

RESEARCH THAT MATTERS

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# PATHWAYS TO LGBTI PROTECTION

The Relationship  
Between the Social  
Acceptance of LGBTI  
People and their Legal  
Inclusion

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## EXECUTIVE SUMMARY

Lesbian, gay, bisexual, transgender, and intersex (LGBTI) people live across the globe. However, the extent to which sexual and gender diversity is socially accepted and LGBTI people are included in a country's laws and policies remains vastly uneven. Both public attitudes and legal inclusion have important implications for development. Anti-LGBTI stigma can lead to discriminatory practices and laws that promote violence, poor health outcomes, weaker institutions of governance, and lower economic productivity.<sup>1</sup> Conversely, societies that are more socially accepting and inclusive of LGBTI people tend to be more democratic and economically prosperous.<sup>2</sup> A clear understanding of the pathways through which a country can become more protective of LGBTI people is important for designing and implementing strategies of change that support inclusive development.

Using the LGBTI Global Acceptance Index and novel Legal Environment Indices that measure a country's laws regarding sexual orientation (SO) and gender identity, gender expression, and sex characteristics (GIESC), respectively, this report provides a first-of-its-kind statistical approach to understand the various pathways through which countries become more or less inclusive of LGBTI people.

## KEY FINDINGS AND RECOMMENDATIONS

- Social acceptance is strongly linked to legal inclusion and may reflect an important precondition for changing law and policy.
  - The relationship between social acceptance and legal inclusion has grown stronger over time.
  - Stakeholders should pursue dual strategies of cultivating public support for LGBTI people and their rights in addition to pursuing legal change.
- Stakeholders seeking to expand SOGIESC protections should consider the various pathways through which policies are likely to develop.
  - SO protections generally advance by starting with decriminalization. Employment protections or broader nondiscrimination protections are likely the next policy development. However, some countries may advance with employment protections first.
  - GIESC protections are most likely to advance by first allowing for changing gender markers and establishing a formal legal gender recognition process or healthcare protections. Broader nondiscrimination protections on the basis of gender identity and expression are likely to be the next policy development.

<sup>1</sup> M.V. Lee Badgett, Kees Waaldijk, and Yana Van Der Meulen Rodgers, "The Relationship between LGBT Inclusion and Economic Development: Macro-Level Evidence," *World Development* 120 (August 2019): 1–14, <https://doi.org/10.1016/j.worlddev.2019.03.011>.

<sup>2</sup> Andrew R. Flores, Miguel Fuentes Carreño, and Ari Shaw, *Democratic Backsliding and LGBTI Acceptance*. Los Angeles, CA: The Williams Institute, 2023.

- Over time, there has been significant progress in both SO and GIESC legal inclusion. That is, there has been a decline in the number of countries that are the least inclusive. According to the SO Legal Environment Index, 57% of countries in 1990 were the least inclusive compared to 30% of countries in 2023. According to the GIESC Legal Environment Index, 90% of countries were the least inclusive in 1990 compared to 51% of countries in 2023.
- The likelihood that a country will pass some GIESC protections doubles if a country decriminalizes homosexuality and is 6.6 times more likely if a country has full SO protections.
- Countries that have the least SO protections are more likely to gain some GIESC protections in 10 years on average, whereas countries that have at least decriminalized homosexuality are more likely to gain some GIESC protections in five years on average.
- Stakeholders should carefully guard law and policy gains, though evidence suggests that once legal change occurs, it is difficult to undo.
- Further research should examine:
  - The complex interconnections between institutions, acceptance, and policy development.
  - The specific conditions under which SO and GIESC policy developments are most interconnected and when they may develop asymmetrically.
  - Pathways of development for other SO-related policies, including hate crime laws, regulations of so-called conversion therapy practices, reproductive rights of same-sex couples, and legal protections for political participation of candidates based on their sexual orientation.
  - Pathways of development for other GIESC-related policies, including legal protections against discrimination in sports for transgender or intersex people; legal protections for transgender or intersex people serving in the military; age restrictions on accessing legal gender recognition; reproductive rights for transgender, non-binary, and intersex people; legal protections against nonconsensual genital surgeries and other harmful medical practices on intersex children; and legal protections for political participation of transgender and intersex candidates.



## INTRODUCTION

Lesbian, gay, bisexual, transgender, and intersex (LGBTI) people live across the globe. However, the extent to which sexual and gender diversity is socially accepted and LGBTI people are included in a country's laws and policies remains vastly uneven. While the past four decades have brought an expansion of LGBTI rights in many regions—consensual same-sex conduct is now decriminalized in a majority of countries, and thirty-five UN member states have marriage equality—efforts to halt progress or roll back advances have gained traction. For example, recent bills in Uganda and Russia have further criminalized LGBTI identities, and proposals in Ghana, Kenya, Poland, and the United States, among others, have similarly sought to restrict the rights of LGBTI individuals.<sup>3</sup>

Both public attitudes and legal inclusion have important implications for development. Anti-LGBTI stigma can lead to discriminatory practices and laws that promote violence, poor health outcomes, weaker institutions of governance, and lower economic productivity.<sup>4</sup> Conversely, societies that are more socially accepting and inclusive of LGBTI people tend to be more democratic and economically prosperous.<sup>5</sup> Development stakeholders, including international organizations, development agencies, national governments, and civil society, have an incentive to advance laws and policies that promote inclusion and protect individuals from discrimination on the basis of sexual orientation, gender identity/expression, or sex characteristics (SOGIESC). Ongoing efforts to measure progress on commitments to the Sustainable Development Goals and global convenings such as the forthcoming Summit of the Future create new opportunities to ensure policies and practices are inclusive of all individuals regardless of their SOGIESC.

That said, public policy tends to develop incrementally, and laws that address LGBTI rights can take a variety of forms and center on a range of issues. A clear understanding of the pathways through which a country can become more protective of LGBTI people is important for designing and implementing strategies of change that support inclusive development. It is also key to anticipating where there may be vulnerabilities to regression or rolling back of rights attained. This study uses a novel dataset, the Legal Environment Index (LEI), and a first-of-its-kind statistical approach to understand the various pathways through which countries become more or less protective of LGBTI people.

We also rely on the LGBTI Global Acceptance Index (GAI) and the LEI to assess the relationship between social acceptance of LGBTI people and their legal inclusion, providing a substantial update

<sup>3</sup> See, e.g., Latif Dahir, "Ugandan Court Upholds Draconian Anti-Gay Law," *The New York Times*, accessed April 8, 2024, <https://www.nytimes.com/2024/04/03/world/africa/uganda-anti-gay-law.html>; Astha Rajvanshi, "What to Know About Russia's So-Called 'Gay Propaganda' Bill," *TIME*, November 24, 2022, <https://time.com/6236822/russia-gay-propaganda-law-discrimination/>; Annette Choi, "Record Number of Anti-LGBTQ Bills Were Introduced in 2023," CNN, accessed April 8, 2024, <https://www.cnn.com/politics/anti-lgbtq-plus-state-bill-rights-dg/index.html>.

<sup>4</sup> M.V. Lee Badgett, Kees Waaldijk, and Yana Van Der Meulen Rodgers, "The Relationship between LGBT Inclusion and Economic Development: Macro-Level Evidence," *World Development* 120 (August 2019): 1–14, <https://doi.org/10.1016/j.worlddev.2019.03.011>.

<sup>5</sup> Andrew R. Flores, Miguel Fuentes Carreño, and Ari Shaw, *Democratic Backsliding and LGBTI Acceptance*. Los Angeles, CA: The Williams Institute, 2023.

to a previous report that only examined the inclusion of sexual orientation (SO) protections.<sup>6</sup> This update includes a more expansive documentation of SO protections (increasing from data on 7 to 12 categories of protections) along with an entirely new dataset on gender identity, gender expression, and sex characteristics (GIESC) protections (with data on 20 categories of protections).

We first describe the process through which we scored countries in their SO and GIESC protections to construct the LEI. We compare our resultant measures to other available metrics, and we revisit the links between social acceptance of LGBTI people and SO and GIESC legal inclusion. We next describe the relationships among the GAI, SO protections, and GIESC protections. Then, we rely on multiple regressions to assess our findings, controlling for alternative explanations. Finally, we detail how some of our findings are moderated by other country characteristics.

## SOGIESC LEGAL PROTECTIONS AND POLICY DEVELOPMENT: A HIDDEN-MARKOV MODEL APPROACH

We used the ILGA World Database to collect data on SOGIESC legal protections at the country level. The ILGA World Database gathers data on 193 UN Member states and 47 non-independent territories across 16 legal framework topics regarding SOGIESC (e.g., criminalization of same-sex activity, protection against discrimination in housing, adoption by same-sex couples, etc.).<sup>7</sup> Data were available from 1990 to 2023. To produce a consistent dataset that would be comparable across time, each legal framework topic was turned into a binary response for each year (i.e., a year was scored as 1 if the legal framework existed at that time in a given country and 0 if it did not). Since our dataset began in 1990, any legal changes that occurred prior to that date were scored as 1 from 1990 onwards.

The following areas of law were selected because (1) they correspond to contested legal norms related to SOGIESC, (2) they each relate to development outcomes and key human rights policies, and (3) data about them were available.

### We collected data on the following SO protections:

- Decriminalization of homosexuality
- Civil union recognition for same-sex couples
- Marriage recognition for same-sex couples
- Joint adoptions for same-sex couples
- Second-parent adoptions for same-sex couples
- Ability of LGB people to openly serve in the military
- General sexual orientation nondiscrimination protections
- Explicit sexual orientation nondiscrimination protections in employment
- Explicit sexual orientation nondiscrimination protections in public accommodations
- Explicit sexual orientation nondiscrimination protections in health care
- Explicit sexual orientation nondiscrimination protections in education
- Explicit sexual orientation nondiscrimination protections in housing

<sup>6</sup> Andrew R. Flores and Andrew Park, *Examining the Relationship between Social Acceptance of LGBT People and Legal Inclusion of Sexual Minorities*. Los Angeles, CA: The Williams Institute, 2018.

<sup>7</sup> ILGA World Database, <https://database.ilga.org/en>.

**We also collected data on the following GIESC protections:**

- General gender identity nondiscrimination protections
- General gender expression nondiscrimination protections
- General sex characteristics nondiscrimination protections
- Explicit gender identity nondiscrimination protections in employment
- Explicit gender expression nondiscrimination protections in employment
- Explicit sex characteristics nondiscrimination protections in employment
- Explicit gender identity nondiscrimination protections in health care
- Explicit gender expression nondiscrimination protections in health care
- Explicit sex characteristics nondiscrimination protections in health care
- Explicit gender identity nondiscrimination protections in education
- Explicit gender expression nondiscrimination protections in education
- Explicit sex characteristics nondiscrimination protections in education
- Explicit gender identity nondiscrimination protections in housing
- Explicit gender expression nondiscrimination protections in housing
- Explicit sex characteristics nondiscrimination protections in housing
- Explicit protections against harmful medical practices on intersex children
- Explicit legal procedure to change gender marker
- Explicit legal procedure for gender recognition
- Medicalization not required for gender recognition
- Explicit legal procedure for self-identification

We grouped GIESC policies together because prior research suggests that the policy development for the legal inclusion of transgender and gender-diverse people is connected to policy development impacting intersex people, as both advocate for self-determination over the body, particularly expanding beyond a medico-legal approach.<sup>8</sup> Also, these groups are often jointly targeted by anti-“gender ideology” movements despite differences in lived experiences they may have with respect to gender identity and expression.<sup>9</sup> We further note that intersex persons continue to fight for bodily autonomy, specifically against nonconsensual genital surgeries and other harmful medical practices in infancy and childhood.

