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Human trafficking and migration control policy: vicious or virtuous cycle?

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ABSTRACT

This paper examines the relationship between states' migration control policies and human trafficking in origin, transit and destination states. Using cross-sectional data on states' visa policies for 192 states and indicators for human trafficking from the Global Patterns report by the United Nations Office on Drugs and Crime, the paper analyses feedback mechanisms between policies and trafficking. The empirical evidence suggests that, contrary to the pessimistic predictions of policy scholarship, the feedback is characterised by a virtuous mechanism. Firstly, the results show that, in line with expectations of security studies, states tighten visa policies in response to trafficking threats. Origin and transit states face a greater number of restrictions on travel. Similarly, destination states of trafficking impose tighter controls. Secondly, visa restrictions against origin and transit countries mitigate trafficking from and through these states. Finally, the paper demonstrates that the vicious effect whereby stricter policies exacerbate trafficking pertains mostly to destination states' visa policies and to visas imposed at borders.

Key words: *human trafficking, international migration, organised crime, policy feedback, reciprocity, visa policies*

Introduction

Migration control policies have assumed greater significance in light of the increased cross-border mobility brought on by globalisation (Adamson, 2006; Faist, 2005). Migration figures underscore the unprecedented nature of interstate human mobility: international arrivals have increased from 166 in 1970 to over 700 million in the early 2000s (UN Department of Economic and Social Affairs, 2009). Scholars have characterised the rise in human mobility as creating a "borderless" world with seemingly porous interstate boundaries (Ohmae, 1990). Migration policies gained salience also because unfettered mobility across borders has spawned novel security challenges (Andreas, 2000; Andreas and Nadelman, 2006; Gavrilis, 2004), representing the dark side of globalisation (Keohane, 2002). Underpinning this trend is a broader question on the relationship between policy and outcome: to what extent are states' migration control policies effective in

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mitigating security concerns? In this paper, I focus on human trafficking – as a type of illicit flow – to inquire into this relationship. The paper tackles two questions. Firstly, how do countries shape their migration policies to respond to trafficking? Secondly, what effects do tighter migration controls have on human trafficking prevalence globally?

Why focus on human trafficking? Firstly, in the last few decades, trafficking has become a global phenomenon that traverses interstate borders, recruits perpetrators internationally and constitutes a multimillion dollar business (Berdal and Serrano, 2002; Interpol 2011). Although the exact magnitude of the problem is hard to specify, the US Department of State estimates that there are more than 12 million victims of human trafficking globally (State, 2010). Secondly, traffickers threaten states' security interests by undermining governance and territorial integrity and breeding societal instability (Shelley, 1999). Last but not least, human trafficking is unique among types of organised crime in imposing a normative burden on states to engage in counter-crime efforts (Hathaway, 2009).

This paper makes several theoretical and empirical contributions to the literature. Firstly, by drawing on insights from studies on policy feedback, I tackle a current debate in the transnational crime literature, encapsulated by two competing propositions (Salt, 2000). On the one hand, trafficking is posited to have thrived as a result of lax controls at borders. On the other hand, however, more stringent controls are held to give rise to a demand for traffickers, as prospective migrants are forced to use illegal channels. Whereas both propositions make intuitive sense, there is a dearth of scholarship that systematically examines these propositions. Secondly, scholarship has treated border and migration control as a uniform category; this represents a lacuna insofar as the relationship between organised crime and policy differs across instruments of migration control. I address this shortcoming by concentrating on visa policies. Thirdly, I redress the methodological gap in the literature by employing a simultaneous equations framework to explicitly model reciprocity between states' migration policies and human trafficking. Finally, the paper questions the efficacy of border control, an issue of increased prominence in the post-9/11 context and, in so doing, contributes to controversies on the nature of feedback mechanisms in public policy.

Brief review of the literature on migration policies and human trafficking

A substantial portion of the security literature is devoted to uncovering the ways in which human trafficking as a form of organised crime constitutes a security threat for states. Although this literature does not deal specifically with understanding how states tailor migration control policies in response to these challenges, it offers the building blocks for hypothesising about

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states' policy responses. From a broad perspective, organised crime is reflective of the changing contours of the security landscape whereby security may be imperiled not just by the militaries of other states but by individual actors (Buzan, Ole and Wilde, 1998; Kaldor, 1999; Keohane, 2002). Pivotal to the redefinition of state security is the recognition that "private actors are capable of devastating damage once reserved for state actors" (Salehyan, 2008, 12). Nevertheless, this literature does not tell us how exactly trafficking endangers states' security.

Literature on organised crime affords more precise insights into how trafficking endangers states' security interests. While demand for cheap labour may drive illegal migration to destination states, recipient countries, rather than being beneficiaries of illicit labour migration, "often pay in terms of security, health costs, and sometimes, political unrest" (Feingold, 2005, 31). Trafficking poses a problem for local governance and human security and leads to a corruption of civil society (Bales, 2000 and 2005). To expand on that note, trafficking has detrimental effects on the demographic makeup of origin or transit countries, as evidenced by the cases of Russia, Moldova and Ukraine (Shelley, 1999). For both destination and origin states, trafficking entails a public health hazard, with the possibility of spreading communicable diseases (Simmons and Lloyd, 2010). From an ideational vantage point, due to issues of human rights and sexual exploitation it raises, trafficking in individuals imposes a moral cost for both source and host countries (Hathaway, 2009). Transit and origin states that fail to develop and institutionalise effective counter-trafficking policies encounter condemnation by the international community (Cho, Dreher and Neumayer, 2011; Simmons and Lloyd, 2010).

A second strain of the literature links human trafficking to the securitisation of migration, and in particular to irregular migration (Adamson, 2006; Faist, 2005; Huysmans, 2006). At the domestic level, beliefs that trafficking jeopardises state security are fostered by public perception that, similar to other forms of clandestine migration, trafficking violates borders and exploits loopholes in border and migration control (Apap, Cullen and Medved, 2002). Precisely because traffickers exploit the same supply of prospective migrants who lack the legitimate means of access to states' territories, trafficking and smuggling are closely connected (Apap, Cullen and Medved, 2002; Graycar, 1999; Naim, 2005).[1] Moreover, recent work has emphasised the close ties between terrorist organisations and criminal networks: terrorist and criminal organisations not only share organisational and operational characteristics and exploit the technologies of globalisation but also become entrenched in domestic environments with high levels of corruption and weak state capacity (Sanderson, 2004, Salt, 2000).[2]

Finally, migration scholarship offers insights into the connection between human mobility and trafficking networks. This literature informs

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us that push and pull factors propel migration from origin to destination states. Migrants' decisions to migrate are rational in factoring in the costs of leaving source states against the benefits accrued from relocating to destination countries (Cornelius, 2004, Cornelius and Rosenblum, 2005). While these factors are at the root of individual decisions to migrate, they also point to ways in which human traffickers come to play a role in facilitating migration. Economic wealth and employment opportunities in destination states function as pull factors by luring opportunity-seeking (voluntary) migrants. At the same time, widespread poverty, an unequal distribution of wealth and underemployment coupled with high population growth act as push factors in driving migration out of origin states (Martin and Widgren, 1996). Furthermore, political factors such as domestic strife and political repression as well as environmental disasters and famine may push survival (involuntary) migrants out of source countries (Loescher, 1993). Economic migrants motivated by relative deprivation and disparities in wealth between origin and destination states and political migrants driven from origin states by hostile conditions alike might resort to third-party facilitators if they are unable to gain access to destination states through legitimate means (Salt, 2000).[3] Desperate migrants may fall prey to organised crime networks through deception; thus, whereas migrants may recruit intermediaries voluntarily, they might not be aware of the conditions or type of work involved (Bales, 2005; Kara, 2009).[4] Consequently, push and pull factors create a pool of vulnerable migrants, feeding into the demand for crime networks in facilitating migration.

The above discussion reveals several limitations of the literature. Firstly, the theoretical literature within political science has paid scant attention to human trafficking, in part because the recognition of trafficking as a problem of trans-border crime is relatively new (Lobasz, 2009; Simmons and Lloyd, 2010).[5] Secondly, current work focusing on security implications fails to delineate the security challenges of human trafficking and tends to view it as a problem of illegal migration (Naim, 2005). Thirdly, extant literature generates policy recommendations without an empirical basis. Fourthly and related, the policy prescriptions favouring tighter measures run counter to the pessimistic predictions put forward by policy pundits (Bales, 2005). This disjuncture necessitates the systematic empirical assessment of the relationship between migration controls and human trafficking. Whether this relationship is characterised by a virtuous or vicious cycle will inform our policy prescriptions in important ways.

Migration control and human trafficking: feedback mechanisms

The literature review suggests that states face a catch-22 situation: transnational organised crime may be rooted in weak controls and lack of

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governance in border zones but at the same time, uncompromising migration control policies create an atmosphere that is unwittingly conducive to the operation of trafficking networks (Bales, 2000; Buscaglia and Dijk, 2003). Yet these propositions remain untested. I seek to redress this gap in the literature by drawing on insights from public policy literature on feedback mechanisms.

