

## Visa Restrictions and Bilateral Travel

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The vast majority of states impose visa restrictions on travelers from some foreign countries. Such restrictions are likely to deter foreign visitors from affected countries. They will therefore reduce the flow of tourists, businesspeople, and other travelers and thereby damage a country's tourism industry, reduce its trade, and affect its scientific, cultural, and other exchanges with foreign countries. This study estimates the damaging effect exerted by visa restrictions on bilateral travel in a country dyad data set covering the period from 1995 to 2005. It finds that, depending on the exact model specification chosen, visa restrictions reduce such travel by on average between 52 and 63 percent but with substantial regional variation. Given this large detrimental effect of visa restrictions on bilateral travel, the article discusses the determinants of why states impose such restrictions. **Key Words:** globalization, tourism, travel, visa, visitors.

绝大多数国家对来自某些外国的旅客实行签证限制。这些限制可能会阻止那些受到影响国家的外国游客。因此，它们将会减少游客，商人，和其他旅客的流量，从而损害一个国家的旅游业，减少贸易，并且影响其科学，文化和其他对外交往。本项研究利用 1995 年至 2005 年的国家双边数据集，对双边旅行签证限制的破坏性影响进行了评估。报告认为，取决于所选择的具体模型的不同规格，签证的限制减少上述旅行的幅度一般在 52% 到 63% 之间，但存在着较大的地区性差异。鉴于这种双边旅行签证限制的巨大不利影响，本文讨论了国家为何作出如此限制的诸多决定性因素。关键词：全球化，旅游，旅行，签证，游客。

La gran mayoría de los estados tienen restricciones para las visas de viajeros procedentes de determinados países. Como es de esperarse, tales restricciones disuaden a potenciales visitantes de los países afectados. La consecuencia es una disminución en el flujo de turistas, gente de negocios y otros viajeros, lo cual hace daño a la industria turística del país, restringe su comercio y afecta el intercambio científico, cultural y de otros tipos con el extranjero. Este estudio trata de calcular los efectos negativos que ejercen las restricciones de visado sobre el tráfico bilateral de viajeros en el conjunto de datos diádicos de un país correspondientes al período 1995–2005. Se encuentra que, dependiendo de la precisa especificación del modelo escogido, las restricciones de visa reducen el promedio del flujo de viajeros del 52 hasta el 63 por ciento, pero con una sustancial variación regional. En consideración al grave perjuicio que causan a los viajes bilaterales las restricciones de visa, el artículo discute los determinantes en los que se basan los estados para imponer tales restricciones. **Palabras clave:** globalización, turismo, viajes, visa, visitantes.

Sovereign nation-states postulate and exercise a right to control and restrict entry by foreign visitors into their domestic territory. Such controls and restrictions have “historically been viewed as inherent in the very nature of sovereignty” (Collinson 1996, 77). As Sassen (1996, 1998) remarked, there is no right to enter foreign spaces anywhere in international law. Even the non-binding Universal Declaration of Human Rights only postulates a right of exit and entry to one's own country (Article 13), not a right to enter foreign spaces. Two important mechanisms by which states exert their right are border controls and visa restrictions.

Visa restrictions represent an important hurdle to and deterrent against unwelcome visitors that is binding before visitors even arrive at one's borders. First, there is the additional cost and hassle of applying for the visa before travel either via post, which can take weeks or months; via a professional visa service provider; or in person, which implies traveling to the embassy or one of the few consulates and often waiting, possibly for hours, for service. Second, the issuing consulate or embassy can, of course, and sometimes does, deny the application without giving any reason. As Torpey (1998, 252) has put it, “Passport and visa

controls are . . . the 'first line of defense' against the entry of undesirables."