<sup>8</sup> See, e.g., Marijke Naezer et al., “‘We Just Want the Best for This Child’: Contestations of Intersex/DSD and Transgender Healthcare Interventions,” *Journal of Gender Studies* 30, no. 7 (October 3, 2021): 830–43, <https://doi.org/10.1080/09589236.2021.1881462>; Cary Gabriel Costello, “The Intersection of Transgender and Intersex Experiences,” in *The Rowman & Littlefield Handbook of Transgender Studies*, ed. J. E. Sumerau (London: Rowman & Littlefield, 2023), 67–83. [A notable exception to this link is the recent UN Human Rights Council resolution calling on states to](#) “combat discrimination, violence and harmful practices against persons with innate variations in sex characteristics and address their root causes,” which did not address the rights of transgender persons. See Reuters, “UN Rights Body Adopts First Resolution to Protect Rights of Intersex People,” *Reuters*, accessed May 13, 2024, <https://www.reuters.com/world/un-rights-body-adopts-first-resolution-protect-rights-intersex-people-2024-04-04/>.

<sup>9</sup> See, e.g., Pieter Cannoot and Sarah Ganty, “Protecting Trans, Non-Binary and Intersex Persons against Discrimination in EUA Law,” *European Equality Law Review*, no. 1 (2022): 51. In the United States, legislation targeting gender-affirming care for transgender youth has included explicit exceptions for medical procedures on children with variations in sex characteristics. See Anne Branigin, “Intersex Youth Are Also Hurt by Anti-Trans Laws, Advocates Say,” *The Washington Post*, accessed May 14, 2024, <https://www.washingtonpost.com/nation/2022/07/16/intersex-anti-trans-bills/>.

While the ILGA World database included data related to two aspects of legal gender recognition (legal procedures to amend a person's name and gender marker, respectively, on identity documents), we chose to further specify these protections by separating them into four types. Countries were first coded as to whether gender markers on birth certificates or other civil records could be legally changed. Then, we coded whether there was an established process through which the state would legally recognize the gender change. Third, we coded whether there are no medical prerequisites to legal gender recognition (e.g., undergoing surgery, hormone treatment, or psychological treatment). Finally, we coded whether legal gender recognition could be completed entirely based on self-identification. These distinctions were drawn given that, in some cases, gender marker changes are nominally possible due to legal loopholes, judicial rulings, or administrative processes governed by medical protocols. Still, there may not be established legal procedures to recognize gender identity changes.

In Egypt, for instance, the Health Ministry's code of ethics prohibits doctors from performing gender affirmation surgery without approval from a review committee, which only considers surgical intervention after two years of psychiatric evaluation and hormone treatment.<sup>10</sup> Nevertheless, Egypt has no formal process of legal gender recognition through which to change official documentation after medical interventions have occurred. Another example is Eswatini, where it is nominally possible to change a gender marker insofar as the law allows anyone above age 21 to apply for a change on the birth register. Nevertheless, in the absence of a formal process of legal gender recognition, the law is not clearly and consistently applied for transgender adults.<sup>11</sup> That said, adults 21 and older can, with certification by a medical practitioner, request a change in sex marker on the birth certificate for their children, suggesting it may be easier to obtain a gender marker change for transgender and intersex minors.

With SOGIESC policies from 1990-2023, we built an approach to understand pathways through which countries develop their SOGIESC legal inclusion. While existing indices score states based on a running tally of the percentage of SOGIESC protections,<sup>12</sup> we wanted to understand the likely trajectories countries take as they become more inclusive of LGBTI people.<sup>13</sup> For example, for a country that has no legal protections for LGBTI people, what are the likely steps a country takes to become more inclusive on the basis of SO or GIESC? To understand these trajectories, we relied on mathematical models used to understand transitions over time, often applied to transitions among different stages of people's lives.<sup>14</sup>

<sup>10</sup> Nora Noralla, "The 'Chromosome Trap': Anti-Trans Narratives and Policy in Egypt," *The Tahrir Institute for Middle East Policy* - (blog), June 29, 2023, <https://timep.org/2023/06/29/chromosome-trap-anti-trans-narratives-and-policy-in-egypt/>.

<sup>11</sup> Alex Müller and Talia Meer, "Legal Gender Recognition in Eswatini. An Analysis of Law and Policy in the Context of International Best Practice" (Southern Africa Litigation Centre / TransSwati, December 2022), 35, [https://www.southernafricalitigationcentre.org/wp-content/uploads/2022/12/Research-brief\\_Legal-gender-recognition-web.pdf](https://www.southernafricalitigationcentre.org/wp-content/uploads/2022/12/Research-brief_Legal-gender-recognition-web.pdf).

<sup>12</sup> See Susan Dicklitch-Nelson, Erin Maxwell, Erin Hallenbeck, and Stefanie Kasperek, *Global LGBT Human Rights, 2011-2020: A Decade of Progress? F&M Global Barometers Annual Report*. Lancaster, PA: Franklin & Marshall College, 2023.

<sup>13</sup> It is not that indices like the F&M Global Barometers are incorrect. Indeed, we expect our LEI indices to strongly correlate with existing indices.

<sup>14</sup> Jouni Helske, Satu Helske, Mohammed Saqr, Sonsoles López-Pernas, and Keefe Murphy, "A Modern Approach to Transition Analysis and Process Mining with Markov Models: A Tutorial with R." arxiv: 2309.08558, 2023. Available at: <https://arxiv.org/pdf/2309.08558.pdf>.

Hidden Markov models (HMMs) take observed data and estimate latent stages that observations transition in and out of. These latent stages are characterized by the combination of events that have occurred. For example, a person who transitions from being single to partnered to married and then to married with children may represent different latent stages in the life course that can be observed by different and numerous indicators (e.g., job type, educational attainment, and job tenure). Further, observations do not need to follow the same trajectory. HMMs uncover the numerous and potentially varied trajectories that observations develop over time.

HMMs do not have a pre-determined number of latent states, so we started our exploration by estimating numerous HMMs separately for SO policies and GIESC policies, varying the number of latent states.<sup>15</sup> We then evaluated model fit statistics to select the number of states that had the lowest Bayesian Information Criterion. With the number of states determined, we examined the character of these latent states, how likely it is that countries transition into and out of these various states, and the general validity of each model. We were initially agnostic about the direction the trajectories could take. That is, a country could reverse course in being inclusive of LGBTI people. However, this was quite uncommon in our observed data and in our estimated transitions across these latent states. With this in mind, we repeated all these steps but imposed unidirectional transitions.

For SO policies, we initially observed eight latent states.

- A. **Least Inclusive:** Countries that have practically no protections
- B. **Decriminalization:** Countries that have decriminalized homosexuality
- C. **Decriminalization Plus:** Countries that have decriminalized and very few may have added an additional protection
- D. **Employment Protections:** Countries that have decriminalized and have sexual orientation employment protections and very few may have added an additional protection
- E. **Decriminalization and Military:** Countries that have decriminalized and provided military protections and very few may have added an additional protection
- F. **Relationship Recognition Plus:** Countries that have decriminalized and have expanded relationship recognition, and some have also expanded nondiscrimination protections
- G. **Nondiscrimination Protections Plus:** Countries that have decriminalized and have expanded nondiscrimination protections, and some have also expanded relationship recognition
- H. **Most inclusive:** Countries that have generally included SO protections across the board, though some may not have adopted all the protections.

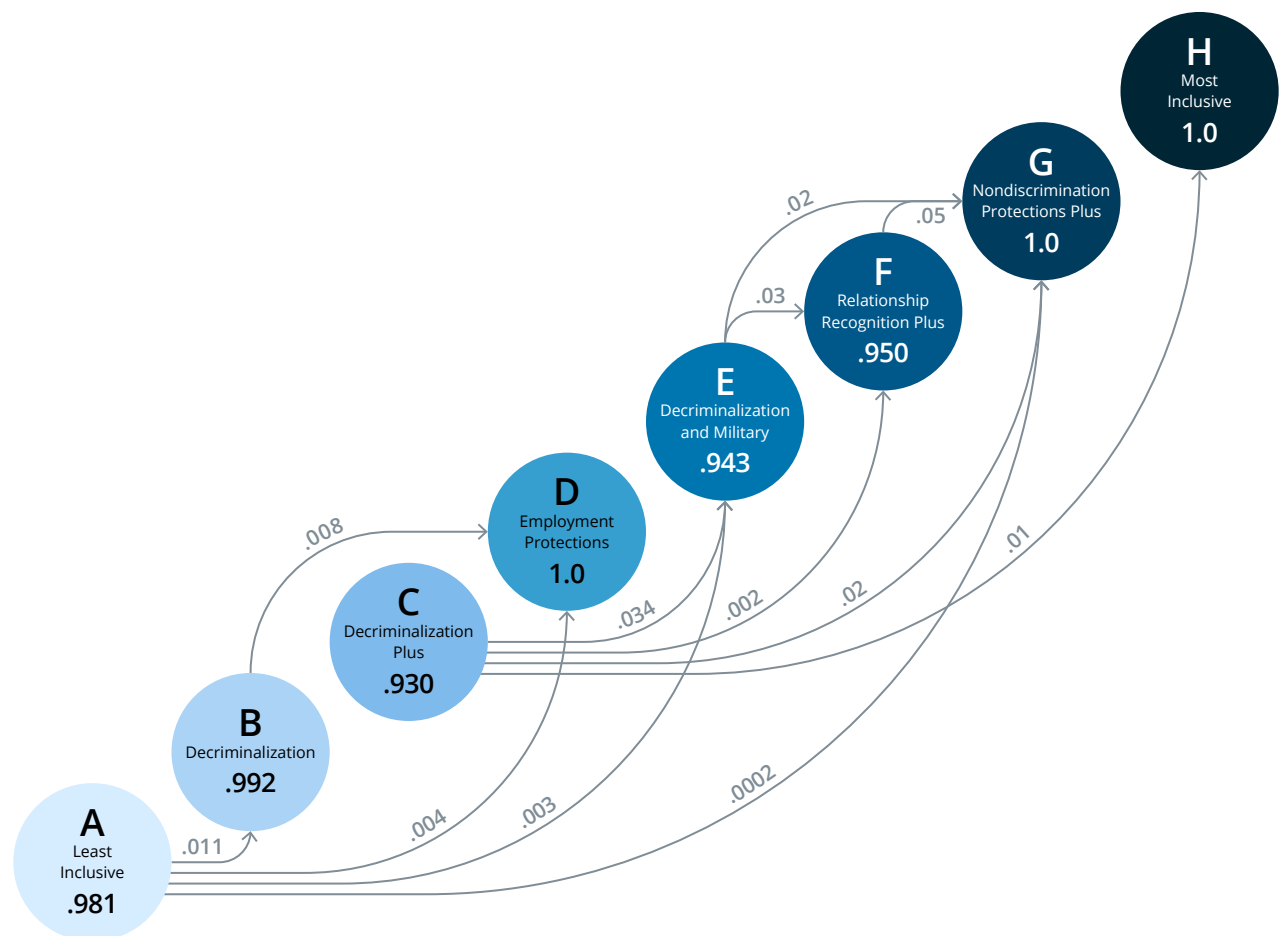
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<sup>15</sup> Jouni Helske and Satu Helske, "Mixture Hidden Markov Models for Social Sequence Data The seqHMM Package in R." *Journal of Statistical Software*, vol. 88, no. 3: 1-32, 2019. doi: 10.18637/jss.v088.i03.