Public policy literature has explored the notion of policy feedback by building on the seminal work of Easton's (1965) theory of the political system as an adaptive process that produces outputs in response to demand and support from the populace. Subsequent extensions of the systems approach have characterised feedback in terms of a thermostatic model whereby policies are conditioned by the public's relative preferences toward outcomes. Central to the thermostatic model of feedback is a responsive public that expresses preferences in terms of "more" or "less" and serves as a check on policy formulations (Wlezien, 1995). This perspective affords possibilities for gradual adjustment in policy and allows for both change and stability in the political system. More recently, Jennings (2009) has applied the thermostatic public approach to the study of the asylum regime in the United Kingdom and has shown via an error correction model that public attitudes toward immigration and asylum policies are defined by short-term and long-term dynamics that are incrementally adaptive to changes. An alternative perspective that accommodates cyclicality in public preferences and policy is offered by the punctuated equilibrium model: in this formulation, small changes can snowball into decisive changes in policy. In contrast to negative feedback systems in which minute deviations away from equilibrium are counterpoised with a return to status quo ante, punctuated equilibrium allows for positive feedback whereby a rapid burst of innovation may transpire before a saturation point is reestablished (Baumgartner and Jones, 1993).

To recapitulate, this body of literature studies endogeneity between public attitudes and governmental decisions and speaks to debates on democratic governance. To my knowledge, however, scant attention has been paid to reciprocity between trans-border phenomena such as human trafficking and states' policies.

Measuring migration policy

Before proceeding to the hypotheses, a few remarks are in order with regard to the operationalisation of migration policy. Immigration policies may be categorised as instruments regulating the selection and admission of foreigners and measures that dictate conditions provided to resident immigrants (Meyers, 2000). This categorisation is based on the location of control: selection and admission procedures regulate migration before they

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gain admittance to the destination's territory whereas the latter category monitors migrants already lodged in destination countries (Guiraudon and Lahav, 2000). Admittedly, both types of policies have implications for human trafficking flows. For instance, strict regulations that restrict immigrants' rights to work, travel or health may compel foreigners to enlist third-party intermediaries for access to illegal work options or document forgery (Doneys, 2011). Tight border controls or restrictions on exit from origin states may similarly have the perverse effect of forcing migrants to seek out third-party intermediaries (Feingold, 2005).

A further distinction in immigration policies is in terms of whether the policy controls voluntary or involuntary migration. Asylum and refugee policies fall under the purview of the judiciary and are subject to international norms enshrined in the 1951 Geneva Convention and accompanying Protocols (Loescher et al., 2003; Rottman et al., 2009).[6] In contrast, measures dealing with economic migrants are under the aegis of executive branch and are not constrained by an international regime (Koslowski, 2004). Consequently, policies regulating economic as opposed to political migration involve a different set of incentives and costs. This distinction notwithstanding, I am interested in how restriction on foreign movement across borders relates to human trafficking. For the purposes of my argument, what matters is that both economically and politically motivated migrants may fall prey to traffickers as restrictions on movement narrow the options available to migrants to obtain legal entry across borders.

In this manuscript, I focus on a type of instrument that falls under the first category and is concerned with voluntary migration: visa restrictions seek to reassert territorial sovereignty by screening threats before they cross states' borders. The twin functions of screening and deterrence allow visa controls to stem undocumented migration. While media accounts of migrants infiltrating border controls might lead us to expect that illegal migration involves undetected and unofficial border crossings, a more common pathway to illegal migration is through the violation of short-term visas (Bigo, 2002). Screening foreigners abroad allows states to deny territorial access to individuals whom they believe might breach the terms of their visas by overstaying the permitted time of stay or working illegally (Siskin, 2004).[7]

Secondly, although visas monitor voluntary flows, the visa regime may serve to buttress the asylum regime; in fact, the impetus to harmonise visa policies within the European Union was in part a reaction to growing pressures on the asylum system (Guiraudon and Lahav, 2000; Neumayer, 2005). Scholarship on trafficking has shown that the voluntary and involuntary distinction also is not as clear cut in reality as it is in theory because some of the victims of trafficking intend to migrate to developed countries for economic reasons but are deceived in terms of the working conditions or

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the types of work (Adamoli et al., 1998). Importantly, the relevant question here is not how border controls affect individual decisions to migrate but how monitoring borders influences the operation of trans-border crime, of which human trafficking is one component. Finally, visa restrictions may be indicative of how migration policies in general relate to human trafficking. Feingold (2005) contends that tighter migration control – such as less forgiving asylum recognition procedures – induces reliance on third-party intermediaries. In a parallel vein, the increased costs of territorial access and risk of denial might prompt prospective migrants toward unofficial channels of entry.

Hypotheses

At the outset, tighter policies of control over borders might seem attractive to destination states for a number of reasons. Firstly, migration pressures foment fears over loss of territorial control; clandestine entry is intrinsically antithetical to state sovereignty. Secondly and related, states are beset by uncertainty vis-à-vis traffickers insofar as transnational criminal networks mobilise across borders and evade governmental surveillance mechanisms (Keohane, 2002; Williams, 2001). Scholars note that states' predicament vis à vis non-state threats is one of asymmetric vulnerability (Keohane, 2002) whereby borders have become "harder for governments to control, and easier and more lucrative for violators to bypass" (Naim, 2006, 1). It stands to reason, then, that states would tighten control over their borders in an effort to dissuade illicit flows and prevent unauthorised entry into their territories. Preventing entry is all the more important given that crime networks, once inside states' borders, are remarkably hard to detect and dismantle (Bales, 2005). This expectation is further strengthened by the fact that, by strengthening border controls, states also desire to counter other forms of organised crime – in particular, drug and arms trafficking – which often accompany human trafficking flows (Bartilow, 2010).

H1: Prevalence of human trafficking in origin and transit states will lead to tighter visa policies against these states.[8]

H2: States that are prominent destination countries for trafficking will impose tighter visa policies.

What are the dynamics that determine the nature of the relationship between migration control policies and human trafficking? Theory and evidence suggests that policies may produce perverse consequences: instead

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of dampening the prevalence of organised crime, closed borders have resulted in greater reliance by desperate migrants on illicit networks (Apap, Cullen and Medved, 2002; Feingold, 2005). This emphasises a vicious cycle whereby policies have undesirable and unintended consequences (Weaver, 2010).

Why might we predict a vicious cycle? Firstly, stricter migration control may embolden organised crime networks by fostering the market for traffickers and smugglers. At the same time that tight policies raise the costs for traffickers, they also make it more costly for prospective migrants to obtain legal access to destination states (Bales, 2000 and 2005; Friebel and Guriev, 2006). More importantly, policies such as visa restrictions make international travel more difficult for precisely the group of potential migrants vulnerable to exploitation by crime networks: individuals lacking financial means and credentials to pass the requirements to obtain legal permits for territorial access (Neumayer, 2006). As a result, efforts to curb illegal migration may render potential migrants more dependent on intermediaries to facilitate clandestine access (Clark, 2003; Friebel and Guriev, 2006).

Secondly, restrictions on human mobility reflect a tension in the globalised economy: while restrictions on other factors of production – capital and goods – are increasingly relaxed, labour remains subject to limitations (Freeman, 1995; Hollifield, 1992 and 2000; Rudolph, 2006). In that respect, traffickers take advantage of this tension by facilitating labour mobility, albeit through illegal channels (Apap, Cullen and Medved, 2002). Tighter policies accentuate this dynamic, increasing demand for intermediaries to facilitate labour mobility.

Finally, anti-trafficking measures may be a partial panacea for trafficking because traffickers recruit and organise across countries; consequently, they can temporarily shift operations to and through other locations. In effect, "unless policies can address the underlying supply and demand factors driving international trafficking (which they typically cannot), stricter anti-trafficking policies in one country will merely deflect the problem onto other countries with weaker policies in place" (Cho, Dreher and Neumayer, 2011, 5). The existence of negative externalities raises the possibility that trafficking continues or re-establishes itself from, through and to the same set of countries.

H3: Tighter visa policies against origin and transit states will result in increased levels of human trafficking from and through these states.

H4: Tighter visa policies enacted by destination states will result in increased trafficking flows toward these states.

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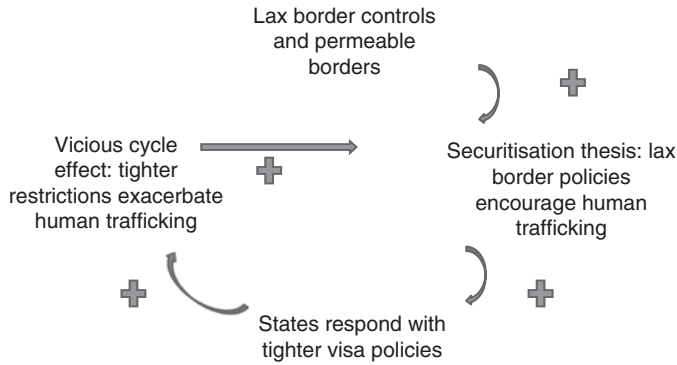


FIGURE 1. *Feedback loop between visa policies and human trafficking*

Figure 1 summarises the feedback loop.

