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of Terrorism**

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# How Migration Policies Moderate the Diffusion of Terrorism

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## Abstract

There is an ongoing debate among practitioners and scholars about the security consequences of transnational migration. Yet, existing work has not yet fully taken into account the policy instruments states have at their disposal to mitigate these, and we lack reliable evidence for the effectiveness of such measures. The following research addresses both shortcomings as we analyze whether and to what extent national migration policies affect the diffusion of terrorism via population movements. Spatial analyses report robust support for a moderating influence of states' policies: while larger migration populations can be a vehicle for the diffusion of terrorism from one state to another, this only applies to target countries with extremely open controls and lax regulations. This research sheds new light on the security implications of population movements, and it crucially adds to our understanding of governments' instruments for addressing migration challenges as well as their effectiveness.

**Keywords:** Terrorism; Diffusion; Immigration; National Migration Policies

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## 1 Introduction

The size of transnational migration has risen significantly worldwide over the last two decades. The United Nations Population Division (UN DESA, 2015) suggests that the global population of international migrants, i.e., people residing in a country other than their country of birth, has more than doubled since the year 2000 to about 244 million by 2015. Permanently moving to another country offers valuable opportunities and gains for both migrants and their host societies (see, e.g., Boubtane and Dumont, 2013; Dustmann and Frattini, 2014; Hainmueller, Hangartner and Pietrantuono, 2017), but states can also experience a number of difficulties when trying to manage large numbers of migrants. Especially relevant to this research, there is a considerable body of work suggesting that population movements may have *security* implications for receiving countries (e.g., Algan et al., 2013; Bloemraad, Korteweg and Yurdakul, 2008; Bove and Böhmelt, 2016; Hainmueller, Hangartner and Pietrantuono, 2017). Given the increasing interconnectedness among states in the international system, the size and scope of global migration at the present time, and the complexity of state responses to address the challenges stemming from population movements, migration is now one of the most salient political issues worldwide, although our understanding of its impact is far more limited than ever before (see, e.g., Constant and Zimmermann (2013) or Dustmann (2015) for recent overviews).

Most governments have long integrated migration laws and border controls into national security frameworks, and there is a growing number of studies on the relationship between migration and security (see, e.g., Dowty and Loescher, 1996; Adamson, 2006; Salehyan and Gleditsch, 2006; Milton, Spencer and Findley, 2013; Bove and Böhmelt, 2017). Transnational population movements can directly or indirectly lead to social unrest, potentially affect the ethnic composition of host nations, and may thereby induce challenges for internal security (Dowty and Loescher, 1996). At the same time, there are likely external security challenges as migration flows might influence the state's ability to keep control over its territory, whereas political movements abroad can strategically leverage migration networks as a resource for transnational action (Adamson, 2006; Bove and Böhmelt, 2017). We also know that conflict travels across borders and large population movements facilitate its diffusion from one state to another (Buhaug and Gleditsch, 2008; Salehyan and Gleditsch, 2006). Consider in particular Bove and Böhmelt (2016) who find that the degree of terrorism "at home" increases with migrants from countries with a high level of terrorism. In other words, migration can be a vehicle for terrorism to diffuse across nations.

In the following article, we examine whether such diffusion of terrorism may be mitigated or exacerbated through states' national immigration policies. To this end, we contribute in important ways to the previous work by providing empirical answers to two unresolved questions: how can

national policy instruments affect the diffusion of terrorism via migration flows? And are these policies effective? Migration policies are defined as a “government’s statements of what it intends to do or not do (including laws, regulations, decisions or orders) in regard to the selection, admission, settlement and deportation of foreign citizens residing in the country” (Helbling et al., 2017, p.4; see also Andreas, 2003). Two competing theoretical mechanisms linking domestic migration controls and regulations to the diffusion of terrorism can be identified. First, if domestic migration laws ease the admission, settlement, and mobility of foreign citizens residing in a country, political and economic integration into host societies may be facilitated; this makes it less likely that radicalization is fueled and more difficult for terrorist organizations to exploit migrant communities as a recruitment pool. In turn, this implies that receiving states could experience lower levels of terrorism as terrorism is less likely to diffuse via migrants. Conversely, second, stricter regulations and more rigorous control mechanisms at the border as well as within a country could allow the government to monitor more closely and exert greater control over specific segments of the population, including migrants. Therefore, more stringent regulations may well be effective in suppressing the diffusion of terrorism and decreasing the level of terrorism at home. By theoretically elaborating on these mechanisms and empirically evaluating their validity, we contribute to the ongoing debate among practitioners and scholars about the security implications of transnational migration; this is particularly important as previous work has neither fully taken into account the policy instruments states have at their disposal to address cross-border population movements and their impact, nor has the effectiveness of such measures systematically been assessed. In fact, it remains less well understood which effect, for example, immigration restrictions have on the risk of terrorism (Dreher, Gassebner and Schaudt, 2017, p.7). We overcome existing shortcomings by analyzing whether and to what extent state policies on migration affect the diffusion of terrorism via transnational migration.

Rigorously evaluating how national migration policies moderate terrorism diffusion is key for furthering our knowledge of which of the two theoretical mechanisms apply, and our research hence informs ongoing debates about what policies should be designed and which ones ought to be implemented. Until now, “policy makers are struggling with the design of policies to facilitate integration and ease social tensions, but we know distressingly little about the impacts of these policies” (Hainmueller, Hangartner and Pietrantuono, 2017, p.256). We provide a new and comprehensive empirical analysis that is based on spatial econometrics and employs recently released data from the Immigration Policies in Comparison (IMPIC) project to capture immigration policies in OECD countries between 1980 and 2010. We directly consider the influence of states’ policy instruments and assess their effectiveness. While earlier work (e.g., Enders and Sandler, 1993; Bandyopadhyay and Sandler,

(2014) has approached the relationship between immigration quotas and counterterrorism efforts, this largely occurred at a more theoretical level and we lack systematic empirical evidence for the effectiveness or impotence of such policies.<sup>1</sup> Another contribution of our research is explicitly formulating and testing the *conditions* under which the diffusion of terrorism emerges. Neumayer and Plümer (2012, p.820) highlight that “almost no empirical studies explicitly test for heterogeneity among recipients of spatial effects.” We show that the diffusion of terrorism – and the diffusion of violence more broadly – is likely to be conditional. Immigration policies mediate the security impact of migration flows and can mitigate their negative externalities. Failing to take into account relevant forms of heterogeneity in spatial models can lead to wrong inferences with respect to spatial dependence (Neumayer and Plümer, 2012, p.839). Our study is a critical step in this direction.

Ultimately, we shed new light on the security implications of transnational population movements, and this research significantly adds to the understanding of governments’ instruments for addressing immigration challenges as well as their effectiveness. While migration populations can be associated with an increased risk of terrorism “at home,” this effect is only visible for what can be called more terror-prone sending countries and it does not apply to the clear majority of transnational migration flows. That being said, we show that there is also a lot governments can do to address the challenges stemming from migration populations. Common fears of widespread terrorism due to or via migration flows are less likely to be borne out if the state implements the right policies. We do find evidence that more restrictive immigration policies can contain and dampen the diffusion of terrorism; yet, we also highlight that more restrictive regulations and controls can have the opposite effect if migration populations are small and/or if they stem from countries with low levels of terrorism. Unjustified and excessive restrictions to immigrants’ rights and migration inflows do not seem to be a default solution that is suitable for most countries, at all times, or for all immigration-induced security challenges. Considering this, this article will assist policymakers and public responses to develop more adequate policies to the challenges and opportunities of immigration at the present time and in the future.

## 2 Migration Policies, Population Movements and the Diffusion of Terrorism

Immigration usually offers significant benefits for host countries and migrants (e.g., Boubtane and Dumont, 2013; Dustmann and Frattini, 2014; Hainmueller, Hangartner and Pietrantuono, 2017).

<sup>1</sup>As an exception, Dreher, Gassebner and Schaudt (2017) find some empirical support for that stricter regulations on migrants’ rights do not prevent terror attacks. Having said that, this does not address whether national migration policies can be an effective instrument for containing the influence of migration as a “diffusion vehicle,” i.e., Dreher, Gassebner and Schaudt (2017) do not focus on the spatial diffusion of terrorism, but immigration *per se*.

Economic growth, added skills to labor markets, increased personal wealth, or an improvement of human capital are just a few of those “positive externalities” associated with migration inflows. However, immigration is also a contentious issue as large movements of people across national borders can lead to a variety of economic and social challenges, in particular in destination countries. The underlying issue that we focus on in this article is whether population movements can affect terrorism diffusion, i.e., that migration flows are a vehicle for terrorism to spread from the country of origin to the host state. The literature has extensively dealt with what institutional and economic causes lead to terrorism (e.g., [Li, 2005](#); [Enders and Sandler, 2006](#); [Enders, Sandler and Gaibullov, 2011a](#); [Wilson and Piazza, 2013](#)), and what impact terrorism has (e.g., [Abadie and Gardeazabal, 2003](#); [Gaibullov and Sandler, 2008](#); [Krieger and Meierrieks, 2011](#); [Young and Findley, 2011](#)). However, the works most closely related to ours are those on the spatial dimension of terrorism. [Braithwaite and Li \(2007\)](#) identify “hot spots” of terrorist attacks and quantify the impact of these neighborhoods on countries’ exposure to terrorism. [Findley and Young \(2012\)](#) examine to what extent terrorism occurs in the context of civil wars, and report that specific temporal and spatial patterns overlap across these phenomena. In a similar vein, [Nemeth, Mauslein and Stapley \(2014\)](#) explore the social, economic, and geographic characteristics that are more likely to be associated with domestic terrorism and its clustering in space. [Neumayer and Plümper \(2010\)](#) find evidence for the spatial dependence of international terrorism along civilizational lines in the post-Cold War period, while [Braithwaite and Chu \(2017\)](#) show that conflicts abroad involving foreign fighters increase the odds of domestic terrorism at home.