Yet, visa restrictions are likely to deter both welcome and unwelcome travelers. They will deter foreign businessmen and businesswomen as well as foreign tourists and other travelers to the detriment of the domestic economy—see Neumayer (2010) for an analysis of the effect of visa restrictions on bilateral trade and foreign direct investment. The League of Nations in the interwar period and, after World War II, the Council of Europe reminded nation-states that visa restrictions inhibit international trade and tourism (Salter 2003). By imposing visa restrictions on foreign travelers, countries are, in some sense, damaging themselves.<sup>1</sup>

Given the potentially great economic damage that visa restrictions impose on the domestic economy, it is perhaps surprising that this is the first study to analyze the extent to which visa restrictions actually reduce the flow of travelers.<sup>2</sup> My findings suggest that visa restrictions on average reduce the bilateral flow of travelers by between 52 and 63 percent, depending on model specification. The effect is bigger for travel to and coming from developing countries than it is for developed country travel. There are also regional differences across the developing world. The effect of visa restrictions is thus substantially large, even if it is smaller than the effect of geographical location and former colonial links, which are themselves highly correlated with visa restrictions, however.

This article complements Neumayer (2006), where country-specific variations in visa restrictions are explained. In this article, the effect of visa restrictions on bilateral travel is examined instead. Neumayer (2006) speculated that visa restrictions have a large detrimental effect on bilateral travel but could not test this hypothesis. The empirical validation offered in this article adds to our understanding of the complex trade-off between providing travelers access for economic and other benefits and denying travelers access to prevent illegal immigration and for perceived security reasons.

## Research Design

The estimation of the effect of visa restrictions on travel has to deal with an identifica-

tion problem due to potential omitted variable bias (OVB). If variables that both have an influence on travel and are correlated with the explanatory variables of the estimation model are omitted from the specification, then this will cause OVB. In principle the bias can go both ways, but there are good reasons to presume that OVB will bias the estimated coefficients of the variable(s) of interest upward (Baldwin and Taglioni 2006). Travel costs, for example, will impact travel, but are impossible to measure correctly. Baldwin and Taglioni (2006) therefore suggested including dyad fixed effects as well as time-varying nation fixed effects in gravity-type estimation models to deal with the identification problem. However, because my visa restrictions variable is time invariant, dyad fixed effects cannot be included in the estimations. This would hold true even if one collected data on visa restrictions for other years, which is very time consuming. The reason is that there will be little within variation (variation over time) and practically all of the variation of the visa restriction variable will come from between variation (variation across dyads).<sup>3</sup> Given that dyad fixed effects are impossible, I try to reduce OVB as much as possible by including, where possible, year-specific nation dummies and dyadic explanatory variables that could be correlated with visa restrictions. This cannot solve the identification problem, but it reduces it as much as possible.

In the base model, I estimate the following model of travel demand for the period 1995 to 2005, which is a log-linearized version of a gravity-type model:

$$y_{ijt} = \alpha + \beta_1 V_{ij} + \beta_2 x_{it} + \beta_3 x_{jt} + \beta_4 x_{ij} + \gamma_t * u_i + \gamma_t * v_j + \varepsilon_{ijt} \quad (1)$$

The subscript  $i$  represents the destination country, the subscript  $j$  represents the foreign source country, and  $t$  stands for time, measured in years because I have annual data.  $y$  is a suitable variable of travel demand. It is determined by visa restrictions between country  $i$  and country  $j$  ( $V_{ij}$ ). This variable is in principle time variant, but I have data only for one year, which is taken over for the other years (see the discussion on the measurement error this introduces later). Travel demand is further determined by  $x_{it}$ , that is, by time-varying conditions in the

destination country;  $x_{jt}$ , that is, time-varying conditions in the foreign source country; and  $x_{ij}$ , that is, links between the two countries, which could in principle be time varying as well but are constant over time in my actual research design. The year-specific destination fixed effects  $\gamma_t * u_i$  and year-specific source country fixed effects  $\gamma_t * v_j$  capture both any destination and source country-specific effects that do not change over time, such as the general attractiveness of a destination for tourists (weather, beaches, cultural and historical attractions, etc.) and the general propensity of individuals from source countries to travel, as well as time-varying effects specific to destination or source countries, such as market attractiveness, foreign investment climate, business cycles, and so on.

I employ standard errors that are clustered on country dyads; that is, observations are merely assumed to be independent across country dyads but not necessarily within dyads. Because annual observations within the same dyads cannot be independent from each other, failure to do so would lead to a large underestimation of standard errors.