Importantly, not all states transition in this order, and some countries do not transition at all. Figure 1 conveys how these states relate to one another. HMMs produce annual transition probabilities, which are interpreted as the probability that a country in one state will transition to another state for any given year. Due to the slowness of public policy, most countries stay in the latent state they are currently in. Note that states that do not transition into another state (D and H in Figure 1) means that they have not transitioned within this time frame. If we had a larger window of time, the HMM may reveal something different.

As can be seen in Figure 1, countries in the Least Inclusive state (state A) have varied transitions to either Decriminalization or Decriminalization Plus (states B and E) or some expanded nondiscrimination protections (states D and G). The results suggest that the Most Inclusive state (state H) emerged from a state of Decriminalization Plus (state C), and state C has no other path leading into it. This means that many countries that gradually developed in their inclusion likely ended up in Nondiscrimination Protections Plus (state G). About 57% of the countries started in state A, 13% in state B, 23% in state C, and 6% in state E in 1990. The paths in Figure 1 highlight the varied ways countries have developed in their inclusion of SO protections.

Figure 1. Latent states and annual transition probabilities (SO policies)



Note: Numbers represent annual transition probabilities, and numbers on the nodes are the annual probabilities that a country stays in a particular latent state.



The existence of different pathways toward more inclusion indicates that there is not a linear progression that will guarantee legal protections related to sexual orientation. However, the majority of countries began with few or no protections and continued along a pathway toward decriminalization in some combination with greater socioeconomic protections. In Colombia, for example, decriminalization of consensual same-sex relationships occurred in 1980, followed by a 1996 judicial ruling that prohibited discrimination in employment based on sexual orientation. Later, in 1999, gay and lesbian Colombians were allowed to openly serve in the military. In a series of cases between 2001-2011, the Colombian Constitutional Court prohibited discrimination based on sexual orientation across a number of socioeconomic rights (education, pensions, health insurance, inheritance), followed by the recognition of rights for same-sex couples, including joint adoption rights in 2015 and same-sex marriage in 2016.<sup>16</sup>

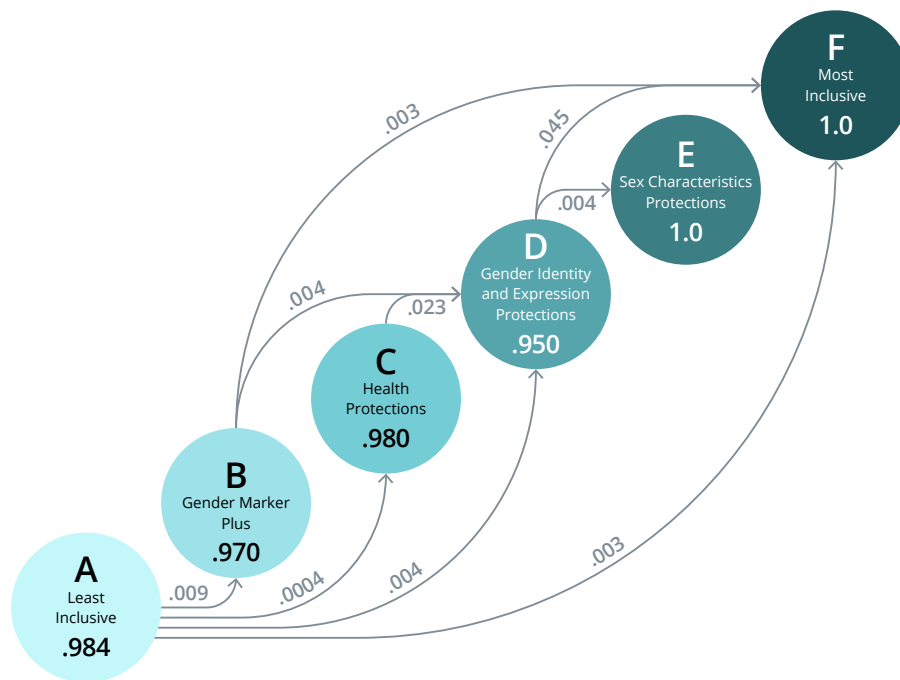
For GIESC policies, we initially observed six latent states.

- A. **Least Inclusive:** Countries that have no protections
- B. **Gender Markers Plus:** Countries that allow gender marker changes and possibly have formal legal gender recognition or nondiscrimination protections in health care.
- C. **Health Protections:** Countries that have GI and GE nondiscrimination protections to access health care
- D. **Gender Identity and Expression Protections:** Countries that have expanded some gender identity and expression nondiscrimination protections
- E. **Sex Characteristics Protections:** Countries that have nondiscrimination protections inclusive of sex characteristics (i.e., protective of intersex persons) or explicit protections against harmful medical practices on intersex children
- F. **Most Inclusive:** Countries that have generally (but not fully) inclusive GIESC protections

Just as with the analysis of SO policies, not all countries transition through each of these latent states in developing GIESC policies. Figure 2 characterizes these relationships in a similar path diagram as Figure 1. As in the previous figure, these relationships characterize how countries have developed only within our time window of 1990-2023. So, we may learn something different with more years of policy development. In Figure 2, there are numerous paths that lead countries to be the Most Inclusive of GIESC policies (state F). The most probable transition into Most Inclusive (state F) is from Gender Identity and Expression Protections (state D), which shows a gradual, incremental development toward inclusion from allowing changes in gender markers to ensuring nondiscrimination protections in health care.

<sup>16</sup> Esther Lucia Sánchez Barrera, "El movimiento LGBT (I) en Colombia: la voz de la diversidad de género. Logros, retos y desafíos," *Reflexión Política* 19, no. 38 (2017): 116–31. See also Mauricio Albarracín and Ari Shaw, "International Law and the Expansion of LGBTI Rights in Colombia and the Americas," *Oxford Handbook on International Law in the Americas* (Oxford: Oxford University Press, forthcoming).

Figure 2. Latent states and annual transition probabilities (GIESC policies)



Note: Numbers represent annual transition probabilities, and numbers on the nodes are the annual probabilities that a country stays in a particular latent state.

The case of Spain offers an example of this likely pathway towards more inclusive GIESC protections. In the late 1980s, Spanish law did not include protections on the basis of gender identity and gender expression. By the end of the next decade, parliament had expanded protections in healthcare, passing a law that decoupled gender reassignment surgeries from castration. In 2007, a new law was passed that allowed for name and sex marker changes on all official documents and registers. At the same time, the government repealed the obligation to undergo gender affirmation surgery prior to making such a request. Nevertheless, transgender people requesting changes to identity documents and registers needed to receive a “gender dysphoria” diagnosis and undergo two years of hormonal therapy.<sup>17</sup> In 2023, Spain passed a law allowing adults aged 18 and older to freely change their gender through an administrative process, legally depathologizing the gender identity recognition process.<sup>18</sup> It also included a ban on medically unnecessary surgeries on intersex minors.

With these HMMs, we were able to characterize the various latent states that countries take in their development of SOGIESC policies, and we were able to estimate how these states relate to one another. Thus, we observed various policy environments and changes from one environment to another. We extracted each country’s classification in these latent states for each year. Afterward, we

<sup>17</sup>Jordi Mas Grau, “From Self-Management to Depathologisation: The Evolution of Transgender Health Care and Rights in Spain between 1970 and 2020,” *Culture, Health & Sexuality* 24, no. 8 (August 1, 2022): 1094–1106, <https://doi.org/10.1080/13691058.2021.1919317>.

<sup>18</sup>AFP, “Ley Trans: Congreso de España Aprueba Norma Que Autoriza La Libre Autodeterminación de Género,” *El Comercio*, February 16, 2023, <https://elcomercio.pe/mundo/espana/ley-trans-congreso-de-espana-aprueba-norma-que-autoriza-la-libre-autodeterminacion-de-genero-ley-de-genero-podemos-irene-montero-pedro-sanchez-noticia/>.

relied on these states and how they relate to one another to create an ordered score of how inclusive each country is for LGBTI people. This formed the scoring of the SO LEI and the GIESC LEI.

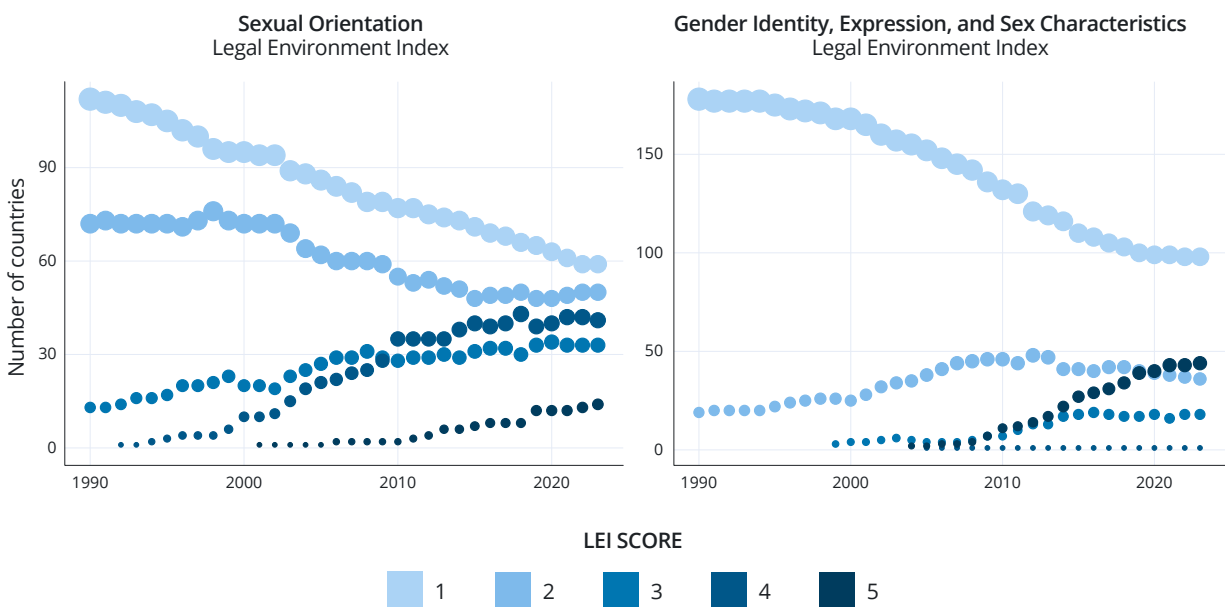
Table 1 summarizes the SO LEI and GIESC LEI that we developed from the results of the HMMs. These scores range from least inclusive (1) to most inclusive (5), though they differ in the meaning for SO and GIESC. Importantly, a score of 5 for the SO LEI are countries that have included all the protections in the SO policies (i.e., we subdivided the countries in state H with those that had all the SO protections as a distinct group), and a score of 5 for the GIESC LEI are the countries in state F, as none of the countries had all of the GIESC protections.

