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Babies across Borders: The Political Economy of International Child Adoption*

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This article analyzes the determinants of international child adoption. We argue that prospective parents' desire to reduce transaction costs and ensure a successfully completed adoption influences adoption flows. Drawing on dyadic panel data over the period 1991–2010, we fit hurdle models to identify sending-country and dyad characteristics that correlate with adoption flows. We show that an international agreement designed to ensure the integrity of adoption depresses foreign adoptions by raising transaction costs. By contrast, adoption is more likely when sending countries have a high-quality regulatory environment and when colonial or migration ties exist within the dyad. Our findings highlight the impact of transaction costs on transnational, non-market exchange, expand political economy models of migration, and emphasize the importance of private international law in international relations.

International child adoption forges strong transnational bonds: It establishes parental ties between an individual or a couple and a child who is a citizen of another country. For some adoptive parents, international adoption provides a way to expand their families. For others, it fulfills a humanitarian impulse to care for a child who might otherwise face a harsh future (Breuning 2013a). International child adoption, however, often proves emotionally fraught and bureaucratically complex. Regardless of their motives, all prospective adoptive parents (hereafter: prospective parents) face an arduous process. In the child's country of origin, prospective parents often encounter inefficient, or even corrupt, bureaucracy and opaque legal requirements that make the adoption process longer and more difficult to complete. As the recent experience of prospective parents in Guatemala, Russia, and China attests, international adoption frequently exacts a steep emotional and financial price (Herszenhorn 2012; Swarns 2012; Voigt and Brown 2013).

Given the high transaction costs of international adoption, how do prospective parents decide from which country to adopt? International-adoption patterns suggest no clear answer. Figure 1 illustrates bilateral adoption flows into the United States—the world's largest destination for international adoptees. From 1991 to 2010, Americans adopted 304,156 children from 165 countries, with the largest numbers coming from China, Russia, and Guatemala. From these aggregate trends, we cannot easily distinguish among the relative importance of transaction costs, prospective parents' affinities to certain countries, and sending-country factors that influence the number of children available for adoption.

In this article, we model bilateral adoption flows to analyze how prospective parents navigate this costly and uncertain process. We consider sending-country characteristics, including regulatory quality and political opposition to adoption outflows; dyad traits, like language and distance, to proxy for information asymmetries; and the role of an international agreement on adoption. Our empirical analyses use an original data set of dyadic adoption flows between over 200 sending countries and 19 receiving countries for the 1991–2010 period. We estimate hurdle models to analyze both the probability of any cross-border adoption within a dyad-year and, conditional on the presence of adoptions, the annual number of adoptions in that dyad.

Our analysis reveals that sending-country regulatory quality increases the probability of dyadic adoptions but it decreases the total number of dyadic adoptions. We also find that countries with stronger nationalist sentiments are less likely to have adoption outflows and flows tend to be smaller. The models include a wide range of controls related to the number or health of children who

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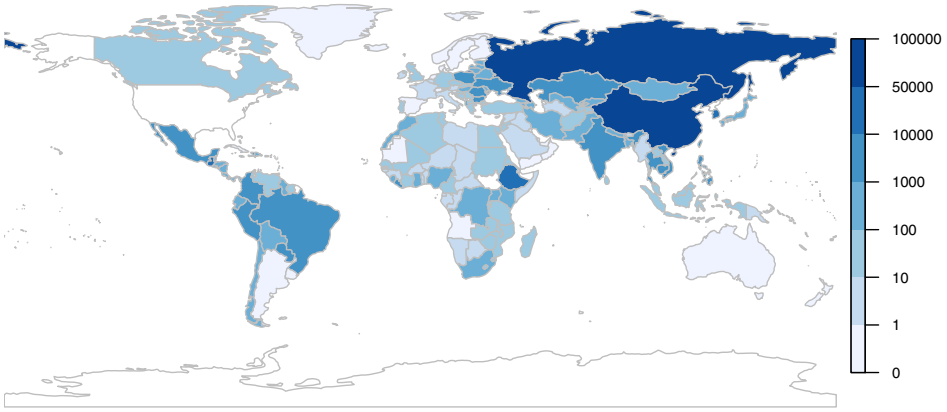

FIG. 1. Dyadic Adoption Flows to the United States, 1991–2010. Darker Shades Indicate Higher Numbers of Adoptees. Overall, China, Russia, and Guatemala Sent the Largest Number of Adoptees to the United States During this Period. See Supplemental File for Description of Data Sources

are potentially available for adoption. The results prove robust to the use of different statistical estimators, alternative covariate measures, and various samples of our data.

Our findings also reveal the mixed consequences of the 1993 Convention on Protection of Children and Cooperation in Respect of Intercountry Adoption (hereafter: Hague Convention)—the prevailing international agreement governing international adoption. The convention aims to increase transparency in international adoption and reduce the risk of irregularities and abuse. It prohibits, for example, the use of adoption to generate improper financial gain and demands that all relevant parties give their free and informed consent to the adoption. Such safeguards, however, might deter prospective parents by creating hurdles to adoption. Indeed, we find that the Hague Convention reduces the likelihood—as well as the total number—of dyadic adoptions.

Our study provides the first comprehensive statistical analysis of worldwide dyadic adoption flows.[1] With a few exceptions (Breuning 2013a; McBride 2013a), extant political economy research focuses on cross-country variation in international-adoption policies rather than observed adoption patterns (Breuning and Ishiyama 2009; Breuning 2013b; McBride 2013a,b).[2] We assemble an extensive data set of annual, dyadic adoption flows to analyze the correlates of international adoption.[3]

More generally, we demonstrate how transaction costs mediate the strength of transnational, non-governmental relationships. We identify transaction costs that, if lessened, should increase the amount of humanitarian-driven adoption, contributing to greater child welfare worldwide (Sacerdote 2007; Sacerdote 2011; Breuning 2013a). Expedience carries particular importance in countries where conflicts, natural disaster, or disease produce many orphans. This insight applies to all other transnational, non-governmental charitable giving and humanitarian assistance (Karlan and List 2007; Wydick, Glewwe, and Rutledge 2013).

Our findings also expand political economy models of international migration. These models typically emphasize labor-market motives for migration (Portes 1995; Ortega and Peri 2009; Grogger and Hanson 2011). Recent studies examine how the political environment of origin and destination countries shapes migration patterns (Breunig, Cao, and Luedtke 2012; Fitzgerald, Leblang, and Teets 2014). Our study demonstrates how political attitudes, religion, and international agreements may influence migration flows. Additionally, we pinpoint how ties between countries globalize the formation of households—a form of globalization that, in turn, facilitates deeper economic ties (Rauch and Trindade 2002; Leblang 2010).

Finally, we highlight the role of private international law in international relations (IR). Extant research focuses on public international law: the set of norms and agreements that govern the relations between states, or between states and nonstate actors (Koremenos 2005; Simmons 2010). By identifying the consequences of the Hague Convention, we shed light on private international law, which influences transactions between private parties such as firms, consumers, or parents. Studying private international law can advance our understanding of the role of law in global governance.

We divide the remainder of this study into four parts. Section 2 develops our argument concerning the effect of transaction costs on both the likelihood and the number of adoptions across country pairs. Section 3 offers preliminary evidence that indicates the importance of transaction costs in the prospective parents' decision making. Section 4 contains the empirical work: descriptions of our variables, data, methods, findings, and robustness checks. Section 5 concludes.

Explaining Cross-Border Adoption Flows: The Impact of Transaction Costs

We model the determinants of international adoption from the point of view of prospective parents, focusing on their choice of a country from which to adopt. In the United States, the typical adoptive parents are a white, college-educated, financially stable, married heterosexual couple (Hellerstedt, Madsen, Gunnar, Grotevant, Lee,

[1] Specifically, we focus on transaction costs, which figure prominently in accounts of migration but not international adoption. Methodologically, we use gravity models to analyze dyadic cross-border flows, which are also common in migration studies. These models allow us to identify overlooked determinants of international adoption like the sending country's regulatory quality and estimate the impact of variables that previous studies suggest, such as nationalism, poverty, armed conflict, and Islamic law.