Data and methods

Measuring visa policies

I employ two separate indicators for visa restrictions. The first measure comes from Neumayer's (2006) data on bilateral visa restrictions, coded from the 2004 version of the International Aviation Association's Travel Manual (IATA) (IATA, 2004). Utilised by the majority of airlines and travel bureaux, this manual provides authoritative information on controls in place. Bilateral visa restrictions encompass 192 members of the United Nations. In order to capture restrictions on travel for origin and transit country citizens, I aggregate the total number of states in the world that impose a visa on these countries. Similarly, to tap into how restrictive destination state policies are, I count the total number of countries in the international system on which the destination state imposes a visa. This operationalisation proves intuitive: given the number of states in the international system, we may interpret the measure as indicating the percentage of countries to which a state enjoys free travel or, vice versa, restricts travel from.[9] Finally, another specification decision concerns the distinction between visas obtained at embassies and consulates and visas enforced at borders. Visas required before foreigners embark on travel are considered an upstream restriction on mobility whereas visas-at-borders are on-site forms of controlling the border (Andreas, 2003; Neumayer, 2006).

A possible caveat is that this indicator is restricted to short-term stay; admittedly, longer-term visas regulating the employment of foreigners are an integral component of the visa regime. By limiting access to work opportunities, restrictions on long-term stay may also play into the hands of organised crime networks (Piper, 2004). Nevertheless, short-term visa restrictions directly relate to human trafficking for a number of reasons.

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Firstly, visa policies constitute the first line of defence against clandestine trans-border actors such as traffickers and smugglers (Neumayer, 2006; Thielemann, 2006; Torpey, 2000). Secondly and related, states utilise visa restrictions to vet and deter undesirable actors and, in doing so, visas may complement other pillars of migration control.[10] By imposing the requirement that the prospective migrant procure legitimate documentation for entry, visas impose a transaction cost for territorial access (Boehmer and Peña, 2007; Neumayer, 2005). Moreover, states utilise visa restrictions to categorise individuals before they are granted access to territory:

> "Those who do not need a visa are regarded as desirable 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 undesirable and not representing a great risk upon closer inspection, whereas those who need a visa and do not have one are denied access" (Neumayer, 2006, 75).

The second indicator I employ, the visa rejection rate, is self-coded from annual reports spanning the years 2003 to 2007 published by the Council of the European Union (EU) for member-states of the EU and/or Schengen area. Members of the EU and/or Schengen area report statistics on visas under the 22 December 1994 Decision of the Executive Committee on the issuance and exchange of information on the area's uniform visa policy.[11] Visa rejection rates are expressed as a percentage and vary from 0 to 100 (mean 10.22 per cent) and represent the ratio of total number of visas *denied* by the recipient state against the total number of yearly applicants. Visa rejection rates against origin and transit countries are averaged across all destination countries and across the time frame for which there is available data. The rejection rates are calculated by taking into account the total number of applicants across all four categories of visas granted by the European Union member countries. These four categories include short-term and long-term visas; categories A and B grant airport and land transit, respectively; C is the common Schengen visa for short-term stay and travel; whereas category D refers to national visas granted for longer-term stay for purposes of business, study and/or work.[12] Finally, the visa rejection rate is weighted by the log of country population to grant cross-country comparison: plausibly, the raw visa rejection rate might be artificially low or high depending on country population size, which in turn affects the number of applications (the denominator).[13]

Table 1 below offers a snapshot of how the visa indicators look. We observe that, by and large, economically developed western states enjoy lowest restrictions on foreign travel: when aggregate numbers of both upstream and on-site visas are considered, they fall into the lowest 5^{th} percentile. In contrast, poorer less democratic or unstable regimes face the toughest restrictions on foreign travel; these fall into the 95^{th} percentile. When restrictions on other countries are considered, less democratic and

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TABLE 1. Visa restrictions against and by states

	Visas against by other states	Visas at borders by other states	Visas toward other states	Visas at borders toward others
5th percentile (lowest restrictions on human mobility)	Belgium Denmark Finland Germany Italy Luxembourg Netherlands New Zealand Norway Spain Sweden Switzerland United States United Kingdom	Belgium Denmark Finland France Germany Italy Luxembourg Spain Sweden United Kingdom United States	Colombia Dominica Ecuador Grenada Haiti Kenya Malaysia Maldives Oman Philippines	Dominica Georgia Madagascar Maldives Mozambique Nepal Palau San Marino Seychelles Uganda
95th percentile (highest restrictions on human mobility)	Afghanistan Burundi Cambodia China Ethiopia Iran Iraq North Korea Myanmar Pakistan Somalia Sudan	Afghanistan Burundi Eritrea Ethiopia Iran Iraq North Korea Lebanon Libya Pakistan Somalia Sudan Syria	Afghanistan Benin Comoros Djibouti Eritrea North Korea Laos Madagascar Myanmar Papua New Guinea Rwanda San Marino Seychelles Singapore Solomon Islands Somalia Sri Lanka Tonga	Afghanistan Djibouti North Korea Lao PDR Myanmar Somalia

Source: IATA and Neumayer (2006).

free regimes are also the ones to impose the most visa restrictions on others. Finally, countries dependent on tourism revenue and small island states are the most relaxed in controlling human mobility.

Measuring human trafficking

My goal is to employ a measure that captures how ubiquitous human trafficking is in countries of origin, transit and destination. Unfortunately,

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lack of reliable data has vexed researchers of human trafficking (Cho, Dreher and Neumayer, 2011). Not only do countries differ immensely in their data collection and reporting capabilities but the covert nature of trafficking makes it difficult to rely on official state statistics. Furthermore, data is likely to be missing particularly in states in which corruption of governmental officials is endemic, leading to gross underestimation of trafficking (Buscaglia and Dijk, 2003).

The measure of trafficking I employ is drawn from the Global Patterns Citation Index, found in "Trafficking in Persons: Global Patterns Report" and associated appendices, from the United Nations Office on Drugs and Crime (UNODC, 2006). The Global Patterns citation index uses an ordinal score ranging from 1 (very low) to 5 (very high) representing how widely a state is cited as destination, transit or source (origin) country for human trafficking in international and domestic institutions and media.[14] To measure transit and origin status, I employ a composite score ranging from 0 (for countries that do not appear in Global Patterns as origin or transit) to 10. The Index's ordinal measure of trafficking overcomes the data problems that plague research on trafficking in several respects. Drawing on 113 different institutions, the database includes data for 161 countries; if a country was cited at least once as destination, transit or origin, it is covered in the database. By relying on number of sources of citation rather than number of reports or cases of trafficking to construct the ordinal score, the Citation Index avoids double counting. Moreover, the Index makes use of international sources, independent media, non-governmental organisations (NGOs) as well as official government sources, partially compensating for potential bias that might result from variability of reporting and differences in definition of trafficking across countries. Thirdly, the Index is not based on the number of victims because raw statistics tend to exhibit bias and are subject to underreporting; thus, utilising frequency of reports better captures the prevalence of trafficking.[15]

Empirical work on human trafficking has employed two other measures of human trafficking. Firstly, Bartilow (2010) and Simmons and Lloyd (2010) utilise the US Department of State tier scores for compliance with the US 2000 Victims of Trafficking and Violence Protection Act (TVPA). The US Department of State reports a ranking of countries with respect to their actions to fight human trafficking, on a scale of 1 to 3, with increasing levels of non-compliance with TVPA. Scholarship has criticised this measure for reflecting US strategic interests whereby the State Department assigns higher scores to induce policy change on other issue domains (Bartilow, 2010). Consequently, the tier scores are more accurate depictions of efforts on the part of the US to pressure other states to tighten up anti-trafficking measures (Simmons and Lloyd, 2010). Secondly, Cho et al. (2011) develop separate indices on three dimensions of policy: protection of victims, prevention

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of trafficking and prosecution of traffickers. Labelled as the 3-P Index, the measure represents an ordinal score 1-15 to denote a better record of anti-trafficking efforts by countries. Both the 3-P index and the trafficking score capture government policies against trafficking and thus would not tap into prevalence of human trafficking. Put differently, how migration control relates to counter-trafficking efforts is a conceptually distinct research question that lies beyond the scope of this paper.