Table 1. LEI scores and descriptions

LEI SCORE	SO DESCRIPTION	GIESC DESCRIPTION
1	No protections or very rare	No protections at all
2	Decriminalization	Gender Marker and/or Health Protections
3	Decriminalization and at least one additional protective policy	Some gender identity/expression protections
4	Expanded protections	Transgender protections and sex characteristics protections
5	Full inclusion on all SO policies	Most inclusive across all GIESC policies

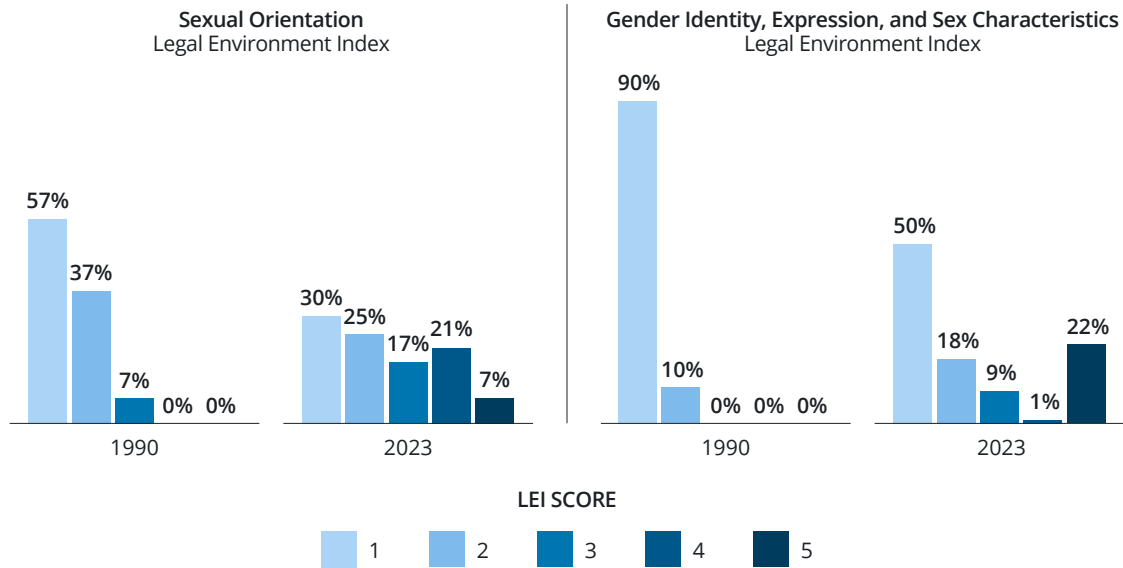
Figure 3 provides the trends summarizing the number of countries that were scored for the SO LEI and the GIESC LEI. In 1990, according to the SO LEI, 57% of countries were the least inclusive, 36% had decriminalized, and 7% had decriminalized and expanded some protections. In 1990, according to the GIESC LEI, 90% of countries were the least inclusive, and 10% of countries had gender marker and/or medical insurance protections. Over time, there has been significant progress in both SO and GIESC legal inclusion. That is, there has been a decline in the number of countries that are the least inclusive for both the SO LEI and GIESC LEI. In 2023, for the SO LEI, 30% of countries were the least inclusive, 25% had decriminalized, 17% had decriminalized and expanded some protection, 21% had expanded protections, and 7% had all protections in the SO policies. In 2023, for the GIESC LEI, 51% were the least inclusive, 18% had gender marker and/or medical insurance protections, 9% had some GIESC protections, 0.5% had added sex characteristics protections, and 7% had the most inclusive across all the GIESC policies.

Figure 3. Trends in LEI scores, 1990-2023



Note: The size of the points reflects the proportion of countries in that category.

Figure 4. Distribution of LEI scores, 1990 and 2023



Note: Percentage of the total countries scored by the LEI .

Figure 5. Legal Environment Indices, 2023

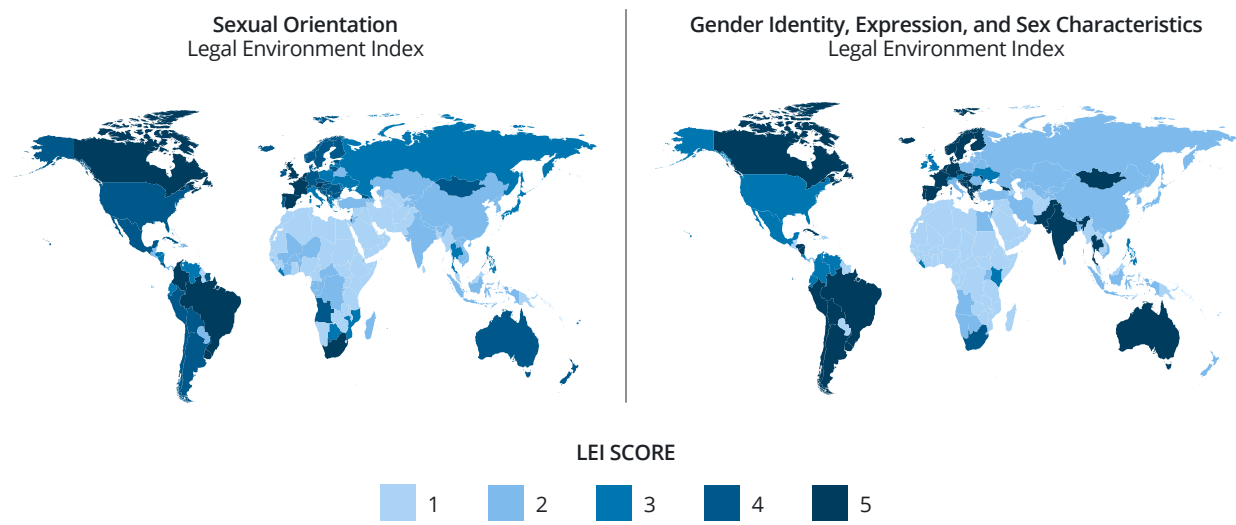


Figure 5 contains a map showing how various countries worldwide scored in their SOGEISC protections in 2023.

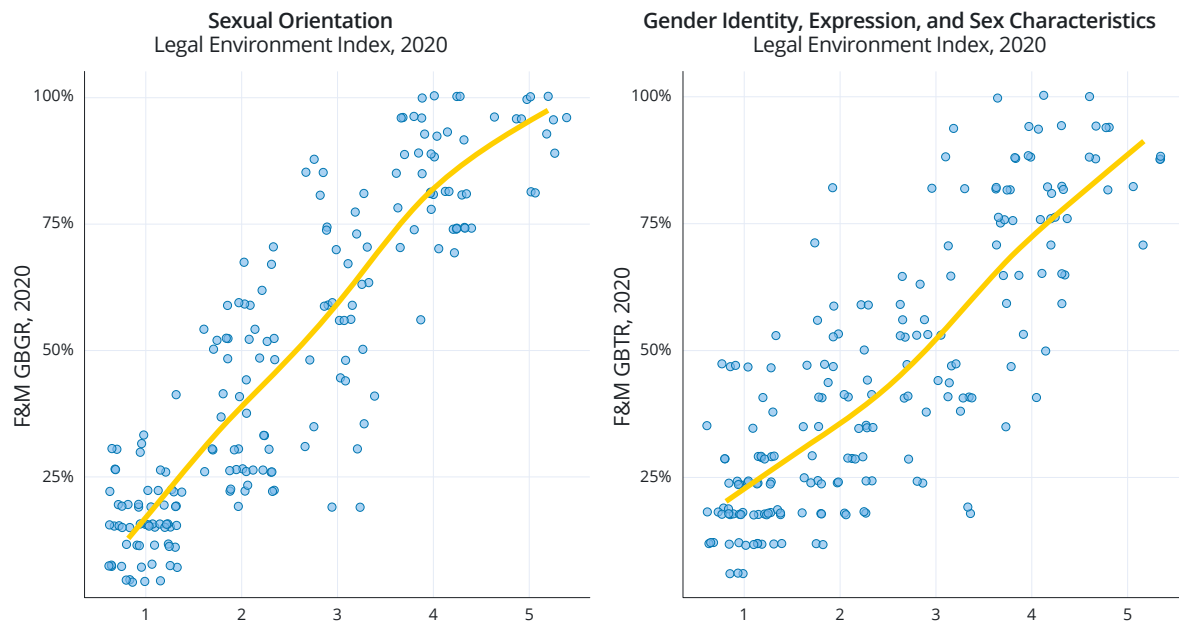
The LEI estimates were checked for consistency with other indices of SOGEISC protections. The Franklin & Marshall Global Barometers encompass protections, socioeconomic rights, and societal persecution.<sup>19</sup> There are two barometers: the Global Barometer of Gay Rights (GBGR) and the Global Barometer of Transgender Rights (GBTR). The LEI scores are compared to the barometers in Figure 5. There was a strong correlation between the LEI SO and the GBGR, and there was a slightly weaker correlation between the LEI GIESC and the GBTR, which may be related to the GBTR, not including intersex people or people with differences in sex development.<sup>20</sup> The strength of these relationships provides some validity to our approach, and the LEI estimates extend the time series to 1990.<sup>21</sup>

<sup>19</sup> Susan Dicklith-Nelson, Scottie Thompson Buckland, Berwood Yost, and Indira Rahman, *Global LGBT Human Rights Trends: 2011-2017 Data for 197 Countries*. Lancaster, PA: Franklin & Marshall College, 2019.

<sup>20</sup> The correlation only slightly increases to 0.76 if we rescale the LEI GIESC to not consider sex characteristics.

<sup>21</sup> The barometers presently document 2011-2020.

Figure 6. Comparing the LEI scores to the F&amp;M barometers, 2020

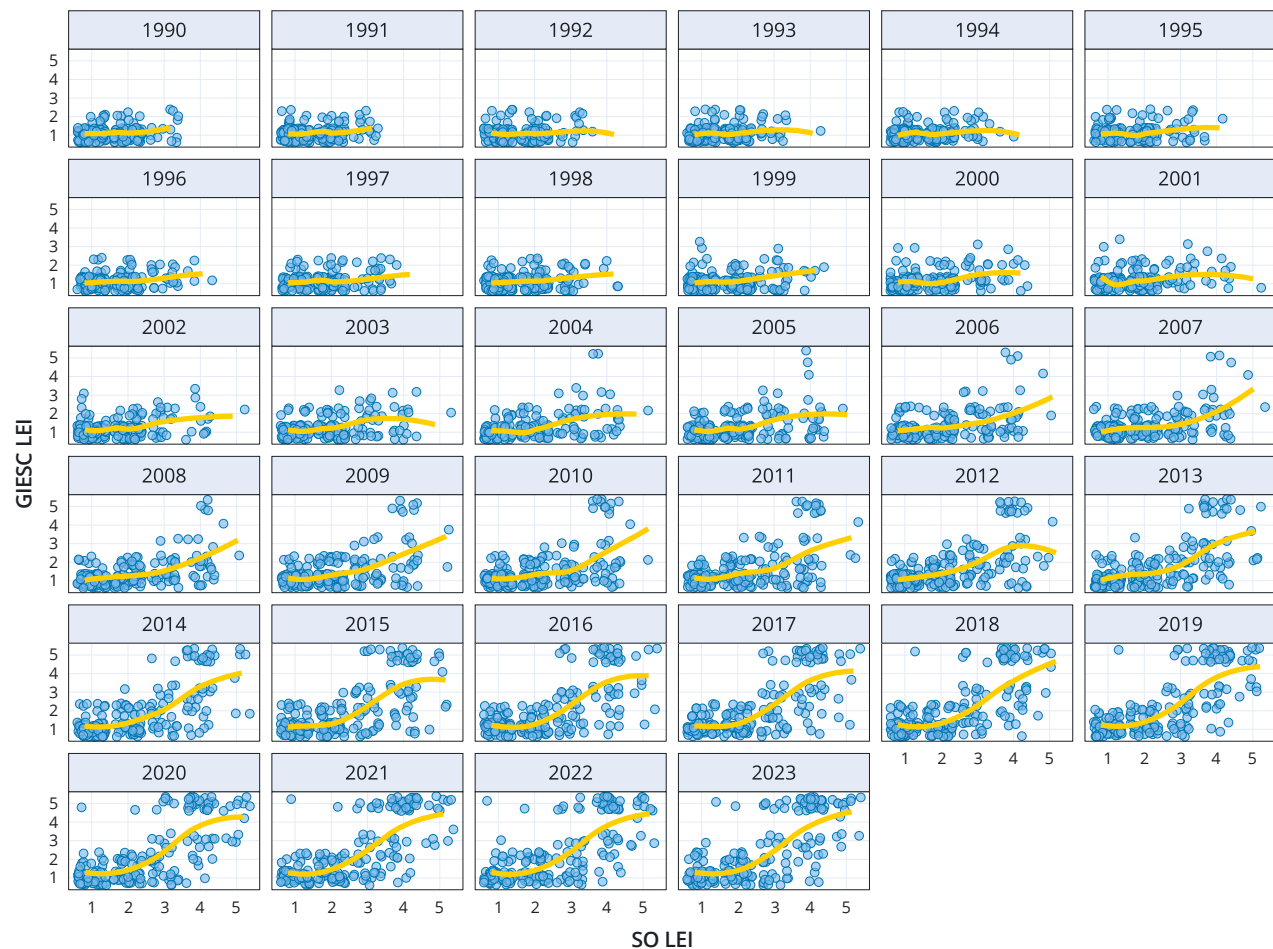


Note: Points are jittered, and lines are smoothed by generalized additive models.