[2] For related research in other disciplines, see Roby and Shaw 2006; Dubinsky 2010; Kim 2010; Briggs 2012.

[3] Consistent with the approach of Kane (1993) and Selman (2006 and 2009), our data set builds on adoptee counts provided by receiving countries.

and Johnson 2008). Seeking to adopt a child abroad, prospective parents embark on a difficult process that involves significant transaction costs. Beyond the fees the adoption agency charges, prospective parents usually incur travel, lodging, and transportation expenses as well as legal and administrative costs. In addition to these costs, the lengthy and uncertain process exacts an emotional cost.

While prospective parents may wish to ensure a thorough adoption process and a match with the "right" child, they are averse to wasteful costs and unnecessarily long delays. The precise magnitude of the transaction costs varies across countries for a variety of reasons. Some of the costs stem from the bureaucratic nature of the adoption process, which involves extensive paperwork and repeated contact with officials (Bartholet 1996:189–190). When the sending country's bureaucracy acts slowly or unresponsively, or when adoption rules are opaque, prospective parents have greater difficulty understanding and satisfying these rules.

Beyond bureaucratic-regulatory quality and official requirements, a political climate hostile to international adoption further raises costs. This might happen in countries that view international adoption as an admission of the country's inability to care for its children (Bartholet 1996:184). Concerns over the care that the children receive in their adoptive homes may also fuel anti-adoption sentiments. Russian outrage over the death of a Russian toddler whose Virginian adoptive father left in his car provides a recent example (Barry 2009). Rumors and allegations of irregularities, abuse, and fraud in international adoption raise further concern. These can take various forms, such as obtaining children through pressure or deceit (e.g., promising birth families that the children are going away temporarily), abducting children placed in orphanages and other institutions, and outright buying of children. Adoption critics argue such abuses are pervasive and systemic (Smolin 2006; Graff 2008). By contrast, defenders of international adoption claim that no hard evidence exists to support such charges (Bartholet 2010). Yet when cases of fraud and abuse come to light, adoption critics receive fresh ammunition, and the ensuing scandal could make international adoption more difficult. In response to public criticism or following an adoption-abuse scandal, governments might heighten their scrutiny of adoptions or suspend international adoption altogether. For the prospective parents, such changes could mean a longer, more expensive, and more cumbersome process—or one that cannot be completed. In 2008, amid evidence of adoption irregularities and abuse, Guatemala shut down its international-adoption process, leaving some 4000 American prospective parents in limbo (Swarns 2012). Finally, prospective parents' own familiarity with the sending country also affects the magnitude of transaction costs. Prospective parents with a good cultural or legal understanding of the country, language fluency, and local contacts can more readily navigate sending-country rules.

In summary, transaction costs have far-ranging implications for the prospects of international adoption. All else equal, prospective parents would prefer to adopt from countries with lower transaction costs and a higher probability of successful completion of the adoption. Thus, we expect a higher probability of adoption and a higher number of adoptions where the anticipated transaction costs are lower.

Transaction Costs and the Prospective Parents' Decision Making: Preliminary Evidence

The influences that we highlight are only part of a broader array of considerations and motivations that guide prospective parents. Breuning (2013a) identifies two ideal types of parents: "Samaritans" have a humanitarian impulse to adopt internationally, whereas "family builders" adopt for the express purpose of expanding their families. These distinct motivations may affect the prospective parents' choice of country. Samaritans may be drawn to countries with large populations of vulnerable children (McBride 2013c), such as very poor or war-torn countries. By contrast, family builders may have greater interest in adopting very young children whose race matches their own (Ishizawa, Kenney, Kubo, and Stevens 2006; Högbacka 2008:315).

We argue, however, that both types of prospective parents share an important concern: the desire to conclude the process successfully and bring a child back home. Samaritans cannot fulfill their religious- or humanitarian-motivated quest to offer a home to an orphan if the transaction costs of adoption are prohibitively high. A costly, uncertain adoption process might also undermine the goal of family building. In this section, we present a variety of evidence that prospective parents consider the cost and the likelihood of a successful adoption.

Transaction costs influence the choice to adopt internationally rather than domestically. Several studies show that prospective parents perceive the overseas adoption pool as larger and the adoption process to be faster (Hollingsworth and Ruffin 2002:85–87; Malm and Welti 2010:195; Zhang and Lee 2011; Young 2012:232–233). According to one study, parents who prioritized the speed of the adoption process were twice as likely to adopt internationally (Ishizawa and Kubo 2014:644). These findings suggest that prospective parents who pursue cross-border adoption pay close attention to transaction costs.

The US State Department's guidance for prospective parents further illustrates that the costs, duration, and likelihood of a successful adoption are central considerations. The Department's website offers detailed, up-to-date information on each sending country, including adoption-eligibility requirements, an average timeframe, and specific alerts. For example, the State Department notes that "it is unlikely that a U.S. citizen will be able to adopt a healthy, single child under the age of 5 years" in Brazil. Furthermore, the State Department provides data on the annual number of children adopted from each country over the past several years. This record allows prospective parents to evaluate the prospects of their own planned adoption.[4] The annual Intercountry Adoption Report that the State Department submits to Congress includes adoption statistics. The report also provides data on the average time for completing an adoption in different Hague-Convention countries and the median fees for such an adoption.

The Adoption Tax Credit—a tax credit that US adoptive parents may claim for adoption expenses, such as necessary adoption fees, court costs, and traveling expenses—also suggests the prominence of costs in the adoption decision. This policy—applicable to both domestic and international adoptions—acknowledges that adoption

[4] http://adoption.state.gov/index.php. (Accessed December 21, 2014).

entails high administrative costs, which might act as a hurdle and a disincentive for adopting a child.[5]

Finally, many online sources devoted to international adoption, including websites of adoption agencies, reflect the importance of efficiency-related considerations. These sources often alert prospective parents to the significant waiting time and costs that international adoption involves, while also offering information on the availability of children in different countries and providing advice for easing the financial burden of the process.[6]

Taken together, this evidence suggests that concerns about the costs and duration of the adoption process and the likelihood of its successful completion play a central role in the prospective parents' choice of country. This does not imply that such concerns are the only or even primary consideration: Prospective parents may well have other reasons for choosing a country. All else equal, however, they will prefer to adopt from a country that offers the best prospects of completing an adoption at an affordable cost.

A possible objection to this argument stems from the role of private adoption agencies in prospective parents' choice of country. These agencies mediate most international adoptions and their expertise helps reduce transaction costs. Nonetheless, we assume that prospective parents' choice of country remains independent from—and often precedes—their selection of an adoption agency. The US Department of Health and Human Services shares this assumption: It offers prospective parents a list of agencies that provide services in the country from which they wish to adopt.[7] Moreover, adoption agencies share the prospective parents' interest in ensuring a successful and timely adoption, as they receive part of their payment at the end of the process. They are also attentive to their reputation for speed and competence.[8] Adoption agencies thus have their own reasons to ensure a successfully completed adoption. If able to influence the choice of country, they may steer prospective parents toward those countries where such an outcome is more likely.

Empirics

We begin by illustrating patterns in international adoption flows, followed by a detailed discussion of adoption-related covariates.[9] We then discuss the models and methods used to fit our data and report the empirical findings. Finally, we examine how robust our results are to alternative models and indicators.

