

# EXAMINING THE RELATIONSHIP BETWEEN SOCIAL ACCEPTANCE OF LGBT PEOPLE AND LEGAL INCLUSION OF SEXUAL MINORITIES

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# EXECUTIVE SUMMARY

Based on data from 133 countries from 1990 to 2014, this report examines whether there is a connection between the level of acceptance of lesbian, gay, bisexual, and transgender (LGBT) people and the level of inclusiveness of a country's laws.

**Acceptance** is defined as the extent to which LGBT people are seen by individuals in society in ways that are positive and inclusive, both with respect to individual opinions about LGBT people and with regard to an individual positions on LGBT policy. The LGBT Global Acceptance Index (GAI) has been developed, using public opinion data, to score each country's level of acceptance based on a range of zero to ten.

**Legal LGB Inclusiveness** is defined as the extent to which a country's legal standards recognize and protect the rights of LGB people.<sup>1</sup> The Legal Environment Index (LEI) has been developed to measure the level of legal inclusiveness each year in each country. The LEI relies on secondary data about seven different legal norms, established either legislatively, judicially, or by executive action, in each country. Based on this data, each country is assigned a policy environment rating, from one to five, each year.

## KEY FINDINGS

The major finding of this study is that, in general, a strong statistical relationship exists between social acceptance of LGBT people and LGB legal inclusiveness. Other findings include:

- As the laws of each country evolve from no inclusion to fuller inclusion, the legal changes follow one of two paths. Some countries move from decriminalization of same sex behavior to the adoption of laws pertaining to discrimination in economic activities, such as employment and public accommodations, and some countries move from decriminalization to the adoption of laws pertaining to family recognition and parenting. Both paths can lead to fuller legal inclusion, where policies include LGB people in employment non-discrimination policies and public accommodations, family recognition policies including legal same-sex couple recognition and adoption, and military service.
- In countries where freedom of the press is greater, the relationship between acceptance and legal inclusiveness is stronger. In countries with the lowest levels of press freedom, the relationship does not exist.

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<sup>1</sup> The LGBT Global Acceptance Index (GAI) is based on data which includes public opinion about transgender people and issues. The LEI is based on laws which pertain only to lesbian, gay, and bisexual (LGB) people and issues. Data on the status of transgender-related issues is sparse. We could not identify reliable secondary sources of transgender-related legal standards covering the entire time period.

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- Countries with a strong rule of law have a stronger relationship between LGB acceptance and LGB-inclusive policies. This relationship does not exist in countries with weaker rule of law. Countries with the weakest rule of law are also the most likely not to have any LGB-inclusive policies.
  - In democracies, acceptance has a strong association with legal inclusiveness. In anocracies, the association is weaker and the level of legal inclusiveness is not likely to be high even as acceptance increases. Within autocracies, social acceptance has no association with LGB inclusion.



# INTRODUCTION

## A. THE LINK BETWEEN PUBLIC ATTITUDES, PUBLIC POLICY, AND DEVELOPMENT

As former UN Secretary General Ban Ki Moon has stated, development requires the removal of all barriers that affect inclusion and participation, including stigma and institutionalized discrimination.<sup>2</sup> Low levels of both acceptance and legal inclusiveness can both constitute a fundamental barrier to development. The impact of acceptance and legal norms on development is important because, for sexual and gender minorities all over the world, development outcomes are heavily impacted by the attitudes and beliefs of those around them.<sup>3</sup> Low levels of acceptance are tied to bullying and violence, physical and mental health problems, employment discrimination, and decreased rates of civic participation.<sup>4</sup> Additionally, exclusion can result in lower levels of workforce productivity and decreased business profits.<sup>5</sup> As of May 2017, 71 countries criminalize same-sex behavior, punishable by death in eight countries.<sup>6</sup> In all but 72 countries, employers and governments can limit the ability of a person to earn a living based on their sexual orientation.<sup>7</sup>

Public attitudes can also be a source of oppression or support. The stigma faced by LGBT people has been linked to physical and mental health problems, violence and discrimination,<sup>8</sup> as well as decreased productivity and profits for the entire economy.<sup>9</sup> At the intersection of the law and culture are a number of dynamics which have serious consequences for LGBT people. In many countries, negative attitudes towards LGBT people are associated with violence and discrimination against sexual and gender minorities, while a lack of government response enables and perpetuates the problem.<sup>10</sup>

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<sup>2</sup> Ban Ki Moon, "The Stigma Factor," *The Washington Times* (Washington, DC), Aug. 8, 2008.

<https://www.washingtontimes.com/news/2008/aug/06/the-stigma-factor/>

<sup>3</sup> M.V. Lee Baggett, Sheila Nezhad, Kees Waaldijk, and Yana van der Meulen Rodgers, *The Relationship between LGBT Inclusion and Economic Development: An Analysis of Emerging Economies* (Los Angeles, CA: The Williams Institute, 2014).

<sup>4</sup> Gregory M. Herek, "Confronting Sexual Stigma and Prejudice: Theory and Practice." *Journal of Social Issues* 63, no. 4 (2007): 905-925.

<sup>5</sup> M.V. Lee Baggett, Laura Durso, Angel Kastanis, and Christy Mallory, *The Business Impact of LGBT-Supportive Policies* (Los Angeles, CA: The Williams Institute, 2013).

<sup>6</sup> Angus Carroll and Lucas Ramón Mendos, *State-Sponsored Homophobia: A World Survey of Sexual Orientation Laws: Criminalization, Protection and Recognition*, 12<sup>th</sup> Ed. (Geneva: International Lesbian Gay, Bisexual, Trans, and Intersex Association, 2017).

<sup>7</sup> *Ibid.*

<sup>8</sup> Herek, "Confronting Sexual Stigma and Prejudice."

<sup>9</sup> Baggett, Nezhad, Waaldijk, and Rodgers, *The Relationship between LGBT Inclusion and Economic Development*.

<sup>10</sup> Inter-American Commission on Human Rights. *Violence against lesbian, gay, bisexual, trans and intersex persons in the Americas*. November 12, 2015. OAS/Ser.L/V/II.rev.1 Doc. 36, p49-50. See also for Example: A. Theron, "Anti-Gay Violence and Discrimination: The Need for Legislation Against Anti-Gay Hate Crimes in the Sociopolitically Changing South Africa." *ACTA Criminologica* 7, no. 3 (1994): 107-114.

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On the other hand, supportive public attitudes and protective government policies can support improved development outcomes for LGBT people. Currently, 63 countries have non-discrimination laws that include sexual orientation.<sup>11</sup>

It is the goal of many development agencies to protect LGBT people from violence and discrimination, seek full recognition of the human rights of LGBT people, and combat social exclusion which hinders the full realization of human rights. This study can help deepen our understanding of how social acceptance and legal norms impact LGBT people by investigating the association between social acceptance and legal norms. Because this study permits an examination of each country in comparison to others, it may help global institutions set priorities and determine resource allocations.