We now compare the SO LEI to the GIESC LEI to examine the relationship between changes in SO and GIESC protections, as there is a moderately strong correlation between the two LEI scores. Figure 7 shows how the correlations have changed over the years. In the 1990s, there were weak correlations ranging from 0.15 to 0.30, and the strength of the relationship grew stronger, particularly in the late 2000s through 2023. The correlation between the SO LEI and GIESC LEI in 2023 was . While not perfect, this indicates a stronger expectation that countries that are more inclusive of SO protections are likely to have more GIESC protection and vice-versa. A Cox proportional hazards model suggests that the likelihood a country will pass some GIESC protections (i.e., GIESC LEI > 1) doubles if a country decriminalizes homosexuality and is 6.6 times more likely if a country has full SO protections. Put another way, countries that have the least SO protections are more likely to gain some GIESC protections in 10 years on average, whereas countries that have decriminalized homosexuality are more likely to gain some GIESC protections in 5 years on average. Also notable in Figure 7 is the gradual growth in LEI scores across both metrics and countries, which appear more stratified as time goes on.



Figure 7. Comparing the SO LEI to the GIESC LEI by year



Note: Points are jittered, and lines are smoothed by generalized additive models.

The expectation that countries have more inclusive protections for one set of rights when the other rights gradually expand is important for thinking about the trajectory of LGBTI rights strategies that some countries or advocacy movements may undertake. For example, research suggests that the 2018 decriminalization of consensual homosexual activities between adults in India likely heralded the progression of gender-related rights.<sup>22</sup> In 2019, the government passed an amended version of the Transgender Persons Act, first formulated in 2014, which included more extensive protections for transgender and non-binary Indians in accessing education, employment, healthcare, and housing, among other rights.<sup>23</sup> That said, SO and GIESC protections may develop asymmetrically in other

<sup>22</sup> Shamayeta Bhattacharya, Debarchana Ghosh, and Bandana Purkayastha, “Transgender Persons (Protection of Rights) Act’ of India: An Analysis of Substantive Access to Rights of a Transgender Community,” *Journal of Human Rights Practice* 14, no. 2 (July 1, 2022): 679, <https://doi.org/10.1093/jhuman/huac004>; Aniruddha Dutta, “The End of Criminality? The Synecdochic Symbolism of Sec. 377,” *NUJS L. Rev.* 13 (2020): 412.

<sup>23</sup> Shamayeta Bhattacharya, Debarchana Ghosh, and Bandana Purkayastha, “Transgender Persons (Protection of Rights) Act’ of India: An Analysis of Substantive Access to Rights of a Transgender Community,” *Journal of Human Rights Practice* 14, no. 2 (July 1, 2022): 679, <https://doi.org/10.1093/jhuman/huac004>; Aniruddha Dutta, “The End of Criminality? The Synecdochic Symbolism of Sec. 377,” *NUJS L. Rev.* 13 (2020): 412.

country contexts. For example, Pakistan has retained criminal prohibitions on consensual same-sex activity since independence. At the same time, favorable judicial rulings and legislation, such as the Transgender Persons (Protection of Rights Act) of 2018, have expanded rights for transgender and non-binary individuals, including gender marker changes and nondiscrimination protections.<sup>24</sup>

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<sup>24</sup> Myles Williamson, "A Global Analysis of Transgender Rights: Introducing the Trans Rights Indicator Project (TRIP)," *Perspectives on Politics*, October 17, 2023, 1–20, <https://doi.org/10.1017/S1537592723002827>.

## RESULTS

### THE RELATIONSHIP BETWEEN THE SO LEI, GIESC LEI, AND LGBTI GLOBAL ACCEPTANCE INDEX

The LGBTI GAI is a composite scale of regional and global social surveys that measure attitudes about LGBTI people, including general group attitudes and rights.<sup>25</sup> While the majority of the items to create the scale rely on attitudes toward lesbians, gay men, same-sex couples, and homosexuality, the scale includes items covering transgender and intersex people and their rights. It ranges from 0 (very negative attitudes about LGBTI people and rights) to 10 (very favorable attitudes about LGBTI people and rights). The GAI tends to be more broadly distributed for the less accepting countries than the most accepting countries, where a score of 6 is equivalent to 30% of a country's adult population who think that homosexuality is "not wrong at all," relative to "sometimes wrong," "almost always wrong," and "always wrong."

Figure 8 shows the relationship between the GAI and the SO LEI by year.<sup>26</sup> While there was always a positive correlation between the GAI and SO LEI, the relationship changed over the years. In 1990-2000, there appeared to be a largely linear relationship between the GAI and SO LEI. Since 2001, there appears to be a flattening at the lower end of the GAI as it relates to the SO LEI, suggesting that there may be a tipping point when societal acceptance appears to be more strongly related to SO protections in a country. This tipping point is near the midpoint of the GAI.

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<sup>25</sup> Andrew R. Flores, *Social Acceptance of LGBTI People in 175 Countries and Locations, 1981-2020*. Los Angeles, CA: The Williams Institute, 2021.

<sup>26</sup> Note the GAI is updated to 2020, so we restrict these analyses to 1990-2020.

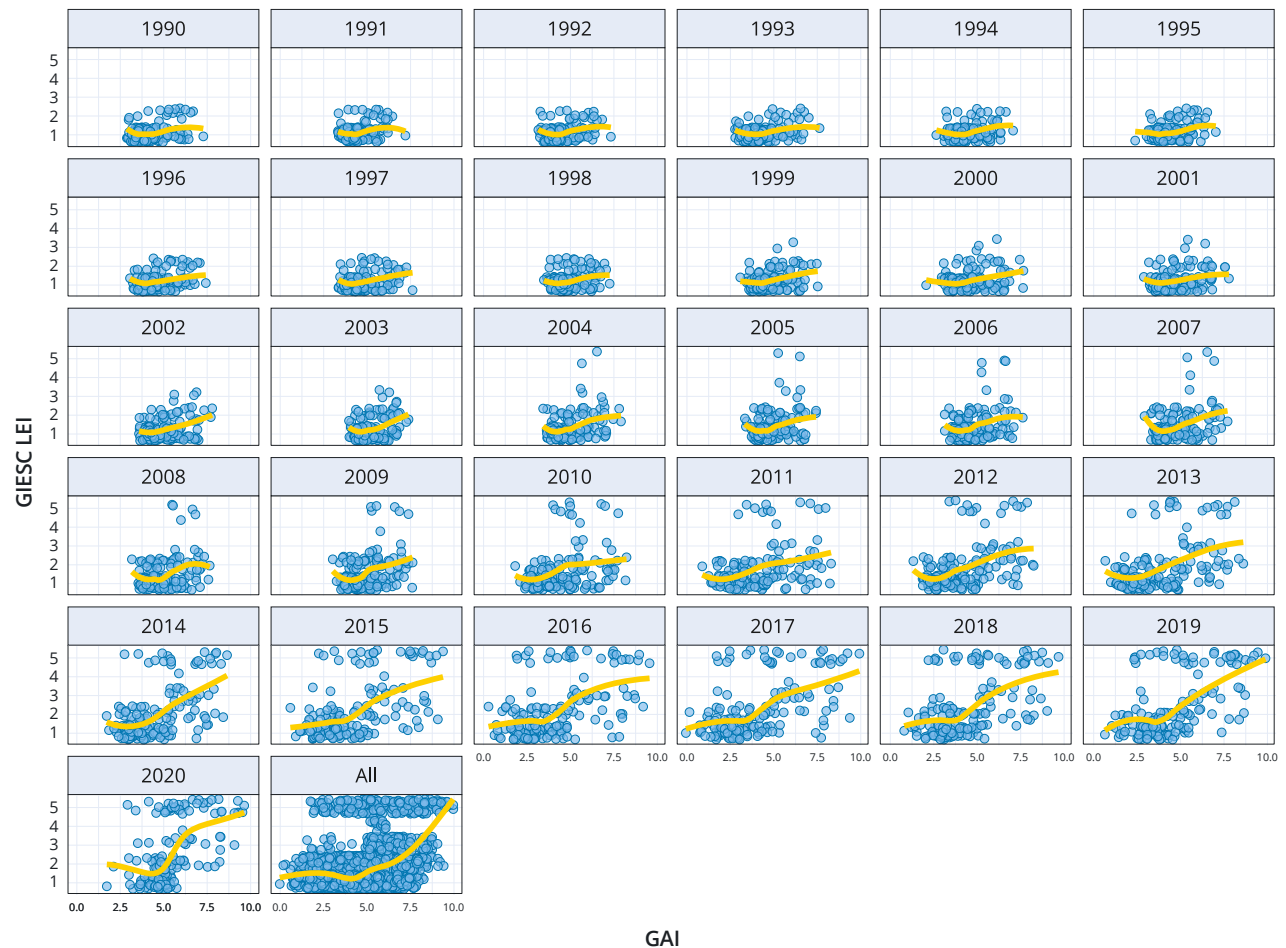
Figure 8. Relating the GAI to the SO LEI by Year



Note: Lines are smoothed by generalized additive models.

Figure 9 shows the relationship between the GAI and GIESC LEI scores by year. The relationship was quite weak in the 1990s but started trending positively beginning in the 2000s. The relationship increasingly grew stronger over time. However, the relationship between the GAI and GIESC LEI does not appear as strong as the relationship between the GAI and the SO LEI. The relationships in 2019 and 2020 are the strongest and also show a similar tipping point in the relationship between the GAI and GIESC LEI.

Figure 9. Relating the GAI to the LEI GIESC by year



Note: Lines are smoothed by generalized additive models.

The general distribution of the LEI scores follows a count distribution. In other words, there are generally a large number of LEI scores at 1 and a decreasing number of LEI scores at 5. While this dynamic does change over time (see Figure 3), this type of distribution suggests that a model taking this type of distribution into account is likely best. Further, when trying to understand between-country changes in social acceptance and its relationship to LEI scores, general trends in both increasing acceptance and increasing SOGIESC protections should be considered.