Our study is beyond mere spatial clustering or purely geographic ties between spatial units, though. We focus on a genuine diffusion effect as we consider population movements as a vehicle for terrorism to diffuse from one state to another (see also [Bove and Böhmelt, 2016](#); [Braithwaite and Chu, 2017](#)). But although we suspect that terrorism is spatially dependent and large population flows can act as a direct cross-national diffusion path, we contend that this diffusion is unlikely to be uniform across countries. We advance the idea that this spatial dependence is conditioned by national immigration laws implemented by destination countries. Migrants from terrorist-prone states can be an important vehicle through which terrorism diffuses ([Bove and Böhmelt, 2016](#)), but states’ immigration policies are potential moderators that can be employed to address – and potentially mitigate – these risks. Previous analysis on conflict or terrorism diffusion assumes that the strength of the spatial effect is independent of the political context (see also [Neumayer and Plümper, 2012](#), p.839), but we claim that this varies with the permeability of a country to a given spatial stimulus: migration policies.

Bove and Böhmelt (2016) discuss several macro and micro-level mechanisms to explain terrorism diffusion via population movements. At the macro level, migrant populations can be characterized by strong social bonds, which connect individuals to each other within such groups. This facilitates the establishment of “terror networks:” a pre-existing social framework tends to be an important requirement for individuals’ consideration of joining, forming, or engaging with terror organizations (Sageman, 2004, 2011). Such social frameworks are made of social bonds that facilitate the development of a common identity and views. And it is precisely migration flows that comprise social ties and linkages, and hence can be this necessary, pre-existing social network. Terrorist organizations may then exploit those networks of migrant communities as a recruitment pool. Consistent with this argument, the Indian Ministry of Home Affairs recently warned in a policy memo to its state governments that “migrants are more vulnerable for getting recruited by terrorist organizations.”<sup>2</sup> Therefore, migrant inflows from terror-prone states can be related to terrorism diffusion because they help “creating and shaping social identities and ideological commitments to a particular cause through a process of interaction and socialization” (Bove and Böhmelt, 2016, p.576).

That being said, this mechanism through which migration can make terrorism diffuse across borders, and then increase the risk of terrorism at home, is likely to be conditional on and mediated by countries’ immigration policies. In turn, some states are more strongly exposed to terrorism and its diffusion than others. Applying the definition of immigration policies from above (Helbling et al., 2017, p.4), we concentrate on regulations and control mechanisms (see Table 1). The former are “binding legal provisions that create or constrain rights,” whereas the latter “monitor whether the regulations are adhered to” (see Helbling et al., 2017, p.7). For both regulations and controls, we can further distinguish between policies that have an external or internal focus. Finally, there are sub-dimensions of regulations: external regulations consist of eligibility requirements and additional conditions, while internal regulations comprise the security of status, i.e., all policies that regulate the duration of permits, the access to long-term settlement, and rights associated such as access to the labor market or how immigrants are monitored within the territory.<sup>3</sup> But how do regulation and control policies moderate the way migration acts as a vehicle for the diffusion of terrorism? Put differently, can migration policies affect whether and how social bonds among immigrant communities facilitate the creation of terror networks (Sageman, 2004, 2011; Bove and Böhmelt, 2016)?

In line with Doosje, Loseman and Bos (2013, pp.589f), for instance, feelings of personal uncertainty, injustice, and perceived intergroup threats are among the key determinants of a radical belief

<sup>2</sup>Available online at: [http://mha.nic.in/sites/upload\\_files/mha/files/advisoryonillegalmigrant\\_10092017.PDF](http://mha.nic.in/sites/upload_files/mha/files/advisoryonillegalmigrant_10092017.PDF)

<sup>3</sup>Regulations can be further disaggregated into “policy fields,” i.e., labor migration, asylum, family reunification, and co-ethics (Helbling et al., 2017). Our theoretical arguments apply equally across those policy fields.

Table 1: The IMPIC Conceptualisation of Immigration Policy

Modus Operandi	Locus Operandi	Policy Sub-Dimensions
Regulations	External	Eligibility (e.g., residence requirements, asylum quotas) Conditions (e.g., language skills, minimum income)
	Internal	Security of Status (e.g., permit validity, access to citizenship) Rights Associated (e.g., free movement, integration measures, benefits)
Control	External (e.g., information sharing/international cooperation, biometric information)	
	Internal (e.g., marriage of convenience, identification documents)	

Source: Helbling et al. (2017, p.6)

system (see also Rahimi and Graumans, 2015). A perception of injustice is, in fact, one of the “staircases to terrorism” as individuals with feelings of deprivation might be particularly encouraged to see terrorist organizations as legitimate (Moghaddam, 2005). When coupled with social ties that typically exist in migration populations, symbolic and realistic threats, e.g., to the cultural and economic status, as well intergroup anxiety can induce strong negative out-group attitudes and violent actions, which facilitate radicalization and eventually increase the risk of terrorism (see e.g., Stephan et al., 2002). Moreover, marginalized communities lacking a sense of clear belonging can be attracted to groups offering a sense of identity – and marginalized immigrants are both more likely to feel a loss of significance and more susceptible to radicalization (Wenger and Mauer, 2009; Lyons-Padilla et al., 2015). As people joining violent extremist movements often look for “personal significance,” terrorist organizations could then exploit diaspora communities, the pre-existing social bonds therein, and minorities who feel “culturally homeless” (Kruglanski et al., 2009; Lyons-Padilla et al., 2015; Sageman, 2004, 2011). Ultimately, individuals’ radicalization perceives traditional state authorities as illegitimate and forms attitudes toward violent behavior (Doosje, Loseman and Bos, 2013), with terrorism being an unlikely exception here. However, we claim that immigration policies have the potential to decrease the appeal of fundamentalist groups in several intertwined yet different ways and, thereby, address the mechanisms that give rise to individual radicalization.

On one hand, rather open regulations and controls may help immigrants to integrate their host-land values with their other cultural identity. On the other hand, more open migration policies could mitigate perceptions of injustice and experiences of discrimination, and increase the sense of inclusion,

purpose, and self-worth (see Moghaddam, 2005; Kruglanski et al., 2009; Doosje, Loseman and Bos, 2013; Lyons-Padilla et al., 2015). Eventually, less restrictive regulations and controls that make it easier for immigrants to qualify for a certain entry track (e.g., in terms of residence or financial requirements) and improve the access to long-term settlement (e.g., through a more generous work permit validity) should lower the odds of radicalization and, thereby, potential grievances of the immigrant community toward the host state. The right to move freely within the host country and measures such as language classes, accommodation, or financial and labor-market support can reduce barriers and improve social and economic integration. Integration policies and less restrictive controls or regulations might reduce support for extremism and make migrants less likely to be targeted by or to join extremist organizations. This is in line with the so-called “catalyst paradigm” (e.g., Hainmueller, Hangartner and Pietrantuono, 2017, p.256): integration efforts, policies, and regulations should be relatively open and inclusive as they then provide “immigrants with the necessary incentives and resources to integrate and invest in a future in the host country.” Conversely, over-restrictive migration policies may lead to a limited access to safe territory and increase illegal movements of people, which can be targeted by terrorist organizations. These conditions could well assist terrorists and be conducive to terrorist activities. Dreher, Gassebner and Schaudt (2017, p.3) argue the same when stating that “stricter policies segregating foreigners already living in a country lead to alienation and thus increase the risk of terror.” Lyons-Padilla et al. (2015, p.9) conclude as well that many of the current counterterrorism policies in place, due to their exclusive character, further marginalize migrants and thus “may actually paradoxically fuel support for extremism.”<sup>4</sup> This argumentation leads to the following hypothesis:

***Less-Restrictive Hypothesis:** Migration populations are less likely to be a vehicle of terrorism diffusion in host countries with less restrictive migration policies.*

Having said that, more integrative and open policies could have little impact on immigrants’ integration and, thus, on whether or not terrorism diffuses (e.g., Hainmueller, Hangartner and Pietrantuono, 2017). Instead, *more* restrictive control and regulation policies might well dampen the diffusion of terrorism via migration flows (see also Enders and Sandler, 1993). As Abadie (2004) reports, more restrictive policies “help keep terrorism at bay.” Reconnaissance and surveillance activities, the use of biometric information, or increased controls on forged documents can help identifying potential terrorists and prevent attacks already in their planning phase (see Brown and Korff, 2009; Bellair, 2000; Byrne and Marx, 2011). Moreover, information sharing and international cooperation over intelli-