Model

The theoretical framework calls for a model that directly models the simultaneous determination of border policies and trafficking. Equation 1 provides the main empirical model I estimate in this paper and tests the claim that human trafficking produces stricter visa policies.

$$\text{Visa policy} = \text{F (human trafficking, controls)} + \mu. \quad (1)$$

Estimating equation 1 provides an estimation of how human trafficking and visa policies are correlated after controlling for the other explanatory factors. Unfortunately, the coefficients on human trafficking may not be interpreted as the effect of trafficking on visa policies because tight visa restrictions may exacerbate trafficking prevalence. Given endogeneity, a single equation model such as ordinary least squares (OLS) would result in bias even in the absence of omitted variables to the extent that the endogenous variable is correlated with the disturbance term (Baum, Schaffer and Stillman, 2003).[16] TSLS estimation is accomplished via two steps (Maddala and Kim, 1998). Firstly, I specify a model determining human trafficking:

$$\text{Human trafficking} = \text{F (visapolicy, controls)} + \mu. \quad (2)$$

Secondly, human trafficking is regressed on all exogenous variables in equations 1 and 2 and predicted values are obtained from this regression and used to estimate equation 1. As long as the instruments are uncorrelated with the error term in equation 1, TSLS yields unbiased and consistent estimates (Keshk, 2003). I now discuss the set of instruments employed; the results section presents formal tests for over-identification.[17]

Corruption hinders enforcement of policies designed to counter criminal activity, and leads to state capture by crime networks (Bartilow, 2010; Cho, Dreher and Neumayer, 2011). I use Transparency International's corruption perception index to account for this tendency. Researchers contend that trafficking tends to gain a foothold in societies characterised by the pervasiveness of organised crime (Buscaglia and Dijk, 2003). To control for this effect, I use an indicator from the World Economic Forum, reversed to range from 1 for best (least cost to business) to 7 for worst (most cost to

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business) (WEF, 2010). Next, I include indicators for women's economic and political rights from the Cingranelli-Richards Index (Cingranelli and Richards, 2008a) and women's political representation from the Quality of Government database (Teorell et al., 2011). Finally, international treaty effect is a dummy for whether a country has ratified the UN Protocol, coded from the Global Patterns appendix.

Equation 2 may be used to estimate the effect of visa restrictions on human trafficking; if hypotheses 3 and 4 are borne out, we would expect a negative impact. Once again, however, estimation is hindered by endogeneity and warrants that we locate proxy variables for visa policies. The instruments for visa policy comprise push and pull factors posited by scholarship to influence migration policies (Cornelius et al., 2004; Neumayer, 2005). Importantly, I select variables that directly affect visa restrictions but do not influence trafficking activity in these states.

I instrument destination countries' visa restrictions through trade value, tourism revenue and economic wealth. Neumayer (2006 and 2009) contends that states that trade extensively have more permissive visa regimes. To capture this, I include the log of total trade (imports plus exports), drawn from the Quality of Government database (Gleditsch et al., 2002). Additionally, states that are major tourist destinations shy away from visa restrictions (Neumayer, 2006). I capture this effect by including the destination's international tourism receipts as a ratio of gross domestic product (GDP); data for this comes from the World Bank (WDI, 2008). Economic wealth is considered to be a pull factor for destination states; I employ logged gross domestic product (GDP) for destination states.

I instrument visa restrictions against origin states through countries' economic wealth, unemployment, tourism outflows and transnational terrorism by origin nationals. Economic poverty and unemployment function as push factors in source countries of migration (Cornelius et al., 2004). Moreover, evidence suggests that citizens of poorer countries are more likely to face visa restrictions (Neumayer, 2006). I employ GDP (logged) and unemployment as a percentage of the available workforce to tap into the economic health of origin countries. Data for these measures comes from the WDI database. Data for outbound tourism departures as a fraction of the total origin population is lagged by one year and comes from WDI. Finally, there is some evidence that origin nationals' involvement in transnational terrorism amounts to stricter policies against them (Adamson and Grossman, 2004; Koslowski, 2005). I include a variable that counts the number of global attacks perpetrated by origin country citizens globally in the last decade, obtained from ITERATE (Mickolus et al., 2007). I expect macro-economic and security conditions in origin states to directly shape visa restrictions against them but not to be directly related to human trafficking through and from these states.[18] Space limitations do not permit

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me to discuss the full set of exogenous variables in each equation; the Appendix provides the full variable list and associated sources and measurement information.

Empirical analysis

Table 2 displays the results for the impact of human trafficking on visa policies for origin and transit countries. The first three models display

TABLE 2. Visa policies against origin and transit states of trafficking

	Instrumental Variables			Ordinary Least Squares		
	M1	M2	M3	M4	M5	M6
	Visas on oneself	Visas at borders	Visa rejection rate	Visas on oneself	Visas at borders	Visa rejection rate
Trafficking, composite status	3.270*	4.358**	0.212	0.00775	0.0619	0.145
	(1.75)	(2.01)	(1.01)	(0.01)	(0.19)	(0.18)
Restrictions on freedom	1.821	1.280	−0.244	2.455	−0.736	2.477
	(0.87)	(0.54)	(−0.87)	(1.58)	(−0.74)	(1.52)
Polity democracy score	−2.041	−3.163	−0.293	−0.860	−0.775	−1.170
	(−0.95)	(−1.33)	(−0.97)	(−0.53)	(−0.72)	(−0.70)
GNC per capita	−0.000526**	−0.000645**	0.0000306	−0.000999***	−0.0000170	−0.00123***
	(−1.97)	(−2.04)	(0.98)	(−4.72)	(−0.22)	(−5.09)
GDP (logged)	−1.274	−1.726	−0.0780	−1.239	0.250	−1.538*
	(−1.29)	(−1.48)	(−0.65)	(−1.61)	(0.67)	(−1.79)
Political terror scale	1.904	2.904	0.593*	0.683	1.867*	1.013
	(0.73)	(0.98)	(1.81)	(0.35)	(1.67)	(0.47)
Internal conflict	2.530	2.795	−0.0750	1.639	−0.654	1.604
	(1.13)	(1.01)	(−0.30)	(0.99)	(−0.76)	(0.78)
Political stability	−3.350	−3.353	0.0168	−2.747	−1.455	−3.591
	(−0.80)	(−0.69)	(0.04)	(−0.95)	(−1.00)	(−1.11)
Tourism departures	−0.539**	−0.665**	−0.0306*	−0.310**	−0.0513	−0.375**
	(−2.30)	(−2.42)	(−1.79)	(−2.06)	(−1.39)	(−2.18)
Colonial past	7.024	13.46**	1.554**	2.256	4.373**	6.490
	(1.36)	(2.28)	(2.37)	(0.56)	(2.12)	(1.44)
Constant	160.0***	148.7***	5.401	169.9***	9.975	153.2***
	(4.59)	(3.76)	(1.05)	(5.74)	(0.55)	(4.77)
N	117	117	113	157	138	157
R2	0.740	0.760	0.124	0.775	0.206	0.803
Overidentification test	13.82	15.32	4.075			
Test of endogeneity	3.56**	1.41	2.27*			

Source: IATA and Neumayer (2006) for the visa restrictions indicator. Data compiled from Council of the EU documents for the visa rejection rate.

Notes: robust standard errors in parentheses; *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

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instrumental variables (IV) results employing TSLS and the last three re-evaluate the models via ordinary least squares (OLS). In the first two models, the dependent variable is the aggregate number of visas on states that serve as origin and transit routes of trafficking. Model 3 focuses on results with the visa rejection rate (weighted by log of country total population) and the final model shifts attention to aggregate number of visas at borders. The Table also gives the number of observations and the pseudo-R squared (varying between 0.12 for the weakest model to 0.80). The overidentification test presents the Sargan-Hansen j-statistic, which tests the assumption that the instruments are uncorrelated with the error term in the visa policies equation.[19] The j-statistic is not significant in the instrumental variables models, indicating that the instruments are valid. The last rows in Table 2 present the Wu-Hausman F-test of whether trafficking may be treated as exogenous where significant results indicate endogeneity. The F statistic is significant in Models 1 and 3 but not in model 2 with visa rejection rate as the dependent variable. Additionally, weak instruments may bias IV estimation; an F-statistic below 10 from the first stage of TSLS is a cause for concern (Baum, 2006; Staiger and Stock, 1997). The weak instruments test (not displayed) yields an F-statistic ranging from 7 (in model 3) to 12 (in model 1), warranting reanalysis of the models with linear regression in models 4 through 6.

