The Relationship between LGBT Inclusion and Economic Development: An Analysis of Emerging Economies

M.V. Lee Badgett
Sheila Nezhad
Kees Waaldijk
Yana van der Meulen Rodgers

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Executive Summary

This study analyzes the impact of social inclusion of lesbian, gay, bisexual, and transgender (LGBT) people on economic development in 39 countries. When LGBT people are denied full participation in society because of their identities, their human rights are violated, and those violations of human rights are likely to have a harmful effect on a country's level of economic development.

Several theoretical frameworks argue that inclusion of LGBT people is linked to a stronger economy. In the human capital approach, inclusion allows LGBT people to achieve their economic potential when they can get education and training that improves their productivity and when they are treated equally in the labor market. The capabilities approach suggests that greater rights and freedoms improve individual well-being by expanding individuals' capabilities to be and do what they value. The post-materialist demand for human rights theory suggests that greater economic development might make countries more likely to respect the rights of LGBT people, as LGBT people can freely organize and push for legal changes and as public opinion shifts to support greater individual autonomy and minority rights. And the strategic modernization approach posits that countries hoping to present themselves as more visibly "modern" and successful to potential trading partners might be using LGBT rights strategically as a way to promote and expand economic opportunities.

Up to this point, little empirical research has tested this theoretical connection, particularly for the emerging economies that are the focus of this paper. This study analyzes 39 countries, 29 of which are "emerging economies" (those countries that are experiencing high levels of economic growth and investment) and 10 of which are countries of interest (those that have active and engaged LGBT social movements and are of particular significance to global development institutions). Given both the potential for rapid change in rights and income-level for low and middle income economies, this study provides a new perspective to identify the relationship between LGBT rights and economic development.

Research Design

In this study, we define "LGBT" to mean sexual and gender minorities. "Sexual minorities" include anyone whose sexual orientation includes people of the same sex or gender, and "gender minorities" include anyone whose gender identity and/or gender expression is different from the gender norms associated with their sex assigned at birth. To assess whether the theoretical link is confirmed by real-world data, we refine the concepts of "inclusion" and "development" into more concrete terms and measures. The analysis takes two approaches.

First, this study uses a "micro-level" approach that focuses on the experiences of LGBT individuals and defines inclusion as the ability to live one's life as one chooses (what Amartya Sen calls "freedoms" in the capabilities approach). In the micro approach, we conduct an extensive literature review of research on human rights to identify barriers to freedoms for LGBT people that can have an effect on economic development.

Under the "macro-level" approach, we define inclusion as the legal rights of LGBT people, measured through two newly-developed indices, one reflecting the rights of transgender people and the other the rights of LGB people. Economic development is the broad macroeconomic outcome, measured for each country by per capita gross domestic product (GDP) and the Human Development Index (HDI). In this statistical part of the study, multivariate regression is used to analyze the effect of LGBT rights on economic development after controlling for other factors that influence development.

Findings

The micro-level analysis found substantial evidence that LGBT people in our sample countries are limited in their freedoms in ways that also create economic harms:

- Police officers unjustly arrest, detain, jail, beat, humiliate, and extort LGBT people, taking LGBT people out of productive employment.
- LGBT people face disproportionate rates of physical, psychological, and structural violence, which can restrict someone's ability to work because of physical injuries and psychological trauma.
- Workplace discrimination causes LGBT people to be unemployed or underemployed, which mean their full productive capacity is not being used.
- LGBT people face multiple barriers to physical and mental health, which reduces their ability to work and their productivity in the workplace.
- LGBT students face discrimination in schools by teachers and other students, which hampers their learning and encourages students to drop out, in turn reducing their skills and knowledge related to the workplace.

At this micro-level, the costs to the economy of just these five examples of exclusionary treatment include lost labor time, lost productivity, underinvestment in human capital, and the inefficient allocation of human resources through discrimination in education and hiring practices. The decreased investment in human capital and suboptimal use of human resources, in turn, act as a drag on economic output at the broader economy level.

The macro-level analysis reveals a clear positive correlation between per capita GDP and legal rights for LGB and transgender people across countries, as measured by the Global Index on Legal Recognition of Homosexual Orientation (GILRHO) and the Transgender Rights Index (TRI) respectively. The simplest correlation shows that one additional right in the GILRHO (out of eight rights included) is associated with $1,400 more in per capita GDP and with a higher HDI value. In other words, countries with more rights for LGBT people have higher per capita income and higher levels of well-being. The positive correlation between LGBT rights and the HDI suggests that the benefits of rights extend beyond purely economic outcomes to well-being measured as educational attainment and life expectancy.

The relationship remains strong for GDP per capita even after taking into account other factors that influence development, although the effect is smaller. The impact of an additional right on per capita

GDP is approximately $320 after those controls, or about 3% of the average GDP per capita in our sample. A positive correlation with the HDI is not seen in some models, however.

Unlike with the micro-level analysis, in the macro-level analysis we do not draw a firm conclusion about the direction of the causal link, that is, whether more rights cause higher levels of development or whether more developed countries tend to have more rights. The theoretical perspectives suggest that both directions are likely at work. The micro-level findings, aggregated up to an economy-wide level, support the idea that exclusion leads to lower levels of development and are consistent with the macro-level findings.

Two additional findings emerge that bolster an interpretation of a strong link between rights and development. First, the correlation between rights and economic development appears to vary across different rights. In particular, the analysis suggests that anti-discrimination laws covering sexual orientation have an especially strong correlation with GDP per capita. The importance of nondiscrimination laws could be related to their stronger connection to the treatment of LGBT people in the workplace and other settings that have direct economic relevance. Second, the correlation of additional LGBT rights and economic development is not simply the result of increasing gender equity within a country, since the impact of LGBT rights is strong even when taking into account an indicator of gender equity in the statistical model.

Recommendations

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

- Expand the study to a broader set of countries and years; since the 39 countries in this study's sample were not randomly chosen, the generalizability of these findings is limited.
- Use different economic outcome measures to compare to LGBT rights, such as GDP growth rates, tourism measures, and foreign direct investment.
- Study the determinants of legal rights for LGBT people across the world.
- Create a database of existing research from a wide variety of countries to use both for additional comparisons and to inform the creation of new indicators.