<sup>4</sup>This mirrors a recently released report by the UN Special Rapporteur on counterterrorism and human rights. Available online at: <http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=20734>

gence and evidence-gathering, as implemented by immigration regulations and controls, may improve the identification of potential terrorists. For example, data gathered by law-enforcement agencies across Europe are now shared under the “principle of availability,” defined in the EU’s Hague Program (Brown and Korff, 2009). Therefore, tightened immigration policies with increased surveillance of specific segments of the population can assist counterterrorism initiatives in the identification of potentially violent extremists. This mirrors recent studies suggesting that intelligence to anticipate terrorism is the most effective anti-terrorist policy (Faria, 2006). Not surprisingly, there is plenty of anecdotal evidence illustrating “success stories” of intelligence-led policing stemming from stricter laws and policies that made it less difficult to identify individuals or groups preparing a terrorist attack.<sup>5</sup> Moreover, to tackle the “internationalism” of Al-Qaeda, Western democracies have introduced new regulations allowing the withdrawal of entry and stay permits and the revocation of citizenship for danger to (rather than a serious breach of) public order and the immediate deportation of any alien who commits acts against democratic rights (Epifanio, 2011). And recall the memo from the Indian Ministry of Home Affairs,<sup>6</sup> which outlines the tightening of several immigration laws and regulations in light of the possible security threat posed by immigration, including more power delegated to state police to arrest foreign nationals living in India illegally. Ultimately, stricter regulations and controls can give countries more flexibility in granting some migrants temporary access and exert greater control on specific segments of the population, in particular when potential threats are anticipated.<sup>7</sup> At the same time, stricter control mechanisms can help governments to identify, control, and expel more effectively potential terrorists and, thus, likely have a better chance to prevent terrorist attacks. This implies a second, competing hypothesis:

***More-Restrictive Hypothesis:** Migration populations are less likely to be a vehicle of terrorism diffusion in host countries with more restrictive migration policies.*

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<sup>5</sup>For example, Sadiq Khan, the mayor of London, claimed that seven terror plots were foiled in the six months since the Westminster attack (Telegraph, September 25, 2017). Similarly, the head of MI5, Adam Parker, argues that the security service prevented 20 terror plots in four years (Guardian, October 18, 2017). And, most recently, German state authorities arrested a Syrian national in October 2017 who was suspected of preparing a terrorist attack (Telegraph, October 31, 2017).

<sup>6</sup>Available online at: [http://mha.nic.in/sites/upload\\_files/mha/files/advisoryonillegalmigrant\\_10092017.PDF](http://mha.nic.in/sites/upload_files/mha/files/advisoryonillegalmigrant_10092017.PDF).

<sup>7</sup>This mirrors theoretical arguments suggesting that immigration policies affect terrorism specifically when labor immigrants are targeted. Bandyopadhyay and Sandler (2014) find that migration laws and regulations can be employed as an effective counterterrorism tool and developed countries curtail its terrorism at home by limiting unskilled labor quotas while increasing skilled labor quotas.

### 3 Research Design

#### 3.1 Data, Dependent Variable, and Methods

We evaluate the two competing hypotheses empirically with a unique data set we compiled using the Global Terrorism Database (GTD) (Enders, Sandler and Gaibullov, 2011b) and recently released data on OECD countries' immigration policies between 1980 and 2010 (Helbling et al., 2017). The country-year is the unit of analysis and, after accounting for missing values and temporally lagging all our explanatory items, our sample comprises 32 potential host states from the OECD, which corresponds to 911 observations.

The dependent variable in our analysis refers to the level of terrorism in each country-year. We rely on the GTD's definition, i.e., terrorism is "the premeditated use or threat to use violence by individuals or sub-national groups against noncombatants in order to obtain a political or social objective through the intimidation of a large audience beyond that of the immediate victims" (Enders, Sandler and Gaibullov, 2011b, p.321). The GTD codes the number of terrorist attacks, domestic and transnational ones, in a given country-year and we have modified this item by taking the natural logarithm of the count after adding the value of 1 (to avoid calculating the log of 0). This transformation accounts for the skewed distribution of the number of terrorist attacks, which is primarily driven by the large number of 0s in our sample.<sup>8</sup>

Our main interest is to examine whether and how immigration policies affect the diffusion of terrorism via population movements, i.e., whether and how national migration regulations and controls influence that a country's level of terrorism at time  $t$  is a function of other states' terrorism at  $t-1$ , which are linked to the focal country via migration. We estimate spatial temporal autoregressive models based on ordinary least squares (spatial-OLS) to this end and specify a weighting matrix on population flows to capture "linkages" among countries. In structural terms, we model:

$$y_t = \phi y_{t-1} + \beta X_{t-1} + \rho \mathbf{W} y_{t-1} + \epsilon,$$

where  $y_t$  is the dependent variable (i.e., the logged number of terrorist attacks at time  $t$ ),  $y_{t-1}$  signifies the (one year) temporally lagged dependent variable,  $X_{t-1}$  is a matrix of temporally lagged explanatory variables that we define below, and  $\epsilon$  is the error term.  $\mathbf{W} y_{t-1}$  stands for the product of a row-standardized connectivity matrix ( $\mathbf{W}$ ) and the temporally lagged dependent variable ( $y_{t-1}$ ), i.e.,

<sup>8</sup>We do not distinguish between national and transnational attacks as the theory applies to both cases. In addition, due to the lack of coding in the GTD, we cannot distinguish between terrorist attacks perpetrated by or against migrants. Depending on the source of an attack, though, either domestic or transnational attacks might be more strongly affected. But as we have no information on the perpetrator of an attack, it seems unreasonable to distinguish between domestic and transnational attacks in turn. We return to this issue in the conclusion.

$\mathbf{W}y_{t-1}$  is a spatial lag with  $\rho$  as its corresponding coefficient. The elements  $(w_{i,j})$  in the connectivity matrix  $\mathbf{W}$  measure the relative connectivity of country  $j$  to country  $i$  (with  $w_{i,i}=0$ ). We define the spatial lag using the temporally lagged values of the dependent variable as this justifies the use of spatial-OLS (e.g., [Ward and Gleditsch, 2008](#); [Franzese and Hays, 2007, 2008](#)). In addition, we theoretically assume that it takes time that there is a potential and tangible impact on terrorism via diffusion.

When estimating any spatial effect, a serious challenge to the validity of results stems from common exposure, i.e., when country-specific features tend to be spatially clustered or when spatial patterns can be produced by common trends or exogenous shocks. We thus control for a number of relevant “exogenous-external conditions or common shocks and spatially correlated unit level factors” ([Franzese and Hays, 2007](#), p.142). In line with [Franzese and Hays \(2007, 2008\)](#), we include a temporally lagged dependent variable that captures a country’s level of terrorism in the previous year, country fixed effects, and year fixed effects. The longitudinal nature of our data allows us to consider the role of countries’ past terrorism for their current terrorist attacks. While this also captures time dependencies more generally, year fixed effects control for temporal shocks that are common for all states in a specific year. The country fixed effects control for any unit-level time-invariant influences. The temporally lagged dependent variable, country fixed effects, year fixed effects, and the set of control variables (described below) make it credible that terrorism diffusion “cannot be dismissed as a mere product of a clustering in similar [state] characteristics” ([Plümper and Neumayer, 2010](#); [Buhaug and Gleditsch, 2008](#), p.230).

### 3.2 Explanatory Variables: Terrorism Diffusion and Migration Policies

Our first explanatory variable is a spatial lag based on a matrix that links countries via migrant populations, i.e., the variable’s matrix measures the yearly migrant stock from a foreign state in the country under study.<sup>9</sup> We define international migrant stocks as the number of people born in a country other than that in which they live, while the data are taken from the World Bank ([Özden et al., 2011](#)). Note that the spatial lag’s underlying matrix focuses on OECD countries only as destination countries, but all states in the world are potential “senders” of migrants. That is, non-OECD states are not destinations of migration movements, but all states worldwide between 1980 and 2010 are countries of origin. The migration matrix is thus not only based on “North-North migration.” The migration data are derived from over 1,100 national individual census and

<sup>9</sup>Migrants tend not to get involved in terrorist activities immediately after their arrival in a host country. According to case-specific narratives, there is usually a longer period of radicalization ([Bove and Böhmelt, 2016](#)) and, hence, we focus on the stock of immigrants rather than recent entrants (see also [Dreher, Gassebner and Schaudt, 2017](#), p.5).

population-register records for our data's destination countries in 1980-2010.<sup>10</sup> We follow Özden et al. (2011, p.14) and subtract the number of refugees from total migrant numbers for the cases that are based on the Trends in International Migrant Stock Database.<sup>11</sup> From these raw data, we computed the total number of immigrants. As each census round was conducted during a 10-year window,<sup>12</sup> missing data between two consecutive rounds are interpolated. Ultimately, each element  $w_{i,j}$  of the connectivity matrix measures the migrant population in country  $i$  that has country  $j$  as the state of origin in  $t-1$ . In the absence of any migration population from  $j$  in  $i$ ,  $w_{i,j}$  takes the value of 0. As indicated in the previous section, this row-standardized matrix ( $\mathbf{W}$ ) is multiplied with the temporally lagged dependent variable ( $y_{t-1}$ ) to create the spatial lag, which then measures the average degree of terrorism in other countries weighted by migrant populations.

The second core explanatory variable is taken from the Immigration Policies in Comparison (IMPIC) project, which offers a detailed conceptualization of immigration policies across four dimensions in OECD countries between 1980 and 2010.<sup>13</sup> As elaborated above (Table 1), the data set makes a broad distinction between regulations and control mechanisms, internally and externally, while regulations refer to eligibility, conditions, status, and rights. In each area, the IMPIC project measures on a quasi-continuous scale between 0 and 1 how restrictive a policy is. The IMPIC also includes an aggregated variable, i.e., an average across all items in the data set to capture the total level of restrictiveness of immigration policies in a country. This *Immigration Policy Restrictions* is the variable we focus on for our main models below, but we disaggregate it along its internal dimensions in the appendix.