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<sup>11</sup> Carroll and Mendos, State-Sponsored Homophobia.



# METHODOLOGY

## A. DESCRIPTION OF DATA ON LGBT SOCIAL ACCEPTANCE AND LGB LEGAL INCLUSIVENESS

### ACCEPTANCE

Acceptance is the extent to which LGBT people are seen by individuals in society in ways that are positive and inclusive, both with respect to an individual's opinions about LGBT people and with regard to an individual's position on LGBT policy.<sup>12</sup> The GAI has been developed to measure the level of acceptance in each country for each year.

The GAI relies on cross-national public opinion survey data gathered at the national or regional level. Such surveys can help us understand public attitudes about LGBT people, and where they stand on LGBT-related issues. Public opinion polls and social surveys offer an opportunity for the public to speak for themselves instead of having advocates, celebrities, or politicians speak on their behalf. In this way, polls can be a more accurate predictor of public sentiment and the social climate experienced by LGBT people. These surveys provide snapshots of acceptance, and they can be used to compare levels of acceptance between different countries and during different times.

Though polling on LGBT issues is sporadic, we identified 2,778 surveys that include some relevant questions, including the following regional and global survey programs: the America's Barometer (2014 and 2015), the Eurobarometer (1993-2015), the European Social Survey (2002-2012), the European Values Survey (1981-2010), the Gallup World Poll (2006-2012), the 2016 ILGA-RIWI Global Attitudes Survey (International Lesbian, Gay, Bisexual and Trans and Intersex Association, 2016), the International Social Survey Programme (1988-2010), Ipsos International (2013), the Latinobarómetro (2002-2010), the Pew Global surveys (2002-2013), and the World Values Surveys (1981-2014). However, we could not identify any survey which asked the same question in all countries in the same year. Ultimately, we identified 55 different questions which asked about a range of issues: the morality of LGBT people, the acceptability of particular rights for LGBT people, experience with LGBT people as acquaintances or colleagues, and the desirability of LGB people as neighbors, among others. The combined individual-level sample involves 1,426,000 individual responses in 141 countries over 33 years relating to LGBT people and rights.

In order to enable a comparison between countries and periods of time, we employed advanced statistical modeling which utilized a group-level response theory to leverage all of the data on acceptance of LGBT people to produce a single, dynamic estimate for each country.<sup>13</sup> According to this approach, people's acceptance of LGBT people is considered a latent, unobserved variable which is related to survey

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<sup>12</sup> Andrew Flores and Andrew Park, *Polarized Progress: Social Acceptance of LGBT People in 141 Countries, 1981-2014* (Los Angeles, CA: The Williams Institute, 2018); Gregory M. Herek, "Beyond 'Homophobia': Thinking about Sexual Prejudice and Stigma in the Twenty-First Century," *Sexuality Research & Social Policy* 1, no. 2 (2004): 6-24.

<sup>13</sup> For a more detailed description of this methodology, see Devin Caughey and Christopher Warshaw, "Dynamic Estimation of Latent Opinion using a Hierarchical Group-level IRT Model," *Political Analysis* 23, no. 2 (2015): 197-211.

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responses. While an individual's specific answer to questions about LGBT people and issues may vary depending on the question, all of the answers share a common conceptual space, identified here as the person's acceptance of LGBT people.

Our approach relies on the method of the Group-level Item Response Theory (G-IRT) model.<sup>14</sup> The model uses item-response theory (IRT), which examines the relationship between a characteristic of a person and the answers they give to questions. IRT provides a family of analytical methods for modeling the individual probability that a person will take, in the present case, a pro-LGBT position, and they can be used to index or scale individuals based upon their LGBT acceptance.<sup>15</sup> A central concept of IRT is that each question is associated with a particular level of LGBT acceptance required to answer a question in a pro-LGBT way. If someone is given a collection of questions, each reflective of different levels of LGBT acceptance, then the subject can be given a single score, or ideal point, that approximates LGBT acceptance. A dynamic ideal point estimation process estimates acceptance and its change over time based on the person's responses over time. In social and political contexts, ideal point estimation processes can measure the liberalness or conservativeness of representatives,<sup>16</sup> Supreme Court justices,<sup>17</sup> and public attitudes.<sup>18</sup> The IRT model has been extended to understand attitudes for a grouping of subjects, aggregating responses to understand average abilities of groups.<sup>19</sup> In the domain of public attitudes, G-IRT can estimate the policy liberalism of geographic regions over time.<sup>20</sup> In the current study, the country serves as the grouping of subjects and country-level results in each survey serve as the responses. Through dynamic ideal point estimation, the executed model can identify the dynamic relationship between the country level responses in each survey and, based on this relationship, gives a value to each country's level of LGBT acceptance for each year. The model employed in this analysis estimates this point for each country each year on a scale of zero to 10.<sup>21</sup>

## LEGAL INCLUSIVENESS

Legal inclusiveness is the extent to which the formal, normative legal standards recognize and protect the rights of LGB people. The Legal Environment Index (LEI) has been developed to measure level of legal inclusiveness each year in each country on a scale from no inclusion to fullest inclusion.

The LEI relies on secondary data about seven different legal norms, established either legislatively, judicially, or by executive action, in each country. The sources included the following global compilations of laws as well as 149 internet-based resources on specific laws in specific countries.

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<sup>14</sup> Devin Caughey and Christopher Warshaw, "Dynamic Estimation of Latent Opinion using a Hierarchical Group-level IRT Model."

<sup>15</sup> F.M. Lord. *Applications of Item Response Theory to Practical Testing Problems*. Hillsdale, NJ: Earlbaum (1980).

<sup>16</sup> Royce Carroll, Jeffrey B. Lewis, James Lo, Keith T. Poole, and Howard Rosenthal, "Measuring Bias and Uncertainty in DW-NOMINATE Ideal Point Estimates via the Parametric Bootstrap." *Political Analysis* 17, no. 3 (2009): 261-275.

<sup>17</sup> Andrew D. Martin and Kevin M. Quinn, "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953-1999," *Political Analysis* 10, no. 2 (2002): 134-153.

<sup>18</sup> Devin Caughey and Christopher Warshaw, "Dynamic Estimation of Latent Opinion using a Hierarchical Group-level IRT Model.;" Devin Caughey and Christopher Warshaw, "Policy Preferences and Policy Change: Dynamic Responsiveness in the American States, 1936-2014," *American Political Science Review* (2017) doi: 10.1017/S0003055417000533; Devin Caughey and Christopher Warshaw, "The Dynamics of State Policy Liberalism, 1936-2014," *American Journal of Political Science* 60, no. 4 (2016): 899-913.