The models in Table 2 present mixed evidence supporting hypothesis 1: the positive coefficient on human trafficking indicates that the more endemic trafficking is in origin and transit countries, the greater the number of restrictions they encounter for foreign travel. In terms of substantive effects, a point increase in the 5-point citation index of trafficking produces restrictions of 3 (in Model 1) or 4 (in Model 2) states that impose visa controls. Moving across from the least problematic (0) to the most (10) on the composite citation index leads to visa restrictions by about 33 more states for countries serving as origin and transit routes of trafficking, all else held constant. Citizens of states in the first category – such as Belgium, Finland or the United Kingdom – face far fewer restrictions on foreign travel than nationals of states in which trafficking is common, such as Albania, Belarus and Bulgaria. When visas at borders are considered, the same increase leads to restrictions by 45 more countries. With 192 states in the international system, this translates to a reduction of 17 to 23 per cent in freedom to travel globally. The substantive impact is strongest when visas at borders are considered. This is a substantively important finding given that visas at borders have a lower range (52 to 171) compared to upstream visas (89 to 184). Moreover, whereas scholars suggest that on-site visas are economically motivated (Neumayer, 2006), Table 2 shows that, on the contrary, states also factor in security concerns over trafficking. Nevertheless, caution is warranted in interpreting the results given that the

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coefficients on human trafficking, while positive, fail to reach conventional levels of significance in models 3 through 6.[20]

Turning to the controls, the results are mostly convergent with the expectations of migration scholarship: thus, autocratic regimes and countries lacking civil liberties face a greater number of restrictions on travel, as illustrated by the negative and positive signs on democracy and restrictions on liberties, respectively.[21] The positive signs on political terror and internal conflict and the negative sign on domestic stability show that states characterised by domestic turmoil and conflict encounter greater impediments to mobility. Of all the controls, however, the only statistically significant factors are GDP per capita and tourism departures. In accordance with literature and intuition, wealthier countries and states that generate a high number of tourists face fewer controls: we might expect that migrants from such states are deemed less threatening for destination countries.

Table 3 analyses the visa policies of destination states of human trafficking. Two models are presented, one employing the aggregate number of upstream visas and the second focusing on the total number of visas imposed at borders by destination countries. Because the Wu-Hausman test of endogeneity is insignificant in model 7, model 9 re-evaluates the equation via OLS. All models employ standard errors robust to arbitrary heteroskedasticity. The overidentification test confirms that the instruments are not correlated with the error term in the visa policies equation. Unfortunately, we note a loss of 40 per cent of observations due to missingness on some of the controls, in particular the freedom to trade and index of globalisation.[22] Nevertheless, significant findings given the small number of observations should further bolster our beliefs in the proposition outlined in hypothesis 2.

Higher scores on the trafficking index for destination countries indicate that trafficking to these countries is more widespread. Hypothesis 2 maintained that states that rank highly as destination countries will tend to be more restrictive in controlling their borders. This expectation is confirmed by the results in Table 3. The positive coefficient on human trafficking in both models is substantively and statistically significant. A destination country that confronts a high threat of trafficking is significantly more restrictive in its visa policies toward other states than one that ranks low on the trafficking index. Furthermore, this effect is significantly more cogent when on-site policies are concerned: controlling for other covariates, even a one point increase from low to medium levels on the trafficking scale results in 40 more countries against which visa controls are levied compared to about 13 more upstream visas in model 8. All else held constant, if a state goes from low (1) to very high (5) on the trafficking index for destination countries, the increase is substantial, producing 27 more upstream visas and 160 on-site visa restrictions. When trafficking is treated as exogenous, as in

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TABLE 3. Visa policies of destination states of trafficking

	(M7)	(M8)	(M9)
	Visas on others	Visas at borders on others	Visas on others
	Instrumental Variables Estimation		OLS
Trafficking, destination status	13.27**	40.58***	8.427**
	(1.97)	(3.64)	(1.99)
Political freedom index	−16.87**	−11.72	−4.720
	(−2.11)	(−0.86)	(−0.39)
Polity democracy score	−11.15**	−9.800	−0.665
	(−1.98)	(−1.18)	(−0.09)
GDP (logged)	−0.401		
	(−0.20)		
Trade value (logged)	−3.384	−2.151	1.629
	(−0.86)	(−0.42)	(0.39)
Index of globalisation	−1.056**	−0.340	−0.0757
	(−2.23)	(−0.39)	(−0.09)
Freedom to trade	−0.510	−1.323	−2.244
	(−0.11)	(−0.16)	(−0.36)
Foreign movement index	5.501	17.44	−8.718
	(0.51)	(1.33)	(−0.85)
Tourism as % of imports	−0.187	0.450	1.530
	(−0.21)	(0.22)	(1.15)
Colonial power	−6.022		
	(−0.69)		
Migrant stock (logged)	−0.321	−12.34**	−2.002
	(−0.09)	(−2.12)	(−0.46)
Unemployment as % of labour		3.664***	1.075
		(2.80)	(1.27)
GDP per capita		−0.000351	0.000233
		(−0.43)	(0.39)
Constant	350.7***	275.6**	139.4
	(3.93)	(2.19)	(1.31)
N	90	92	101
R2	0.104	−0.189	0.126
Over identification test	9.415	6.285	
Endogeneity test for trafficking	0.258	7.996**	

Source: IATA and Neumayer (2006) for the visa restrictions indicators.
Note: robust standard errors in parentheses; *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

model 9, the results are parallel and significant with an increase in one point on the trafficking index producing an 8.4 increase in the number of countries on which destination states impose visa controls.

Apart from trafficking, a number of other factors prove important in shaping how restrictive states' policies are vis à vis other country nationals.

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Congruent with the literature, political freedom and democracy are negatively associated with restrictive policies whereas unemployment positively affects visa restrictions (Neumayer, 2006 and 2009). Furthermore, the sign on the stock of migrant populations is negative, in part because migrant populations in host states exert pressure toward more permissive visa policies (Lahav, 2004; Leblang, Fitzgerald and Teets, 2009).

I now turn to analysing how restrictions on foreign mobility influence levels of human trafficking in origin and transit states. Table 4 presents four models: model 10 focuses on the relationship between visa restrictions against states and human trafficking from and through these states (as indicated by the composite trafficking score). Models 11 and 12 analyse the same relationship using the weighted visa rejection rate as the endogenous variable. Finally, given the insignificant Wu-Hausman endogeneity test in model 10, model 13 conducts the analysis via OLS. Robust standard errors are presented in parentheses below regression coefficients.

The negative sign on the coefficient for visa controls across all models challenges the vicious cycle effect postulated in hypothesis 3. All else held constant, upstream (model 10) and on-site visa controls (model 12) have a similar downward effect of −0.08 on levels of human trafficking in origin and transit states. Model 11 shows an even stronger negative effect of the weighted visa rejection rate on human trafficking: a unit percentage point increase in the visa rejection rate entails approximately a point decrease on the human trafficking citation index. Linear regression coefficients in model 13, although consistent with the TSLS models, do not yield a significant coefficient on upstream visas. The results in Table 4 somewhat cast doubt on the pessimistic predictions of the policy literature by presenting evidence that contrary to hypothesis 3, visa controls do not necessarily worsen trafficking from and through countries.

The models presented also included factors that might influence how widespread trafficking is in countries. While these variables are in line with expectations, only a few of them achieve significance: good governance, civil liberties and higher income per capita dampen levels of trafficking. However, only GDP per capita and the CIRI empowerment index are significant across all models. The CIRI index measures a plethora of social mobilisation rights, showing that trafficking is less likely to gain a foothold in societies with respect for civil rights (Cingranelli and Richards, 2008b). Curiously, democracy exerts a positive impact; even when controlling for restrictions on media. However, this might be an artifact of the way the citation index is compiled: trafficking is more likely to be visible and cited frequently in democratic countries. Women's participation in politics and the economy also exert ambiguous effects. Model 11 includes a control from the Cingranelli-Richard index for governmental restrictions on foreign travel that might curtail trafficking flows; while the negative sign conforms

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TABLE 4. Impact of trafficking in origin and transit states on visa restrictions

	(M10)	(M11)	(M12)	(M13)
	Instrumental Variables Estimation			OLS
Visas on oneself	−0.0861**			−0.0125
	(−2.24)			(−0.70)
Visa rejection rate		−1.018**		
		(−2.18)		
Visas at borders on oneself			−0.0826**	
			(−2.00)	
Corruption perception index	0.579*	0.276	0.762	0.416
	(1.81)	(1.21)	(1.32)	(1.47)
Political terror scale			0.208	
			(0.82)	
Organised crime			−0.150	
			(−0.52)	
GDP per capita	−0.000129**	−0.0000610	−0.000167**	−0.0000640
	(−2.50)	(−1.50)	(−2.18)	(−1.56)
Control of corruption			0.615	
			(0.46)	
Quality of government	0.793		−0.906	2.832
	(0.25)		(−0.27)	(0.99)
Political freedom index			−0.367	
			(−0.63)	
Polity democracy score	0.243	0.559*	−0.0333	0.596***
	(0.79)	(1.87)	(−0.10)	(2.63)
Restrictions on press	−0.0204	0.00585	−0.00977	0.00929
	(−0.59)	(0.16)	(−0.23)	(0.35)
CIRI empowerment index	−0.510***	−0.329*	−0.437***	−0.396***
	(−3.04)	(−1.67)	(−2.59)	(−2.77)
Foreign mobility index		−0.799		
		(−1.26)		
Women in parliament	−0.0132	0.000701	−0.0123	0.00582
	(−0.43)	(0.02)	(−0.34)	(0.19)
Female activity rate	0.00312	−0.0207		−0.00659
	(0.18)	(−0.86)		(−0.42)
UN protocol ratification	−0.222	−0.722	0.00318	−0.401
	(−0.39)	(−1.01)	(0.01)	(−0.74)
Constant	15.94*	6.641	15.10	0.679
	(1.69)	(1.41)	(1.64)	(0.12)
N	110	113	107	112
R_2	0.113	−0.0908	0.126	0.280
Over identification test	9.047	7.810	7.238	
Endogeneity test for visas	2.05	3.10**	3.89**	