Finally, we include a multiplicative interactive term between  $\mathbf{W}y$ : *Migrant Inflow* and *Immigration Policy Restrictions* to examine whether and how a country's immigration policies can moderate the diffusion of terrorism via migration (see Brambor, Clark and Golder, 2006; Neumayer and Plümper, 2012). In the appendix, we follow Hainmueller, Mummolo and Xu (2016) and examine the linearity of the effect and the common support of the moderator in detail.

### 3.3 Control Variables

With regard to the control variables, we include a series of other covariates reflecting alternative influences leading to a higher level of terrorism (e.g., Krieger and Meierrieks, 2011; Young and Findley,

<sup>10</sup> Available online at: <http://www.un.org/en/development/desa/population/migration/data/index.shtml>

<sup>11</sup> According to Özden et al. (2011, p.14), “[f]or the cases that rely on the Trends in International Migrant Stock database, the number of refugees is subtracted from the totals, with the intention of removing refugees in camps from the total.”

<sup>12</sup> Most destination countries conducted their censuses at the turn of the decade (Özden et al., 2011).

<sup>13</sup> Available online at: <http://www.impic-project.eu/>. Unlike previous data, the IMPIC data focus on the absolute levels of restrictions, which allows to compare different countries over time. Helbling and Michalowski (2017) offer a comprehensive review and assessment of available data sets on immigration and citizenship policies.

(2011), which may also plausibly be associated with immigration policies and population movements (e.g., Breunig, Cao and Luedtke, 2012; Alarian and Goodman, 2017; Helbling et al., 2017, p.5). This helps addressing concerns over omitted variable bias and it controls for observable determinants of our main explanatory items. This aspect is not only important in light of possible selection problems (i.e., “selection on observables”), but, as discussed above, to account for factors that may be “both spatially clustered and potentially related” to unit characteristics (Buhaug and Gleditsch, 2008, p.216). The spatial effect could be driven by a corresponding distribution of relevant domestic characteristics associated with terrorism. This “reverse Galton’s problem” (Buhaug and Gleditsch, 2008; Plümper and Neumayer, 2010) must be addressed by considering relevant unit attributes that are both spatially clustered and potentially related to our dependent variable.

First, there is a variable measuring a state’s level of democracy based on the combined polity score from the Polity IV project (Marshall and Jaggers, 2015). This is 21-point scales ranges from  $-10$  to  $10$ , with higher values standing for more democratic forms of government. In our sample of OECD states, it is not surprising that this item has a mean value of  $8.74$  (although it ranges between  $-8$  and  $10$ ). On one hand, democracies might be particularly prone to terrorism as they are the more open, tolerant societies and less repressive or coercive than autocracies. On the other hand, democracies allow for non-violent means to express grievances against the state, which could also lower the level of terrorism (see also Li, 2005).

Second, we incorporate standard socio-economic controls in the form of GDP per capita and population. Both variables are taken from the World Bank Development Indicators. The former is measured in constant 2005 US Dollars and defined as the gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Moreover, we rely on a country’s midyear total population to control for population size, which counts all residents regardless of legal status or citizenship. Both items are log-transformed and lagged by one year.

Table 2: Descriptive Statistics

	<b>Obs.</b>	<b>Mean</b>	<b>Std.Dv.</b>	<b>Min</b>	<b>Max</b>
Terrorist Attacks (ln)	923	1.351	1.439	0.000	6.267
Lagged Dependent Variable	923	1.384	1.457	0.000	6.267
<b>Wy:</b> Migrant Inflow	923	1.273	0.423	0.539	2.536
Immigration Policy Restrictions	923	0.434	0.109	0.290	0.922
Interaction Term	923	0.559	0.253	0.189	1.770
Democracy	923	8.740	3.499	-8.000	10.000
Total Migration Population	923	9.943	8.707	0.424	38.537
GDP per capita (ln)	911	9.943	0.696	7.972	11.382
Population (ln)	923	9.653	1.369	5.898	12.634
Economic Globalization	923	69.841	15.292	28.8	99.16

Third, we control for economic openness and the total number of migrants in a country. The “raw” count of immigrants (log-transformed) is summed across all countries of origin (sending countries)<sup>14</sup> Showing that the results hold even when controlling for the “raw and unweighted” migrant population substantially increases the confidence in our findings. Moreover, immigrants are usually drawn to richer countries that tend to be democratic, respect human rights more than poorer countries, are less corrupt, and are less conflict-prone (e.g., Breunig, Cao and Luedtke, 2012; Alarian and Goodman, 2017; Helbling et al., 2017). Including the total population of migrants in a given country-year controls for these effects, and is theoretically and empirically different from the spatial lag,  $W_y$ : *Migrant Inflow*. Finally, economic openness pertains to a country’s integration in the global economy as measured by its economic flows and restrictions. The data are taken from Dreher (2006). Table 2 summarizes the descriptive statistics of all variables.

## 4 Empirical Findings

Table 3 summarizes three models. Model 1 comprises the control variables only next to the country and year fixed effects. In Model 2, we additionally include the migration-spatial lag,  $W_y$ : *Migrant Inflow*. This model is then a replication of Bove and Böhmelt (2016). Model 3 constitutes our main model as we consider *Immigration Policy Restriction* and its interaction with the spatial lag next to the control covariates. Due to the row standardization, the spatial lag in Model 2 can be interpreted directly (Ward and Gleditsch, 2008, p.39)<sup>15</sup> However, two issues merit further discussion. First, as we include a temporally lagged dependent variable, our coefficient estimates of the spatial lags only reflect the short-term effect, i.e., the impact in a current year. The short-term impact of  $W_y$ : *Migrant Inflow* is depicted in Figure 1, while the asymptotic long-term impact of the spatial lag is calculated according to Plümper, Troeger and Manow (2005, p.336) and discussed below in the text. Second, as for our variables of interest and their interaction in Model 3, neither their size, signs, nor standard errors can be directly interpreted. Figure 2 thus depicts the average marginal effects of  $W_y$ : *Migrant Inflow* for given values of *Immigration Policy Restriction*.

First,  $W_y$ : *Migrant Inflow* is positively signed and significant at the 10 percent level in Model 2. This finding mirrors Bove and Böhmelt (2016) or Braithwaite and Chu (2017) in that it underlines that migration flows can be a vehicle for terrorism to diffuse from one state to another.<sup>16</sup> In substantive

<sup>14</sup>  $W_y$ : *Migrant Inflow* is also based on the number of immigrants from other countries, but weighted by terrorist attacks at time  $t-1$ .

<sup>15</sup> Having said that, the direct interpretation underestimates the spatial impact as it does not account for second-order spatial effects.

<sup>16</sup> However, Braithwaite and Chu (2017) focus on the onset of terrorism as a function of foreign fighters in civil war and their finding is partially driven by the outcome of the conflicts abroad: when rebels are defeated abroad, foreign fighters are removed from the global market, whereas successful foreign fighters can travel abroad to engage in terrorism.

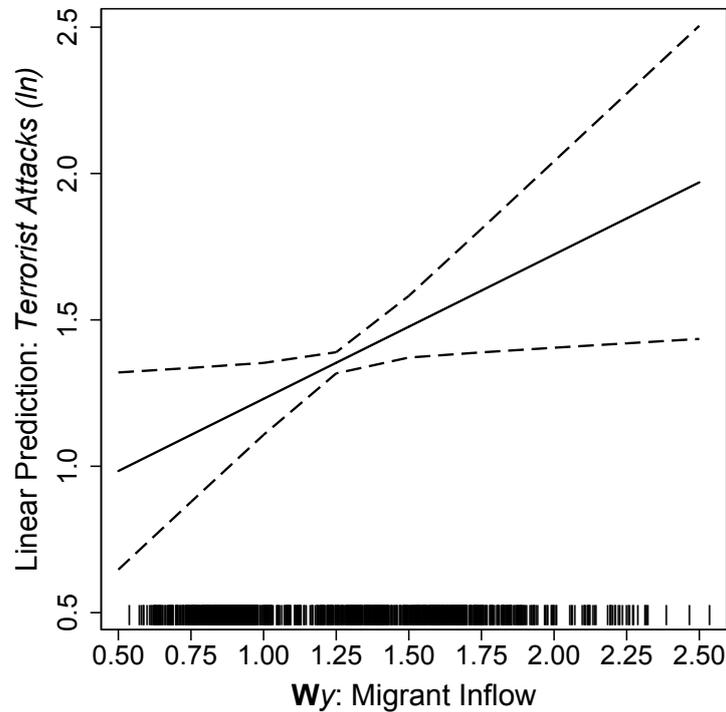
terms, the marginal effect in Model 2 shows that a one-unit increase in  $\mathbf{W}y$ : Migrant Inflow leads to a rise in terrorist attacks of about 1.64. As indicated above, this is merely the short-term effect, though. The asymptotic long-term marginal effect of our spatial lag is at 0.932 (with a 90 percent confidence interval of [0.102; 1.935]), which translates into 2.54 attacks. Figure 1 emphasizes this as we plot the predicted values of our dependent variable against the values of  $\mathbf{W}y$ : Migrant Inflow. For low levels of the spatial lag, the expected values of *Terrorist Attacks (ln)* cluster at around 1, which corresponds to about 2.71 terrorist attacks. When increasing  $\mathbf{W}y$ : Migrant Inflow toward its mean of 1.27, the predicted values of the outcome approach 1.5 already. At the maximum of  $\mathbf{W}y$ : Migrant Inflow while holding all other items constant at their means, the predicted value of *Terrorist Attacks (ln)* is about 2, which translates into about 7.39 attacks.