<sup>19</sup> Robert J. Mislevy, "Item Response Models for Grouped Data." *Journal of Educational Statistics* 8, no. 4 (1983): 271-288.

<sup>20</sup> Devin Caughey and Christopher Warshaw, "The Dynamics of State Policy Liberalism."

<sup>21</sup> A fuller explanation of the model is provided in Andrew Flores and Andrew Park, *Polarized Progress*.

| Letter Assigned | Author  | Title   | Link  |
|-----------------|---|---|---|
| A               | ILGA  | ILGA, State-sponsored Homophobia, 11 <sup>th</sup> edition, October 2016        | <a href="http://ilga.org/downloads/02_ILGA_State_Sponsored_Homophobia_2016_ENG_WEB_150516.pdf">http://ilga.org/downloads/02_ILGA_State_Sponsored_Homophobia_2016_ENG_WEB_150516.pdf</a>   |
| B               | The Hague Centre for Strategic Studies                      | LGBT MILITARY PERSONNEL   | <a href="http://beta.hcss.nl/sites/default/files/files/report_s/HCSS_LGBT_webversie.pdf">http://beta.hcss.nl/sites/default/files/files/report_s/HCSS_LGBT_webversie.pdf</a>   |
| C               | Pritika Jain, IOSR Journal Of Humanities and Social Science | Should the Homosexuals Be Allowed To Serve In Armed Forces: A Critical Analysis | <a href="http://iosrjournals.org/iosr-jhss/papers/Vol20-issue2/Version-2/C020221215.pdf">http://iosrjournals.org/iosr-jhss/papers/Vol20-issue2/Version-2/C020221215.pdf</a>   |
| D               | Palm Center   | Countries that Allow Military Service by Openly Gay People                      | <a href="http://archive.palmcenter.org/files/active/0/CountriesWithoutBan.pdf">http://archive.palmcenter.org/files/active/0/CountriesWithoutBan.pdf</a>   |
| E               | LGBT world legal wrap up survey                             | Compiled by Daniel Ottosson, ILGA   | <a href="https://web.archive.org/web/20120310152845/http://typo3.lsvd.de/fileadmin/pics/Dokumente/Homosexualitaet/World_legal_wrap_up_survey_November2006.pdf">https://web.archive.org/web/20120310152845/http://typo3.lsvd.de/fileadmin/pics/Dokumente/Homosexualitaet/World_legal_wrap_up_survey_November2006.pdf</a> |
| F               | ILGA-Europe Rainbow Map (Index) May 2016                    | ILGA Europe   | <a href="http://www.ilga-europe.org/sites/default/files/Attachments/side_b-rainbow_europe_index_may_2016_small.pdf">http://www.ilga-europe.org/sites/default/files/Attachments/side_b-rainbow_europe_index_may_2016_small.pdf</a>   |

The following areas of law were selected because (1) they correspond to contested legal norms for LGB people, (2) they each relate to development outcomes, and, (3) data about them were available.

**Table 1. Legal norms**

- 1 Decriminalization of homosexuality
- 2 Open military service
- 3 Employment non-discrimination protections
- 4 Public accommodations protections
- 5 Adoption rights for same-sex couples
- 6 Legal marriage recognition
- 7 Constitutional provisions ensuring sexual orientation non-discrimination

Countries which have adopted laws relating to all of the norms listed in Table 1 would be considered the most inclusive. Countries which lack laws with all of the norms listed above would be the least inclusive. However, the legal norms of most countries will, at some point, be constituted by a mix of those listed in Table 1. In theory, there can be 3,432 different combinations of policies that are in place. In reality, we know that laws are commonly adopted in a sequence, such that the adoption of some of these legal norms is tied to the adoption of others, thereby producing a limited number of patterns of policies.

We used Hidden Markov Models (HMMs), an advanced statistical approach often used in life-course models to understand unique individual trajectories in development, to examine how countries

progressed from one legal environment to another. Previous research has theorized that the development of legal protections for LGBT people follows particular pathways.<sup>22</sup> Relying on model fit statistics, we determined that seven unique patterns existed in these data.

Most commonly, the initial legal environment was that of no inclusion: same-sex sexual behavior was criminalized and no protections existed. The next transition for most countries was to decriminalize homosexuality. The data show that after decriminalization, countries followed one of two trajectories on the path to fuller legal inclusion. One trajectory led first to the adoption of employment non-discrimination laws (including military service) followed by adoption of laws relating to family recognition and ultimately to fullest inclusion. Another trajectory led from decriminalization to the adoption of family recognition laws, then employment laws, then fullest inclusion.

Because these pathways converged on a similar endpoint, an ordinal policy environment scale best explains these patterns as in Table 2. While we note that countries may incorporate a variety of policies at the “Some Inclusion” policy environment, we combined these differing pathways into a single category. This strategy reduces the seven unique patterns to five policy environments ranging from least inclusive to most inclusive of the legal norms.<sup>23</sup> Further research may want to unpack why certain countries take different paths of “Some Inclusion,” but our purpose is to understand, generally, how acceptance relates to policy inclusion, regardless of those specific pathways. Appendix 1 contains each country’s LEI, on a scale of 0-4, from 1990-2016.

**Table 2. Legal Environment Index**

| Policy Environment  | Key Characteristics   |
|---------------------|---|
| 1 No inclusion      | These countries have none of the seven laws.  |
| 2 Decriminalization | These countries have only the decriminalization law.  |
| 3 Some inclusion    | These countries are on a path from decriminalization to further recognition through allowing military service or adoption rights                            |
| 4 Greater inclusion | These countries expand inclusion from stage 3 into the presence of nondiscrimination laws or the right to marry.  |
| 5 Most inclusion    | These countries have almost all of the rights (5-7 of them) with the law most commonly missing being a constitutional provision prohibiting discrimination. |

<sup>22</sup> D. Sanders, “Getting Lesbian and Gay Issues on the International Human Rights Agenda.” *Human Rights Quarterly* 18, no. 1 (1996): 67-106; R. Wintemute, (2005). “From ‘Sex Rights’ to ‘Love Rights’: Partnership Rights as Human Rights,” in *Sex Rights: The Oxford Amnesty Lectures 2002*, ed. N. Bamforth (New York, NY: Oxford University Press, 2005).

<sup>23</sup> There is a trade-off between the complexity and accuracy of seven pathways versus the analytical benefits of a 5-point ordinal scale. The benefit to clarity of analysis in the 5-point scale outweighs the complexity of the seven pathways for the current analysis.