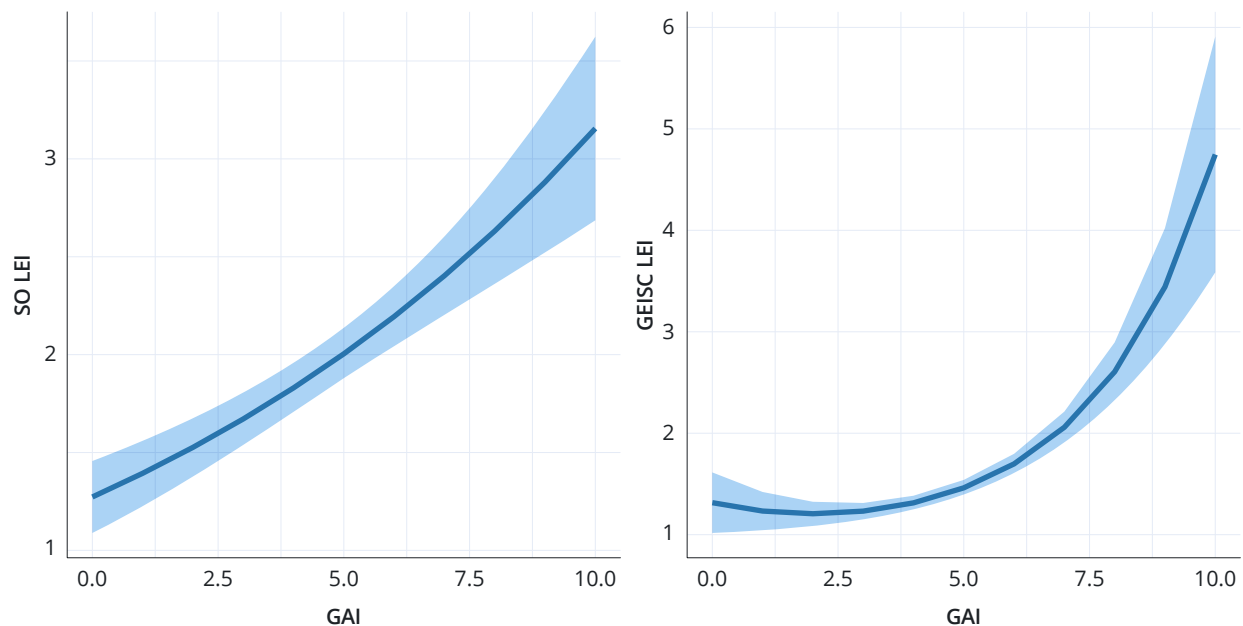
Figure 10 provides predictions from a random-effects model to understand between-country variation in GAI and LEI scores, controlling for a yearly time trend.<sup>27</sup> Based on the general trends we observed over time (Figures 8 and 9), the GAI is linearly related to the SO LEI and curvilinearly related to the GIESC LEI.<sup>28</sup> Based on these predictions, areas with low acceptance are predicted to have the lowest SO LEI score, while those that are most accepting are predicted to have an SO LEI score of 3.

<sup>27</sup> Controlling for the time trend will reduce the effect that LEI scores and GAI are trending in this timeframe. Without accounting for the trend, the estimated relationships may be upwardly biased by relationship capturing a common cause (i.e., the trend) that might confound the relationship between the GAI and the LEI.

<sup>28</sup> A curvilinear model was considered for the SO LEI, but model tests suggested that a linear relationship fit the data as well.

The GAI is positively related, though non-linearly, to the GIESC LEI. A GAI score near 5 appears to be the moment where countries are likely to have higher GIESC LEI scores, that is, more legal inclusion on the basis of GIESC, with countries that are most accepting scoring the maximum of the GIESC LEI. Both relationships are statistically significant and indicate that acceptance matters for the legal inclusion of LGBTI people. These results hold after controlling for measures of liberal democracy, institutional support for the rule of law, informational globalization, GDP per capita, and population size.

**Figure 10. Predicted relationship between the GAI and LEI, 1990-2020**



Note: 95% confidence intervals represented by shaded region.

It is instructive for policymakers and other stakeholders to understand these changes over time. Even if the precise reasons for changes in social acceptance are unknown, this analysis reveals that a baseline level of social acceptance is likely necessary for legal change. In other words, a minimal level of support for LGBTI people and their rights (i.e., a GAI score of around 5) may be a precondition for supporting more formal transformations in law and policy.<sup>29</sup>

<sup>29</sup> Cevat G Aksoy et al., “Do Laws Shape Attitudes? Evidence from Same-Sex Relationship Recognition Policies in Europe,” *Institute of Labor Economics*, no. 11743 (2018), <https://docs.iza.org/dp11743.pdf>.

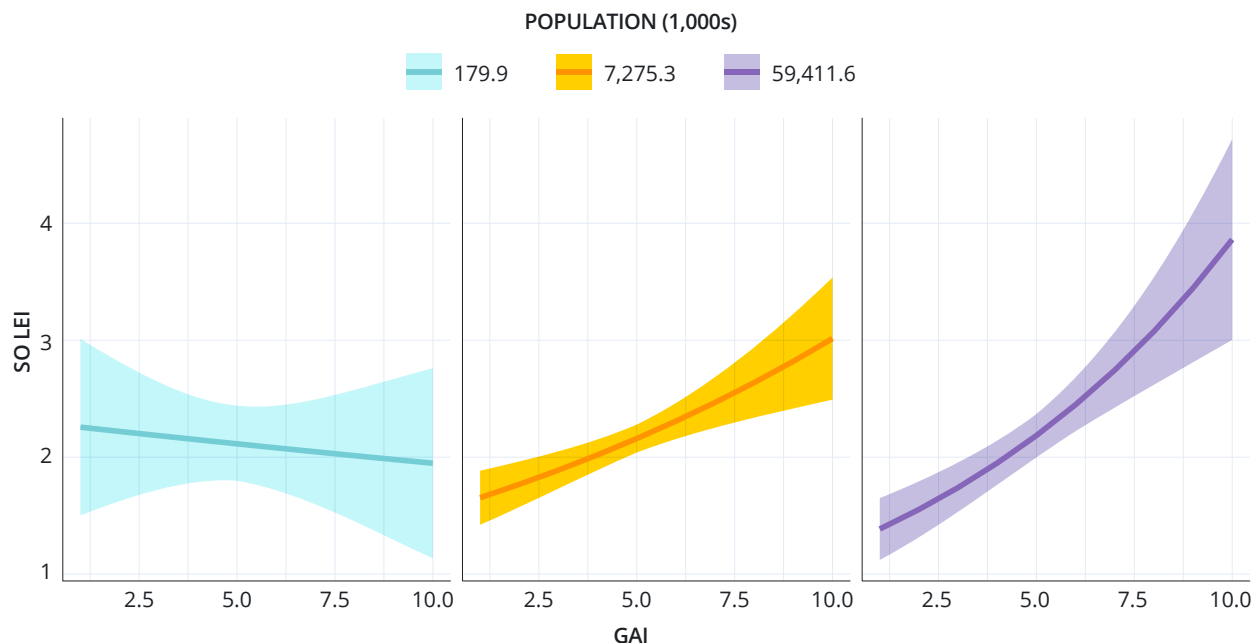


## COUNTRY CHARACTERISTICS THAT INFLUENCE THE RELATIONSHIP BETWEEN THE GAI AND LEI

Exploratory models examined whether country characteristics affected the relationships that were found between the GAI and LEIs. The patterns that emerged as statistically significant are presented. Note that these patterns are suggestive of relationships and that these were exploratory.<sup>30</sup>

For the SO LEI, the only country characteristic that emerged to change the relationship between acceptance and protections was the population size of the country. Figure 11 shows the relationship between the GAI and SO LEI at varying country population sizes.<sup>31</sup> Smaller countries tend to have little relationship between the GAI and SO LEI, meaning that as acceptance increases in smaller countries, there is little-to-no expected change in SO policies. The relationship between the GAI and SO LEI gets stronger as population size increases.

**Figure 11. The relationship between GAI scores and SO LEI scores by country population size**



Note: 95% confidence intervals are represented by the shaded region.

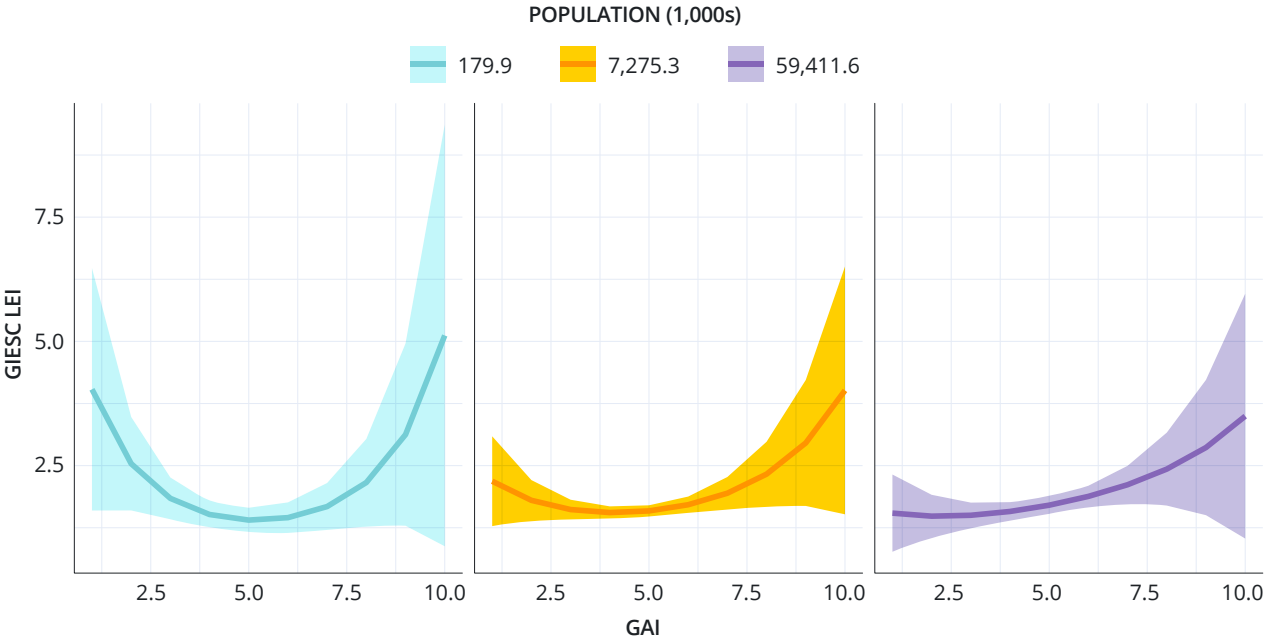
There were more country characteristics that altered the relationship between the GAI and the GIESC LEI. However, these largely have to do with the shape and clarity of the relationships observed—that is, relationships became less statistically noisy and more clearly understood across country characteristics. Figure 12 highlights this pattern with the relationship moderated by population size. While the shape of the relationship is quite similar, less populated countries have much more unstable estimates of the relationship between the GAI and GIESC LEI, and more populated countries

<sup>30</sup> We specifically considered the V-DEM Liberal Democracy Index, World Bank Rule of Law index, the KOFI Globalisation Index, GDP per capita, and population size.

<sup>31</sup> We varied the population size to be at the 10th percentile, median, and 90th percentile in our panel dataset on the log-scale.