Table 3: Terrorism: The Moderating Effect of Immigration Restrictions

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Lagged Dependent Variable	0.473 (0.030)***	0.471 (0.030)***	0.468 (0.030)***
$\mathbf{W}y$ : Migrant Inflow		0.493 (0.264)*	1.056 (0.367)***
Immigration Policy Restrictions			1.955 (0.901)**
$\mathbf{W}y$ : Migrant Inflow * Immigration Policy Restrictions			-1.257 (0.586)**
Democracy	-0.004 (0.011)	0.001 (0.011)	0.000 (0.011)
Total Migration Population	0.012 (0.018)	0.018 (0.018)	0.016 (0.018)
GDP per capita (ln)	-0.300 (0.205)	-0.403 (0.212)*	-0.484 (0.219)**
Population (ln)	0.956 (0.445)**	1.179 (0.460)**	1.070 (0.462)**
Economic Globalization	0.010 (0.005)*	0.010 (0.005)**	0.011 (0.005)**
Constant	-7.746 (5.944)	-11.717 (6.193)*	-10.379 (6.237)*
Observations	911	911	911
Country Fixed Effects	Yes	Yes	Yes
Year Fixed	Yes	Yes	Yes
Prob. > F	0.000	0.000	0.000

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

These results mirror [Bove and Böhmelt \(2016\)](#), but they do not directly take into account that states have instruments at their disposal to address the diffusion of terrorism via migration. To this end, Model 3 incorporates *Immigration Policy Restrictions* and its interaction with the spatial lag. In turn, we can estimate whether countries' immigration policies have what kind of effect by examining whether the positive impact of  $\mathbf{W}y$ : Migrant Inflow from Model 2 prevails regardless

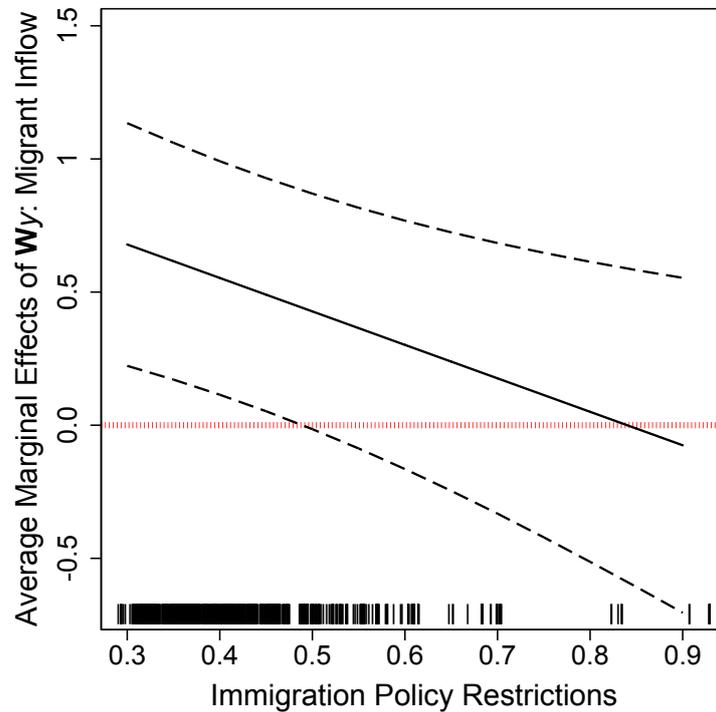
Figure 1: Terrorism: The Impact of  $W_y$ : Migrant Inflow

Note: Graph shows linear predictions of *Terrorist Attacks (ln)*, while holding all other covariates constant at their means; dashed lines signify 90 percent confidence intervals; rug plot at horizontal axis illustrates distribution of  $W_y$ : Migrant Inflow.

of what level of restrictiveness is imposed on the migrant population. Figure 2 plots the average marginal effects of the spatial lag *conditional* on the values of *Immigration Policy Restrictions*. On one hand, the graph shows that there are very few country-years in which overly restrictive policies have been implemented. The rug plot at the bottom of Figure 2 becomes rather sparse with higher values of *Immigration Policy Restrictions*. On the other hand, while  $W_y$ : *Migrant Inflow* exerts a positive marginal affect for low levels of *Immigration Policy Restrictions*, this impact is statistically insignificant for higher values of that item, i.e., more restrictive policies. The marginal effect of the spatial lag becomes insignificant for a level of restrictiveness of about 0.48. Hence, the empirical analysis discussed here, and the series of robustness checks in the appendix, provide more support for the *More-Restrictive Hypothesis*, which claims that more restrictive migration policies can address the diffusion of terrorism via population movements more effectively.

In sum, we obtain strong and robust evidence that more restrictive immigration laws *can* address the diffusion of terrorism via migration. Having said that, this should not imply that or be interpreted as overly restrictive policies “naturally” follow from and should be implemented at all times in light of

Figure 2: Terrorism: The Moderating Effect of Immigration Restrictions



Note: Graph shows average marginal effects of  $W_y$ : Migrant Inflow for various values of *Immigration Policy Restrictions*, while holding all other covariates constant at their means; dashed lines signify 90 percent confidence intervals; rug plot at horizontal axis illustrates distribution of *Immigration Policy Restrictions*; red dotted line marks marginal effect of 0.

this research. First, note that the coefficient estimate of *Immigration Policy Restrictions* in Model 3 is positive and highly significant. Due to the interaction with our spatial lag, this marginal effect only applies to values of 0 – and, by extension, rather low values – of  $W_y$ : *Migrant Inflow*. Specifically, the effect of *Immigration Policy Restrictions* is positive for values up to about 1.00 of  $W_y$ : *Migrant Inflow*, which relates to scenarios of countries that have a rather low migration population or larger foreign-born population segments that come from less-terror prone countries. In our data set, 40 percent of the cases, including the US and Germany in 2010 or the UK in 2009, are such countries. Our findings show that more restrictive policies under those circumstances may well be counterproductive and, in fact similar to our first hypothesis: overly restrictive regulations and controls then work against the integration of migrants, but rather foster and perhaps even increase their grievances against the state. It is under those circumstances that the level of terrorism could well rise.

Second, while more restrictive immigration policies *can* lower the diffusion of terrorism, this finding does not fully take into account other implications than that. For instance, immigration is frequently associated with several positive outcomes (e.g., [Boubtane and Dumont, 2013](#); [Dustmann](#)

and Frattini, 2014) such as higher economic growth, which in turn could at least indirectly affect terrorist activity in the state under study. That said, when imposing overly restrictive policies to begin with, these effects are lost. Third, note the insignificant impact of *Total Migration Population*. On one hand, this result could well demonstrate that migrants as such, i.e., when not taking their country of origin and the degree of terrorism in that home states into account, have very little to do with the degree of terrorism in a receiving state. This crucially emphasizes that we must thoroughly distinguish between the countries of origin of an immigrant; indiscriminate immigration laws may actually be counterproductive. On the other hand, the insignificant result may also be explained by a self-selection process, i.e., that migrants go to those countries with less restrictive policies as they feel “welcome” there. If more restrictive policies are in place, fewer migrants are likely to choose a state as a potential new home and the overall positive effect from migration on the economy or the pool of human capital is lost – and due to the opposing effects of two different mechanisms, the overall effect of *Total Migration Population* is statistically insignificant.

Coming to our control variables, their associated effects are mostly expected. The most consistent significant findings are given for *Population (ln)* and *Economic Globalization*. In line with previous works’ results, the larger the population of a state, the more terrorist attacks (all else equal). Furthermore, the more open a country as defined by its integration into the world’s economic network, the higher the degree of terrorism. We also find a negative effect for *GDP per capita (ln)* in Models 2 and 3, which mirrors several other studies (e.g., Young and Findley, 2011) that claim a higher income leads to fewer terrorist attacks. Third, the lagged dependent variable shows that terrorism is characterized by temporal dependencies in that a higher level of terrorism in the previous year is associated with more terrorism in the current period. For each additional terrorist attack in  $t - 1$ , we expect to see about an increase of about 60 percent in the geometric mean of *Terrorist Attacks (ln)*.

In the appendix, we provide a number of extensions to demonstrate the robustness of our main conclusions to changes in model assumptions and to delve deeper into the underlying mechanisms. In particular, we build on Gaibulloev, Piazza and Sandler (2017) and include additional control variables. We also control for other sources of transnational diffusion by including spatial lags based on the geographical distance between states. Moreover, we ask whether our results are driven by specific policies and whether there is heterogeneity in their effects, by disaggregating the immigration-restriction variable into its sub-components. We further address issues of self-selection and endogeneity by restricting the sample to countries characterized by overly restrictive external migration policies and by means of simultaneous equations models. Furthermore, we follow Hainmueller, Mummolo and Xu (2016) and analyze the possibility of a nonlinear impact of the spatial lag at different values of

the immigration-restriction item and check whether there is sufficient common support. Finally, we present the out-of-sample prediction power of our main models. Our results hold up well to this series of specification checks.