Patterns in International Adoption

Building on the approach of Kane (1993) and Selman (2006, 2009), we construct a dyad-level data set of international adoption flows that covers 19 receiving countries and up to 209 sending countries/entities, over the period 1991–2010.[10]

Figure 2 shows that the United States received the most international adoptees and drove global adoption patterns during the 1991–2010 period. Flows to the United States steadily increased throughout the 1990s, peaked in 2004, and have been declining since then. Spain and Italy demonstrate a moderate fluctuation, with Spain's pattern being similar to that of the United States.

Figure 3 shows how adoption flows from China, Russia, and Guatemala saw dramatic increases, yet started decreasing around 2005. Other sending countries, such as Ethiopia, South Korea, Romania, Ukraine, and Vietnam, also experienced noticeable fluctuations in adoption outflows.[11]

Figure 4 illustrates spatially the variation in adoption flows in sending and receiving countries. Overall, adoptees are mostly from Asia, Eastern Europe, and Latin America, and are sent primarily to North America and Western Europe.

Measuring Adoption's Transaction Costs

We identify several indicators that prospective parents may use to assess the transaction costs of adoption. We first discuss transaction-costs determinants that are unique to international adoption and then turn to influences that apply to migration more broadly.

Influences Unique to Adoption

Regulatory Quality—Given the bureaucratic hurdles and pitfalls that international adoption involves and the risk of long delays, prospective parents consider the regulatory quality in the sending country. We hypothesize that prospective parents would prefer to adopt from a country with a high bureaucratic-regulatory quality, all else equal. The measure we use comes from the World Bank's Worldwide Governance Indicators (WGI) database. This measure captures perceptions of the government's ability to implement policies and regulations that allow private-sector activity, and it specifically considers the bureaucratic treatment of foreigners. This indicator can therefore capture the experience of prospective parents: private actors who go through the bureaucratic process of child adoption in a foreign country.

Nationalism—Nationalist sentiments in the sending country might act as a deterrent for the prospective parents, indicating a political environment unfavorable to international adoption. Nationalists might subscribe to the view that children "belong" to their countries of birth and are better off growing up there, surrounded by people of similar linguistic, cultural, ethnic, or religious background. From a nationalist perspective, international adoption also saps the lifeblood of the sending country by taking away its children. International adoption may also be an affront to the national pride and reputation, as it implies that the country cannot care for its children (Varnis 2001; Saunders 2007). In fact, politicians in

[5] "Landrieu Introduces Bill to Make Adoption More Affordable," press release issued by Senator Mary Landrieu, September 21, 2012.

[6] See, for example, http://www.adoption.org/adopt/cost-of-international-adoption.php. (Accessed December 21, 2014).

[7] https://www.childwelfare.gov/pubs/country_resource_lists.cfm. (Accessed December 21, 2014).

[8] Upon the prospective parents' request, US agencies accredited under the Intercountry Adoption Act must disclose information about their previous adoption placements.

[9] Details of all variables, their operationalization, sources, and descriptive statistics are summarized in the supplementary file (Appendix B).

[10] Table A.1 in the supplementary file summarizes the adoption-data coverage (years and total sending countries/entities) and data sources for our 19 receiving countries. Table A.2 in the supplementary file summarizes extant adoption-related data sets.

[11] A full figure illustrating adoption panel-data trends for all 209 sending countries/entities is in the supplementary file.

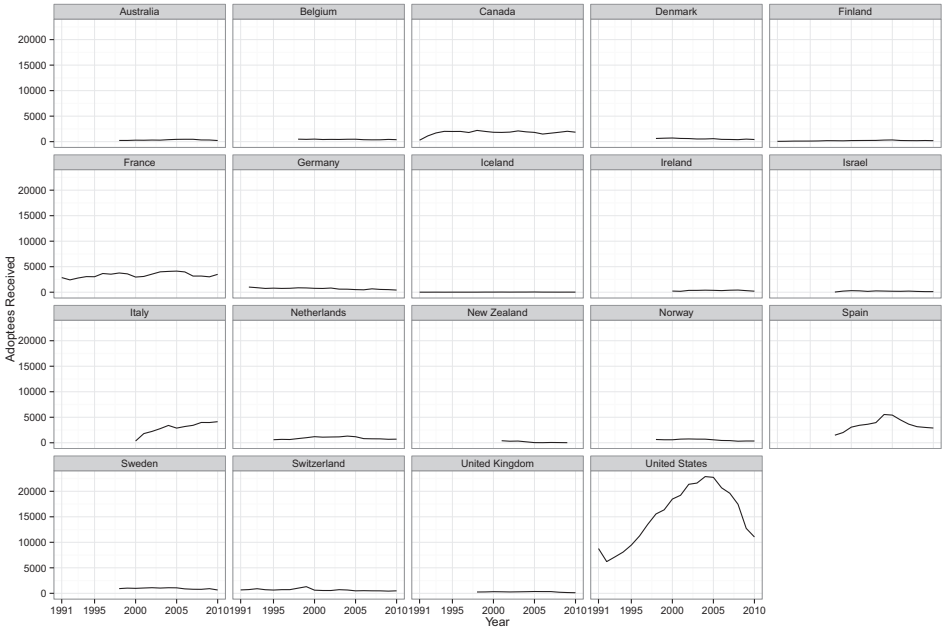

Fig. 2. Number of Adoptees by Receiving Country, 1991–2010. Overall, the United States Received the Most International Adoptees and Drove Global Adoption Patterns

sending countries often criticize the practice of international adoption, as they seek to stir nationalist emotions and gain popularity. Explaining her sponsoring of a ban on child adoption by American parents, a member of Russia's parliament argued that "no normal, economically developed country gives away their children. I am a patriot of Russia" (Herszenhorn 2012). Overall, nationalism fosters a preference for retaining children in their countries of origin, rather than sending them abroad. This could mean a longer and more difficult adoption process, which the prospective parents would rather avoid. Our measure of a nationalist executive comes from the World Bank's Database of Political Institutions (DPI).

Hague Convention—The primary impetus for establishing a convention on international adoption was a growing concern about adoption abuses—selling or abduction of children—that thrived in the absence of government involvement and regulation. Accordingly, the convention seeks to ensure that international adoption serves the best interests of the child and to prevent the abduction, sale of, or traffic in children (Hansen and Pollack 2006; Smolin 2010). To that end, the convention puts in place a set of safeguards. The authorities in the receiving country must determine that the prospective parents are suitable to adopt; and the authorities in the sending country are required to ensure that the child is adoptable, that international adoption serves the child's best interests, and that all relevant consents have been given freely and without financial inducement. The convention also requires each country to designate a "Central Authority"—a government agency—to oversee and facilitate the adoption process and to cooperate with central authorities in other countries. The convention further stipulates government accreditation and supervision of adoption agencies (Duncan 2002).

What are the implications of the convention for prospective parents? International agreements signal cooperativeness and a credible commitment to comply (e.g., Simmons 2000; Long, Nordstrom, and Baek 2007). When the Hague Convention is in force, the sending country signals its willingness to allow international adoption. The convention's safeguards against abuse may further improve the perception of adoption in the sending country, increase trust, and reduce the risk of adoption scandals. These safeguards may also empower pro-adoption forces and provide them with a cover against the charges of adoption critics. The convention can be used to demonstrate that internationally adopted children will be protected from sale and exploitation and that the international community considers international adoption as a good option for children (Bartholet 2006; McBride 2013a). Compared to non-Hague-Convention countries, Hague-Convention countries may therefore offer a more hospitable environment for adoption, where prospective parents should expect fewer obstacles.

While the convention aims to reduce the delays, complications, and costs of adoption, it can also impose new burdens and raise costs. Some suggest, for example, that the additional bureaucratic costs that the Hague process entails would be passed on to the prospective parents, making international adoption less affordable; the added costs and requirements imposed on adoption agencies could have a similar effect. Another concern is that the convention enhances the role of governments in the adoption process while diminishing the role of other facilitators and intermediaries who assist the prospective parents in completing the adoption procedures in the sending country (Varnis 2001; Kimball 2005; Hansen and Pollack 2006). Prospective parents share the perception that the Hague adoption process is more bureaucratic, time-consuming, and difficult than the non-Hague process (Eijsink 2011:50).