Source: UNODC Global Patterns report for human trafficking ordinal indicator.
Note: robust standard errors in parentheses; *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

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to this intuition, the coefficient fails to reach significance. Lastly, although we would expect treaty ratification to negatively affect levels of trafficking, the coefficient for UN Protocol ratification is not significant in any of the models and is in the wrong direction in model 9. Cho et al. (2011) contend that treaty membership might have such counter-intuitive effects by improving protection of trafficking victims and thereby encouraging illegal migration into these countries. Admittedly, some of these findings, or lack thereof, might be an outcome of the small sample on which the models are tested: due to missing values on a number of variables, the sample size was further reduced. However, in such designs, significant findings further buttress the virtuous effect of visa controls (Greene, 1997).

Finally, Table 5 tests hypothesis 4 by investigating the impact of visa controls by destination states on trafficking to these states. Model 14 depicts the impact of upstream visas on destination status for traffickers and model 15 portrays the effect of visas at borders on trafficking to destination countries. Diagnostic tests are presented in the final two columns. While the Sargan tests confirm the validity of instruments, because the Wu-Hausman test is insignificant in model 14, I re-estimate the model via OLS in model 16.

Turning to models 14 and 15, the findings present ambiguous evidence with respect to hypothesis 4. The coefficient on visa controls is in the opposite direction to the posited effect and is substantively very small. When we turn to on-site visa controls, however, a different picture emerges. Importantly, for destination states, imposing visas at the border exacerbates the tendency to be targeted by traffickers, providing support for the vicious effect. When trafficking is treated as exogenous as in model 16, hypothesis 4 again finds moderate support: the coefficient on upstream visa restrictions is positive, albeit statistically insignificant. Why might we expect the vicious impact proposition to be substantiated for destination states' on-site visa policies? Firstly, whereas visas demanded upstream serve a pre-selection and screening function, those imposed at the border may be subject to oversight and may not filter out undesirables. Secondly, on-site visas might be more effective to the extent that clandestine access relies on the corruption of border personnel. Bribing border officials for unauthorised access or securing a fraudulent visa at the border are ways through which the effectiveness of on-site visa policies may be compromised (Gavrilis, 2008; Koslowski, 2001).

Finally, the controls behave largely in line with previous models, with good governance and civil empowerment negatively and corruption positively related to trafficking. Treaty membership, as discussed previously, produces adverse consequences by channelling victims into destination states. Greater equality and higher wealth are also pull factors for illegal migrants, as evidenced by the negative sign and positive signs on the Gini coefficient of inequality and GDP per capita, respectively.

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TABLE 5. Impact of visa policies on trafficking in destination states

	(M14)	(M15)	(M16)
	Visas on other states	Visas at borders on other states	Visas on other states
	Instrumental Variables Estimation		OLS
Visas on others	−0.000369		0.000228
	(−0.03)		(0.10)
Visas at borders on others		0.0328***	
		(2.72)	
GDP per capita	0.000101***	0.0000184	0.0000719***
	(4.48)	(0.58)	(2.87)
Revised Gini	−0.0543**	−0.0419	−0.0474**
	(−2.11)	(−1.39)	(−2.23)
Corruption perception index		−0.131	
		(−0.58)	
Women's activity rate as % of males'	−0.00801	0.0239	−0.00160
	(−0.95)	(1.56)	(−0.20)
CIRI women's rights index		−0.426*	
		(−1.79)	
Women's economic rights	−0.656*		−0.296
	(−1.86)		(−1.05)
CIRI empowerment index	−0.184**		−0.162***
	(−2.42)		(−2.75)
Control of corruption	−0.838***		−0.356
	(−2.74)		(−1.38)
Polity democracy score	0.315***	0.395*	0.267***
	(2.63)	(1.92)	(3.56)
Restrictions on press		0.0310	
		(1.18)	
Domestic mobility index		−0.140	
		(−0.38)	
UN protocol ratification	0.426	1.011***	0.395*
	(0.95)	(2.74)	(1.70)
Constant	3.911	−3.298	3.271***
	(1.56)	(−1.02)	(2.59)
R2	0.324	−0.167	0.365
N	82	105	121
Overidentification test	12.32	3.219	
Endogeneity test	1.201	5.34**	

Source: UNODC Global Patterns report for human trafficking ordinal indicator.
Note: robust standard errors in parentheses; *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Conclusion

Overall, four empirical findings are prominent. The first set of results show some evidence in favour of hypothesis 1: countries ranking highly as origin

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or transit routes of trafficking face greater restrictions on migration but these findings do not attain statistical significance in the linear models in Table 2. Secondly, Table 3 depicts stronger support for hypothesis 2: destination states heavily targeted by traffickers impose a higher number of restrictions on their borders. Thirdly, when combined origin and transit status of countries is considered, we find no evidence in favour of the vicious cycle thesis. Instead, visa restrictions negatively affect levels of trafficking in these states, whilst the coefficient is not significant in the linear model. Fourthly, the picture for destination countries is more complicated: stricter upstream controls seemingly have no discernible impact either way on how high states rank as choices of destination for traffickers. However, the impact of on-site visa policies tells a different story: for destination states, a greater number of restrictions placed at borders worsen the problem of trafficking. Furthermore, the endogeneity of trafficking to visa policies is put into question for visas demanded at embassies and consulates suggesting that feedback mechanisms may be more robust for visas at borders and human trafficking.

The paper constitutes a significant step toward empirically examining the relationship between a particular type of migration control instrument – visa policies – and human trafficking. By statistically evaluating practitioners' claims of reciprocity between border control and trafficking, the paper illustrates the conditions under which the reciprocal relationship holds and the type of feedback we might expect. In doing so, the paper also lays the grounds for future research avenues. One direction that future research might take is to incorporate public opinion in the analysis to take into account not just the reciprocity between migration policy and trafficking activity but the public's reaction as a check on government decisions. Secondly, time-series data would enable an inquiry into the conditions under which the virtuous effect demonstrated in this paper holds and allow for more careful analysis of the vicious-effect proposition articulated by policy scholarship.

While the results presented in this paper rule in favour of the optimistic thesis, the results do not necessarily rule out Feingold's (2005) contention that tighter migration policies exacerbate trafficking. For one, the Global Patterns citation index hinges on visibility of organised crime in domestic and international media. We might conjecture that tight border controls serve to drive trafficking further underground, rather than directly undercutting the process. For another, the paper focuses on visa policies as an instrument of border and migration control. Although visas are undeniably an important deterrent measure against undesirable entrants and a sizeable portion of trafficking relies on entry with forged documentation, human traffickers rely on alternative methods to cross borders. In other words, visas may raise the costs of travel for traffickers but push them toward more clandestine means of entry.

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Beyond this particular question, the paper has implications more broadly for policy feedback mechanisms. The cross-sectional nature of the analysis undertaken in this paper prohibits a test of the extent to which the virtuous-cycle effect is time sensitive. It is conceivable to imagine that dynamic feedback systems are governed by alternative mechanisms. As in Wlezien (1995) thermostatic model, a check-and-balance system may hold whereby the public acts as a check on deviations away from preferred policy. Alternatively, reciprocity between policy and outcome may be defined by both short-term and long-term dynamics that sustain the negative feedback loop (Jennings, 2009). Finally, we might imagine that changes are non-linear and sporadic, responding to policy shocks (Freeman et al., 1989), and that stable feedback systems may be punctuated with bouts of rapid policy change (Baumgartner and Jones, 1993). These possibilities merit further inquiry by scholars of migration policies.