#### *The Dependent Variable*

Travel demand can be measured by number of visitors or by receipts from such travel. Unfortunately, neither can capture the wider economic benefits generated to a country by incoming visitors. Receipts measure the more direct economic benefits somewhat closer than the number of visitors, but no bilateral data on receipts exist, which is why I use data on bilateral visitor numbers instead, for which data are available. Note, however, that at the aggregate national level the number of visitors and receipts are very highly correlated with each other (Neumayer 2004).

Data for visitor arrivals are taken from the World Tourism Organization (2007) and cover the period from 1995 to 2005. For the ordinary least squares (OLS) estimations the natural log of the dependent variable is taken to render its distribution less skewed. This also allows an easy interpretation of estimated coefficients as elasticities. As explained further later, some estimations employ a Poisson count data estimator instead, for which the dependent variable is the number of travelers in levels (i.e., not

logged). The sample consists of all countries for which data are available. In a robustness check, I ran the same models for a sample consisting of developing countries only. The results were similar.

#### *The Explanatory Variables*

Information on the main explanatory variable, bilateral visa restrictions, is taken from the November 2004 edition of the *International Civil Aviation Association's Travel Information Manual* (International Air Transport Association 2004). Used by the vast majority of airlines and travel bureaus, this manual provides authoritative information on restrictions in place. Ideally, one would like to trace changes in restrictions over time, but with approximately 36,300 relevant country pairs (dyads), doing so would be prohibitively costly in terms of effort (it took several months to input the existing data).<sup>4</sup> Given that the panel covers the years 1995 to 2005, there is some measurement error in the visa restrictions variable as a few countries will have changed some of their visa restrictions during this time period. However, this measurement error is small because the number of changes to visa restrictions is likely to be very small compared to the total number of restrictions in place. The cost of measurement error might be outweighed by the benefit of being able to use a panel data set, which allows the inclusion of year-specific destination and source country fixed effects. However, I also report results from a cross-sectional analysis from the year 2004 only, which leads to an estimated elasticity for the visa restrictions variable that is close to the one derived from the panel model.

There are two types of visa restrictions. One is the usual or common type that needs to be applied for before traveling. The other, less common type of visa can be applied for on arrival at the border. This latter type of visa typically does not represent any restriction at all because the procedure of getting it is extremely simple and does not involve any major check on the applicant. In fact, it is fair to say that its main purpose is to generate further revenue for the destination country rather than deterring foreign travelers from the countries facing such visa restrictions, even if the additional cost might deter some. Egypt is a good example.

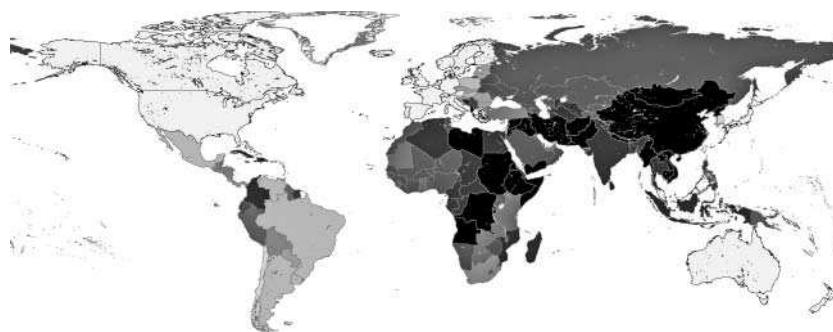
Passport holders from member states of the Organisation for Economic Co-Operation and Development and other major tourist-sending countries need a visa but can obtain one at the border for a fee of US\$15 without complication. With an estimated number of arrivals in 2006 of 8.6 million people, this might have generated additional revenue to the country of up to US\$129 million. Because visas that can be applied for at the border are very different from visas that need to be applied for in advance and before traveling, I count only the latter as visa restrictions in the estimations. Similarly, countries on a so-called visa waiver program, with which the United States exempts travelers from selected countries from the need to obtain a prior visa, are deemed free of visa restrictions, even though the United States has recently introduced a kind of intermediate regime by requiring visitors from visa waiver program countries to apply for so-called electronic travel authorization before the start of travel.