Overall, we argue that the prospective parents will place greater weight on these costs of the Hague Convention than on the positive implications of the convention's being in force. Whereas the costs are tangible and immediate, the beneficial aspects of the convention seem less certain and more remote. Therefore, the prospective

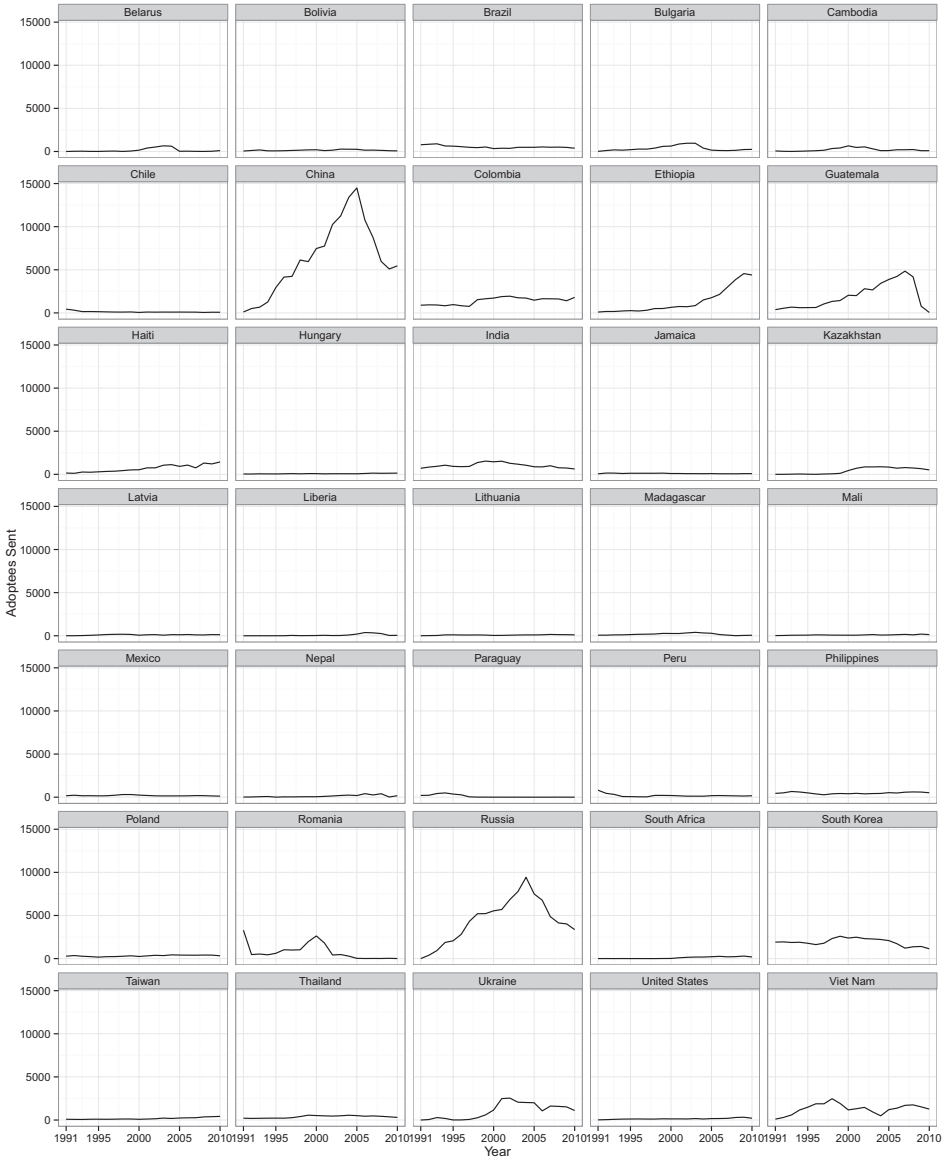

FIG. 3. Number of Adoptees from 35 Select Sending Countries, 1991–2010. This Figure Shows Adoption-Outflow Data for Select Sending Countries that had more than 1500 Total Adoptions

parents likely favor adoption from a non-Hague-Convention country to reduce transaction costs. Note that the prospective parents can make this choice even if their own country—say, the United States—has the convention in force, since citizens of Hague-Convention members may adopt from non-members. Our expectation of a negative impact of the convention follows previous studies that did not identify an adoption-promoting effect of the Hague Convention (Breuning 2013b; McBride 2013a). This expectation also echoes several authors' concern that the convention might ultimately hinder and reduce international adoption (Dillon 2003; Worthington 2009).

We code our Hague Convention variable 1 if both the sending country and the receiving country have the convention in force—only then does the convention apply between them. Entry-into-force data rely on the Hague Conference on Private International Law's official Website.

Cumulative Adoption—Past behavior serves as a strong indicator of countries' tendencies and a reliable signal of their future conduct (e.g., Tomz 2007). Historical adoption flows may therefore suggest future patterns. A consistent flow of adoptees bodes well for prospective parents and should make them more inclined to adopt from the country in question. We measure cumulative adoption as the sum total of directed dyadic adoptions since the first year that receiving-country adoption data are available.

Migration-related Influences

Our model also includes several dyad characteristics that influence the transaction costs of migration more generally.

Language commonality—Language commonality between the sending and receiving country facilitates migration flows, and we expect the same for bilateral adoption flows (Dustmann and van Soest 2002). Prospective parents fluent in the local language can more readily gather information on the sending country and navigate its bureaucracy, thereby reducing transaction costs. Common language also controls for unobserved affinities correlated with a shared language. Language

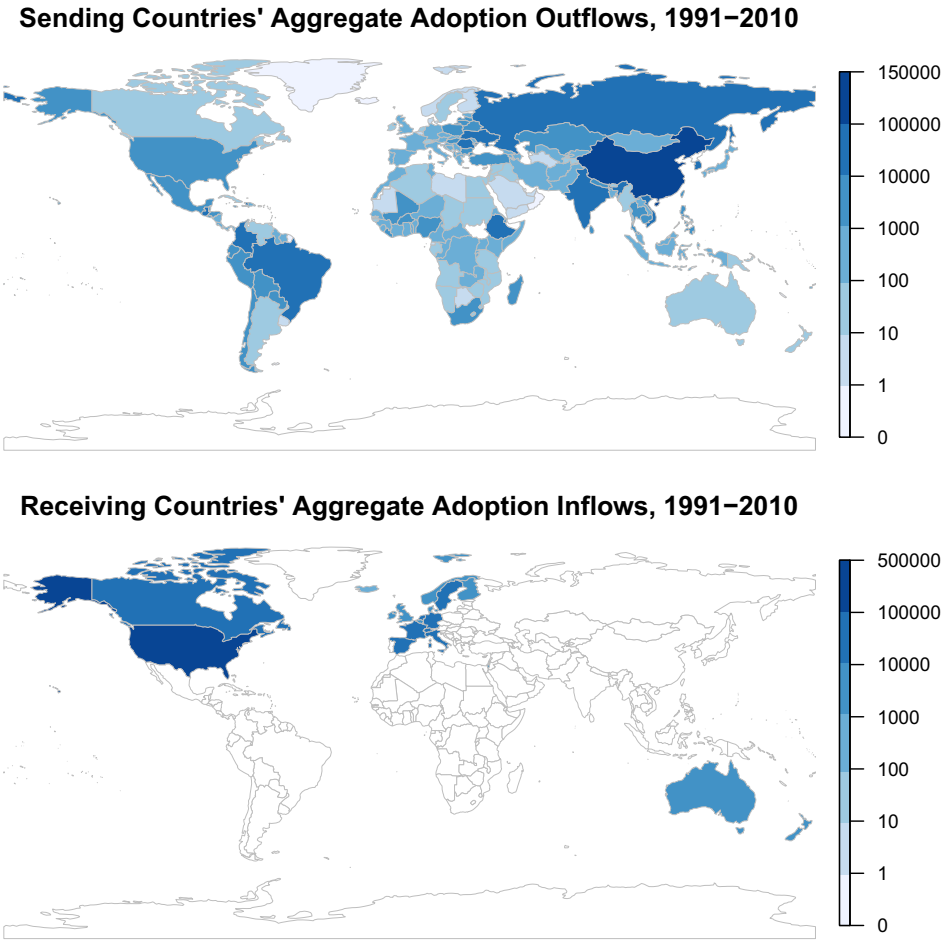

Fig. 4. Total Outflows and Inflows of Adoptees, 1991–2010. Darker Shades Indicate Higher Number of Adoptees

commonality data come from the GeoDist database of the French Research Center in International Economics (French acronym: CEPII).