## 5 Conclusion

The potential security implications of migration flows have received a great deal of attention from both practitioners and scholars. To be clear, only the vast minority of migrants – if any – arrives or lives in a country with hostile intentions or plans to stage a terrorist attack. However, several studies suggest that terrorist organizations may exploit networks of migrant communities as a recruitment pool, and fuel their radicalization, particularly when they stem from terrorist-prone countries. This can give rise to security threats in recipient states and simply ignoring possible security implications stemming from population movements is unhelpful for research or informing policy. Using updated data on terrorism and migration, we replicated the result in [Bove and Böhmelt \(2016\)](#) using a sample of OECD countries. Mirroring the earlier study, we find that migration can indeed be a vehicle for terrorism to diffuse. We moved beyond this result, though, and sought with this article to contribute to this debate in a two-fold way. First, what are the conditions under which terrorism does diffuse via migration? Can immigration regulations and controls moderate terrorism diffusion? And, second, can national immigration policies be effective instruments? Our research highlights that more restrictive immigration policies may indeed make it more difficult for terrorism to diffuse across borders. This finding is robust across a series of changes in model specifications and substantive in size.

Migration policies therefore are a potentially mitigating factor. Yet, it would be misleading to derive from this that implementing more and more restrictive immigration policies is the default policy implication we suggest. In fact, the unconditional effect of our measure on immigration policies highlights that more restrictiveness leads to *more* terrorism in countries with low migration populations or migrants coming from countries that are less terror-prone. In addition, as [Brown and Korff \(2009\)](#) argue, overly restrictive policies including surveillance and profiling programs significantly challenge democratic core values and the rule of law. Hence, implementing more restrictive policies may only be effective in preventing the diffusion of terrorism under rather narrowly defined circumstances, and by no means should this be seen as a “default” tool in trying to address terrorism. While our work thus highlights that states can have effective tools at their disposal for dealing with the security consequences of transnational population movements, the key task for future research will be to identify which specific policies – and their respective levels of openness or restrictiveness – have an impact

and which do not (see also [Dreher, Gassebner and Schaudt, 2017](#)).

In the appendix, we provide an initial analysis in that direction, but more disaggregated work seems necessary in this regard. Equally important, while we can model the impact of policies restrictiveness, the issue of specifically integration policies cannot be fully captured due to the lack of data. European states have long established introduction programs for migrants, generally related to language training, but also with a focus on labor market integration, which is vital for “migrants’ economic independence, and a precondition for a positive economic impact of migration” ([OECD, 2015](#), p.13). Similarly, Australia, Canada, or the US have extensive experience in so-called “settlement services” for migrants ([OECD, 2015](#)). Such programs and policy tools may well be more effective in lowering the risk stemming from terrorism diffusion, but data limitations prevent us from explicitly assessing the impact and effectiveness of such programs. Moreover, our outcome variable cannot determine whether migrants are the source or the target of terrorism – or not directly involved in terrorism at all. Stigmatizing migrants seems even more misleading as a result, but the lack of coding in current data prevents a more thorough analysis. Yet, additional coding efforts to distinguish between migrants as the source or target of terrorism are necessary.

We conclude that no state is inherently unable to deal with the security implications of population movements, but there is also no automatic link between migration and the transnational diffusion of terrorism, or more restrictive immigration laws and preventing terrorist attacks. But our research hopefully contributes to clarifying the consequences that can be anticipated and what policies may be enacted. Blaming migrants for higher levels of terrorism or simply closing borders entails large humanitarian consequences or can be outright counterproductive, as we show. We recognize the significant challenges to immigration policies, their level of restrictiveness, and the difficulty in choosing the “right” policies to effectively deal with terrorism and its diffusion. In many countries, simply increasing the level of restrictiveness will not be adequate or help at all, and to us it seems more important and potentially more effective to implement comprehensive and well-tailored policies to strengthen receptive capabilities and to support integration efforts than merely raising the restrictiveness of immigration laws.

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# How Migration Policies Moderate the Diffusion of Terrorism

## – Online Appendix

In this appendix, we provide a series of additional analyses that complement and further support the main article’s findings. These include:

- In light of earlier work on the determinants of terrorism, we have considered a large **set of additional control variables**.
- We re-estimated our main model while controlling for **spatial dependencies based on geography**.
- We have **disaggregated the immigration-restriction variable** into its sub-components and present the main model using these individual components for the interaction.
- Given a plausible self-selection path of migrants, we have examined whether our main result remains robust **conditional on a high level of external migration restrictions**.
- Another robustness check analyzes the possibility of a **nonlinear impact of the spatial lag** at different values of the immigration-restriction item.
- As immigration policies are not randomly distributed, we estimated a **simultaneous equations model** that addresses the persistent endogeneity.
- Finally, we examine the **out-of-sample prediction power** of our main specification.

### A.1 Additional Control Variables: Alternative Determinants of Terrorism

For the models in the main text, we have included country fixed effects, year fixed effects, a lagged dependent variable, and a set of alternative predictors of terrorism as well as, potentially, migration flows. This way, we have sought to address the issue of common exposure in an efficient way. The set substantive controls considered in the main text is based on a more parsimonious approach, however. We address this potential issue in the following by re-estimating our main model after having added a large set of additional controls as suggested in [Gaibulloev, Piazza and Sandler \(2017\)](#). First, [Gaibulloev, Piazza and Sandler \(2017\)](#), p.15) recommend to control for variables that capture a state’s involvement in foreign policy. To this end, there are items on alliance ties with the US,

interventions, and the involvement in international crises. The alliance variable is binary and based on the Correlates of War Formal Alliance data set (Gibler, 2008). Using data from Pickering and Kisangani (2009), the intervention variable counts a state's number of military interventions in a given year. The crisis item is again dichotomous as it captures a country's involvement in any international crisis in the last three years (coded as 1; 0 otherwise). We use the International Crisis Behavior project's data for this.

Moreover, there is *Durable*, which codes the age of the current regime. The higher the value of that item, the more stable a state's regime; it is taken from the Polity IV project (Marshall and Jaggers, 2015). We also employ a measure on a country's general level of instability based on the Systemic Peace Project: this ordinal variable codes episodes of civil-war intensity, ranging from 0 (no civil war) to 7 (severe civil war). In order to control for a state's capabilities to address these and related security-relevant phenomena, we further consider the Composite Index of National Capacity (CINC) score from the Correlates of War project.

In the main text's models, we already control for economic globalization based on data from Dreher (2006). Following Gaibulloev, Piazza and Sandler (2017), we also incorporate political globalization in the following estimation. This variable captures states' integration into the global network of international organizations (Dreher, 2006). Finally, two measures are used to control for the influence of ethnic cleavages and instability. The first, *Discriminated Population*, measures the percentage of the population that is excluded from the political decision-making process as defined by the Ethnic Power Relations data.<sup>1</sup> The second variable, *Ethnic Fractionalization*, addresses ethnic diversity within a state as it measures the probability of two randomly drawn individuals from a country belonging to two different ethnic groups (see Fearon and Laitin, 2003).

Table 1 in this appendix summarizes our findings when including these additional controls. Most importantly for our study, the main finding remains robust in that *Wy: Migrant Inflow \* Immigration Policy Restrictions* still exerts a negative and statistically significant effect on the level of terrorism. On the other hand, most of the newly added items are statistically insignificant at conventional levels. The only exception is *National Capability*, which is positively signed and highly significant. This finding suggests that more powerful countries are more often the target of terrorist attacks and, hence, have a higher level of terrorism. In terms of the other control variables, their rather poor performance may be driven by the fixed effects we include as these limit our ability to make inferences about time-invariant or slow-moving variables. Coefficients are then not identified or difficult to estimate with precision.

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<sup>1</sup>Available online at: <https://icr.ethz.ch/data/epr/>

Table 1: The Moderating Effect of Immigration Restrictions – Additional Controls

	<b>Model A1</b>
Lagged Dependent Variable	0.452 (0.034)***
<b>Wy</b> : Migrant Inflow	0.823 (0.426)*
Immigration Policy Restrictions	1.601 (0.991)
<b>Wy</b> : Migrant Inflow * Immigration Policy Restrictions	-1.143 (0.639)*
Democracy	-0.003 (0.023)
Total Migration Population	0.029 (0.029)
GDP per capita (ln)	-0.977 (0.297)***
Population (ln)	0.532 (0.741)
Economic Globalization	0.013 (0.007)*
Alliance	0.073 (0.169)
Interventions	-0.068 (0.060)
International Crisis	0.057 (0.085)
Durable	-0.006 (0.015)
Civil War	0.000 (0.000)
National Capability	45.786 (15.724)***
Political Globalization	0.004 (0.005)
Discriminated Population	2.905 (2.174)
Ethnic Fractionalization	0.000 (0.000)
Constant	-3.874 (9.247)
Observations	720
Country Fixed Effects	Yes
Year Fixed	Yes
Prob. > F	0.000

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$   
Standard errors in parentheses

## A.2 Spatial Dependencies via Geographical Proximity

We re-estimated our main model while including two additional spatial lags (on at a time) that are based on the geographical distance between states. Including a geography-based spatial lag next to the immigration spatial variable is important for at least two reasons. First, a geography-based spatial lag may be considered a “catch-all” variable, i.e., we control for any transnational influences we do not directly focus on in the theory, although they might be present. These transnational influences could be about common cultural relationships, regional dynamics, or security issues and are based on what [Tobler \(1970, p.236\)](#) calls the first law of geography: “everything is related to everything else, but near things are more related than distant things.” Second, the previous literature on terrorism diffusion largely focuses on geographically defined spatial ties. Demonstrating that our core result holds while including a geography spatial control adds to the substantive contribution of our research and increases the confidence in our findings.