Visa restrictions are a fairly common phenomenon. Sixty-six percent of country dyads impose such restrictions, but the large standard deviation of 48 percent demonstrates that there is a lot of variation in the data. There is a good deal of reciprocity: Around 68 percent of country dyads either impose visa restrictions on each other or are mutually free of such restrictions. Western developed countries impose restrictions on travelers from many more developing countries than their citizens face when traveling to the developing world. The average Western citizen needs a visa for traveling to ninety-three foreign countries,

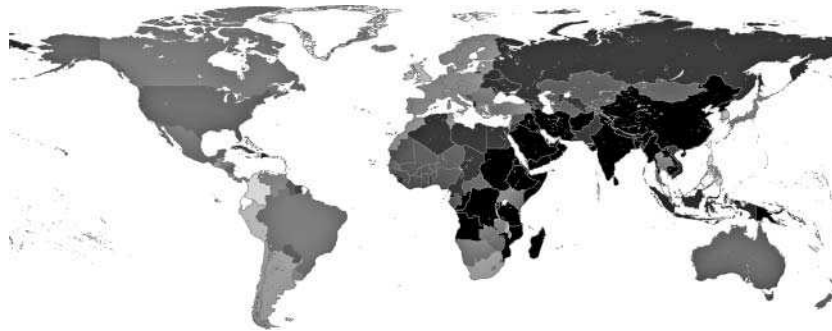
whereas the average developing country citizen can enter 156 foreign countries only with a visa. In addition to economic considerations, visa restrictions are often driven by geostrategic reasons. Countries often allow visa-free travel for visitors from neighboring countries or countries from the same region, unless they are on unfriendly terms with the foreign government. Whereas there is a roughly 69 percent chance that a dyad located in different regions has a visa restriction in place, this likelihood decreases to 49 percent if the two countries are from the same region.

In sum, the international system of visa restrictions provides highly unequal access to foreign spaces. Facilitating the mobility of some is achieved at the expense of inhibiting and deterring the mobility of others. By and large, citizens from rich and geographically or culturally close countries are far less likely to be subjected to visa restrictions than others. Figures 1 and 2 demonstrate the geographical unevenness in the total number of visa restrictions a country imposes on foreign travelers and in the total number of restrictions its nationals face when traveling abroad. Although such aggregated information does not do justice to the complexity and variety of bilateral relationships between countries, the maps clearly demonstrate that access to foreign spaces is very unequal (Neumayer 2006). I discuss reasons for the variation in the system of visa restrictions in more detail after the section that presents the estimation results.

Recall from Equation 1 that in addition to the visa restriction variable, there are



**Figure 1** Visa restrictions imposed by country on nationals of other countries (darker shades mean more restrictions).



**Figure 2** Visa restrictions faced by nationals of country traveling to other countries (darker shades mean more restrictions).

destination- and source-specific time-varying variables as well as time-invariant variables that measure the link between the two countries. As destination- and source-specific variables I include the natural logs of population size and per capita income as well as a measure of democracy in both countries. The idea is that larger and richer countries are more attractive destination countries and generate more travelers as source countries. Democracies tend to impose fewer, if any, restrictions on travel abroad and fewer restrictions on travelers from abroad. Data on income and population are taken from World Bank (2007), and data on democracy from the Polity IV project (Marshall, Jaggers, and Gurr 2008). Political violence in destination countries is a deterrent to travelers (Neumayer 2004). I therefore employ a variable that measures the intensity of armed conflict in a country, with data taken from Gleditsch et al. (2002).

As variables measuring links between two countries, I use the natural log of the geographical distance between the capital cities, a dummy variable for when the two countries are located in the same geographical region, and, finally, a dummy variable for the existence of a former colonial link. Data on distance are taken from Bennett and Stam (2008), and geographical classification largely follows the World Bank's (2007) grouping of countries.<sup>5</sup> The colonial ties dummy variable is taken from Neumayer (2003) and complemented to include Russia in this definition because its imposition of political and military control over ex-Soviet territories was analogous to that ex-

ercised by the classic Western and Japanese colonizers.

### Regression Results

Table 1 contains the estimation results. Column 1 reports the base model, which is compared to various extensions and modifications. Addressing the control variables first, the estimated elasticities for per capita income in destination and source countries suggest that bilateral travel increases by around 11.5 and 6.4 percent for a 10 percent increase in respective per capita incomes. In other words, bilateral travel is a normal good (income elasticity above zero), as one would expect. The estimated elasticity for population size in the source country suggests that a 10 percent higher population size increases travel by 5.9 percent. The elasticity of population size in the destination country is somewhat smaller at 5 percent.