Migrant Stock—Migrants enjoy a deeper cultural and social understanding of their origin country and are likely to have continuing personal ties with it (Leblang 2010). This familiarity reduces the transaction costs of international adoption. Furthermore, many adoptive parents prefer a child of their own race or ethnicity (Ishizawa et al. 2006). Such a preference may also motivate migrants to adopt a child from their country of origin. Data on the stock of sending-country migrants in a receiving country are from Fitzgerald et al. (2014).

Colonial ties—Former colonies and colonial powers often have dense ties that last long after the colonial relations ended. These cultural, economic, and administrative ties facilitate migration from the former colony to the metropole and ease the adjustment and integration of migrants (Riley and Emigh 2002; Hooge, Trappers, Meuleman, and Reeskens 2008). The same ties can make it easier and less costly for the prospective parents to adopt a child from a country that is a former colony. These parents will have access to better information on that country, and the administrative ties will facilitate the adoption process. *Colonial ties* is a dichotomous variable equal to 1 if the sending and receiving country had a colonial tie. Data are from CEPII's GeoDist database.

Distance—Distance dampens migration by increasing information and transportation costs (Mayda 2010). Analogously, distance between the sending and receiving country should reduce adoption flows by imposing higher transaction costs on prospective parents. We measure the distance between the sending and receiving country's capitals in kilometers. Data are from CEPII's GeoDist database.

Additional Influences on Adoption Flows

Our empirical analysis also accounts for sending-country characteristics that influence the supply of children available for international adoption.

Youth population—The size of the sending country's adoption-relevant population strongly influences the availability of adoptees. The larger the adoption-relevant population, the greater should be the outflow of children. We thus control for youth population: the number of people younger than 14.[12] Data come from the World Bank's World Development Indicators (WDI).

Real Gross Domestic Product (GDP) per capita—The outflow of adoptees should increase as the sending country's ability to care for its children decreases. Poorer countries, unable to provide children's basic needs, are more likely to allow

[12] Due to the high degree of missingness of orphan data for our sample, we do not employ measures of the orphan population. We use the log of the youth population because of the skewness of the data.

adoption. Real GDP per capita should thus be negatively associated with the outflow of children. We construct the measure based on data from the Penn World Tables.

Armed Conflict—Armed conflicts may increase the supply of adoptees by creating orphans and eroding extended family structures that might otherwise care for these children (Roby and Shaw 2006). Dysfunctional or overburdened in the aftermath of war, states' social services may also struggle to exercise their responsibility to care for children generally and for orphans specifically. In these conditions, sending children for adoption abroad may relieve some of the burden and offer the children better prospects. We thus control for major armed conflicts in the sending country using data from the Center for Systemic Peace (CSP).

Islamic Law—Islam does not recognize the institution of adoption as it is understood in the West, since the Koran emphasizes lineage and blood ties. In lieu of adoption, Muslim countries use a guardianship system known as *kafalah* (Breuning and Ishiyama 2009; United Nations 2009:23–27; Breuning 2013b). The non-recognition of adoption also means that Shari'a-observing countries restrict or ban international adoption. We thus control for the adoption-reducing effect of Islamic law using data from the CIA's World Factbook.

Rate of Immunization—Many international adoptees suffer from the adverse health effects of inadequate prenatal and perinatal care as well as poverty and environmental toxins. In orphanages, children might suffer malnutrition, emotional and physical neglect, and environmental deprivation which could negatively affect brain development (Jacbos, Miller, and Tirella 2010:16). Consequently, internationally adopted children have an elevated risk of infectious diseases and developmental delays. Furthermore, the child's background and health information provided to prospective parents is often incomplete or unreliable (Miller 2005; Welsh, Viana, Petrill, and Mathias 2007; Howard and John 2014). While some prospective parents are willing to adopt special-needs children or anticipate some developmental delays, most prospective parents seek a healthy child (Steltzner 2003). Therefore, we control for the rate of immunization for childhood diseases in the sending country as an indicator of health-care capacity. Prospective parents are more likely to adopt from a country with a high immunization rate, where children receive care and are less likely to suffer from medical or developmental problems. We use measles immunization data from the WDI database.

Model and Methods

To address missing-data concerns, we create ten imputed data sets using the **R** package Amelia II (Honaker, King, and Blackwell 2011), fit hurdle models to each of the data sets with the **R** package pscl (Zeileis, Kleiber, and Jackman 2008), and combine the results using Rubin's Rules (Rubin 1987).[13]

A hurdle model fits our analysis better than a normal Poisson count model, as we argue that two separate data-generating processes drive dyadic adoptions.[14] The first process governs prospective parents' *selection* of a sending country based on various preferences and concerns, including those relating to the prospects of completing an adoption. Once prospective parents decide on specific sending countries (i.e., the selection hurdle is overcome), a second process governs the *number* of adoptees that arrive in a receiving country from a sending country. Given the two processes, it is likely that while prospective parents of a certain receiving country historically never selected some sending countries, parents consistently chose other sending countries. For example, the United States adopted almost eighty thousand children from China in 1991–2010, yet it did not adopt a single child from Yemen over the same time period. Excluding "zero"-adoption sending countries from our empirical analysis would lead to selection effects that may bias our estimates of sending-country covariates. Furthermore, as with all count data, non-zero adoption counts are also likely to cluster across years within a dyad or cluster across dyads with the same receiving or sending country. This leads to problems with overdispersion for Poisson models—a problem we observe in our data: 9064 out of 19112 directed dyad-years (or 47.43%) have zero adoptions. Furthermore, 77.98% of all non-zero adoption directed dyad-years have between 1 and 30 adoptions (30 is approximately the mean).[15] Since excess zeros and overdispersion can bias Poisson model estimates, we choose to fit a hurdle model that combines a logit component (right-censored at $y = 1$) and a negative binomial component (that is left-truncated at $y = 1$) to address both issues. More formally, the model can be expressed as follows:

$$f_{\text{hurdle}}(y|\boldsymbol{X},\boldsymbol{Z},\boldsymbol{\beta}_{\text{logit}},\boldsymbol{\beta}_{nb},\boldsymbol{\theta}_{\text{logit}},\boldsymbol{\theta}_{\text{nb}}) = \begin{cases} f_{\text{logit}}(0|\boldsymbol{X},\boldsymbol{Z},\boldsymbol{\beta}_{\text{logit}},\boldsymbol{\theta}_{\text{logit}}), & \text{if y = 0} \\ (1 - f_{\text{logit}}(0|\boldsymbol{X},\boldsymbol{Z},\boldsymbol{\beta}_{\text{logit}},\boldsymbol{\theta}_{\text{logit}})) \cdot \frac{f_{\text{nb}}(y|\boldsymbol{X},\boldsymbol{Z},\boldsymbol{\beta}_{\text{nb}},\boldsymbol{\theta}_{\text{nb}})}{1-f_{\text{nb}}(0|\boldsymbol{X},\boldsymbol{Z},\boldsymbol{\beta}_{\text{nb}},\boldsymbol{\theta}_{\text{nb}})}, & \text{if y > 0} \end{cases}$$

where f_{logit} and f_{nb} denote statistical models implied by logit and negative binomial models, respectively, and f_{hurdle} denotes the full model that combines the two. y denotes directed dyadic adoption counts in a given year. When $y = 0$, the logit model is employed to model the probability of zero vs. positive counts. When $y > 0$, the negative binomial model is employed to model the positive counts. $\boldsymbol{X}$ is a vector of our key covariates that measure sending-country or dyadic characteristics in a given year.