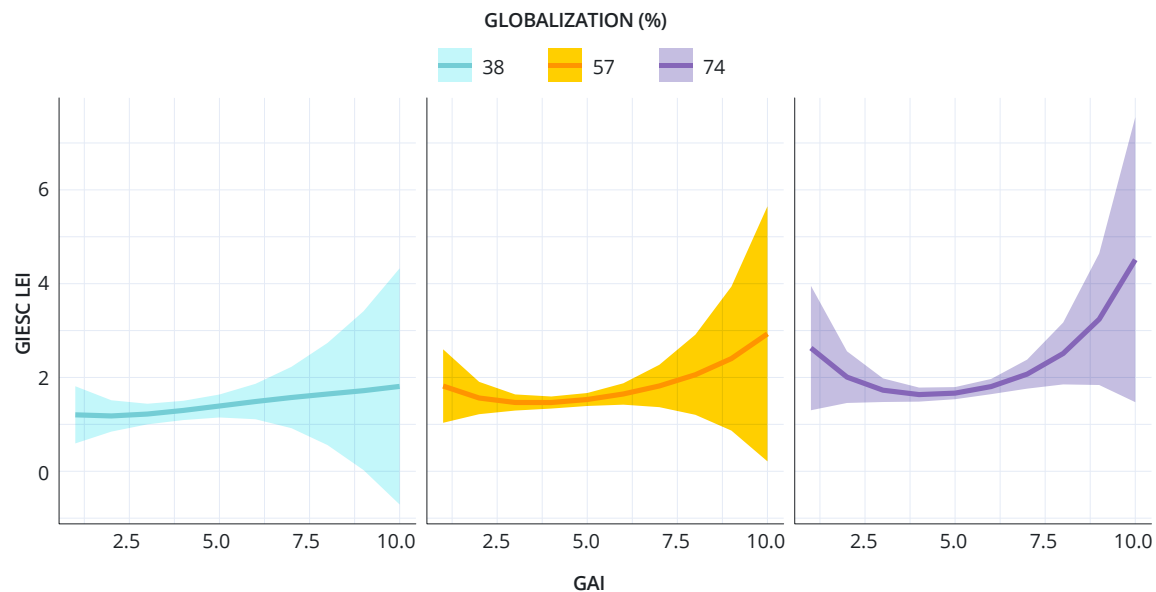
have much more stable estimates. Thus, we are more confident of the relationship between the GAI and GIESC LEI as the country's population gets larger.

Figure 12. The relationship between the GAI and GIESC LEI scores by country population size



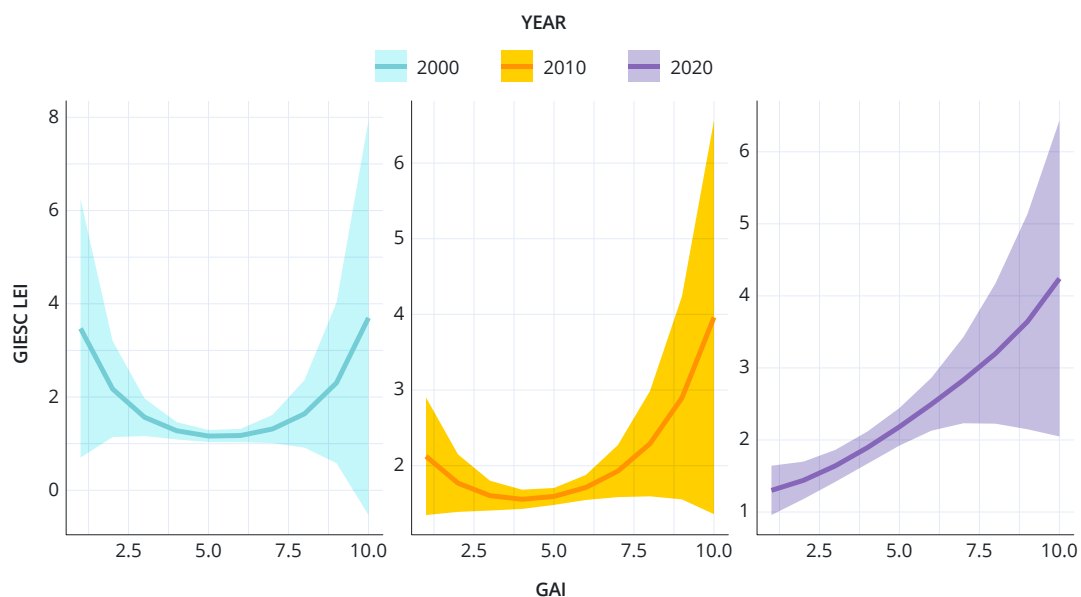
Note: 95% confidence intervals are represented by the shaded region.

We also found the GAI to be moderated by measures of how globalized a country is (i.e., the extent to which a country is economically, politically, and socially connected to other countries). Figure 13 shows the relationship between the GAI and GIESC LEI at varying levels of globalization. The GAI is positively associated with the GIESC LEI across all three contexts, but the relationship is stronger as countries become more globalized. In addition, there is a mean shift that happens as well. In other words, scores on the GIESC LEI increase as globalization increases.

**Figure 13. The relationship between the GAI and GIESC LEI score by country globalization (KOFI) levels**

Note: 95% confidence intervals are represented by the shaded region.

Finally, the relationship between the GAI and GIESC LEI has significantly changed over time. Figure 14 plots this relationship by decade. These findings show that the GAI and GIESC LEI had very weak relationships in the 2000s. While there appears to be a “U” shape, these patterns are statistically not different from a flat line. The relationship begins taking a more positive relationship in the 2010s, but it does not really emerge as a significant association until 2020. Thus, the relationship between the GAI and GIESC LEI scores is more recent. This may reflect recent policy development in GIESC policy protections and that global LGBTI advocacy has begun to push for comprehensive SOGEISC protections.

**Figure 14. The relationship between the GAI and GIESC LEI score by year**

Note: 95% confidence intervals are represented by the shaded region.

## DISCUSSION AND RECOMMENDATIONS

This report aimed to

- Document the ways countries have developed SOGIESC policy protections between 1990-2023.
- Create indices that score the legal environment for LGBTI people.
- Show the relationship between the social acceptance of LGBTI people and legal environments in which LGBTI people live.
- Explore some ways that country characteristics moderate the relationship between social acceptance and legal protections.

This report provides a first-of-its-kind statistical approach to understand the various pathways countries take toward expanding SOGIESC protections. While policy scores are informative and valuable, our approach helps consider how there is interdependence across policies as countries progress. In other words, the particular SOGIESC policies that develop in a country impact the likelihood that other specific SOGIESC policies will follow.

Notably, our models stopped at 2023 and provided sufficient evidence in this timeframe that countries did not distinctively backtrack on LGBTI inclusion. Put differently, once a country adopted a particular SOGIESC protection, it was highly unlikely that the protection would be repealed. This may change as time goes on, but any current repeals of SOGIESC protections clearly deviate from what the HMMs show has been the trend since 1990. That said, while laws may be “sticky” once passed, this finding does not negate the documented efforts by anti-LGBTI actors to roll back gains or to further enshrine SOGIESC-based discrimination into law.<sup>32</sup>

Furthermore, our policy scores provide a significant update to our previous report by expanding the scope of policies considered and including policies pertaining to gender identity, gender expression, and sex characteristics. A benefit of our approach is that we can continue documenting policies across countries going further back in time and repeat the analyses herein. Perhaps understanding the trajectory from 1980 to 2023 would reveal even more major junctures and transitions countries have taken in their SOGIESC policy development.

Interestingly, and contrary to the previous version of this report, we found fewer institutional characteristics that moderated the relationship between the GAI and LEI. We found population size, globalization, and time to matter, while institutional adherence to the rule of law, freedom of the press, and liberal democracy scores did not. There are potential explanations for this change. For one, recent gains for LGBTI rights in conservative non-democracies, such as Singapore, may have attenuated the relationship between social acceptance and legal inclusion. Also, to the extent that democratic backsliding is related to the degree to which a country’s society accepts LGBTI people,<sup>33</sup> it may be that changes in societal attitudes are more sensitive to changes in levels of democracy, whereas the development of laws and policies is more incremental. Thus, there may be more complex

<sup>32</sup> For example, the Anti-Homosexuality Act of 2023 further criminalized homosexuality in Uganda. Similar measures have been proposed in Ghana and Kenya.

<sup>33</sup> Andrew R. Flores, Miguel Fuentes Carreño, and Ari Shaw, *Democratic Backsliding and LGBTI Acceptance*. Los Angeles, CA: The Williams Institute, 2023.

interrelationships among institutions, acceptance, and policy development. Since these relationships were exploratory, other work should also examine these patterns with alternative metrics.

**Based on these findings, we recommend the following:**

- Given that social acceptance is strongly linked to legal inclusion and may reflect an important precondition, stakeholders should pursue dual strategies of cultivating public support for LGBTI people and rights in addition to pursuing legal change.
- Stakeholders seeking to expand SOGIESC protections should consider the various pathways through which policies are likely to develop.
  - SO protections generally advance by starting with decriminalization. Employment protections or broader nondiscrimination protections are likely the next policy development. However, some countries may advance with employment protections first.
  - GIESC protections are most likely to advance by first allowing for changing gender markers and establishing a formal legal gender recognition process or healthcare protections. Broader nondiscrimination protections on the basis of gender identity and expression are likely to be the next policy development.
- Stakeholders should carefully guard policy gains, though evidence suggests that once legal change occurs, it is difficult to undo.

**Further research should examine:**

- The complex interconnections between institutions, acceptance, and policy development.
- The specific conditions under which SO and GIESC policy developments are most interconnected and when they may develop asymmetrically.
- Pathways of development for other SO-related policies, including hate crime laws, regulations of so-called conversion therapy practices, reproductive rights of same-sex couples, and legal protections for political participation of candidates based on their sexual orientation.
- Pathways of development for other GIESC-related policies, including legal protections against discrimination in sports for transgender or intersex people; legal protections for transgender or intersex people serving in the military; age restrictions on accessing legal gender recognition; reproductive rights for transgender, non-binary, and intersex people; legal protections against nonconsensual genital surgeries and other harmful medical practices on intersex children; and legal protections for political participation of transgender and intersex candidates.

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## ABOUT THE WILLIAMS INSTITUTE

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RESEARCH THAT MATTERS





## APPENDIX 1. METHODOLOGY

In addition to the methods in the report to estimate the HMMs and produce the LEI scores, we ran numerous multiple regressions to understand the relationships between the GAI and the LEI estimates. The underlying of the LEI scores takes on a distribution with a large number of lower scores and a decreasing number of observations in more inclusive policy environments. While this pattern changes over time (see Figures 3 and 4), this gradual progression represents a distribution common to count data. While traditional linear regression may be robust to various types of dependent variables, count data can lead to misfit, heteroskedasticity, and non-normal errors. Further, traditional linear regression may predict outcomes beyond the bounds of LEI scores (e.g., LEI or LEI ). We therefore relied on Poisson regression models that model count data.

Since the data are panel data (i.e., repeated observations of countries over time), panel data methods were used. Often, there are two options for treating the repeated units (i.e., countries) in a panel data model. One way is to use a fixed effects (FE) model, which holds constant all static features of countries to examine how within-country changes over time relate to outcomes. A drawback of the FE approach is that if variation in the explanatory variables or dependent variables does not vary, then cases are dropped. The other way is to use a random effects (RE) model, which is more often used to understand between-country change over time.<sup>34</sup> However, this comes with the added assumption that the REs are independent of the explanatory variables.

In the main report, we rely on Poisson models with REs. We control for year, the Liberal Democracy Index by V-Dem (v2x\_libdem),<sup>35</sup> the Rule of Law Estimate from the World Bank (rulelawestiamterlest),<sup>36</sup> the KOF Informational Globalisation Index (KOFInGI),<sup>37</sup> the GDP per capita (constant 2015 US\$) from the World Bank (GDPpercapitaconstant2015US),<sup>38</sup> and the population on the log scale from the World Bank (opopulationtotalsppoptotl).<sup>39</sup> These results are reported in Table S1. Figures of model predictions are created from models 1, 3, 4, and 6. Importantly, there is some item-missingness on these covariates, so our sample size drops, and the panel is slightly unbalanced.<sup>40</sup> To assess sensitivity of our choice of models with REs, we present in Table S2 results relying on models with two-ways FEs (both country and year). Our findings tend to remain the same, though the effect of the GAI on SO policies does not obtain statistical significance when controls are added.