Geographical distance deters bilateral travel: For every 10 percent increase in distance between the two countries, bilateral travel falls by 5.2 percent. Dyads in which the destination and source country belong to the same geographical region on average receive a travel flow that is 492 percent higher than dyads in which the two countries belong to different regions.<sup>6</sup> Together, the distance and regional belonging variable demonstrate a very strong effect of geographical location on bilateral travel. A former colonial link between the destination and source countries also has a strong impact on bilateral travel, increasing it on average by

**Table 1** Estimation results

	(1) ln Visitors	(2) ln Visitors	(3) ln Visitors	(4) Visitors	(5) Visitors	(6) Visitors
Visa restrictions	-0.923** (0.0469)	-0.997** (0.0500)	-0.968** (0.0447)	-0.822** (0.127)	-0.723** (0.160)	-0.902** (0.122)
ln GDP per capita (destination country)	1.151** (0.148)	0.752** (0.0157)		0.486* (0.207)	0.368** (0.0504)	
ln Population (destination country)	0.504** (0.128)	0.788** (0.0145)		1.720** (0.546)	0.479** (0.0386)	
Democracy (destination country)	0.0407 (0.0241)	-0.00489 (0.00391)		0.00721 (0.00903)	0.0213 (0.0154)	
Armed conflict (destination country)	0.0852 (0.0888)	-0.0558* (0.0228)		-0.0364* (0.0155)	-0.139** (0.0522)	
ln GDP per capita (foreign source country)	0.640** (0.0967)	0.863** (0.0157)		0.964** (0.292)	0.480** (0.0666)	
ln Population (foreign source country)	0.587** (0.131)	0.778** (0.0134)		0.636 (0.392)	0.444** (0.0396)	
Democracy (foreign source country)	-0.0166 (0.0180)	0.0257** (0.00432)		-0.00352 (0.0108)	0.00933 (0.0169)	
ln Distance	-0.515 (0.0141)	-0.576** (0.0152)	-0.533** (0.0135)	-0.348** (0.0203)	-0.309** (0.0412)	-0.331** (0.0187)
Colonial link	1.811** (0.216)	1.834** (0.266)	1.520** (0.235)	0.619** (0.227)	1.061** (0.263)	0.637** (0.229)
Same region	1.780** (0.0522)	1.787** (0.0592)	1.737** (0.0490)	0.756** (0.173)	0.747* (0.360)	0.900** (0.159)
Constant	-21.34** (3.672)	-27.22** (0.375)	9.617** (0.279)	-35.24* (12.10)	-9.767** (1.265)	10.56** (0.721)
Observations	95,117	8,222	10,870	95,205	8,230	10,879
R <sup>2</sup>	0.84	0.73	0.83	0.89	0.72	0.89
Estimator	OLS	OLS	OLS	Poisson	Poisson	Poisson
Year-specific nation dummies	Yes	No	No	No	No	No
Nation dummies	No	No	Yes	Yes	No	Yes
Time dummies	No	No	No	Yes	No	No
Time period	1995–2005	2004	2004	1995–2005	2004	2004

Note: Standard errors, shown in parentheses, were clustered on country dyads. GDP = gross domestic product; OLS = ordinary least squares.

\*Statistically significant at 0.05 level.

\*\*Statistically significant at 0.01 level.

505 percent. A more democratic regime in either source or destination country or armed conflict in the destination country do not affect bilateral travel in this model specification.

Turning now to the main variable of interest, visa restrictions, the estimated coefficient suggests that the existence of a visa requirement reduces the bilateral flow of visitors by roughly 60 percent. Although this is a substantively large effect, it might seem small in comparison to the geographical and colonial link variables. However, one needs to keep in mind that these variables are strongly correlated with each other. The likelihood of visa restrictions is much lower for geographically close dyads, dyads with countries in the same geographical region, and dyads in which there is a former colonial link (Neumayer 2006).