[13] For details about multiple imputation, see http://gking.harvard.edu/amelia/. Given the relatively large size of our data set, we implemented Amelia in parallel on a Linux Cluster to create the ten multiply imputed data sets. The imputation model and code are available in our replication materials. Models fitted with listwise deletion could not converge given the number of covariates and the missingness in some covariates. For missingness details, see Table B.2 in the supplementary file.

[14] For details about the motivation for a hurdle model, see Mullahy (1986) and King (1989).

[15] Figure B.2 in the supplementary file further illustrates the existence of such problems by plotting the distribution of adoption counts and the variation of adoption counts by receiving country.

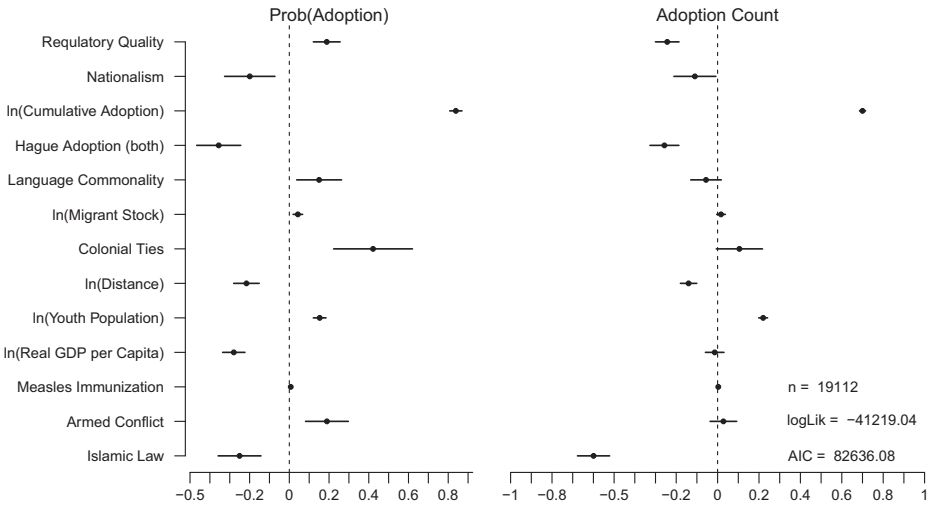

Fig. 5. Hurdle Model of the Determinants of International Adoption. The Figure Displays Coefficients and Associated 95% Confidence Intervals. Intercepts and Coefficients for Fixed Effects are Omitted

$\boldsymbol{Z}$ is a vector that includes our control covariates, receiving-country fixed effects, and year fixed effects. Note that we include the same set of key and control covariates in both submodels. $\boldsymbol{\beta}_{\text{logit}}$ and $\boldsymbol{\beta}_{\text{nb}}$ are vectors of coefficients for covariates in the logit model and negative binomial model, respectively. $\boldsymbol{\theta}_{\text{logit}}$ and $\boldsymbol{\theta}_{\text{nb}}$ are vectors of other parameters for each model, such as the dispersion parameter in the negative binomial model. The denominator in the second line of the equation scales the distribution of positive counts to ensure that overall probability sums to one.

Results

As a hurdle model contains two components—one modeling the factors associated with dyads having adoptions or not and the other modeling the number of children adopted within dyads—Figure 5 presents two sets of coefficients and associated 95% confidence intervals. Figure 6 presents substantive effects in probabilities for the first-stage logit and substantive effects in expected counts for the second-stage negative binomial model, holding other covariates constant.[16] Since the Hague Convention came into existence only in 1993, the results presented are for the period 1993–2010.[17]

The coefficients and substantive effects for the logit component, summarized, respectively, in the left panel of Figures 5 and 6, are all statistically significant and are consistent with our hypotheses concerning the effect of transaction costs on international adoption. In terms of influences unique to adoption, countries with a higher regulatory quality or an extensive history of dyadic adoptions have a higher probability of sending international adoptees. This finding supports our argument that regulatory quality or more cumulative adoption reassures prospective parents by signaling an ability to formulate and implement regulation and a more reliable supply of potential adoptees. In contrast, sending countries with a greater nationalist sentiment are approximately 5% less likely to have children adopted abroad. Furthermore, dyads that have the Hague Convention in force are 8% less likely to adopt from each other compared to dyads where the convention is not in force. The former finding supports our argument that nationalist sentiments send a negative signal about adoption prospects. The latter finding suggests that while the entry into force of the Hague Convention may reassure prospective parents by providing better safeguards against adoption abuse, prospective parents are more concerned about the higher costs and burdens that might stem from the convention's rules and mechanisms.

In terms of influences typical of migration, international adoption is more likely when dyads share an official language (3%) or have colonial ties (9%). Furthermore, a receiving country that has a larger community of migrants from a sending country is more likely to also have international adoptions from that country. These findings accord with our argument that closer connections between countries facilitate the adoption process by reducing the transaction costs of searching for, matching, and ultimately adopting a child. Finally, dyads separated by greater geographic distance are less likely to have any adoption, probably due to the increased transportation costs.

Turning to our controls for child supply and health, sending countries with a higher youth population are more likely to participate in international adoption given their larger pool of potential adoptees. Rich sending countries, as measured by real per capita GDP, are less likely to participate in foreign adoption, since they are able to care for their children. Sending countries with higher measles immunization rates are more likely to participate in international adoption, as prospective parents prefer to adopt healthier children. Sending countries in the midst of armed conflict are, all else equal, more inclined to participate in international adoption because such conflict significantly decreases their ability to care for children and also increases the orphan population. As

[16] More technically, we simulate substantive effects based on first differences following King, Tomz, and Wittenberg's (2000) quasi-Bayesian method. In particular, we simulate the change in the expected value (probability or count) when the covariate of interest changes from zero to one for a dichotomous independent variable, or increases from one standard deviation under the mean to one standard deviation above the mean for a continuous covariate, while holding all other covariates at their mean or mode and setting the receiving country to USA and the year to 2000.

[17] See the supplementary file for further details about parameter estimates (Table D.1) and simulated effects (Table D.2).