# FINDINGS

With time-series cross-sectional data, a series of random effects ordinal logistic regression models<sup>24</sup> were conducted to assess the relationship between the GAI and the policy environment. Appendix 2 contains the regression results in table form, while we report predictions based upon the results of the models. The probability a country is in a certain environment is predicted by level of social acceptance. Throughout, we report 95% confidence intervals about the predicted probabilities.

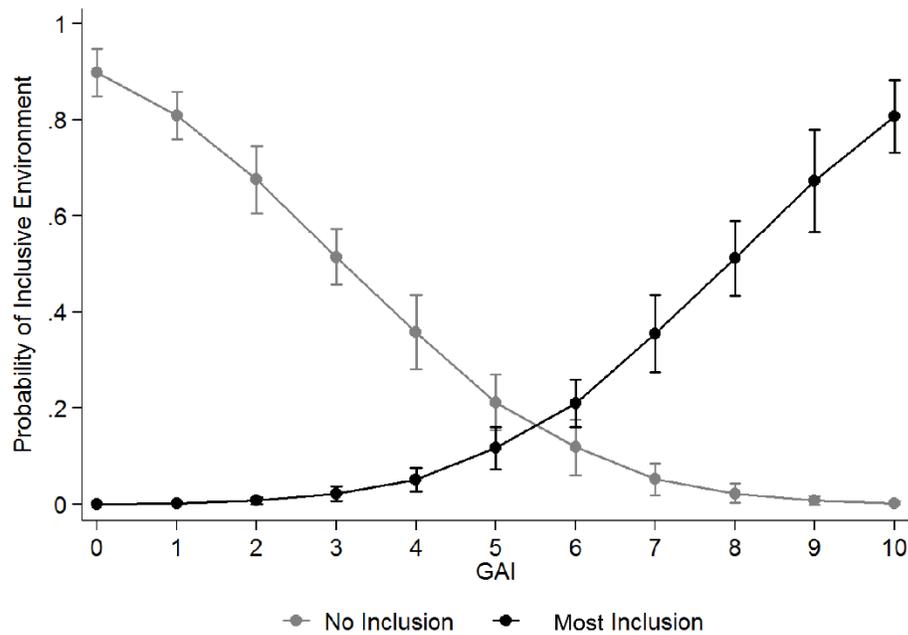
## A. THE STATISTICAL RELATIONSHIP BETWEEN ACCEPTANCE AND LEGAL INCLUSIVENESS

Analysis of the data reveals that the level of social acceptance correlates with level of legal inclusiveness. The more accepting countries are, the greater the probability that the country has more inclusive LGB policies. Figure 1 shows the relationship between acceptance and probability that a country has no LGB inclusion or has the fullest LGB inclusion, as described by the policy environment in Table 2. At the lowest level of acceptance (GAI=0), there is a 0.9 probability that countries have no policies inclusive of LGBT people. As acceptance increases, this probability decreases. At the highest level of acceptance (GAI=10), countries have less than a one in 100 chance of having no policy inclusion. Likewise, the probability that countries have the fullest LGBT policy inclusion is virtually non-existent at the lowest levels of acceptance, but becomes extremely likely as countries are more accepting. There is a 0.8 probability that the policy environment is the most inclusive at the highest levels of acceptance.

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<sup>24</sup> Stata 14 was used with the “xtologit” command. Alternative multinomial logistic models became incredibly complex and rendered similar results.

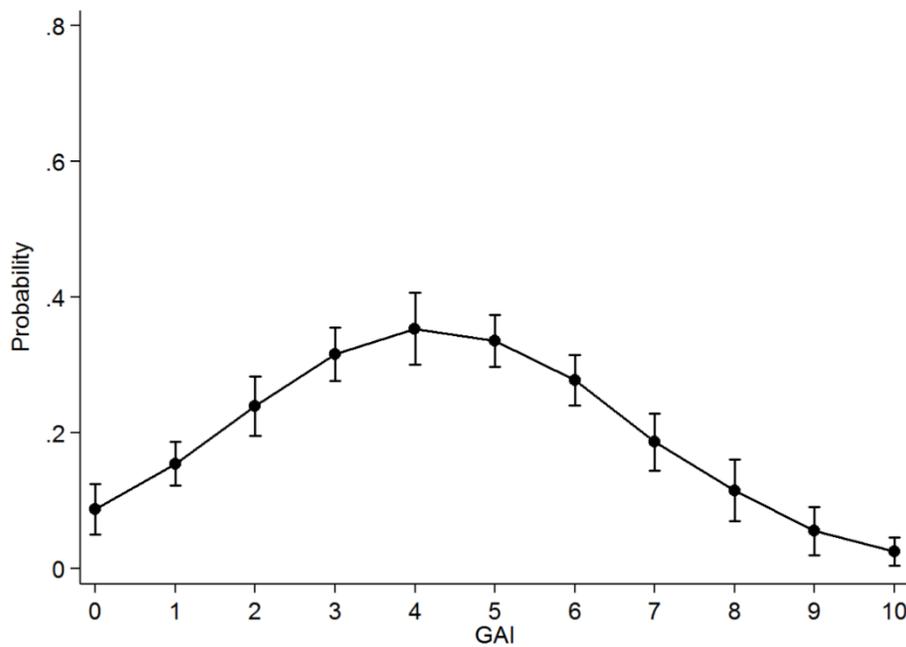
Figure 1. Probability of countries having a “no LGB inclusion policy” environment compared to “most LGB inclusion policy” environment by GAI



NOTE: 95% confidence intervals are plotted around the estimate.

Aside from the most and least inclusive, the mid-inclusive policy environments tend to follow a bell-like curve as acceptance increases. For example, Figure 2 plots the probability that countries have passed policies that have only decriminalized homosexuality. At the lowest levels of acceptance, the probability is about one-in-ten that countries have only decriminalized homosexuality and not enacted any other legal protection. When acceptance is at a level of four, the probability increases to about one-in-three. Beyond an acceptance level of four, the probability that countries have only decriminalized same-sex behavior decreases. This pattern emerges because as acceptance increases, the probability a country starts becoming even more policy inclusive of LGB people increases such that *only* decriminalizing becomes less likely. This bell-shaped pattern is consistent with the pattern observed in each of the other policy environments.

Figure 2. Probability of countries having a policy environment that has only decriminalized homosexuality



A country's average level of social acceptance of LGBT people is a robust correlate of LGB policy inclusion. When taking into consideration a country's freedom of the press, rule of law, types of government, and economic stratification within a country, the relationship between the GAI and policy environment was a positive and statistically significant predictor. While the relationship between LGBT acceptance and LGB policy inclusion is likely self-reinforcing (i.e., LGB policy inclusion may produce "policy feedback" where acceptance increases due to greater institutional inclusion),<sup>25</sup> in countries where data are available, some studies contend that acceptance is causally prior to policy inclusion.<sup>26</sup>

## B. CONDITIONS THAT FOSTER OR DETER INCLUSION

It is also important to consider the varying ways a country's context might foster or deter the translation of LGBT acceptance into greater policy inclusion. A number of previous efforts have examined whether the existence of laws relating to the rights of LGBT people is linked, in some way, to a country's past inclusion of minorities, to the ratification of particular treaties, to a monist or dualist legal system, or to other potential correlates of inclusive legal environments.