In the second column of Table 1, I estimate the model for the year 2004 only to avoid the

measurement error from using the visa restrictions variable, which was derived from data of 2004 only, for the entire time period of the panel. At 63 percent, the estimated effect of visa restrictions is almost identical to the one derived from the fixed effect panel model. In the third column, I include destination- and source-specific fixed effects in this model, which means that all the  $x_i$  and  $x_j$  variables are dropped from the estimation. The effect of visa restrictions is estimated at 62 percent, i.e., almost identical.

Santos Silva and Tenreiro (2006) argued that the interpretation of estimated coefficients as elasticities in OLS log-linearized models can be highly misleading in the presence of heteroskedasticity. They suggested estimating the model in levels (i.e., not log-linearized) instead and using a Poisson estimator with clustered standard errors. Results are also

**Table 2** Estimated effects of visa restrictions on travel to and from regions

	Travel to		Travel from	
	Million visitors in 2005	% impact of visa restrictions	Million visitors in 2005	% impact of visa restrictions
Developed countries	436	–37	555	–36
East Asia and Pacific (high-income)	13	–61	30	–58
North America	84	–31	107	ns
Western Europe	339	ns	418	–26
Developing countries	523	–64	404	–66
Eastern Europe and Central Asia	219	–77	160	–45
East Asia and Pacific (low-income)	169	–25	148	–51
Latin America and the Caribbean	51	–68	34	–76
Northern Africa and Middle East	56	–51	36	–52
South Asia	6	ns	9	–29
Sub-Saharan Africa	22	–63	17	–66

Note: ns = not significant.

Source: World Tourism Organization (2007) and author estimations.

reported for the panel and for the year 2004 only, respectively. Note that the model in the fourth column cannot include year-specific nation dummies as was the case in the first column, as the model failed to converge. Instead, it includes time-invariant dummy variables for destination and source countries as well as year-specific time dummies. The estimated coefficients suggest that the expected number of visitors goes down by 56.4, 52.0, and 59.4 percent, respectively, which represents slightly lower elasticities than in the log-linearized model.

Does the effect of visa restrictions differ across groups of countries? To test for this, I have interacted the visa restrictions variable with various dummy variables for country groups (detailed results not reported, but available on request). See Table 2, which summarizes the results together with some descriptive information on actual travel flows in 2005. To start with, visa restrictions have a more damaging effect on bilateral travel to developing countries than to developed countries. Whereas such restrictions reduce bilateral travel by approximately 37 percent to developed countries, the effect is much stronger at 64 percent on travel to developing countries. The likely reason is that, on average, travel to developed countries is more beneficial for potential visitors than travel to developing countries such that fewer of them are deterred from traveling by the existence of visa restrictions. Among the developed countries,

travel to the high-income East Asian and Pacific countries (Japan, Australia, New Zealand) is more strongly affected at a reduction of 61 percent than travel to high-income North America (Canada and United States) at a reduction of 31 percent, whereas travel to Western Europe is not affected in a statistically significant way. Among the developing countries, visa restrictions have the largest effect on travel to countries in Eastern Europe and Central Asia (–77 percent), followed by Latin America and the Caribbean (–68 percent), sub-Saharan Africa (–63 percent), the Middle East and Northern Africa (–51 percent), and low-income eastern Asia and the Pacific (–25 percent). The effect on travel to South Asian countries is statistically insignificant, but there are only three countries in this region, so the respective coefficient is likely to be estimated unreliably.

Testing conversely for differential effects of visa restrictions on visitors coming from certain groups of countries, I find again that such restrictions have a stronger effect on visitors from developing countries (–66 percent) than developed countries (–36 percent). The reason is most likely that individuals in developed countries find it easier to obtain a visa and are better able to pay for the direct and indirect costs. Among the developed countries, it is again travel from the high-income East Asian and Pacific countries that is most strongly affected (–58 percent), followed by travel from Western Europe (–26 percent), whereas travel from North America is not statistically significantly

affected. Among the various regions of the developing world, visa restrictions have the strongest negative effect on travel from Latin America and the Caribbean (minus 76 percent), followed by sub-Saharan Africa (−66 percent), Northern Africa and the Middle East (−52 percent), Eastern Europe and Central Asia (45 percent), and South Asia (−29 percent).