Other extensions of the research will require the collection of new data on the lived experience of LGBT people that can be compared across countries. New data will be especially important, since formal legal rights on their own might not be good indicators of the lived experience of LGBT people and the degree of inclusion in society. In particular, these measures should capture life outcomes that are relevant to the economic contributions of LGBT people: health, education, earnings, poverty, family structure, living situations, access to social services, coming out, discrimination, and violence. This need for better data also provides an additional link and potential collaboration between human rights scholars and economic development researchers.

Finally, we strongly recommend that research within all development areas incorporate concerns about LGBT people. The findings in this study demonstrate links between LGBT people's lives and their potential economic contributions at the national level, making LGBT inclusion relevant for development agency programs. Mainstreaming the inclusion of LGBT people within development research would mean looking at the experiences of LGBT people in food policy, poverty alleviation, gender empowerment, democracy and governance, education, health, conflict situations, gender-based violence, and other areas in which LGBT people are likely to experience specific challenges to meeting their needs.

This study and a broadened research agenda can assist development agencies and other stakeholders to better understand how the full inclusion of LGBT people could improve economic outcomes for all countries, including developing countries, as well as provide evidence of the fulfillment of the human rights of LGBT people.

1. Introduction

Lesbian, gay, bisexual, and transgender (LGBT) people live in every part of the world.[1] They are members of every age, ethnic, and religious group. And in every country, LGBT people face discrimination because of their gender identity and sexual orientation. As the United Nations High Commissioner for Human Rights notes,

> *In all regions, people experience violence and discrimination because of their sexual orientation or gender identity…Violations include – but are not limited to – killings, rape and physical attacks, torture, arbitrary detention, the denial of rights to assembly, expression and information, and discrimination in employment, health and education.* (High Commissioner, 2011)

The exclusion of LGBT people from full participation in society with equal opportunity and dignity is an important human rights issue, and one that is increasingly recognized by international bodies and national governments in all regions of the world. The recognition and achievement of human rights for LGBT people is on the agenda of both high-income and low-income countries alike. At the same time that the challenges of LGBT people are gaining visibility in the human rights sphere, they are also capturing the attention of other key social, political, and economic stakeholders.

This study starts with the human rights perspective on LGBT people's lives and links it to another important concern of those global stakeholders: economic development. In high-income countries, participants in ongoing debates about LGBT rights, such as policymakers, advocacy organizations, and multinational corporations, have increasingly looked to research that shows a connection between LGBT rights and stronger economic performance. At the other end of the income spectrum, another global effort—the Millennium Development Goals—seeks to eradicate extreme poverty, expand gender equality, and improve health outcomes. As that effort evolves into a new stage, economic development agencies are recognizing that countries that make efforts to fully include all people—whether they are LGBT, have disabilities, or belong to other marginalized groups—are likely to have stronger and more vibrant economies (World Bank, 2013). While that perspective theoretically connects LGBT rights to economic development efforts, very little research exists to support that connection in the developing world. Therefore, this study focuses attention on the relationship between LGBT rights and economic development specifically within emerging economies and low-income countries.

This study finds that economic development and rights for LGBT people go hand-in-hand for the 39 countries included. The data analyzed in this report demonstrate close connections between LGBT rights and economic development on both an individual level (a "microeconomic" perspective) and at a larger economy-wide level (a "macroeconomic" perspective).

[1] This study focuses on lesbian, gay, bisexual, and transgender (LGBT) people around the world. Section 2 of the study discusses further what is meant by LGBT. The existing research base did not support a similar analysis for intersex people, although they are included in the larger human rights partnership. Therefore this study cannot include an analysis of development issues related to the situation of intersex people.

On the most basic individual level, whether a country recognizes the human rights of LGBT people determines the conditions in which they live and work, thereby greatly shaping their level of economic achievement. This study finds that in many countries, LGBT people commonly face exclusion from schools, jobs, and health care, and are subject to other harms, like violence and police abuse. All of these harms are human rights violations. In addition to violating human rights, depriving LGBT people of the ability to fully function in society means creating a group of individuals with low levels of educational attainment, productivity, life expectancy, and personal income, all of which are key factors in economic development.

As a result, **this study finds that human rights violations experienced by LGBT people diminish economic output and capacity at the micro-level.** When LGBT people are targets of violence, denied equal access to education, stigmatized in communities, and discouraged from pursuing the jobs that maximize their skills, their contributions to the whole economy are diminished, holding back economic advancement for the national economy. These individual-level connections between human rights and economic development scale up to negative impacts on the level of economic development. Since LGBT people might constitute 1-5% or more of the adult population in a country (Gates, 2011), depending on how sexual orientation and gender identity are defined, a reduction in productive capacity and utilization could account for a measurable component of economic output.

At the larger economy-wide level, this study uses a complementary statistical approach, comparing levels of economic development, measured as per capita gross domestic product (GDP) and the Human Development Index (HDI), to the introduction of formal human rights for LGBT people within countries. Over the 1990-2011 period studied, rights for LGBT people expanded in most of these countries. Of course, the introduction of legal rights like laws against discrimination or the decriminalization of consensual homosexual acts does not necessarily mean that human rights are actually realized for all LGBT people. Laws capture only one factor shaping the lives of LGBT people. The use of measures of legal rights in this study mainly reflects a lack of data on the lived experiences of LGBT people that are available across or even within these countries. Nonetheless, the level of legal rights related to homosexuality is positively related to attitudes about homosexuality in the countries studied, suggesting that rights likely reflect real differences in the social conditions and degree of inclusion experienced by LGBT people.

The findings from the statistical analysis of rights and development data show a positive association between greater levels of human rights for LGBT people and economic development measures. **That is, countries with more LGBT rights also tend to have higher levels of economic development than countries with fewer rights.**

At the very least, we can say that economic development in emerging economies happens alongside more rights for LGBT people. In the statistical findings, **per capita income in emerging economies is higher in countries with more rights for LGBT people**, but the question remains about how and why rights and income are related at the larger economy-wide level. One possibility is that the negative individual- and group-level outcomes for LGBT people hold back economic development in ways that are

meaningful at the broader level. Another possibility reverses the cause-and-effect link: policymakers and citizens may increase their attention to human rights for individuals and groups of people as countries strengthen economically. Whether development causes the expansion of rights or the expansion of LGBT rights enhances national economic development is not possible to determine at this stage of research and data availability but should be the subject of future research.