<sup>25</sup> For example, Andrew R. Flores and Scott Barclay, "Backlash, Consensus, Legitimacy, or Polarization: The Effects of Same-Sex Marriage Policy on Mass Attitudes." *Political Research Quarterly* 69, no. 1 (2016): 43-56.

<sup>26</sup> Jeffrey R. Lax and Justin H. Phillips, "Gay Rights in the States: Public Opinion and Policy Responsiveness." *American Political Science Review* 103, no. 3 (2009): 367-386.

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Democratic institutions, for example, are designed to mediate the relationship between public opinion and public policy.<sup>27</sup> This is inherent to pluralistic ideas of representative government, which, in theory and practice, translate public opinion into public policy. The present analyses assess whether greater norms of freedom of the press,<sup>28</sup> norms of the rule of law,<sup>29</sup> and regime type<sup>30</sup> conditions the way acceptance relates to LGBT policy inclusion. These random effects ordered logistic models interact acceptance with measures of freedom of the press, the rule of law, and regime type, sequentially.

## FREEDOM OF THE PRESS

The ability for the news media to objectively and accurately report on current events reflects the ability of governments and societies to embrace pluralistic perspectives. The extent to which there is freedom of the press reflects the stability of political institutions. A free press also may communicate to the public the actions of government and the attitudes of the public about current social and political events. News outlets are a major source of domestic polling, and interviews with the general public convey public sentiment on current and pertinent issues. Political elites also learn about the attitudes of the general public from a free press. This may mean that in locations where the press is a free and robust institution, there would likely be a stronger correlation between public attitudes and social policy because it indicates a potential for a relationship between public discourse and government actions. By contrast, in locations where the government suppresses or more highly controls the press, there may be a weaker association between attitudes and policy.

Freedom House scores countries based upon laws and regulations influencing media content, political pressures of media content, economic influences over media content, and regressive actions (e.g., censorship or assaulting journalists) for both broadcast and print media, and they provide a summative score of these measures ranging from zero (Free) to 100 (Not Free).<sup>31</sup> Figure 3 shows the relationship between acceptance and policy across three different levels of free press: No Free Press (a 100 free press score), Some Free Press (a 50 free press score), and a Very Free Press (a zero free press score).

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<sup>27</sup> SN Soroka and C Wlezien. 2010. *Degrees of Democracy: Politics, Public Opinion, and Policy*. New York: Cambridge University Press.

<sup>28</sup> Freedom House. *Freedom of the Press (FOTP) Data: Editions 1980-2017*. Washington, DC: Freedom House.

<sup>29</sup> The World Bank Group. "Worldwide Governance Indicators." *The World Bank Group*, 2017. <<http://info.worldbank.org/governance/wgi/#home>>.

<sup>30</sup> MG Marshall. *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2013*. (Vienna, VA: Center for Systemic Peace, 2014). <<http://www.systemicpeace.org/polity/polity4x.htm>>.

<sup>31</sup> Freedom House, *Freedom of the Press (FOTP) Data*.

Figure 3. Relationship between acceptance and policy inclusion in different free press environments

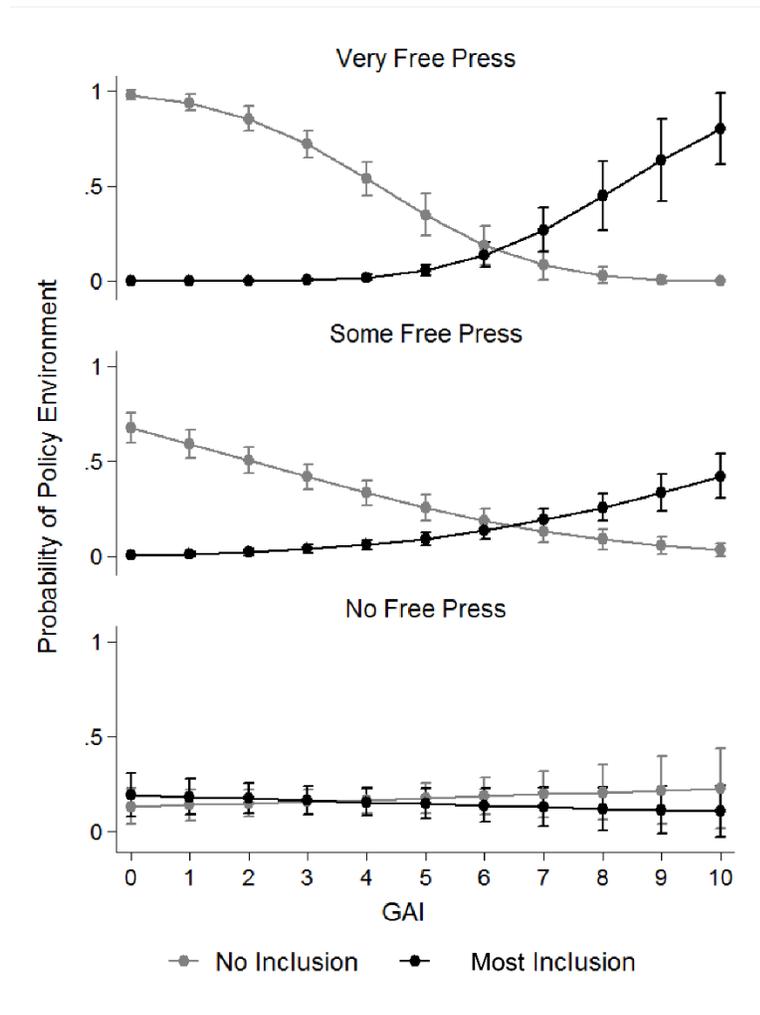
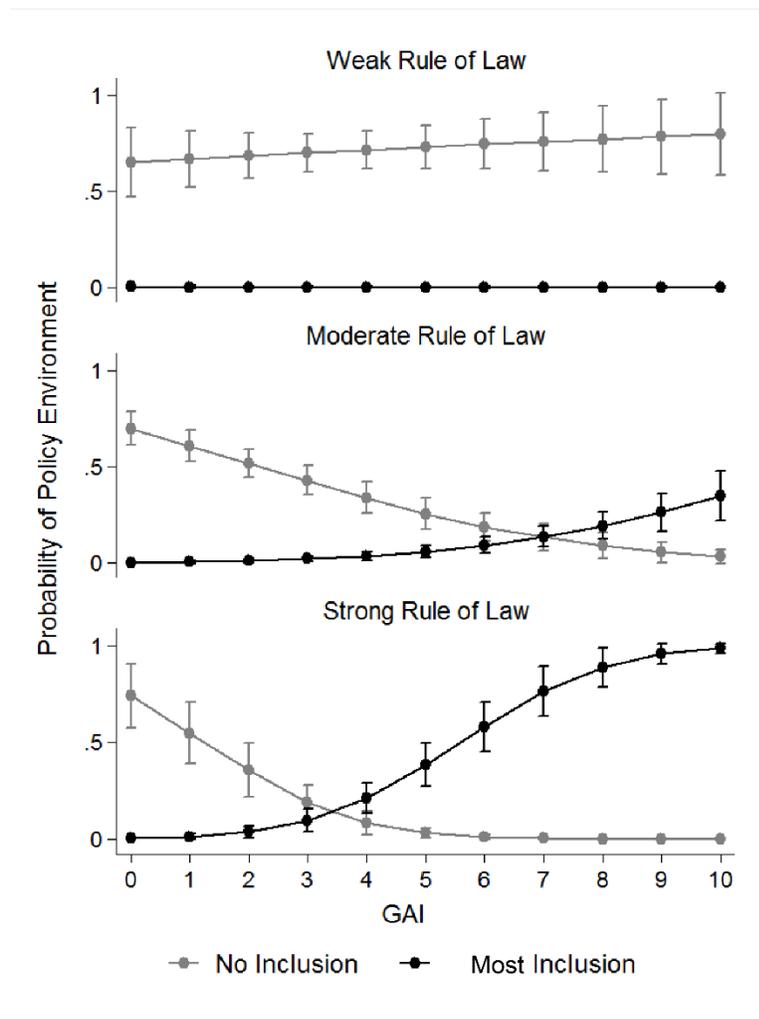