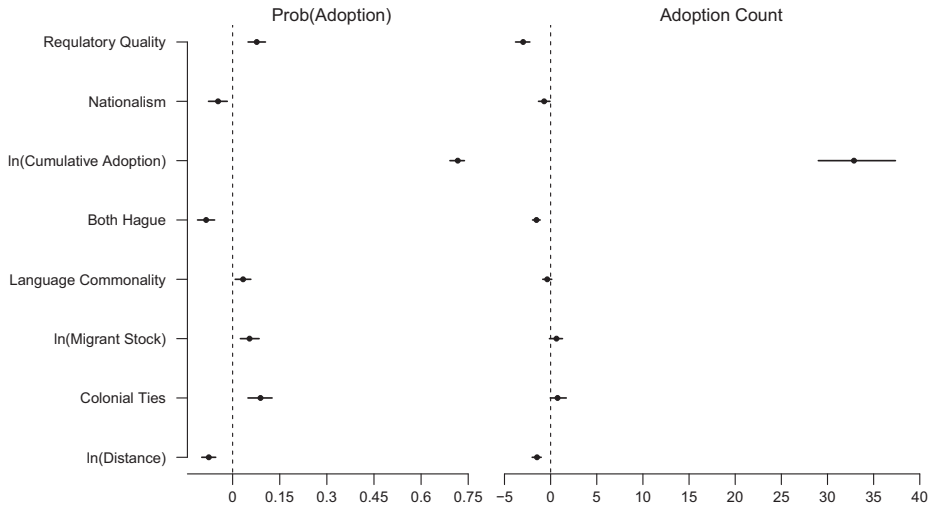

FIG. 6. Substantive Effects of Key Covariates on the Predicted Probabilities and Expected Counts of International Adoption. Predicted Probabilities, Expected Counts, and Associated 95% Confidence Intervals are Simulated using Quasi-Bayesian Methods

expected, Shari'a-observing sending countries are less likely to participate in international adoption, given the Muslim approach to adoption.

The negative-binomial component results, summarized in the right panel of Figures 5 and 6, describe which factors are associated with the number of dyadic adoptions, conditional on having at least one international adoption. In terms of influences unique to adoption, regulatory quality poses a trade-off for prospective parents. On the one hand, a higher regulatory quality can signal better prospects of adoption completion or stability of the local contracting environment, as the logit-component results indicate. On the other hand, once prospective parents decide on a sending country with a high regulatory quality, they may also face stronger and better-enforced regulation, screening, and monitoring in the adoption process, which raises the transaction costs of adoption. This idea receives support in the negative-binomial component results, which show that higher regulatory quality in the sending country is associated with about 3 fewer dyadic adoptions in a given year (or an average 10.35% decrease). Again, sending countries with a greater nationalist sentiment and dyads that have the Hague Convention in force are, on average, associated with around 1 and 2 fewer dyadic adoptions in a given year, respectively (or a 2.45% and a 5.32% decrease, respectively). Meanwhile, dyads with a high level of cumulative adoption have, on average, 32.87 (or 114.13%) more adoptions in a given year than dyads with a low level of cumulative adoption.[18]

Additionally, we find that once prospective parents decide on a sending country, typical measures of bilateral migration costs no longer correlate with the scale of dyadic adoptions: A larger community of migrants from the sending country residing in the receiving country, colonial ties, or language commonality are not significantly associated with the scale of dyadic adoptions (dyads geographically farther from each other do, however, engage in fewer adoptions). This may be due to the fact that prospective parents who ultimately select to adopt from linguistically or culturally distant countries are either already equipped with sufficient language proficiency and cultural familiarity, or are more determined to overcome such barriers. As a result, the effect of these typical measures of migration costs on the scale of dyadic adoptions turns indeterminate once prospective parents select into a sending country.

Finally, the results for the controls in the negative binomial component are all similar to the logit component, with the exception that real GDP per capita and armed conflict are no longer statistically significant.

Robustness Checks

We fit several alternative models, substitute in different indicators, and fit different samples of our data to examine the robustness of our findings. Robustness results are summarized in the following with details presented in the supplementary file (Appendix E).

Alternative Models

For robustness, we fit simple Poisson, negative binomial, and zero-inflated negative binomial models with the same model specification.[19] Note that since the zero component in the zero-inflated negative binomial model models the probability of *zeros*, in contrast to the hurdle model, which models the probability of *ones*, expected coefficient signs here should be the opposite of those in the zero component of a hurdle model.

Overall, coefficient signs and statistical-significance levels for covariates unique to adoption agree with our main hurdle-model results, with the exception of the slightly lower statistical-significance level of nationalism in the negative binomial component of the zero-inflated model (p-value = 0.08). Additionally, we find more support for the relationship between typical measures of migration costs and the scale of dyadic adoption. For example, colonial ties become positive and statistically significant in all three models. Migrant stock also becomes statistically significant under the naive Poisson and negative binomial models. However, informal log-likelihood and AIC comparisons suggest that the hurdle model fits the data better than all three alternatives.

[18] High (low) levels are set as one standard deviation above (below) the mean for continuous covariates.

[19] See Table E.1 in the supplementary file for results.

Alternative Indicators

For additional robustness checks, we fit hurdle models with alternative model specifications. First, we replace the sending country's regulatory quality with its control of corruption to examine alternative sources of government-induced adoption costs. The results show that higher control of corruption is statistically significant and is associated with fewer dyadic adoptions, while results for all other key covariates are substantively the same.[20] This result supports our argument that better control of corruption may lead to stricter enforcement of adoption regulations, which may reduce adoption abuse but may also increase adoption costs. However, control of corruption is not systematically related to the probability of having any dyadic adoption, which suggests that regulatory quality may be a more important concern than the control of corruption when prospective parents select sending countries in the first stage.

Second, we replace our original indicator of nationalism (the existence of a nationalist executive) with a dichotomous measure of *jus soli* (Leblang 2014), on the assumption that countries with high levels of civic nationalism are more likely to define citizenship by *jus soli*, that is, extending citizenship to anyone born within the national territory. Results are consistent: *Jus soli* is statistically significant and negatively correlated with both the probability and count of adoptions, while results for all other key covariates are substantively the same.[21] Overall, the findings show that nationalism is associated with lower adoption probabilities and counts regardless of the measure employed.

Alternative Samples of Data

For further robustness checks, we fit hurdle models with alternative samples of the data. First, we fit the same hurdle model as in Table D.1 in the supplementary file to our larger sample covering the period 1991–2010. We find that results for all transaction-cost covariates unique to adoption hold under this longer time period. Additionally, we find again some supportive evidence for the relationship between typical measures of migration costs, such as migrant stock and colonial ties, and the scale of dyadic adoption.[22]

Second, we fit the same negative binomial model as in Table E.1 in the supplementary file to a subset of the data that excludes all observations with fewer than ten dyadic adoptions. This subsetting of the data comports with earlier work on adoption (e.g., Kane 1993). It grows from a concern that including observations with very few dyadic adoptions inflates the importance of occasional adoptions (and their determinants) that may be qualitatively different from intercountry adoption as commonly understood. For example, occasional adoptions may consist mainly of the adoption of a child by their relative, while common adoptions tend to be by non-relatives.

Overall, Figure 7 shows that results for transaction-cost covariates unique to adoption (regulatory quality, cumulative adoption, and Hague Convention) are consistent in this subset of the data that excludes nearly 80% of our original observations.[23] The only exception is that nationalism loses statistical significance. Additionally, results for transaction-cost covariates typical of migration are more consistent with the negative binomial model under the main hurdle model than the naive negative binomial that does not account for excess zeros: Migrant stock and colonial ties are again not statistically significant. This is understandable, as both the hurdle model and this particular subsetting of the data try to account for excess zeros, albeit taking different approaches.[24] We can also interpret the results as implying that occasional adoptions are more influenced by nationalism, migrant stock, and colonial ties. Including these observations yields statistically significant results in the simple negative binomial model, while dropping them reduces statistical significance for these covariates.

It is, however, difficult to empirically verify that observations with few adoptions are qualitatively different from observations with many adoptions. For example, it is also likely that non-relative adoptions appear in observations with fewer than ten adoptions, or that adoptions by relatives appear in observations with more than ten adoptions. Furthermore, since we also lose around 15,000 observations in this subset, the results likely suffer from lower statistical power: smaller sample size while fitting the same number of covariates. Therefore, these results should be treated with caution.