The micro-level findings establish a causal relationship between inclusion of LGBT people and improving inputs into the economy's performance. When LGBT people experience discrimination, violence, and other forms of exclusion, their ability to contribute to the economy is diminished. Aggregating the micro-level effects up to the economy-wide level implies that exclusion would reduce economic development outcomes, a finding consistent with the macro-level statistical evidence. Therefore, putting the individual-level and economy-wide level findings together suggests that economic development and LGBT rights are connected and compatible goals for international development agencies, national governments, and advocates. As such, these findings provide the context for incorporating the links between LGBT human rights and economic development into development programs and policies, as well as further study of these issues.

This report first presents the background for the study, including the countries studied and what is meant by "lesbian, gay, bisexual, or transgender" in section 2. The third section presents the theoretical perspectives that suggest links between inclusion of LGBT people and economic development outcomes at the economy-wide macroeconomic level. Section 4 then pools and analyzes existing research and data on LGBT people and communities from emerging economies and other countries of interest. That section documents and analyzes the evidence of violence, discrimination, and other forms of exclusion, and shows how those forms of exclusion hinder the economic contributions of LGBT people. Section 5 provides a description of the data sources used in the analysis of the economy-wide data, and section 6 provides the results of that analysis. The final section pulls the findings together and suggests future directions for research.

2. Situating the Issue: Definitions and Focus

Inclusion of all people – regardless of sex, gender, race, ethnicity, class, religion, disability, and sexual orientation – has fundamental importance not only for the well-being of individuals, but also for development and shared prosperity. However, before moving into a discussion of the effects of exclusion for LGBT people, it is important to clarify the population and sample that are the focus of this report. Specifically, we will define who it is we are talking about when we say "LGBT" and what we mean by "inclusion," "exclusion," and "development."

Broadly, we are concerned with the experiences of sexual and gender minorities who live in emerging economies. "Sexual minorities" include anyone whose sexual orientation includes people of the same sex or gender. "Sexual orientation" can include sexual, emotional, and/or relational attraction to another person or people, as well as sexual behavior with someone of the same sex, but a person does not need to be sexually active to have a sexual orientation. Depending on their location or culture, a person's sexual orientation may include identifying as gay, lesbian, bisexual, homosexual, queer, kothi, panthi, meti, MSM (men who have sex with men), or other local terms. "Gender minorities" include anyone whose gender identity and/or gender expression is different from the gender norms associated with their sex assigned at birth. Gender minorities in various communities may refer to themselves as transgender, trans, third gender, MTF (male to female), FTM (female to male), transsexual, gender queer, hijra, travesti, or other local terms. Some people with intersex conditions, in which a person is born with a reproductive or sexual anatomy that does not seem to fit the typical definitions of female or male, also identify as gender minorities, but the lack of data prevent the inclusion of an analysis of intersex people in this report.

This report refers to sexual and gender minorities together under the acronym LGBT.[2] While this acronym stands for "Lesbian, Gay, Bisexual, Transgender," it also has evolved through use to often refer to sexual and gender minorities more broadly (including queer, intersex, travesti, or other terms). We have chosen to use this term for ease of reading and because it has grown to be a recognizable term across many regions. However, some people see the broad application of LGBT as an artificial imposition of Western identity terms; therefore, even while using this term, we acknowledge that it is not universally agreed upon and may not reflect the lives of all members of sexual and gender minority communities.

This report looks at the economic impact of the social inclusion of LGBT people in emerging economies. The World Bank defines social inclusion in this way: "The process of improving the ability, opportunity, and dignity of people, disadvantaged on the basis of their identity, to take part in society" (World Bank 2013, p. 4). In this report, we use the terms "inclusion," and its antonym "exclusion," to refer to such societal processes. We chose to use the broad language of inclusion and exclusion, because it captures the nuance of the experiences of LGBT people better than "discrimination" or "homophobia" alone. In other words, the ways that LGBT people are denied full participation is society is not exclusively the

[2] We sometimes use a subset to refer to a more specific group, such as LGB for lesbian, gay, and bisexual people only.

result of another individual's conscious decision to discriminate against LGBT people. Instead, the experiences of LGBT people are the result of a constellation of social norms, systemic discrimination, and individual bias that manifests in different societal arenas. This report looks at formal markers of inclusion—legal rights—in Section 6 and at the more difficult-to-measure interpersonal forms of exclusion in Section 4.

This analysis focuses on country-level outcomes of 39 countries.[3] This group of 39 countries includes 29 emerging economies, that is, those countries that are experiencing high levels of economic growth and investment and are identified as such by the International Monetary Fund and others (Table 1).[4] In this study we also include an additional ten countries that have active and engaged LGBT social movements and are of particular significance to global development institutions, even though their economies are not generally considered as emerging.

Table 1: Economies Examined in this Report, by World Region

Europe, Central Asia		East Asia and Pacific	Latin America and Caribbean	
Albania*	Latvia	China	Argentina	El Salvador*
Bosnia & Herzegovina*	Lithuania	Indonesia	Brazil	Guatemala*
Bulgaria	Poland	Malaysia	Chile	Honduras*
Czech Republic	Romania	Philippines	Colombia	Mexico
Estonia	Russia	Taiwan (ROC)	Ecuador*	Peru
Hungary	Serbia*	Thailand		Venezuela, RB
Kosovo*	Turkey			
	Ukraine			
Middle East/North Africa		**South Asia**	**Sub-Saharan Africa**	
Egypt, Arab Rep.				
Morocco		India	Kenya*	
		Nepal*	South Africa	
		Pakistan		

***Economy is not "emerging" but included in this analysis as a country of interest.**

Much of the academic literature that focuses on multi-country LGBT issues has focused on high-income countries. Figure 1 summarizes three elements of LGBT human rights—criminalization of homosexual behavior, laws against employment discrimination, and some form of legal recognition for same-sex couples—for countries by different income levels in 2012. That comparison shows that high-income countries are more likely than either low-income or middle-income countries to have decriminalized homosexual acts, to have prohibited sexual orientation and/or gender identity discrimination, and to have legally recognized some of the rights of same-sex couples. Given both the potential for rapid

[3] A country-level outcome aggregates data about the country's economy and social institutions (such as the average education level in the country).