Figure 3 shows that increases in LGBT acceptance are more strongly correlated with LGB policy inclusion in countries that have freer presses. As freedom of the press weakens, so does the relationship between acceptance and policy. In the least free press societies, there is no apparent relationship between attitudes and policy. Countries that have a freer press are also more likely to be countries that have greater acceptance, but this relationship is not a perfect correlation (i.e.,  $r \neq 1$ ; see, for example, Appendix 3).

## RULE OF LAW

The rule of law documents the extent to which officials are perceived to trust and follow the rules of society as documented by the World Bank.<sup>32</sup> It includes the quality of contract enforcement, property rights, the police, and the courts, as well as public safety.<sup>33</sup> The stronger a country's rule of law, the more formal institutions are functioning properly.<sup>34</sup> The rule of law is a standardized index with a mean equal to zero and standard deviation equal to one.<sup>35</sup> The scores empirically range from very weak rule of law (-2.23) to very strong rule of law (2.12).

Figure 4. Relationship between acceptance and policy inclusion in different rule of law environments



<sup>32</sup> The World Bank Group. "Worldwide Governance Indicators."

<sup>33</sup> Ibid.

<sup>34</sup> Ibid.

<sup>35</sup> Daniel Kaufmann, Aart Kraay, and Massimo Mastruzzi, "The Worldwide Governance Indicators: A Summary of Methodology, Data and Analytical Issues." World Bank Policy Research Working Paper No. 5430.

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Countries with a stronger rule of law are more likely to have LGB inclusive policies as LGB acceptance increases. Countries that lack a strong rule of law show a greater disconnect between acceptance and policy, so the association between LGBT acceptance and LGB policy inclusion is attenuated. A context with a weak rule of law shows no relationship between acceptance and policy, and countries with a weak rule of law are least likely to have any LGB inclusive policies regardless of societal acceptance of LGBT people.

#### TYPE OF GOVERNMENT

An important factor in the creation of public policy is the type of government. Democracies, for example, should be expected to consider the desires of the public when crafting public policy. Research has shown that legislative protections for minorities, and for LGBT people, are more likely to exist in democracies.<sup>36</sup> Other forms of government such as anocracies or autocracies may be less likely to consider public opinion while autocratic regimes are consistently the greatest abusers of human rights.<sup>37</sup>

The question at issue is whether the relationship between acceptance and legal inclusiveness still holds true in various types of governments. Using country polity scores assigned by the Polity Project of the Center for Systemic Peace,<sup>38</sup> we are able to examine this relationship in autocracies, anocracies, and democracies. We use the variable “polity2” in the Polity IV database, which provides a single scale score ranging from clear autocracies (-7), anocracies (0), to clear democracies (7).

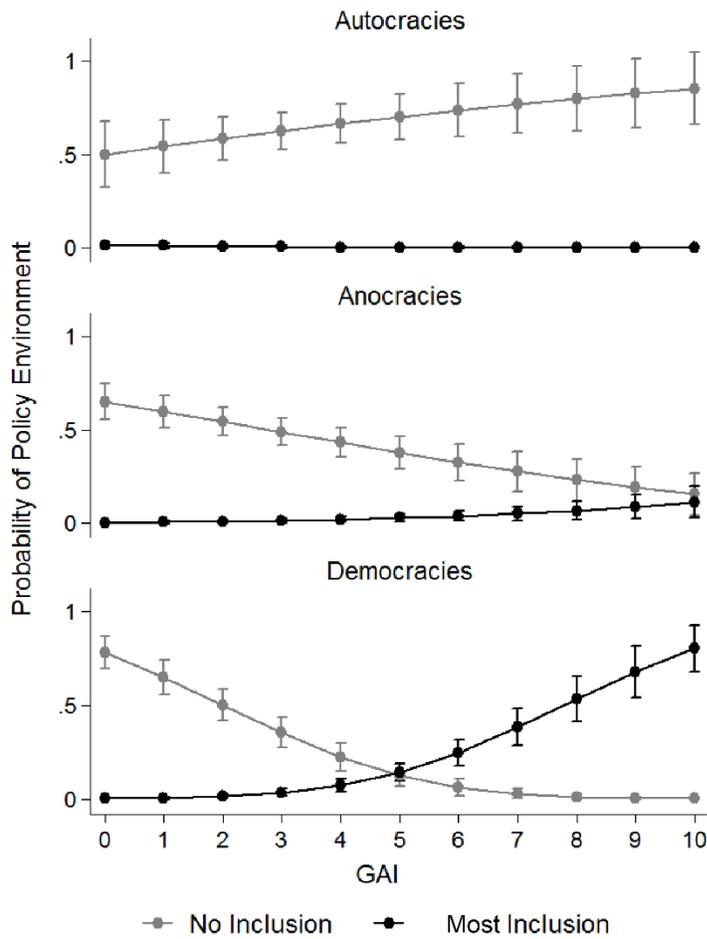
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<sup>36</sup> Ronald Inglehart and Pippa Norris, *Rising Tide: Gender Equality and Cultural Change Around the World* (New York and Cambridge: Cambridge University Press, 2003); O. G. Encarnación, “Gay Rights: Why Democracy Matters.” *Journal of Democracy* 25, no. 3 (2011): 90-104; Philip M. Ayoub, “Contested Norms in New-Adopter States: International Determinants of LGBT Rights Legislation.” *European Journal of International Relations* 21, no. 2 (2015): 293-322

<sup>37</sup> Hafner-Burton, E. M., & Tsutsui, K. (2007). Justice lost! The failure of international human rights law to matter where needed most. *Journal of Peace Research*, 44(4), 407-425.

