supply of adoptable children, individual-level motivations for adoption, and state-to-state interaction on other issues could give us more traction on explaining intercountry adoption patterns and state behavior than international law.

With this analysis of intercountry adoption, I have shown that an investigation of the effectiveness of international law, especially for issues characterized by the coordination of legal systems across borders, is more complete if both selection and influence are examined. Because the main purposes of international legal agreements in such issue areas is to facilitate cooperation through the coordination of legal systems and to provide standards of behavior in interstate interactions, we must investigate both sides of how that could be accomplished. Merely investigating how commitment to multilateral agreements meant to coordinate legal systems impacts states’ selection of partners, or conversely looking solely at how states’ interaction with each other influences the likelihood that they commit to such agreements, is not enough. To truly understand the impact of international law on state behavior for issue areas characterized by the coordination of legal systems across state borders we must examine both. This study has introduced a methodological tool capable of measuring the coevolution of networks and behavior
that can be applied to any question in international relations in which a network and a behavior can be identified and measured for each member of the network.

There are potential objections to measuring the effectiveness of the HCICA based on the presence of selection and influence mechanisms. For selection, the treaty could still be influential in the practice of intercountry adoption, even if it is not influencing states’ selection of intercountry adoption partners. For example, adoptions processed within the HCICA framework are more transparent and afford better protections for children and parents alike. While this is undoubtedly true, the majority of the states that have committed to the HCICA are the rich, well-developed states whose intercountry adoption policies are already compliant with the requirements of the HCICA or are easily capable of implementing the requirements of the treaty. In fact, several of the committed states do not participate in intercountry adoption at all, or have low levels or participation (10-20 children per year). The states that are still missing from the committed list are the majority of the sending states for intercountry adoption, which often either lack the institutionalized systems for complying with the requirements of the treaty, or are unwilling to make the changes in their intercountry adoption programs that would be necessary to make them compliant.

For influence, some might point out the fact that we already know from my results that states are not selecting their network partners based on their commitment to the HCICA. In other words, if states are not selecting their network partners based on commitment to the HCICA, why should states feel compelled to adopt commitment behavior that will arguably have no effect on their status in the network? It is important to remember that states at best have a guess of whether or not their commitment status will impact partner selection, and in fact my finding that it does not is quite counterintuitive. States should assume, just as we would, that
states will most likely want to cooperate with other states that have their same commitment status.

My finding that states do not choose their child-flow network partners based on those states’ commitment status to the HCICA, and that states do not make their commitment decisions for the HCICA based on their intercountry network partners, undermines the importance of the HCICA in the transfer of children across borders, a process that is legal in its very essence. This finding should interest academics studying international law and international cooperation, as well as the policymakers searching for ways to protect the rights of children without parental care, birth parents, and adoptive parents in the process of intercountry adoption. Additional research into which factors are driving states’ choices in network partners needs to be done, now that I have shown that international law is not the primary force driving the observed network evolution. Taken as a whole, the findings are most consistent with an interpretation that states only commit to agreements with which they can comply at relatively low cost, while states with the highest commitment costs instead pursue intercountry adoptions outside the HCICA framework.
Works Cited


Appendix 1: Data and Model

More Model Information

Limitations: There are several limitations to the type of data that can be studied using this stochastic actor oriented model. First, the data must be longitudinal data that has at least two observed moments in the network, known as network panel data (Snijders, Steglich, and Van de Bunt 2010: 3). Second, the number of observation moments should be between two and ten, but usually needs to be much less than ten (Snijders, Steglich, and Van de Bunt 2010: 15). Third, there must be more than 20 actors. The final requirement is that there must be more than 40 total changes between observation moments for each dependent variable (both the network and/or the behavior) (Snijders, Steglich, and Van de Bunt 2010: 15). Currently, the model can only take into account the presence of a tie, not the strength of that tie. My data meets all the requirements of the model.

Assumptions: There are also several assumptions necessary for the estimation of the model and its application to intercountry adoption. First, the network is a social structure that itself influences the possibility of change in the network (Snijders, Steglich, and Van de Bunt 2010: 5). Second, states make choices based on the current configuration of the child-flow network, not past configurations. Third, states can only change in small steps. Each state can only make one change regarding their behavior or their network tie to any other state in each portion of panel data. Fourth, states react to the behavior and network choices that other states make, but they do not make their choices based on prior negotiation (Burk, Steglich, and Snijders 2007: 398). Fifth, states have information about other states in the network (Snijders, Steglich, and Van de Bunt 2010: 7). Sixth, states control their outgoing ties.
Data

Composition: The data is composed of five panels of network data (from 2005-2009), with 119 states in the network. Each panel is an observation moment; between panels states add and drop ties and potentially change their commitment to the HCICA. Between my five panels, there were nine changes in commitment to the HCICA and 167 network-tie changes.

Choice of the periods: There are multiple reasons why I chose to study intercountry adoption from 2005-2009. First, the numbers from this time period are verifiable from at least three sources.\textsuperscript{38} Data collected from years before 2005 have too many missing values that would skew the results of the model. For example, if there is no data available for Canada as a receiving state for 2003, those missing values make it look like Canada dropped all ties with sending states for that year. This skews the results of the model to make it look like Canada decided to drop those ties based on HCICA commitment, or conversely that Canada chose to drop those ties in spite of HCICA commitment. Second, as the five most recent years of intercountry adoption, the data from these years is the most relevant for discussing the future of the practice. Third, in these five years the final receiving states implemented the treaty, except for Ireland who implemented the treaty in 2010. Fourth, the commitments in this time period were more costly than those from previous years, because eighty percent were sending states that had to incur considerable costs building the institutions necessary to implement the requirements of the treaty. In the previous five years, only 50 percent of the commitments were sending states.

\textsuperscript{38} The three major sources of my information are the US Department of State Intercountry Adoption Network Statistics, the HCCH Intercountry Adoption Statistics Section, and the Australian Intercountry Adoption Statistics Section.
**Variables**

*Evolution in network composition:* The network is composed of dyadic pairs of states sending and receiving at least ten children in any of the five years I study. Ten children per year is a reasonable measure of whether or not a state is actually participating in intercountry adoption, versus merely appearing that way because foreign citizens are adopting their relatives’ children. If at least ten children were sent, the dyadic pair is coded as 1, if not, the pair is coded as a 0. If such a tie exists for any of the five years, the states are included in the analysis for all five years, with the relationship coded as a 0 in the years that the tie is not present. The model only measures the presence of a tie, therefore I represent the strength of the ties in the visual presentation of the network.

*State commitment behavior:* The HCICA commitment variable is dichotomous, with 1 representing implementation of the treaty and 0 representing some stage short of implementation. This could include an initial commitment but yet incomplete implementation (as has been the case for Russia for ten years), as well as a complete lack of commitment, because states do not incur the full costs of commitment to the treaty until they actually implement the treaty into domestic operation. In the case of this treaty, commitment short of complete implementation is a relatively meaningless symbol.