[4] We classified countries as "emerging" if they were listed on at least four of the following lists of emerging markets as of January 2014 as reported in Wikipedia, en.wikipedia.org/wiki/Emerging_markets : IMF, BRICS, FTSE, The Economist, S&P, Dow Jones, and Columbia University EMGP. The number of countries defined as "emerging" ranged from 17-35 on those individual lists.

change in rights and income-level for low and middle income economies, this study provides a new perspective to identify the relationship between LGBT rights and economic development.

A preliminary analysis of data on legal rights also suggests that combining our low-income countries of interest with emerging economies is appropriate. Figure 2 compares the ten countries of interest to the emerging economy sample in 2012. Although the countries of interest have lower country income and human development levels, they are similar in the rights available to LGBT people. Figure 2 shows that the countries in both emerging economies and countries of interest are most likely to have decriminalized homosexual acts between adults, followed by employment protection based on sexual orientation, and then by legal relationship recognition. While the countries of interest have higher rates of employment protection, the emerging economies have higher rates of relationship recognition. Given the general similarity, the inclusion of these countries of interest in the analysis expands our sample in a reasonable way for studying the relationship between LGBT rights and economic development.

Finally, it is important to clarify what we mean by "economic development." This report presents findings on economic development as measured by gross domestic product (GDP), or the value of goods and services produced in a country. GDP captures those things that can be bought or sold with currency. This study's primary outcome variable is GDP per capita (GDP averaged over the entire population), which is a primary marker of economic development used by policymakers and development agencies.

However, from the gender and development literature, we know that important unpaid work—often the work done by women, such as caring for children, household chores, and preparing food—is not counted in GDP, even though it also constitutes productive activity (Benería, 2003). GDP also does not take into account any environmental harms occurring as a result of the production of goods and services. Furthermore, the unequal distribution of national income (i.e. income inequality) means that the average GDP might be a poor indicator of the quality of life for many people in a country. Despite these imperfections in GDP per capita as a measure of development, we use it because it is widely accepted as a development measure and data are available to compare GDP per capita across countries and across decades.

The capabilities approach, pioneered by economist-philosophers Amartaya Sen and Martha Nussbaum, is an alternative way of thinking about and measuring economic development that largely avoids those issues with GDP. The capabilities approach posits that social conditions and economic policies should be evaluated according to the extent to which people have the ability to lead the kind of lives they want to lead and to be the person they want to be, such as the ability to be healthy, gain an education, and obtain work with decent employment conditions (Sen, 1999; Nussbaum, 2001). These abilities are often referred to as "freedoms," and those forces that work in opposition are "negative freedoms." So, for example, health is a freedom but violence is a negative freedom, since experiencing violence limits a person's ability to have good health.

We use two methods to address capabilities in our analysis. First, we use the Human Development Index (HDI) as a development measure. HDI is designed as a partial measure of certain freedoms in a country and is based on life expectancy, years of schooling, and per capita income. Additionally, in section 4 of

the report we analyze research findings that cover relevant freedoms that are more difficult to measure quantitatively or across countries, such as police abuse.

Figure 1: LGB Rights by Income Level

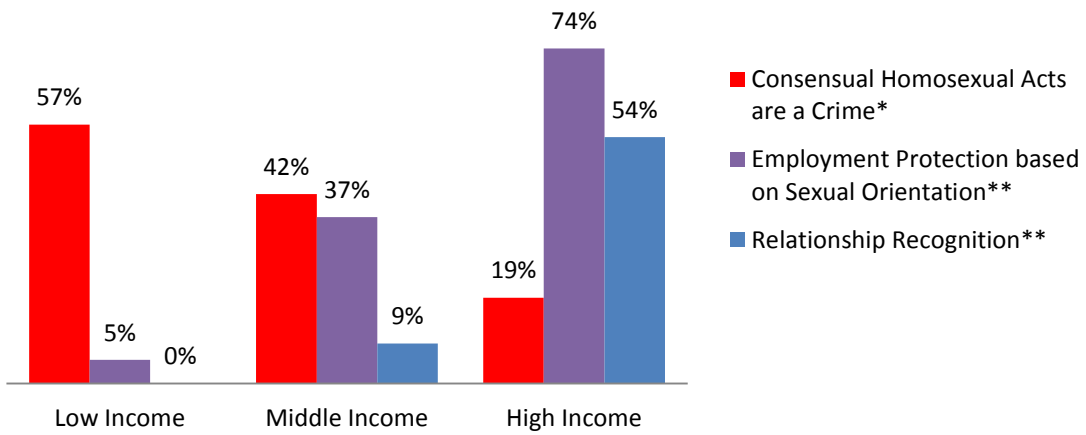
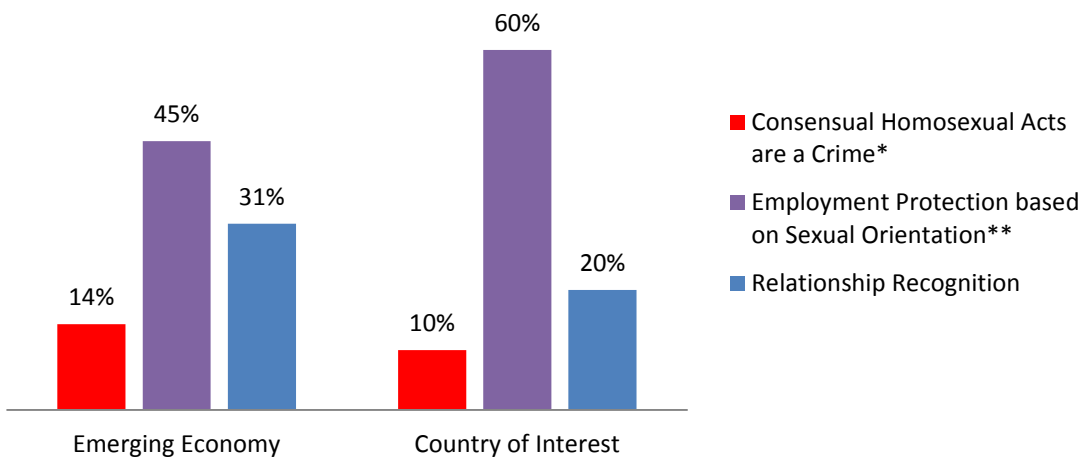


Figure 2: LGB Rights by Sample Selection Status



Key for Figures 1-2	
Country Income Level	**Gross National Income per capita (Atlas method)**
Low income:	≤$1,035
Middle income:	$1,036-$12,616
High income:	≥$12,616
Data Sources	*GILRHO (Appendix A) **Paoli Itaborahy & Zhu, 2013 Country Income Level: World Bank World Development Indicators

Summary

This report focuses on the impact of LGBT inclusion on economic development in 39 countries. “LGBT” is used to refer to members of sexual minorities (persons whose sexual or romantic attraction and/or behavior includes people of the same sex or gender) and gender minorities (persons whose gender identity and/or gender expression is different from the gender norms associated with their sex assigned at birth). Inclusion is measured by legal rights for LGBT people in the macro analysis and evidence of social freedoms in the micro analysis. Economic development is measured by per capita GDP and by the Human Development Index.