First, we consider contiguity for creating the first geography-based spatial item, i.e., each element  $w_{i,j}$  in its binary connectivity matrix measures whether states  $i$  and  $j$  are contiguous by land (1) or not (0). Land contiguity is defined as the intersection of the homeland territory of  $i$  and  $j$  either through a land boundary or a river. We employ the Correlates of War Project’s Direct Contiguity data ([Stinnett et al., 2002](#)). In the absence of a common contiguity tie between two countries,  $w_{i,j}$  takes the value of 0. Second, we created a weighting matrix based on the capital-to-capital distance (i.e., great circle distance between capital cities in kilometers) between countries ([Gleditsch and Ward, 1999](#)).<sup>2</sup> We re-scaled this second matrix so that higher values signify lower distances for the values of  $w_{i,j}$ .

The appendix’s Table 2 summarizes the findings of this robustness check. Our main result remains robust to the inclusion of the new spatial lags. Moreover, both geography-based items are positively signed and significant. This supports earlier research on terrorism “hot spots” (e.g., [Braithwaite and Li, 2007](#)). Against this background, terrorism does cluster in space and geographical proximity facilitates that terrorism travels from one unit to another; however, a genuine diffusion effect via migration also exists, which can be moderated by states’ immigration policies. We is demonstrated by the negative and significant estimate for the interaction of **Wy: Migrant Inflow** and *Immigration Policy Restrictions* in both Model A2 and Model A3.

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<sup>2</sup>Available online at: <http://privatewww.essex.ac.uk/~ksg/data-5.html>

Table 2: The Moderating Effect of Immigration Restrictions – Geography Spatial Lags

	<b>Model A2</b>	<b>Model A3</b>
Lagged Dependent Variable	0.432 (0.031) <sup>***</sup>	0.465 (0.030) <sup>***</sup>
<b>Wy</b> : Contiguity	0.151 (0.039) <sup>***</sup>	
<b>Wy</b> : Inverse Distance		1.171 (0.560) <sup>**</sup>
<b>Wy</b> : Migrant Inflow	0.811 (0.370) <sup>**</sup>	0.839 (0.381) <sup>**</sup>
Immigration Policy Restrictions	1.958 (0.894) <sup>**</sup>	2.064 (0.901) <sup>**</sup>
<b>Wy</b> : Migrant Inflow * Immigration Policy Restrictions	-1.312 (0.582) <sup>**</sup>	-1.283 (0.585) <sup>**</sup>
Democracy	0.006 (0.011)	0.004 (0.011)
Total Migration Population	0.019 (0.018)	0.017 (0.018)
GDP per capita (ln)	-0.444 (0.218) <sup>**</sup>	-0.529 (0.220) <sup>**</sup>
Population (ln)	1.349 (0.464) <sup>***</sup>	1.199 (0.465) <sup>***</sup>
Economic Globalization	0.010 (0.005) <sup>**</sup>	0.010 (0.005) <sup>*</sup>
Constant	-12.546 (6.148) <sup>**</sup>	-11.049 (6.198) <sup>*</sup>
Observations	911	911
Country Fixed Effects	Yes	Yes
Year Fixed	Yes	Yes
Prob. > F	0.000	0.000

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\* $p < 0.01$ .

### A.3 Disaggregation of Immigration Policies

The variable from the IMPIC project (Helbling et al., 2017, p.4), *Immigration Policy Restrictions*, is the average restrictiveness value of all policy components as summarized in Table 1 of the main article. Hence, an aggregated index captures the level of restrictiveness pertaining to regulations and control mechanisms, internally and externally, while regulations refer to eligibility, conditions, status, and rights. The models in Table 3 of this appendix offer a more disaggregated perspective. Given our theoretical argument, we may be particularly interested in the *internal* regulations and controls for immigration, while making a distinction between regulations and controls. To this end, Model A4 focuses on the security of status (an internal immigration regulation) only, which we interact with *Wy: Migrant Inflow*. Model A5 is based on the level of restrictiveness of the rights associated with the immigration status. Model A6 concentrates on the average of security status and rights associated, i.e., we focus on internal regulations more generally here. Finally, Model A7 is an analysis of the average value of restrictiveness across both internal regulations and internal controls. That is, this model is similar to those based on *Immigration Policy Restrictions* in the main text, albeit Model A7 omits the external control-and-regulation dimension completely. When studying the results in Table 3 of this appendix, however, the results are virtually identical to what is discussed in the main article. In other words, our results are not driven by a particular component of the aggregated restrictiveness index from the IMPIC data (Helbling et al., 2017, p.4) and we feel confident in concluding that migration policies can moderate terrorism diffusion.

### A.4 The Self-Selection of Immigration: The Influence of High External Restrictions on Migration

We also explored whether our main result remains robust when focusing on those states with overly restrictive external immigration policies. The rationale behind this is based on a plausible self-selection mechanism of migrants: all else equal, immigrants are more likely to move to those states that have less restrictive entry policies (see also Breunig, Cao and Luedtke, 2012; Dreher, Krieger and Meierrieks, 2011; Alarian and Goodman, 2017; Helbling et al., 2017). More restrictive entry regulations and controls may deter migrants from moving to such states in the first place. One way to control for this mechanism is restricting the sample to those countries that are characterized by overly restrictive policies. Model A8 does precisely this: using the information in the IMPIC (Helbling et al., 2017, p.4), this model only comprises that subset of countries with a score of more than 0.5 on

Table 3: The Moderating Effect of Immigration Restrictions – Disaggregating Policies

	<b>Model A4</b>	<b>Model A5</b>	<b>Model A6</b>	<b>Model A7</b>
	Security of Status	Rights Associated	Internal Regulations	Internal Regul. and Controls
Lagged Dependent Variable	0.469*** (0.030)	0.468*** (0.030)	0.467*** (0.030)	0.469*** (0.030)
<b>Wy</b> : Migrant Inflow	0.914*** (0.340)	0.824*** (0.294)	0.962*** (0.321)	1.199*** (0.435)
Disaggregated Imm. Policy Restrictions	1.068* (0.635)	1.265** (0.530)	1.484** (0.628)	1.929** (0.951)
Interaction	-0.779** (0.391)	-0.830** (0.332)	-0.988** (0.392)	-1.267** (0.637)
Democracy	0.000 (0.011)	0.000 (0.011)	0.000 (0.011)	0.001 (0.011)
Total Migration Population	0.015 (0.019)	0.017 (0.018)	0.017 (0.018)	0.016 (0.018)
GDP per capita (ln)	-0.502** (0.218)	-0.502** (0.219)	-0.527** (0.219)	-0.495** (0.217)
Population (ln)	1.128** (0.461)	1.062** (0.465)	1.076** (0.463)	1.120** (0.460)
Economic Globalization	0.010* (0.005)	0.010* (0.005)	0.010* (0.005)	0.009* (0.005)
Constant	-10.556* (6.214)	-9.632 (6.234)	-9.790 (6.224)	-10.997* (6.217)
Observations	911	911	911	911
Country Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed	Yes	Yes	Yes	Yes
Prob. > F	0.000	0.000	0.000	0.000

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Standard errors in parentheses

external control restrictiveness (see Table 1 in the main text).

Table 4: The Moderating Effect of Immigration Restrictions – High External Control Restriction

	<b>Model A8</b>
Lagged Dependent Variable	0.459 (0.038)***
<b>Wy</b> : Migrant Inflow	0.962 (0.496)*
Immigration Policy Restrictions	1.366 (1.321)
<b>Wy</b> : Migrant Inflow * Immigration Policy Restrictions	-1.361 (0.823)*
Democracy	-0.021 (0.021)
Total Migration Population	0.043 (0.036)
GDP per capita (ln)	-0.468 (0.407)
Population (ln)	1.027 (0.911)
Economic Globalization	0.005 (0.007)
Constant	-8.035 (12.163)
Observations	612
Country Fixed Effects	Yes
Year Fixed	Yes
Prob. > F	0.000

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$   
Standard errors in parentheses

First, note the decrease in the number of observations, which shows that about 33 percent of all country-years in the original sample are characterized by more “benign” policies and, thus, are omitted from the analysis now. Second, the multiplicative term of **Wy**: *Migrant Inflow* \* *Immigration Policy Restrictions* remains negatively signed and statistically significant. Hence, even when allowing for the possibility of a migrant self-selection mechanism, we obtain empirical evidence for the claim that more restrictive immigration policies can lower the likelihood of terrorism diffusing via migration.