<sup>34</sup> Models with REs can be seen as a compromise between FEs versus a pooled analysis that ignores repeated observations.

<sup>35</sup> Michael Coppedge et al., “V-Dem Codebook V13,” 2023, [https://www.v-dem.net/documents/24/codebook\\_v13.pdf](https://www.v-dem.net/documents/24/codebook_v13.pdf).

<sup>36</sup> Daniel Kaufmann, “Rule of Law: Estimate” (World Bank, 2010), <https://data.worldbank.org>.

<sup>37</sup> Swiss Economic Institute, “KOF Globalisation Index,” December 6, 2023, <https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html>.

<sup>38</sup> World Bank, “Sustainable Development Goals (SDGs),” 2022, [https://databank.worldbank.org/source/sustainable-development-goals-\(sdgs\)/Series/NY.GDP.PCAP.KD](https://databank.worldbank.org/source/sustainable-development-goals-(sdgs)/Series/NY.GDP.PCAP.KD).

<sup>39</sup> World Bank, “Population, Total - World,” 2022, <https://data.worldbank.org>.

<sup>40</sup> Some of this has to do with years of data available, as these analyses only begin in 1998.

Table A1. Poisson regression results with panel random effects

	(1)	(2)	(3)	(4)	(5)	(6)
	SO LEI	SO LEI	SO LEI	GIESC LEI	GIESC LEI	GIESC LEI
GAI	0.09 (0.01)***	0.08 (0.02)***	-0.29 (0.14)*	-0.09 (0.05)^	-0.04 (0.05)	-75.2 (27.2)**
GAI2	--	--	--	0.02 (0.004)***	0.02 (0.005)***	5.7 (2.6)*
V2xlibdem	--	0.46 (0.15)**	0.44 (0.15)**	--	-0.06 (0.16)	0.02 (0.16)
Rule of Law	--	-0.01 (0.05)	-0.01 (0.05)	--	0.11 (0.06)^	0.14 (0.06)*
KOFI	--	0.01 (0.002)***	0.01 (0.002)***	--	0.004 (0.002)	0.03 (0.01)**
GDPpc	--	-0.00 (0.00)	0.00 (0.00)	--	-0.00 (0.00)**	-0.00 (0.00)**
log(pop)	--	0.005 (0.02)	-0.11 (0.05)*	--	-0.003 (0.02)	-0.25 (0.09)**
Year	0.02 (0.001)***	0.005 (0.003)	0.01 (0.003)	0.03 (0.002)***	0.03 (0.004)***	-0.08 (0.04)
GAI * log(pop)	--	--	0.02 (0.01)**	--	--	0.10 (0.03)**
GAI * KOFI	--	--	--	--	--	-0.01 (0.004)**
GAI * Year	--	--	--	--	--	0.04 (0.01)**
GAI2 * log(pop)	--	--	--	--	--	-0.01 (0.003)*
GAI2 * KOFI	--	--	--	--	--	0.001 (0.00)*
GAI2 * Year	--	--	--	--	--	-0.003 (0.001)*
Intercept	-34.3 (2.3)***	-10.1 (6.4)	-9.0 (6.4)	-52.0 (3.1)***	-64.8 (8.0)***	170.2 (71.6)*
N	4,898	3,026	3,026	4,898	3,026	3,026
Ncountry	158	139	139	158	139	139
$\chi^2$ (df)	295.5 (2)***	259.8 (7)***	265.8 (8)***	644.3 (3)***	460.2 (8)***	498.6 (14)***
LL	-6548.9	-4174.5	-4171.0	-6083.3	-3955.1	-3936.4

Note: Standard errors are in parentheses; ^ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001 (two-tailed).

Table A2. Poisson regression results with panel and year fixed effects

	(1)	(2)	(3)	(4)
	SO LEI	SO LEI	GIESC LEI	GIESC LEI
GAI	0.04 (0.01)**	0.02 (0.01)^	0.03 (0.07)	-0.03 (0.06)
GAI2	--	--	0.01 (0.007)^	0.01 (0.007)*
V2xlibdem	--	-0.10 (0.15)	--	-0.49 (0.31)
Rule of Law	--	-0.04 (0.04)	--	0.04 (0.10)
KOFI	--	0.002 (0.002)	--	-0.01 (0.004)*
GDPpc	--	-0.00 (0.00)	--	-0.00 (0.00)
log(pop)	--	-0.32 (0.10)	--	-0.92 (0.21)***
N	4,898	3,026	4,898	3,026
$\chi^2$ (df)	310.1 (31)***	216.3 (27)***	355.4 (32)***	306.7 (28)***
LL	-5820.5	-3597.6	-5415.3	-3380.8

Note: Robust standard errors are in parentheses; ^  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$  (two-tailed).

## APPENDIX 2. LEGAL PROTECTIONS AND VARIABLE NAMES

### Sexual Orientation Legal Protections (with variable name)

- Decriminalization of homosexuality (consent\_so)
- Civil union recognition for same-sex couples (civilunion\_so)
- Marriage recognition for same-sex couples (marriage\_so)
- Joint adoptions for same-sex couples (joinadopt\_so)
- Second-parent adoptions for same-sex couples (secondadopt\_so)
- LGB people can serve openly in the military (military\_so)
- General sexual orientation nondiscrimination protections (disclaw\_so)
- Explicit sexual orientation nondiscrimination protections in employment (employment\_so)
- Explicit sexual orientation nondiscrimination protections in public accommodations (services\_so)
- Explicit sexual orientation nondiscrimination protections in health care (health\_so)
- Explicit sexual orientation nondiscrimination protections in education (education\_so)
- Explicit sexual orientation nondiscrimination protections in housing (housing\_so)

### Gender Identity, Gender Expression, and Sex Characteristics Legal Protection (with variable name):

- General gender identity nondiscrimination protections (disclaw\_gi)
- General gender expression nondiscrimination protections (disclaw\_ge)
- General sex characteristics nondiscrimination protections (disclaw\_sc)
- Explicit gender identity nondiscrimination protections in employment (employment\_gi)
- Explicit gender expression nondiscrimination protections in employment (employment\_ge)
- Explicit sex characteristics nondiscrimination protections in employment (employment\_sc)
- Explicit gender identity nondiscrimination protections in health care (health\_gi)
- Explicit gender expression nondiscrimination protections in health care (health\_ge)
- Explicit sex characteristics nondiscrimination protections in health care (health\_sc)
- Explicit gender identity nondiscrimination protections in education (education\_gi)
- Explicit gender expression nondiscrimination protections in education (education\_ge)
- Explicit sex characteristics nondiscrimination protections in education (education\_sc)
- Explicit gender identity nondiscrimination protections in housing (housing\_gi)
- Explicit gender expression nondiscrimination protections in housing (housing\_ge)
- Explicit sex characteristics nondiscrimination protections in housing (housing\_sc)
- Rights assured of minors born with differences in sexual development (intersex\_minors)
- Explicit legal procedure to change gender marker (trans\_gendermarker)
- Explicit legal procedure for gender recognition (trans\_formalprocess)
- Medicalization not required for gender recognition (trans\_medicalinterv)
- Explicit legal procedure for self-identification (trans\_selfid)

## APPENDIX 3. LEI SCORES BY COUNTRY

Figure A1. SO LEI scores by country

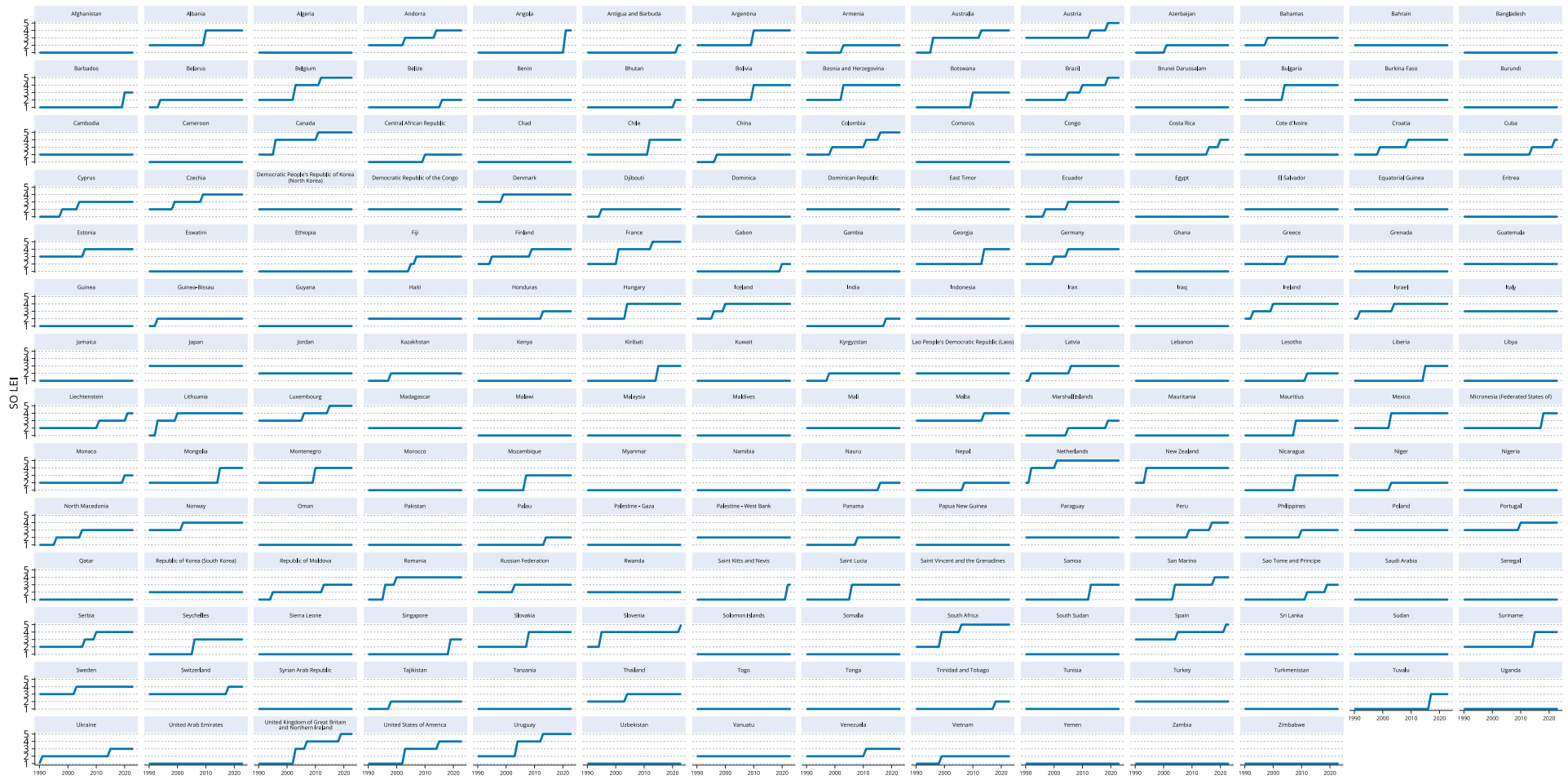


Figure A2. GIESC LEI scores by country