Of the countries analyzed, 29 are “emerging economies” (countries that are experiencing high levels of economic growth and investment) and 10 are countries of interest (countries that have active and engaged LGBT social movements and are of particular significance to global development institutions).

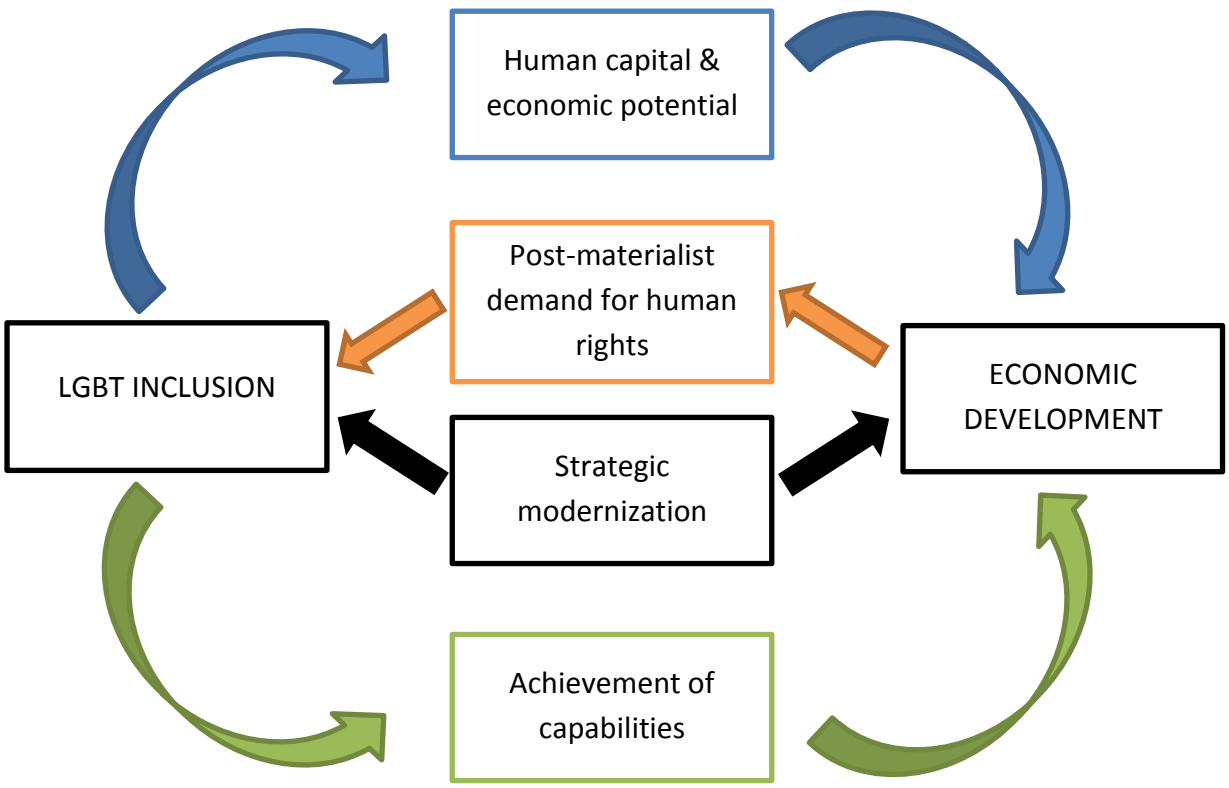
3. Linking LGBT Inclusion and Economic Development

A wide range of scholarly theories from economics, political science, sociology, psychology, public health, and other social sciences support the idea that full rights and inclusion of LGBT people are associated with higher levels of economic development and well-being for countries. The purpose of this section is not to build a new theory but to present existing conceptual framings as a way to understand how development and rights might be connected at the individual or group level (the microeconomic perspective) and at the larger economy level (the macroeconomic perspective).

These theoretical perspectives use different elements of what we call inclusion. In some cases these frameworks are designed to explain differences in individuals' attitudes toward homosexuality across countries. In other cases, a framework might best explain changes in legal rights or other policies related to LGBT people. Some frameworks make more explicit use of the level of economic development of a country as the outcome measure that is influenced by an LGBT-related factor, such as positive attitudes toward homosexuality and LGBT people or by legal rights for LGBT people. For purposes of this discussion, these theoretical perspectives can be unified by the concept of inclusion, a term that incorporates human rights (which provide a legal and political path to greater inclusion) and the effect of positive attitudes (which provide social and cultural space for greater inclusion). The term "inclusion" provides a broader sense of the range of social, cultural, legal, political, and economic settings in which LGBT people face barriers to full participation.

Also, the nature of the link between inclusion (broadly defined) and economic development is not the same across theories. This section presents four distinct ways of thinking about the causal relationship, summarized in Figure 3: the human capital approach, the post-materialist values argument, the strategic modernization hypothesis, and the capabilities approach.

Figure 3: Causal Pathways linking LGBT Inclusion and Economic Development



Human Capital Approach

The first theoretical link is the human capital approach (the top path of Figure 3 with blue arrows), rooted in economics. Human capital is the set of skills, ability, knowledge, and health that increases individuals' productivity and contributes to economic growth. In this approach, inclusion of LGBT people expands the economy's stock of human capital by increasing their opportunities to add to their human capital through greater access to education, improved health outcomes, or access to training. Exclusion of LGBT people in educational settings and health outcomes results in diminished human capital.