Concluding Remarks

Our analysis of international adoption flows sheds light on the significant decrease in international adoption in recent years. Figure 8 shows a 38% decline in international adoptions between 2004–2010. Three countries—China, Russia, and Guatemala—account for most of the pattern (see Selman 2012; Breuning 2013a). Our model sheds light on this trend, as it identifies two important influences that negatively affect adoption flows: nationalism and the Hague Convention. In Russia, stronger opposition to adoption outflows coincides with rising nationalism in recent years. In 2008, the United States suspended adoption from Guatemala, citing Guatemala's failure to comply with the Hague Convention. China's declining adoption is, at least in part, due to its Hague-Convention membership since 2005. More broadly, US officials contend that the stricter Hague standards create long delays and are an obstacle to adoption (Swarns 2012; Voigt and Brown 2013).

This study contributes to a number of literatures. Most directly, our analysis advances the study of the politics of international adoption. While building on previous work (Breuning and Ishiyama 2009; Breuning 2013b; McBride 2013a), this article more closely relates adoption to the study of migration, both conceptually and methodologically. Our findings also carry implications for the broader literature on migration. Disentangling economic and non-economic reasons for migration constitutes a central challenge for existing migration research. International child adoption is a unique form of migration in which the migrants, minor children, lack labor-market motives for emigration and have relatively little influence over their destination. As we show, a variety of non-economic

[20] See the first two columns of Table E.2 in the supplementary file for details.

[21] See the last two columns of Table E.2 in the supplementary file for details.

[22] See the first two columns of Table E.3 in the supplementary file for details.

[23] See the last column of Table E.3 in the supplementary file for details.

[24] The former models the expected adoption counts conditional on the occurrence of at least one dyadic adoption. The latter simply drops all observations with fewer than ten dyadic adoptions (including zero-adoption observations), based on assumptions about occasional adoption and appropriate cut-points.

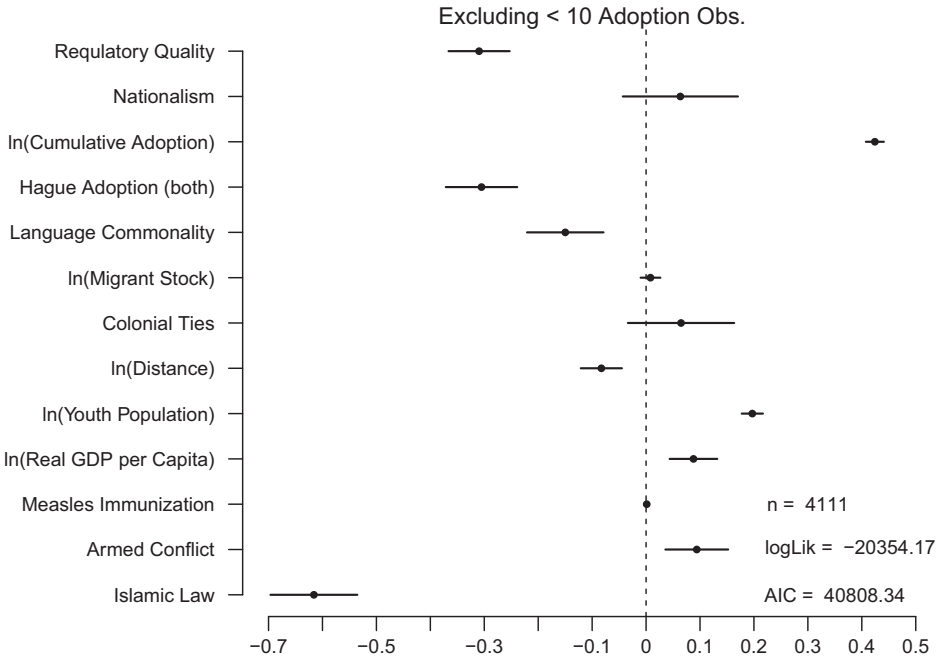

FIG. 7. Negative Binomial Model of International Adoption, Excluding Observations with Fewer than Ten Adoptions. The Figure Displays Coefficients and Associated 95% Confidence Intervals. Intercepts and Coefficients for Fixed Effects are Omitted

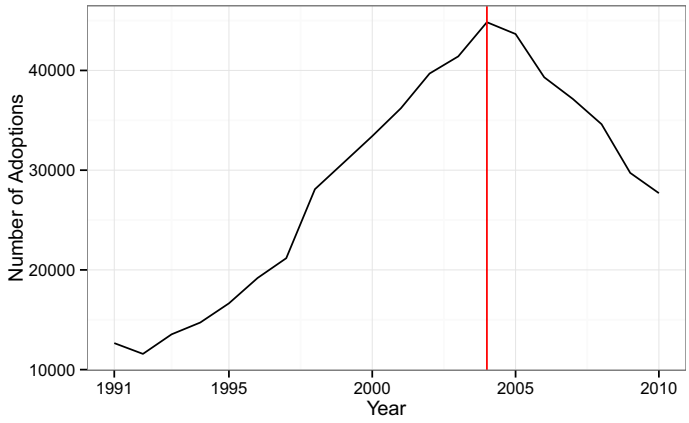

FIG. 8. Global Count of International Adoptions, 1991–2010. The Figure Shows a 38% Decline in International Adoptions between 2004–2010

influences—such as nationalism and religion—shape international adoption flows.

This article also makes a twofold contribution to the study of international law. First, our findings concerning the Hague Convention defy the conventional wisdom that international agreements facilitate transnational exchange. According to the literature, states enter preferential trade agreements and bilateral investment treaties in order to reduce transaction costs and encourage cross-border flows (Tobin and Busch 2010). As various studies demonstrate, these agreements may indeed achieve their intended flow-increasing outcome (Baier and Bergstrand 2007; Kerner 2009). Some studies, however, find that agreements exert little stimulating effect on the flow of goods or investment capital (Ghosh and Yamarik 2004; Aisbett 2007). Our own analysis tracks with this more skeptical strand of the literature. In the case of international adoption, an agreement designed to ease coordination and information exchange ended up increasing transaction costs—or, at least, is being perceived as such by prospective parents—with an overall negative impact on the flow of children. This finding should encourage more attention to, and analysis of, the unintended consequences of international agreements.

Second, this article focuses on an instrument of *private* international law. Private international law plays an important role in regulating cross-border exchange between private parties. As such, it is an important mechanism of global governance that mitigates some of the frictions of globalization. Nonetheless, international-relations scholarship largely ignores private international law. Recent studies of international adoption (Breuning 2013b; McBride 2013a)—as well as this study—begin to fill this void. They explore the influence of international law on the most private of issues: family formation and parenthood. Rather than examining how international law influences state conduct (e.g., Morrow 2007; Hill 2010), our analysis identifies the law's impact on private

parties: prospective parents. We hope that our findings inspire research on private international law in other realms. Understanding how international law directly affects private actors will give us a fuller picture of the role of law in international affairs.

Should we, then, revise or get rid of the Hague Convention, given its negative influence on adoption flows? Did the convention's drafters get it wrong? The convention's requirements, while burdensome, may eliminate some of the illegitimate, corrupt adoptions. If this is the case, the convention may have achieved its primary goal. However, this is not something that our data confirm. Our data show that when the Hague Convention is in force it reduces adoption overall and makes countries less likely to be selected as sending countries in the first place. Rethinking the convention's mechanisms and requirements may reduce the risk of fraud and abuse, while also minimizing the burden and inconvenience for the prospective parents. In addition, prospective parents should receive better information about the merits of the convention. Such information can make the case that the convention's safeguards, while somewhat burdensome, raise the likelihood of a legitimate and ethical adoption—and that such an adoption serves the best interests of the adoptive parents and of the child.

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Supporting Information

Additional Supporting Information may be found in the online version of this article:

Appendix A. Adoption Data.
Appendix B. Variables and Descriptive Statistics.
Appendix C. Imputation Model.
Appendix D. Fitted Model Parameter Estimates.
Appendix E. Robustness Checks.