NOTES

1. Illegal migration may transpire not only when borders are crossed surreptitiously but also when the identification and visa documents are forged or if the migrants overstay the terms of the visa permit.
2. As Sanderson (2004) notes, even terrorist organisations that do benefit from state sponsorship, such as Hezbollah, complement their revenues by engaging in trans-border crime.
3. I thank my anonymous reviewer for drawing attention to this distinction. Although the migration literature differentiates between voluntary and involuntary migrants in terms of economic and political migration, the distinction breaks down insofar as negative economic conditions – extreme poverty or environmental disasters – also drive migrants out of origin states. In this scenario, migrants are not economic opportunists and are still forced out of origin states by the threat to survival.
4. Whereas IOM's distinction between smuggling and trafficking rests on the consent of migrants, in practice the lines are blurry due to differing degrees of deception that the organised crime networks employ.
5. As Simmons and Lloyd (2010) discuss, earlier literature framed human trafficking as an issue of sexual exploitation and slavery or human rights, paying little heed to its security implications for countries.
6. The twin principles integral to the international regime on political migration are *non-refoulement and non-discrimination*. The former prohibits states from sending back legitimate political migrants to countries where they are likely to face persecution and torture (Article 33). The principle of *non-discrimination* prevents denial of asylum against certain refugee groups (Article 3).
7. For example, in the United States, visa-free travel is conditional on a 2 per cent disqualification rate; that is, visa waivers are granted to countries whose nationals have less than a 2 per cent rate of violations on terms of entry.
8. In models I do not present, I differentiate between origin and transit countries. I opted to present the results with combined origin and transit score because the literature shows that the same set of countries may serve both as origin or transit states.
9. Thus, this variable measures the number of countries that visa restrictions are imposed toward or from against the total number of *countries* in the international system. This is not to be confused with the percentage of *citizens* against whom visa restrictions are imposed. The latter measure would not lend a cross-country comparable measure in being dependent on the country population size.
10. This is not to suggest that strict visa restrictions against particular origin countries are indicative of tight immigration migration policies overall against those countries. Especially since states have discontinued national origin quotas, visa restrictions do not necessarily proxy for policy stringency in other dimensions of migration. I thank my anonymous reviewer for drawing attention to this point.
11. www.europa.eu. "Exchange of Statistical Information on the Issuing of Visas, 2003–2007." Figures from the Council reports, which are in portable digital format (PDF), were encoded into Excel files via optimal character recognition (OCR) software.

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12. Whereas it would be ideal to differentiate between long-term and short-term visas, data availability does not permit me to do so. Nevertheless by encompassing both categories, the visa rejection measure complements the dichotomous visa restrictions indicator.
13. Models with the raw visa rejection rate yield parallel results and are available from the author upon request.
14. The Citation Index applies a normal curve to determine the threshold number of citations by source institutions for each category. It then assigns an ordinal value ranging from 1 (very low) to 5 (very high) for each country.
15. A potential caveat related to the Citation Index is that more data is available for developed states in Western Europe and North America (UNODC, 2006). Whereas this might overemphasise states in those regions as destination countries, this caveat is partially mitigated by the use of independent source institutions for reporting. Secondly, differences in official recognition, reporting and institutional resourcing affect the reporting to the UNODC. Nevertheless, using a measure based on reporting of trafficking is superior to one based on raw data on victims of or revenue from human trafficking, especially given the lack of scholarly consensus on standardised methodology to estimate such figures.
16. In alternate models, I also use the full information equivalent of TSLS: three stage-least-squares (3sls). I chose to present TSLS results in the main paper as 3sls, while more efficient, is more vulnerable to model misspecification and more appropriate in larger sample designs. The Appendix tables C and D present the 3sls results.
17. Moreover, valid instruments should affect visa restrictions only through their impact on human trafficking.
18. Whereas overall economic wealth – GDP – is posited to influence visa restrictions against these states, economic opportunity – unemployment and GDP per capita – may be more directly related to trafficking in these states. Hence, the use of GDP logged as an instrument is theoretically warranted.
19. The Sargan-Hansen j-statistic is equivalent to the Sargan statistic when homoskedastic errors are assumed. Because robust standard errors are employed, the models give the j-statistic.
20. Caution is also warranted in interpreting the results in Table 2 because TSLS results rest on considerably fewer cases compared to OLS results. Because TSLS requires an identification equation, missingness on instruments causes cases to drop.
21. The democracy indicator comes from the Polity IV Project; see Marshall and Jaggers (2000).
22. Removing these variables while freeing up more observations in the analysis did not alter the results.

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APPENDIX

TABLE A. Variables, descriptions and sources

Variable Name	Description	Source
Dependent (endogenous) variables		
Visas on oneself	Aggregate number of visas by other states against the country Range: 89–184, Mean 148	Calculated from Neumayer (2006), original IATA (2004)
Visas at borders on oneself	Aggregate number of visas-at-borders by other states Range: 52–171, Mean 125	Neumayer (2006) Neumayer (2006)
Visas on others	Aggregate number of visas imposed on other states 0 to 192, mean 149	Neumayer (2006)
Visas at borders on others	Aggregate number of visas-at-borders on other states 0 to 192, mean 129	Neumayer (2006)
Visa rejection rate	Average visa rejection rate states' nationals face for the Schengen and EU area, averaged over 2003–2007, 0 to 100, expressed as percentage, weighted by log of total population.	Self-coded from EU Council
Human trafficking-origin	1 to 5 scale measuring the degree to which trafficking is cited as problematic and widespread in origin states. Higher indicates worse record of trafficking.	Self-coded from UNODC Global Patterns

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TABLE A. *(Continued)*

Variable Name	Description	Source
Human trafficking-composite	1 to 10 (least) to (most) composite scale for degree to which trafficking is problematic when origin and transit status are considered.	Self-coded from UNODC Global Patterns
Human trafficking-destination	1 (least) to 5 (worst) scale measuring the degree to which trafficking is problematic when destination status is considered.	Self-coded from UNODC Global Patterns
Visa Policy Equation		
Regime type	Polity IV score, −10 to 10, autocratic to democratic	Polity IV, Marshall and Jaggers (2000)
Democracy dummy	1 if country democratic, 0 otherwise	Quality of government (QoG) dataset Teorell et al. (2011) (original Bertelsmann Transformation Index)
Political stability	−2.5 to 2.5, higher indicates more politically stable	QoG; World Bank WDI
Restrictions on civil liberties	2 to 14 ordinal scale, denotes increasing restrictions	Freedom House (2004)
GNI per capita	Gross national income per capita, logged, in PPP	World Bank World Development Indicators (WDI)
GDP per capita	Gross domestic product, logged, in PPP	WDI
Armed internal conflict	0 to 3 scale for increasing levels of civil unrest	UCPD/PRIO Armed Conflict Database v.3 Gleditsch et al. (2002)
Global terrorism	Sum of global attacks by origin country citizens (0 to 245)	Computed from ITERATE (Mickolus et al. 2003)
Destination's migrant stock	Logged number of migrants from origin country	World Bank (WDI)
Destination's logged GDP	Gross domestic product, logged, in PPP	World Bank (WDI)
Destination's tourism revenue	International tourism receipts as % of home imports	Neumayer (2006), coded from WDI
Destination trade value	Sum of imports and exports, in millions current USD (logged, one year lag)	(QoG) dataset, originally from Gleditsch et al. (2002)
Destination index of globalisation	overall index of social, political, economic globalisation 0 to 100 indicating increasing globalisation	(QoG) dataset, Teorell et al. (2011), original from Dreher et al. (2008)
Destination unemployment	0 to 100 indicating percentage of labor force unemployed	World Bank (WDI)

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TABLE A. *(Continued)*

Variable Name	Description	Source
Origin's outbound tourism	Outbound tourists per million population, lagged	Neumayer (2006), coded from WDI
Destination colonial power dummy	1 if country was a colonial power	(QoG) dataset, Teorell et al. (2011)
Origin colonised dummy	1 if country was colonised, 0 otherwise	(QoG) dataset
Human Trafficking Equation		
Corruption	Corruption perception index, 0 (highly corrupt) to 10 (highly clean)	Transparency International (2010)
Control of corruption	Alternate corruption index, −2.5 to 2.5, higher indicating better governmental control over corruption	(QoG) dataset, originally from Kaufmann (2009)
Good governance	0 to 1, higher values mean better governance	(QoG) dataset, originally International Country Risk Guide www.prsgroup.com/CountryData.aspx
Quality of government	Alternate indicator of good governance based on 9 dimensions higher indicates better	QoG, from Knack and Kugler
Women in parliament	Percentage of women in legislature	World Bank
Women's rights	Women's economic, social, political rights, each 0 to 3 per each dimension, indicating more rights	Cingranelli and Richards (CIRI) (2008a) www.humanrightsdata.org
Empowerment index	New empowerment index, 0 (no government respect for rights) to 14 (full rights)	CIRI (2008a)
Women's economic activity rate	Women's employment as % of male activity.	QoG, originally from UNDP
Foreign movement index	Freedom to exit and return to country, 0 (restrictive) to 2 (liberal)	CIRI (2008a)
Domestic movement index	Freedom to move within country, 0 (restrictive) to 2 (liberal)	CIRI (2008a)
Organised crime	Costs on business based on surveys, 1 (negligible costs) to 7 (significant costs) (reversed)	World Economic Forum (WEF) (2008)