A second and closely related connection occurs when inclusion generates a more efficient utilization of existing human capital, which increases productivity and economic output. Economist Gary Becker's pathbreaking theory of discrimination demonstrates that employers who discriminate may end up with lower profits by refusing to hire productive minority workers, who might then end up in less productive and lower paying jobs (Becker, 1971). In addition, workers facing discrimination might be crowded into jobs where they are less productive or might be unemployed; in either case their human capital is not being efficiently used, a situation that reduces economic output from its potential.

The gender and development literature provides a close analogy to a human capital perspective for LGBT people. Some research on gender and development shows that gender inequality inhibits

economic development (Berik, Rodgers, & Seguino, 2009).[5] Education plays a key role, and many studies conclude that inequality in women's education is associated with lower economic growth (Knowles, Lorgelly, and Owen, 2002; Klasen, 2002; Klasen & Lamanna, 2009). This finding closely parallels the argument made about exclusion in educational settings for LGBT people, where LGBT people who are discriminated against in school settings or encouraged to drop out have less human capital to contribute to economic growth.

An extension of the gender argument into family decisions highlights the potential economic importance of assuring full inclusion and development of human capital for LGBT young people in families. Investments in children affect future productivity of those children as adults, because such investments contribute to the development of capabilities, and capabilities in turn lead to improved socioeconomic status and health later in life (Cunha & Heckman 2009). However, such family investments are not necessarily equal for all children. For example, research has shown that men and boys are prioritized for larger and more nutritious meal portions than women and girls, which limits the ability of women and girls to engage in productive work that requires good health (Pitt, Rosenzweig, & Hassan, 1990). We might expect similar concerns for LGBT or otherwise gender non-conforming children in families who might have reduced access to food, housing, or schooling, for example.

Another perspective that is similar to the human capital approach is the "business case for LGBT diversity." This perspective proposes that the equal treatment of LGBT people in the workplace can have positive impacts on employer outcomes, either through increased productivity of LGBT workers or reduced costs associated with exclusion. Research in the United States and Europe from a variety of social science and health disciplines reveals several pathways from LGBT inclusion to good business outcomes, particularly improvements in health and reductions in employee turnover (Badgett et al., 2013):

- LGBT-supportive policies in the workplace reduce discrimination; reduced discrimination leads to better psychological health and increased job satisfaction among LGBT employees.
- Supportive workplace climates increase LGBT employees' disclosure of their sexual orientation or gender identity at work, which in turn improves psychological health among LGBT employees.
- Supportive work climates are also associated with greater workplace engagement, contributions, and commitment from LGBT employees.
- Where LGBT-supportive diversity policies and practices in the workplace are present, researchers see improved relationships between LGBT employees and their co-workers and supervisors.

[5] Other research considers the causal connection from the other direction for gender equality, just as we do for LGBT equality. Economic growth has contributed to gender equality, providing opportunities for girls and women to embark on education and labor market tracks from which they had previously been blocked by traditional institutions (Munshi & Rosenzweig, 2006; Jensen, 2012; Qian, 2008). Several studies have found that economic growth is associated with broader measures of women's economic, health, and other measures of well-being (Forsythe, Korzeniewicz, & Durrant, 2000; World Bank, 2011). Economic growth is associated with greater public investment in infrastructure that saves women time from collecting water and fuel, thus freeing up their time to engage in paid work or other activities (Devoto, Duflo, Dupas, Pariente, & Pons, 2012; Dinkelman, 2011).

Drawing on related research that is not LGBT-specific, it is possible to link many of those outcomes of LGBT inclusion to higher productivity and lower labor costs, potentially increasing employer profits. Higher employer profits as a result of greater inclusion could lead to expansion of the business or new investments, thus increasing the level of economic development.

Each of these pathways of rights and inclusion for LGBT people would either increase their own human capital or would allow them to fully exercise their productive capacity. Those individual effects are the inputs into other economic processes, so increasing LGBT human capital and making them more productive will create gains at the larger economic level.

Post-Materialist Values

A second notable theoretical perspective, represented by the orange arrows in Figure 3 , switches the cause-and-effect direction and argues that when countries develop economically and become more economically secure, they will be more likely to value minority rights. This "post-materialist values" hypothesis is drawn from the work of political scientist Ronald Inglehart (1981; 2008). Greater economic security means that the social and economic focus in a country can shift away from individuals' concerns about survival and toward values of self-expression, autonomy, and respect for minority rights.

Inglehart and others have shown that attitudes toward homosexuality are more accepting in countries with higher per capita income (see also Stulhofer & Rimac, 2009; Reynolds, 2013). However, per capita GDP represents the average value of goods and services produced in a country but does not measure the distribution of that income. Therefore, a country with high per capita GDP and a high level of income inequality could have just as many economically insecure people as a country with lower GDP per capita.[6]

The post-materialist shift in values and attitudes influences the recognition of human rights for LGBT people and others through new political movements and voters' willingness to make different political choices (Inglehart, 2008). Indeed, two recent studies found a link between the more tolerant attitudes toward homosexuality that Inglehart focuses on and the passage of LGBT rights laws that he predicts (Reynolds, 2013; van den Akker et al., 2013).

Overall, then, the postmaterialist perspective and related empirical studies suggest that greater economic development will likely lead to changes in LGBT rights and attitudes toward homosexuality, both aspects of the inclusion of LGBT people.

[6] Anderson & Fetner (2008) found that more inequality in a country makes attitudes about homosexuality more negative. Higher levels of GDP per capita only consistently make attitudes more positive for those people in higher status occupations, which is consistent with the idea that attitudes are more positive for individuals with high levels of economic security.

Strategic Modernization

The third perspective, which we call "strategic modernization," also predicts a positive correlation between LGBT inclusion and economic development, but through a different causal pathway (the third path of Figure 3, in black arrows). As part of a development strategy, countries might adopt policies of equality for LGBT citizens to demonstrate modernization and openness, generating the arrow on the left side of the box to LGBT inclusion (Weiss, 2007). Both that tactic and other development efforts enhance the country's attractiveness to global LGBT and non-LGBT tourists, foreign investors, or other trading partners, generating the arrow on the right side to economic development. So development and inclusion are enhanced at the same time but are not necessarily directly causally related.