### **Why Restrict the Number of Travelers with Visa Restrictions?**

The reported results suggest that visa restrictions have a large negative effect on the flow of travelers between two countries. Most policymakers now subscribe to the view that international trade, foreign investment, tourism, scientific, business, and other contacts are desirable for mainly economic reasons. So, the question arises, why do states impose visa restrictions if these are economically damaging? The reason is that every state faces a dilemma between facilitating the cross-border flow of people for its own economic and political benefit on the one hand and monitoring, controlling, and limiting that same flow for its perceived security interest and the prevention of illegal immigration on the other hand.

What differs across countries is the relative weight they put on the two aspects of the trade-off. Visa restrictions provide a crude but powerful mechanism to manage this trade-off. They fulfill the double role of preselection and deterrence: Those who do not need a visa are regarded as welcome and low-risk visitors by default, those who need a visa and have been approved by the country's consulate or embassy abroad are regarded as not unwelcome and not representing a great risk on closer inspection, whereas those who need a visa and do not have one or have been denied a visa are unwelcome. To be sure, even if no visa is needed or a visa has been obtained, the final decision of whether one can enter a foreign space is made at the border itself and there is always the risk that border control will deny entry even if one is in possession of a valid visa. However, in practice this risk is rather small, which is why the preselection role of the system of visa restrictions is so important.<sup>7</sup> Not so much passports as such, as Salter (2003) seems to suggest, but the visa restrictions imposed on passport holders

from certain countries are one of the most important mechanisms by which nation-states exert their prerogative to control entry into their territory.

Those countries more concerned about security will impose more restrictions. One obvious concern is that visitors might turn into immigrants by staying on (illegally) in the country instead of returning back home. Illegal entry is only one form of illegal immigration. Gaining legal access but then overstaying the allowed period of leave is another and quite important one.<sup>8</sup> Western developed countries are attractive destinations for illegal immigrants who often come from poor developing countries, which explains why Western countries usually have restrictive visa policies in place with respect to travelers from developing countries. Besides immigration, another significant concern of many states is the infiltration by potential terrorists, drug traffickers, political activists, and other persona non grata. Visa restrictions represent an important mechanism to counter threats to regime stability by politically undesirable individuals and threats to national security by politically motivated violence. Autocratic regimes are suspicious that foreign influence might undermine the regime's foundations and are therefore eager to control who enters the country. The more autocratic and repressive a regime is, the more it is threatened by open borders (Anderson 2000). It is therefore not surprising that some of the most autocratic countries in the world (e.g., China, Myanmar, and North Korea) impose visa restrictions on travelers from almost every other country in the world.

In contrast, those governments more concerned about the detrimental economic and other impacts of visa restrictions will impose fewer visa restrictions. For example, countries that are heavily dependent on trade need to provide easy access to foreign visitors to facilitate the international exchange of goods and services. Major tourist destinations have an incentive not to impose visa restrictions on sending countries to remain attractive in the increasingly competitive market for mass tourism. O'Byrne (2001, 409) argued that the relaxation of visa requirements in many countries can be explained as a direct response to the demands by the tourism industry to whom "freedom of travel *is* freedom to trade." Hence,



it is again not surprising that some of the most tourism-dependent countries in the world (e.g., Barbados, Kenya, Maldives, Seychelles, Tanzania) as well as some of the most trade-dependent countries and country-like entities (e.g., Hong Kong, Malaysia, Singapore) impose very few, if any, visa restrictions on travelers.

Does this mean that the estimations reported earlier suffer from endogeneity bias, which would follow if the explanatory variables like visa restrictions were correlated with the error term? Not necessarily. The destination and source country fixed effects included in the estimations capture, among other things, the general trade and tourism openness (dependence) of countries. They certainly reduce potential correlation of the key explanatory variable visa restrictions with the error term, even if they perhaps cannot eliminate it entirely. That explanatory variables are correlated with each other (rather than with the error term) is not a problem for the estimations, however. It simply changes the interpretation of the estimated coefficient, which then has to be seen as estimating the effect of visa restrictions conditional on the other explanatory variables, including the fixed effects, being included in the estimation model.