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TABLE A. *(Continued)*

Variable Name	Description	Source
Physical integrity index	0 to 8 human rights index, indicating increasing respect for rights by the government	CIRI (2008)
Freedom to trade	0 to 10, indicate greater freedom to trade internationally	QoG, originally from Fraser Institute
Index of globalisation	0 to 100, higher values indicate more economic, social, political globalisation	QoG, originally from Dreher (2006)
Restrictions on press	Media and press freedom index, 0 to 100, higher indicates less free	QoG, originally from Freedom House
Revised Gini inequality	Revised Gini coefficient, 0 to 1 indicating greater inequality	(QoG) dataset, originally from University of Texas Inequality Project
UN Protocol ratification	1 if country has ratified the UN Protocol and 0 otherwise	Self-coded from UNODC's Global Patterns (2009)

TABLE B. Summary statistics of independent variables and instruments

	observations	mean	std dev.	min	max
Migration Policy Equation					
Regime type	182.00	6.56	3.21	0.00	10.00
Democracy dummy	184.00	0.57	0.50	0.00	1.00
Political stability	182.00	3.24	1.83	1.00	7.00
Restrictions on civil freedoms	182.00	3.24	1.83	1.00	7.00
GNI per capita	170.00	8206.77	13125.19	90.00	78850.00
GDP per capita	169.00	10923.27	13038.79	195.40	66597.69
Armed political conflict	186.00	0.17	0.56	0.00	2.00
Global terrorism	185.00	12.73	32.15	0.00	245.00
Destination's migrant stock	185.00	11.89	2.11	7.19	17.36
Destination's logged GDP	176.00	23.06	2.39	17.73	29.97
Destination's tourism revenue	185.00	3.20	9.88	0.00	73.40
Destination trade value	171.00	9.35	2.23	4.30	14.67
Destination index of globalisation	153.00	59.62	15.28	15.91	91.45
Destination unemployment	153.00	9.58	7.21	0.60	33.00
Origin's outbound tourism	185.00	3.20	9.88	0.00	73.40
Destination colonial power dummy	186.00	0.06	0.24	0.00	1.00
Origin colonised dummy	186.00	0.65	0.48	0.00	1.00
Human Trafficking Equation					
Corruption	138.00	7.04	2.22	1.50	9.70
Control of corruption	180.00	−0.06	1.01	−1.79	2.43
Good governance	175.00	−0.10	0.66	−2.77	1.01
Quality of government	133.00	0.52	0.21	0.11	1.00
Women in parliament	169.00	14.00	9.73	0.00	49.00

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TABLE B. *(Continued)*

	observations	mean	std dev.	min	max
Women's rights					
Empowerment index	184.00	3.86	1.67	0.00	9.00
Women's economic activity rate	183.00	7.77	4.29	0.00	14.00
Foreign movement index	178.00	1.33	0.79	0.00	2.00
Domestic movement index	178.00	1.32	0.73	0.00	2.00
Organised crime	135.00	2.24	1.19	1.00	5.00
Physical integrity index	184.00	4.23	2.36	0.00	8.00
Freedom to trade	120.00	6.79	1.16	2.56	9.31
Index of globalisation	153.00	59.62	15.28	15.91	91.45
Restrictions on press	183.00	46.38	24.82	9.00	97.00
Economic inequality	143.00	44.98	6.70	28.96	64.25
UN Protocol ratification	185.00	0.29	0.45	0.00	1.00

Source: own calculations.

TABLE C. Visa policies against origin and transit states and human trafficking

	(Upstream visas)	(Visas rejection rate)	(Visas at borders)
	M1	M2	M3
Visa Policies Equation			
Trafficking, composite status	3.436*	4.467*	0.142
	(1.69)	(1.87)	(0.57)
Restrictions on freedom	1.474	1.104	−0.0452
	(0.71)	(0.45)	(−0.17)
Polity democracy score	−2.397	−3.347	−0.0697
	(−1.04)	(−1.23)	(−0.24)
GNC per capita	−0.000488	−0.000630*	0.0000252
	(−1.60)	(−1.76)	(0.65)
GDP (logged)	−1.103	−1.507	−0.0546
	(−1.41)	(−1.63)	(−0.58)
Political terror scale	1.565	2.413	0.376
	(0.69)	(0.89)	(1.32)
Internal conflict	2.266	2.615	0.0328
	(0.93)	(0.90)	(0.11)
Political stability	−3.491	−3.660	−0.0500
	(−1.21)	(−1.07)	(−0.14)
Tourism departures	−0.545***	−0.667***	−0.0406*
	(−2.88)	(−2.97)	(−1.76)
Colonial past	10.23*	15.30**	1.575**
	(1.89)	(2.40)	(2.35)
Constant	158.7***	145.6***	2.928
	(4.83)	(3.74)	(0.68)
Human Trafficking Equation			
Polity democracy score			0.605**
			(2.58)

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TABLE C. *(Continued)*

	(Upstream visas)	(Visas rejection rate)	(Visas at borders)
	M1	M2	M3
Visas on oneself	−0.174***		
	(−4.47)		
Corruption perception index	0.734**	0.746**	0.307
	(2.48)	(2.57)	(1.27)
CIRI empowerment index	−0.302*	−0.327*	−0.307*
	(−1.75)	(−1.89)	(−1.85)
Foreign mobility index	−1.332**	−1.394**	−0.649
	(−2.17)	(−2.31)	(−1.28)
Restrictions on press	0.00195	−0.00659	0.0223
	(0.07)	(−0.23)	(0.73)
Female activity rate	−0.00400	0.000237	−0.0104
	(−0.19)	(0.01)	(−0.54)
Women in parliament	−0.0272	−0.0376	0.00660
	(−0.72)	(−0.98)	(0.21)
GDP per capita	−0.000223***	−0.000249***	−0.0000648
	(−3.45)	(−3.79)	(−1.27)
UN protocol ratification	0.170	0.156	−0.448
	(0.26)	(0.24)	(−0.77)
Visas at borders on oneself		−0.150***	
		(−4.88)	
Visa rejection rate			−1.198***
			(−3.38)
Constant	29.69***	23.33***	4.901
	(4.79)	(4.90)	(1.23)
N	117	117	113

Source*:* IATA and Neumayer (2006) for the visa restrictions indicator; data compiled from Council of the EU documents for the visa rejection rate. The human trafficking indicator comes from UNODC Global Patterns appendices.

Notes: standard errors in parentheses; *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$. **Table displays three-stage-least-squares (3sls) results.

TABLE D. Visa policies of destination states and human trafficking

	(M4)	(M5)
	Visas on others	Visas at borders on others
Visa Policies Equation		
Trafficking, destination status	12.58	23.74**
	(1.43)	(2.25)
Colonial power	−7.356	
	(−0.44)	
GDP (logged)	−0.262	
	(−0.10)	

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TABLE D. *(Continued)*

	(M4)	(M5)
	Visas on others	Visas at borders on others
Political freedom index	−17.22*	−0.233
	(−1.91)	(−0.03)
Polity democracy score	−11.39**	−0.572
	(−2.38)	(−0.10)
Foreign movement index	5.526	2.376
	(0.67)	(0.32)
Tourism as % of imports	−0.203	0.0305
	(−0.16)	(0.03)
Migrant stock (logged)	−0.459	−0.125
	(−0.12)	(−0.03)
Trade value (logged)	−3.683	1.463
	(−0.70)	(0.41)
Index of globalisation	−1.025*	−0.0452
	(−1.80)	(−0.08)
Freedom to trade	−0.319	−0.761
	(−0.06)	(−0.17)
Unemployment as % of labour		0.0558
		(0.06)
GDP per capita		−0.0000448
		(−0.10)
Constant	353.4***	56.75
	(3.36)	(0.62)
Human Trafficking Equation		
Visas on others	−0.0129	
	(−0.88)	
Physical integrity index	0.00669	0.0421
	(0.05)	(0.44)
Women's economic rights	0.168	0.375
	(0.42)	(1.48)
Restrictions on press	−0.0285*	−0.0102
	(−1.82)	(−0.98)
Gender equality	−2.885	0.581
	(−0.64)	(0.24)
Quality of government	2.226*	
	(1.77)	
Political terror scale	0.265	0.130
	(1.12)	(0.87)
UN protocol ratification	0.883*	0.236
	(1.82)	(1.16)
CIRI empowerment index	−0.126	−0.117*
	(−1.51)	(−1.77)
Visas at borders on others		0.0343***
		(5.69)
Democracy		0.491
		(1.21)

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TABLE D. *(Continued)*

	(M4)	(M5)
	Visas on others	Visas at borders on others
Constant	6.059	−1.972
	(1.30)	(−0.92)
N	90	92

Source: IATA and Neumayer (2006) for the visa restrictions indicator; data compiled from Council of the EU documents for the visa rejection rate. The human trafficking indicator comes from UNODC Global Patterns appendices.

Notes: standard errors in parentheses; *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$. **Table displays three-stage-least-squares (3SLS) results.

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