In the same spirit, a related line of research has looked at the relationship between tolerance of homosexuality and GDP (similar to the approach in this report). Richard Florida's work argues that tolerance of and the presence of openly LGBT people send a signal to skilled and creative workers (who are not necessarily LGBT) that a country is open to new ideas and to the entry of creative new talent (Florida, 2014; Florida & Gates, 2001). The presence of openly LGBT people does not directly cause greater economic output but "is an indicator of an underlying culture that's open and conducive to creativity" (Florida & Tinagli, 2004, p. 25). As evidence, Florida shows that per capita GDP is higher in countries that are seen as more accepting of gay and lesbian people in the Gallup World Poll (Florida, 2014), but the causal path is not direct: tolerance leads to more inclusion of LGBT people, and tolerance improves economic development by signalling a climate conducive to creative people and new ideas.

Capabilities Approach

The capabilities approach is a framework with which to evaluate well-being that is designed to go beyond the many limitations of more traditional measures such as per capita GDP (Figure 3, in green arrows). The capabilities approach conceptualizes development as an expansion of freedom for individuals to make choices about what they can do and be, with that expansion not dependent upon individuals' membership in certain identity groups (Nussbaum, 2001; Sen, 1999). Increased monetary income, the traditional measure of development, is seen as just one input into a person's ability to convert goods and services into the actual achievement of what they want to do and be.

Exclusion of particular groups of people, such as LGBT people, limits development by definition in the capabilities approach. Discrimination in employment and education, violence and harassment, stigma and rejection, criminalization and non-recognition in law, all translate into a lack of freedom for LGBT individuals to make choices about what they can do and be (Waaldijk, 2013). Hence inclusion is crucial for human well-being and economic development from this perspective. Thus the arrows for the capabilities approach in Figure 3 draw a clear causal link from inclusion of LGBT people to economic development, in this case the expansion of capabilities.

To date, almost no research looks at the fuller concept of LGBT inclusion and freedom, or the lived experience of LGBT people, and its relationship to economic development across or within countries. A

large barrier to such a project is that there are few comparable international indicators of even the most basic aspects of actual LGBT life, such as population size, income, poverty, or health.[7]

Possible Costs of LGBT Inclusion for Development

The possibility that LGBT inclusion could come with some costs is reasonable to consider as part of an assessment of the net economic gains from inclusion. Although there is no reason to believe that LGBT people inherently have less potential to contribute to the economy, some costs might be associated with the transition to full inclusion.

One potential cost emerges if gaining greater access to health care services or educational programs would generate additional costs of services for LGBT people. The degree of new costs depends, though, on the extent to which LGBT people are already in those systems but are not fully benefiting from those services because of stigma and discrimination, as may be the case in the educational realm. The long-term value of providing those additional health and educational services to LGBT people, generating human capital that would pay off into the future, would likely make the net gains positive.

A recent study by Berggren and Elinder (2012) proposes that tolerance of LGBT people might diminish productivity. They argue that conservative groups in a country might be intolerant of homosexuality, and their discomfort could lead them to take less productive jobs to avoid working with LGBT people, or they might avoid moving to tolerant countries.[8] Even if this is the case, however, such costs would be better categorized as also reflecting costs of exclusion. Without prejudice toward LGBT people or homosexuality, those conservative groups would be more productive.

Overall, while it is possible that there might be some costs of inclusion, at least some are more appropriately analyzed as costs of exclusion. The costs of integrating LGBT people into certain kinds of settings, such as educational institutions and health services, are likely to be outweighed by the resulting benefits of inclusion.

[7] FRA, the European Union Agency for Fundamental Rights, in 2012-2013 conducted a survey on some aspects of the lived experiences of LGBT people in 28 European countries, but no such data exist for the countries in this study that are not part of the EU.

[8] Berggren and Elinder also propose two reasons that "homosexuals" themselves might become less productive in more tolerant societies (2012, p. 289). First, homosexuals would have less of an incentive to invest in human capital to prove their social worth. Second, they would no longer need to hide their homosexuality by marrying and having children, so they might "take a less long-term view (involving less care for long-term investments of a physical, monetary and human-capital kind), and to satisfy a preference for certain kinds of low-productive jobs." These arguments draw on stereotypes rather than evidence, however, and at the very least ignore the forms of exclusion that might limit LGBT people's decisions to take certain jobs, invest in an education, or have partners and children.

Summary

All four of these conceptual frameworks suggest a positive relationship between LGBT inclusion, whether measured as LGBT rights or attitudes toward homosexuality, and economic development, either by definition (the capabilities approach) or through political, cultural, and economic links proposed by each framework. The cause-and-effect relationship varies across the four different perspectives, and these effects are likely not mutually exclusive. In other words, it's possible that all four forces could be shaping any observed relationship in data about economic development and LGBT inclusion. LGBT inclusion and economic development may be reinforcing each other in several ways.

4. Micro-Level Dimensions of Economic Development and LGBT Inclusion

The analysis in the rest of this report assesses the common connection across the four frameworks, using data at the individual or group level (the "micro" perspective) and data at the level of countries (the "macro" level) to address the key question: Is LGBT inclusion connected to economic development? One shortcoming of the existing literature at the "macro" level is that it focuses on attitudes toward homosexuality or on laws regarding rights of LGBT people rather than the lived experience of LGBT people. As noted earlier, these attitudinal and legal measures are used because of a lack of nuanced international indicators. Therefore, in this section we present a "micro-level" analysis of research that documents LGBT people's exclusion in many countries and contexts, and we show how that exclusion inhibits economic development.

There are types of LGBT human rights or freedoms that are not easy to quantify, and thus not measured in existing multi-country datasets. Nevertheless, despite being difficult to measure, it is important that we acknowledge the ways that the limitation of these freedoms constrains the ability of LGBT people to contribute to the economy. Below, we present findings about five freedoms that affect LGBT people and economic development: freedom from police abuse, freedom from workplace discrimination, freedom from violence, freedom from disease, and freedom to be educated. We also briefly discuss the connections of each freedom to major economic factors that influence economic output and growth. The examples used below come from research articles and human rights reports that focus on the 39 countries that are the focus of this study. However these forms of exclusion arguably exist in various forms around the world.

Police Abuse

All people, including LGBT people, have the right to be free of police abuse under the International Covenant on Civil and Political Rights of 1966 (High Commissioner, 2011). Police officers, whether enforcing anti-LGBT laws or simply acting on behalf of personal prejudice (their own or that of their superiors), have unjustly arrested, detained, jailed, beaten, humiliated and extorted LGBT people.