## Conclusion

In this article, I have estimated the effect of visa restrictions on bilateral travel. The results show that bilateral travel is significantly and substantively affected by such restrictions. It is estimated to be reduced by between 52 and 63 percent on average. I have also shown that travel to and from developing countries suffers more from the imposition of visa restrictions and that there are also regional differences across the developing world. These estimated effects need to be treated with some caution due to the identification problem (potential OVB), which I tried to mitigate through careful model specification but could not solve completely. Moreover, the data are not disaggregated, so I cannot distinguish between different types of travel. Visa restrictions might not affect all types equally, but they will dampen all travel. There will be less trade, fewer tourists, and less scientific, cultural, and other exchanges. In other words, countries imposing visa restric-

tions on foreign travelers pay a price for doing so.

Imposing visa restrictions need not be irrational, however. Governments will balance the economic or other benefits of allowing foreign travelers access to their country's domestic space against the security and other concerns foreign visitors generate. As pointed out earlier, the system of visa restrictions varies in predictable ways. Countries that are more dependent on trade and tourism impose fewer restrictions, whereas richer countries fearful of illegal immigration and more autocratic countries impose more restrictions.

These visa restrictions have a substantively large damaging effect on bilateral travel, however, and policymakers would be well advised to consider whether the large benefits of lifting visa restrictions would outweigh any security or other concerns they might have. Visa restrictions are strangely at odds with a world that is becoming more and more interconnected via myriad links and in which economic and other gains increasingly depend on international exchange and mobility. However, human geographers and other social scientists have long since noted how increases in "globalization" do not necessarily mean increases in the cross-border flow of human beings (Collinson 1996; Andreas and Snyder 2000; Nevins 2002; Cunningham 2004). Nation-states have proven far keener to bring down barriers to telecommunication, trade, and, if less so, capital flows than they have been keen to remove barriers to the cross-border movement of people. ■

## Notes

<sup>1</sup> The detrimental economic impacts have played a high-profile political role in the United States, where after 11 September 2001 the issuance of visas has been severely restricted. This has created much concern among business groups, research centers, and universities about undue delay in granting visas and keeping out students, scientists, and businessmen whose entry would be beneficial to U.S. interests (Bhattacharjee 2004; Froelich 2004).

<sup>2</sup> One potential reason for this lack of existing studies is the work effort involved in inputting data on visa restrictions for a global sample of nation-states. This article's analysis can build on an earlier study of visa restrictions, for which I have coded these data already (Neumayer 2006).

- <sup>3</sup> Technically, dyad fixed effects could be included in this case, but with hardly any within variation in the visa restrictions variable, no valid coefficient can be estimated in such a model.
- <sup>4</sup> Due to lack of data for the explanatory variables, not all dyads were entered in the sample.
- <sup>5</sup> The major difference is that the United States and Canada do not constitute their own region but are part of North and Central America, whereas South America forms a group of its own.
- <sup>6</sup> These and similar estimated elasticities take into account the necessary correction for the interpretation of estimated dummy variable coefficients in semilogarithmic equations (see Kennedy 1981).
- <sup>7</sup> This importance is further heightened by the fact that it might not be possible to send people whose entry is rejected back to their home country. In principle the passport "provides an assurance for the State of transit or destination that the bearer can return to the State which issued the passport" (International Civil Aviation Organization 2004, 13). In other words, in principle, the passport guarantees that those denied access can be sent back to the issuing country. However, there have been many cases where individuals have destroyed their passports or countries have refused to take their nationals back. It is exactly for this reason that many countries require airlines not to let anyone enter the aircraft who is not in possession of a valid visa (if required to do so). Otherwise, the dual purpose of visa restrictions, preselection and deterrence, would be defeated. Increasingly, sanctions are applied to sea and ground transport companies as well (United Nations 2002).
- <sup>8</sup> Just how important is difficult to say. Bigo (1998, 152) reported from discussions with French Schengen Officials and the Central Directorate for the repression of illegal immigration and employment that only 20 percent of illegal immigrants crossed the border illegally, whereas the vast majority entered the country perfectly legally but then overstayed the allowed period of time. Andreas (1998, 607) and Koslowski (2005, 5) reported a higher share of individuals crossing the border illegally for the United States (50 to 60 percent and 60 to 70 percent, respectively) despite the increasing militarization of the U.S.-Mexican border (Nevins 2002). Even so, an estimated 150,000 people each year overstay their visa with the intention of settlement.
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