<sup>38</sup> MG Marshall. *Polity IV Project*.

Figure 5. Relationship between acceptance and policy inclusion in different governments



The relationship between LGBT acceptance and LGB policy inclusion by types of government is plotted in Figure 5. As would be expected in theory, democratic governments are most responsive to changes in public acceptance. Anocracies are less likely to not include LGB people at all in policy as LGB acceptance increases, but they are not more likely to be the most inclusive of LGB people as acceptance increases. This means that in anocracies, increases in public acceptance increases the probability of LGB policy inclusion but does not significantly increase the probability of fullest inclusion. Autocracies appear to have a weak relationship between public attitudes reflecting LGB acceptance and LGB policy inclusion. Autocracies are more likely to have no LGB policy inclusion across all levels of LGBT acceptance.



## CONCLUSION

In summary, it was found that as the laws of each country evolve from no inclusion to fullest inclusion, the legal changes follow one of two paths. Some countries move from decriminalization of same sex behavior to the adoption of laws pertaining to discrimination in economic activities, such as employment and public accommodations, and some countries move from decriminalization to the adoption of laws pertaining to family recognition and parenting. Both paths can lead to fullest inclusion in all sectors of laws included in the study. A primary finding of this study is that, in general, a strong statistical relationship exists between acceptance and legal inclusiveness. In countries where freedom of the press is greater, the relationship between acceptance and legal inclusiveness is stronger. In countries with the lowest levels of press freedom, the relationship does not exist. Countries with a strong rule of law have a stronger association between LGBT acceptance and LGB-inclusive policies. This relationship does not exist in countries with a weaker rule of law. Countries with the weakest rule of law are also the most likely not to have any LGB-inclusive policies. In democracies, LGBT social acceptance is strongly associated with legal inclusiveness. In anocracies, the relationship is weaker and the level of legal inclusiveness is not likely to be high even as acceptance increases. Within autocracies, LGB policy inclusion is not associated with LGBT acceptance.

In conclusion, the strongest relationship between LGBT acceptance and LGB-inclusive policies occurs within country contexts where public opinion impacts public policy (i.e., a free press, a strong tradition of the rule of law, and democratic regimes<sup>39</sup>).

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<sup>39</sup> SN Soroka and C Wlezien. 2010. *Degrees of Democracy: Politics, Public Opinion, and Policy*. New York: Cambridge University Press.



## FUTURE RESEARCH

We recommend further research and data development efforts in order to better understand the links between social acceptance of LGBT people and legal inclusiveness. Some extensions of this work are possible with existing data:

- Evaluations of whether LGB policy inclusion results in
  - reduced violence perpetrated against LGBT people
  - reduced rates of discrimination against LGBT people in areas such as income, education, and housing
  - greater acceptance of LGB people
  - transgender inclusion in both policy and acceptance
- Identification using causal modeling strategies such as employing fixed effects or synthetic control methods to further assess the impact of acceptance on policy inclusion, which would provide additional information about temporal ordering in order to identify whether policy influences public opinion or public opinion influences policy.
- Incorporation of other contextual factors that may further explain both LGBT social acceptance and LGB policy inclusion.

Countries, regional, and global surveys should continue to document attitudes about LGBT people and rights. With consistent data collection, the relationship between LGBT social acceptance and LGB policy inclusion can be more fully explored. And, importantly, change in attitudes towards LGBT people and their rights and changes in the policy environment can be monitored using the GAI and the type of policy environment measure generated for this study.

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# APPENDICES

## APPENDIX 1: LEI SCORES

The scores ranging between 0-4 are reported for every country from 1990 to 2016. The analyses only incorporate countries from 1990-2014 due to the GAI. A low score reflects LGB legal inclusion whereas a high score reflects greater LGB inclusion.

Table A.1. LEI Scores

| Country            | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 | '03 | '04 | '05 | '06 | '07 | '08 | '09 | '10 | '11 | '12 | '13 | '14 | '15 | '16 |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Albania            | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Algeria            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Andorra            | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 4   | 4   | 4   |
| Argentina          | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Armenia            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Australia          | 0   | 0   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   |
| Austria            | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   |
| Azerbaijan         | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Bahrain            | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Bangladesh         | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Belarus            | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Belgium            | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Benin              | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Bolivia            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Bosnia Herzegovina | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |

| Country            | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 | '03 | '04 | '05 | '06 | '07 | '08 | '09 | '10 | '11 | '12 | '13 | '14 | '15 | '16 |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Botswana           | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Brazil             | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Bulgaria           | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Burkina Faso       | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Burundi            | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cameroon           | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Canada             | 1   | 1   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Cape Verde         | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Chile              | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 3   | 3   | 3   | 3   | 3   |
| China              | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Colombia           | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 4   | 4   | 4   | 4   | 4   | 4   |
| Costa Rica         | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Cote d'Ivoire      | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Croatia            | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Cyprus             | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Czech Republic     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Denmark            | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Dominican Republic | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Ecuador            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Egypt              | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| El Salvador        | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Estonia            | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   |
| Ethiopia           | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Finland            | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| France             | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   |
| Gabon              | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Georgia            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   |
| Germany            | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 3   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |

| Country       | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 | '03 | '04 | '05 | '06 | '07 | '08 | '09 | '10 | '11 | '12 | '13 | '14 | '15 | '16 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ghana         | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Great Britain | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   |
| Greece        | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Guatemala     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Guinea        | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Honduras      | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Hungary       | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Iceland       | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| India         | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   |
| Indonesia     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Iran          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Iraq          | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Ireland       | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   |
| Israel        | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Italy         | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   |
| Jamaica       | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Japan         | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Jordan        | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Kazakhstan    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Kenya         | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Kuwait        | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Kyrgyzstan    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Latvia        | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Lebanon       | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Lesotho       | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   |
| Liberia       | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Libya         | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Lithuania     | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Luxembourg    | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   |
| Macedonia     | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |

| Country     | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 | '03 | '04 | '05 | '06 | '07 | '08 | '09 | '10 | '11 | '12 | '13 | '14 | '15 | '16 |   |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| Madagascar  | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |
| Malawi      | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |   |
| Malaysia    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |   |
| Mali        | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |
| Malta       | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 4   | 4   | 4 |
| Mauritius   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Mexico      | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Moldova     | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   |   |
| Montenegro  | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Morocco     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |   |
| Mozambique  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Namibia     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |   |
| Netherlands | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |   |
| New Zealand | 1   | 1   | 1   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   |   |
| Nicaragua   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Niger       | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |
| Nigeria     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |   |
| Norway      | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |   |
| Pakistan    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |   |
| Panama      | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |
| Paraguay    | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |
| Peru        | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Philippines | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |
| Poland      | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Portugal    | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |   |
| Qatar       | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |
| Romania     | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |   |
| Russia      | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |   |
| Rwanda      | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |   |

| Country               | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 | '03 | '04 | '05 | '06 | '07 | '08 | '09 | '10 | '11 | '12 | '13 | '14 | '15 | '16 |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Sao Tome and Principe | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   |
| Saudi Arabia          | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Senegal               | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Serbia                | 0   | 0   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Sierra Leone          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Singapore             | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Slovakia              | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Slovenia              | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   | 4   |
| South Africa          | 0   | 0   | 0   | 0   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| South Korea           | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Spain                 | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   |
| Swaziland             | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Sweden                | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Switzerland           | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Tanzania              | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Thailand              | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Togo                  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Trinidad and Tobago   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Tunisia               | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Turkey                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| Uganda                | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Ukraine               | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   |
| United Arab Emirates  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| United States         | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 3   | 3   |
| Uruguay               | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 3   | 3   | 3   | 3   | 3   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |
| Uzbekistan            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Venezuela             | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| Vietnam               | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |

| Country  | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 | '03 | '04 | '05 | '06 | '07 | '08 | '09 | '10 | '11 | '12 | '13 | '14 | '15 | '16 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Yemen    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Zambia   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Zimbabwe | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

## APPENDIX 2: REGRESSION RESULTS

Tables A.2 and A.3 report the results from panel data ordinal logistic regression models. Table A.2 gradually includes additional covariates. Model 4 is used for predicted probabilities in Figures 1 and 2. Table A.3 includes models where the GAI is interacted with covariates. The figures of the predicted probabilities by varying country contexts rely on the results from Table A.3.

**Table A.2. LOGISTIC REGRESSION RESULTS**

|                            | (1)            | (2)            | (3)            | (4)            | (5)            |
|----------------------------|----------------|----------------|----------------|----------------|----------------|
| GAI                        | 1.84 (0.09)*** | 1.75 (0.09)*** | 1.37 (0.12)*** | 1.32 (0.12)*** | 2.71 (0.33)*** |
| Free Press                 |                | 0.008 (0.004)* | 0.04 (0.01)*** | 0.08 (0.01)*** | 0.05 (0.02)**  |
| Rule of Law                |                |                | 2.45 (0.28)*** | 2.36 (0.29)*** | 1.72 (0.45)*** |
| Polity2                    |                |                |                | 0.22 (0.04)*** | 0.23 (0.07)    |
| Economic Inequality (Gini) |                |                |                |                | -0.07 (0.03)*  |
| Cut 1                      | 5.71 (0.49)    | 5.60 (0.54)    | 4.69 (0.76)    | 7.13 (0.86)    | 7.18 (1.97)    |
| Cut 2                      | 9.81 (0.51)    | 9.88 (0.56)    | 9.59 (0.81)    | 12.18 (0.93)   | 13.30 (2.08)   |
| Cut 3                      | 12.66 (0.54)   | 12.79 (0.59)   | 13.35 (0.85)   | 15.95 (0.98)   | 17.38 (2.15)   |
| Cut 4                      | 14.58 (0.56)   | 14.70 (0.61)   | 15.64 (0.87)   | 18.43 (1.00)   | 20.68 (2.23)   |
| Wald- $\chi^2$             | 452.91***      | 416.15***      | 223.22***      | 236.56***      | 121.93***      |
| Log likelihood             | -2655.54       | -2520.35       | -1553.63       | -1430.87       | -560.27        |
| Country Random Effects?    | YES            | YES            | YES            | YES            | YES            |
| Year Random Effects?       | NO             | NO             | NO             | NO             | NO             |
| N                          | 3,591          | 3,453          | 2,224          | 2,113          | 708            |
| N years                    | 27             | 27             | 17             | 17             | 14             |
| N countries                | 133            | 132            | 132            | 126            | 112            |

NOTE: Logit coefficients are reported; standard errors are in the parentheses; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001 (two-tailed).

Table A.3. INTERACTION MODELS

|                  | (6)              | (7)            | (8)             |
|------------------|------------------|----------------|-----------------|
| GAI              | 2.81 (0.29)***   | 1.20 (0.13)**  | 0.72 (0.15)***  |
| Free Press       | 0.19 (0.02)***   | 0.08 (0.01)*   | 0.07 (0.01)***  |
| Rule of Law      | 2.09 (0.30)***   | -0.32 (0.55)   | 2.18 (0.29)***  |
| Polity 2         | 0.22 (0.04)***   | 0.22 (0.04)    | -0.20 (0.07)*** |
| GAI* Free Press  | -0.03 (0.005)*** |                |                 |
| GAI* Rule of Law |                  | 0.71 (0.12)*** |                 |
| GAI* Polity2     |                  |                | 0.13 (0.02)***  |
| Cut 1            | 12.84 (1.31)     | 7.33 (0.86)    | 5.42 (0.88)     |
| Cut 2            | 17.82 (1.35)     | 12.27 (0.92)   | 10.41 (0.93)    |
| Cut 3            | 21.61 (1.39)     | 16.07 (0.97)   | 14.28 (0.98)    |
| Cut 4            | 24.26 (1.44)     | 18.75 (1.00)   | 16.89 (1.00)    |
| Wald- $\chi^2$   | 262.32***        | 260.04***      | 272.08***       |
| Log likelihood   | -1412.77         | -1413.71       | -1408.45        |
| N                | 2,113            | 2,113          | 2,113           |
| N years          | 17               | 17             | 17              |
| N countries      | 126              | 126            | 126             |

NOTE: Logit coefficients are reported; standard errors are in the parentheses; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001 (two-tailed).

### APPENDIX 3: CORRELATION MATRIX OF THE VARIABLES

Figure A.1 shows the bivariate correlation among all of the variables used in Model 4.

Figure A.1. Correlation matrix of the variables used to generate interaction terms