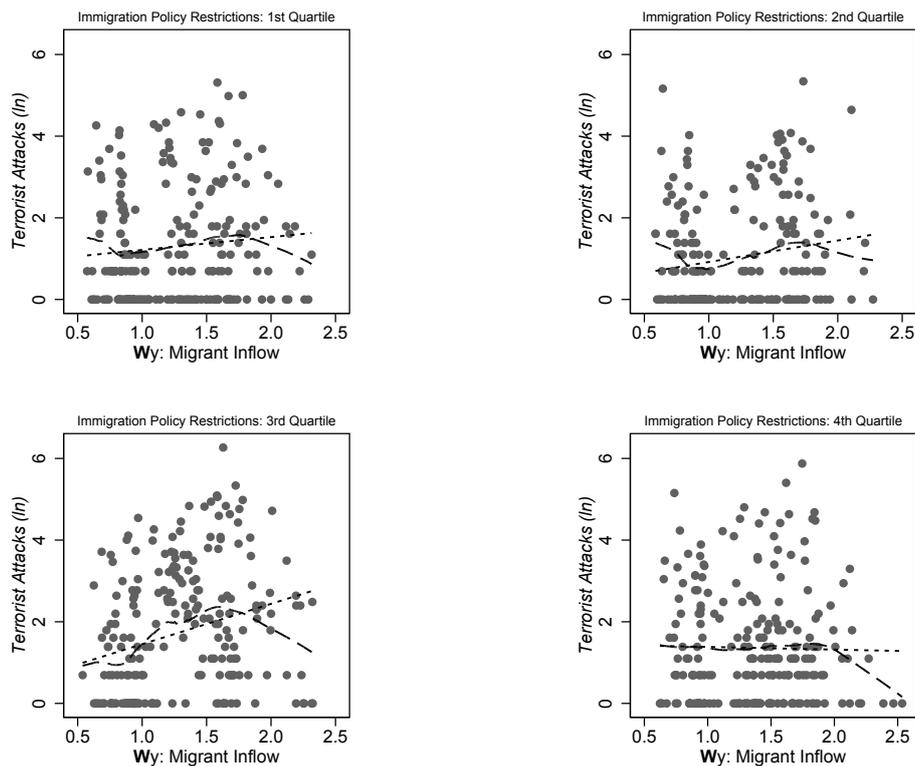
## A.5 A Non-Linear Impact of **Wy**: *Migrant Inflow*?

Hainmueller, Mummolo and Xu (2016) remind us that multiplicative interaction models are based on two crucial requirements. On one hand, there must be a sufficient amount of “common support” to reliably compute the conditional marginal effects, i.e., cases for which the values of the moderating variable are actually observed. Second, the interactive effect is linear to the extent that, in our case, the impact of **Wy**: *Migrant Inflow* changes at a constant rate with the moderating variable on

immigration restrictions. We meet the first requirement, which is demonstrated via the rug plots in the main text's graphs. These plots depict the distribution of *Immigration Policy Restrictions* and emphasize that there is a sufficient number of data points available.

The second requirement of a linear effect has not been discussed yet, but we address this in the following. [Hainmueller, Mummolo and Xu \(2016\)](#), p.9) suggest a scatterplot as a diagnostic tool for assessing whether a linear effect does exist or not: that is, they recommend to split the sample into equally sized groups based on the moderating variable, i.e., *Immigration Policy Restrictions*. In turn, one has to plot the outcome against the key independent variable, i.e., *Wy: Migrant Inflow*, while imposing a linear regression line and a lowess smoothing line. If a linear effect exists, the linear regression line should not significantly depart from the lowess line across the different groups as identified by the moderator values.

Figure 1: The Level of Terrorism against *Wy: Migrant Inflow* at Different Levels of Restrictiveness



Note: Short-dashed lines pertain to linear fit, while long-dashed lines signify lowess smoothing.

As shown in Figure 1 below, we have divided the sample into four equally sized groups in light of the distribution of *Immigration Policy Restrictions*. The graphs emphasize, however, that the linear regression lines largely overlap with the lowess lines, and they are not statistically significantly

different from each other. Therefore, the two lines are close to each other and partly fully overlap in any cluster of the data, which supports the claim that “both conditional expectation functions are well approximated with a linear fit” [Hainmueller, Mummolo and Xu \(2016\)](#), p.8). We also examined, nevertheless, a non-linear impact in our main model by adding a squared term of *Wy: Migrant Inflow* to the specification and interacting this as well with *Immigration Policy Restrictions*. The corresponding finding is – as expected against the background of Figure 1 in this appendix – virtually identical to what we present in the main text.

## A.6 Simultaneous Equations Model

We have calculated a model using three-stage least-squares regression (3SLS) to determine whether our estimates might be biased due to simultaneity. [Koopmans and Michalowski \(2017\)](#), [Dreher, Gassebner and Siemers \(2010\)](#), or [Avdan \(2014\)](#), among others, show that immigration policies are not randomly distributed, but driven systemically by certain factors in diverse ways. To this end, we implemented a two-stage model that allows for a simultaneous influence of the level of terrorism on migration restrictions and the other way round, while modelling which factors shape migration restrictions. We explored possible specifications by running multiple 3SLS models similar to that shown in the main article, based on the same theoretical rationale. In 3SLS, instruments for endogenous variables are generated by regressing each such variable on all exogenous variables in the system. Here, the endogenous variables are *Terrorist Attacks (ln)* and *Immigration Policy Restrictions*. For the determinants of the latter, we select country and year fixed effects as well as temporally lagged values of *Terrorist Attacks (ln)*, regime type, the total number of migrants in a country, income, and population.

Model A9 is then a re-estimation of the main model in the article using 3SLS. Note that the variables included in the equations must differ in some aspects for the model to be identified. Those items included in one, but not the other equation then influence the other stage’s outcome indirectly through their dependent variable. Two findings are particularly worth discussing. First, despite modeling simultaneity directly, our core result in the *Terrorist Attacks (ln)* equation remains robust. Second, more democratic and wealthier states are less restrictive in the policies they implement. This also mirrors the results in, e.g., [Koopmans and Michalowski \(2017\)](#) to a large degree.

Table 5: The Moderating Effect of Immigration Restrictions – Simultaneous Equations Model

	<b>Model A9</b> <b>Terrorist Attacks (ln)</b>	<b>Model A9</b> <b>Imm. Policy Restrict.</b>
Lagged Dependent Variable	0.468 (0.029)***	0.859 (0.015)***
Terrorist Attacks (ln)		0.000 (0.001)
<b>Wy</b> : Migrant Inflow	1.051 (0.353)***	
Immigration Policy Restrictions	1.942 (0.866)**	
Interaction	-1.250 (0.563)**	
Democracy	0.000 (0.011)	-0.001 (0.000)*
Total Migration Population	0.015 (0.018)	0.000 (0.001)
GDP per capita (ln)	-0.483 (0.211)**	-0.027 (0.009)***
Population (ln)	1.067 (0.444)**	0.013 (0.018)
Economic Globalization	0.011 (0.005)**	
Constant	-8.871 (5.886)	0.177 (0.231)
Observations	911	911
Country Fixed Effects	Yes	Yes
Year Fixed	Yes	Yes
Prob. > F	0.000	0.000

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## A.7 Out-of-Sample Prediction Power: 4-Fold Cross-Validation

Finally, we assess the predictive power of the interaction term. A model may fit well within a given sample, but could perform worse when confronted with new data. This can potentially undermine making correct and useful predictions (see [Ward, Greenhill and Bakke, 2010](#)). To explicitly consider out-of-sample heuristics, we conducted a 4-fold cross-validation quasi-experimental exercise, which we repeated 10 times for the full model in the main text (Model 3) and the same model while omitting *Wy: Migrant Inflow, Immigration Policy Restrictions*, and their interaction. First, we randomly divided our sample into four segments of about the same size. We then used three random segments to estimate the parameters, while the fourth segment was retained for assessing the predictive power of either Model 3 in the main text or the constrained model on the pooled subsets. Therefore, there were three data segments to build the model and create predictions, while a last (randomly chosen) part was not considered for estimating the model in the first place, but merely employed for assessing the predictive power. To do so, we provide two goodness-of-fit measures in this out-of-sample setup. First, Theil's U is the square root of the ratio between the sum of squared prediction errors of a model and the sum of squared prediction errors of a naïve model, i.e., a “no-change prediction” where the level of immigration support in  $t-1$  fully corresponds to the level of support in  $t$ . If Theil's U is larger than 1, the model performs worse than the naïve model; values of Theil's U smaller than 1 indicate that the “theoretically informed model” performs better than the naïve specification. Second, the mean squared prediction error (MSPE) pertains to the expected value of the squared difference between the observed values of the outcome variable and the predicted ones.

We calculated both measures for Model 3 from the main text and a constrained model that omits our core explanatory variables. As indicated above, we repeated the cross-validation 10 times and, thus, obtained 10 different values for Theil's U and the MSPE, respectively. We calculated the average values for both model-fit statistics to arrive at global values. The results are summarized in Table 6 here. For the fully specified model, the average Theil's U across all 10 iterations of the cross-validation is 0.812, while the corresponding MSPE stands at 0.455; for the constrained model, the average Theil's U is 0.818 with a MSPE of around 0.462. Thus, the predictive power of our core variables of interest is established as the prediction error tends to increase when omitting *Wy: Migrant Inflow, Immigration Policy Restrictions*, and their interaction.

Table 6: Out-of-Sample Prediction: 4-Fold Cross-Validation

	<b>Full Model</b>	<b>Constrained Model</b>
Estimation 1	0.8278 (0.4734)	0.8290 (0.4747)
Estimation 2	0.8152 (0.4590)	0.8196 (0.4640)
Estimation 3	0.8184 (0.4627)	0.8206 (0.4652)
Estimation 4	0.8081 (0.4510)	0.8151 (0.4589)
Estimation 5	0.8046 (0.4472)	0.8254 (0.4705)
Estimation 6	0.8094 (0.4525)	0.8169 (0.4610)
Estimation 7	0.8120 (0.4554)	0.8236 (0.4685)
Estimation 8	0.8170 (0.4610)	0.8081 (0.4510)
Estimation 9	0.8044 (0.4469)	0.8141 (0.4578)
Estimation 10	0.8021 (0.4444)	0.8064 (0.4492)
Mean	0.8119 (0.4554)	0.8179 (0.4615)

Table entries are Theil's U values with mean squared prediction errors in parentheses.

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