Such behavior creates negative economic effects. Police abuse unnecessarily uses government funds in the form of police salaries, the cost of jailing, and lengthy court proceedings–funds that could be put to more economically productive purposes.

POLICE ABUSE

Russia

"We must all raise our voices against attacks on lesbian, gay, bisexual, transgender or intersex people. We must oppose the arrests, imprisonments and discriminatory restrictions they face."--Ban Ki-Moon, Secretary-General of the United Nations, statement on Russia (Ford, 2014)

Honduras

"…male-to-female transsexual women have been beaten intentionally on their breasts and cheek-bones which had been enhanced by silicone implants, causing the implants to burst and as a result releasing toxic substances into their bodies." (Human Rights Watch, 2009, p. 39)

Kenya

"In the Coast province, respondents who do sex work reported to have been arrested by the police officers on night patrol only for them to be raped in dark street alleys then thereafter released. Attempts to report such incidents to the police were unsuccessful due to the reluctance of the police to investigate and prosecute their own." (The Kenya Human Rights Commission, 2011, p. 23)

Additionally, LGBT people who are targeted by police have reduced labor force participation because they cannot work while they are in jail or because they lose their job when police "out" them to their employer and community. In addition, the fear of police abuse can reduce LGBT people's participation in political activities or formation of organizations that promote social capital development**.**

In some of the countries in our sample there have been reports of sexual and gender minorities experiencing various forms of police abuse, including the following:

- Arrested, detained, and imprisoned (Coman, Ellis, & Tobias, 2007; The Council for Global Equality, 2013; HRW, 2009; HRW & IGLHRC, 2001; IGLHRC 2011; Johnson, 2007; The Kenya Human Rights Commission, 2011; High Commissioner, 2011);
- Beaten, tortured, and humiliated while in custody (The Council for Global Equality, 2013; Dworkin & Yi, 2003; Global Rights et al., 2006; Global Rights et al., 2010a; Global Rights et al., 2010b; González, Russo, & Rocha, 2010; HRW, 2009; The Kenya Human Rights Commission, 2011; High Commissioner, 2011);
- Sexually assaulted and subjected to medically-irrelevant anal examinations to "confirm" their homosexuality (The Council for Global Equality, 2013; Global Rights et al., 2010a; Global Rights et al. 2010b; High Commissioner, 2011; HRW, 2009; HRW, 2010; The Kenya Human Rights Commission, 2011; Paoli Itaborahy & Zhu, 2013).

Even in those countries without explicitly anti-homosexual laws, there are reports of police arresting and detaining LGBT people under "public decency" laws or similar provisions that can be applied with little discretion (Global Rights et al., 2006; High Commissioner, 2011; IGLHRC, 2001; Ottosson, 2009). There are also reports of police officers extorting bribes by threatening to arrest LGBT persons or to "out" them to their employers or family members (The Council for Global Equality, 2013; Thoreson & Cook, 2011). With few lawyers willing to represent them within a biased legal system, LGBT people are left with little choice than to submit to extortion. In addition, police may refuse to investigate claims of LGBT-targeted violence, they may only show up hours after an LGBT person calls for help, or they may refuse to believe reports of LGBT victimization (The Council for Global Equality, 2013).

Violence

The International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights protect LGBT people from violence based on their sexual orientation and gender identity (Dworkin & Yi, 2003). However, LGBT people face disproportionate rates of physical, psychological, and structural violence. Violence can limit the economic productivity of individuals for many reasons. For example, physical injuries may restrict someone's ability to work, grief and trauma may make it difficult to concentrate on work, and fear of future assaults may make it difficult for people to travel to and from work. In the cases where victims are admitted to healthcare facilities, violence can also create a financial burden for individuals or governments.

Although many minority groups are subject to violence, the United Nations High Commissioner for Human Rights notes that

> *Violence against LGBT persons tends to be especially vicious compared to other bias-motivated crimes…homophobic hate crimes and incidents often show a high degree of cruelty and brutality and include beatings, torture, mutilation, castration and sexual assault.* (High Commissioner, 2011)

VIOLENCE

Guatemala

"From 2009 to 2010, at least 30 transgender individuals were killed…'Given the lack of official statistics and the likely reticence if not ignorance of the victims' family members, there is reason to believe that the actual numbers [of murders of LGBT people] are significantly higher.'" (OTRANS et al., 2012, p. 14)

Ecuador

"That is to say, the State's failure to recognize lesbian and trans women places them in dangerous situations in private and public settings, and leaves unpunished violence, torture, sexual abuse, rape and discrimination in educational, health and workforce institutions. This affects their enjoyment of freedom and rights." (Varea & Cordero, 2008, p. 4)

"…[O]ne study in Ecuador found that a large percentage of middle-class lesbians(i.e., lesbians whose families could afford to send them to therapists and/or who could afford to do so on their own) interviewed had been forced or coerced to undergo electric shock therapy… Electric shock therapy is an accepted practice to 'cure homosexuality' among a significant contingency of therapists in Ecuador." (Lind, 2009, p. 36)

It is difficult to identify the full extent of violence against LGBT people because of a lack of State monitoring that acknowledges LGBT-motivated bias and because many crimes may go unreported. Many LGBT people may be hesitant to report hate crimes to police because they may fear that the police won't believe them (OSCE-ODIHR, 2012), that reporting may expose their sexual or gender minority status, or because the police may be complicit in—or perpetrators of—the violence (Padilla, del Aguila, & Parker, 2007). Lind (2009) notes that while gender non-conforming people and gay men in Ecuador were more likely to be assaulted in public spaces, lesbian and bisexual women were more likely to experience violence in private settings, such as a therapist's office or within their homes. Violence against LGBT people goes beyond that which is perpetrated by individuals. Padilla and colleagues (2007) speak of State institutionalized discrimination, that is *structural* violence that offers blanket legitimacy to discriminate against (and to refuse protection to) this specific group of people.

Workplace Discrimination

The Yogyakarta Principles[9] (2007, principle 12) state, "Everyone has the right to decent and productive work, to just and favourable conditions of work and to protection against unemployment, without discrimination on the basis of sexual orientation or gender identity." LGBT people are not as productive when they face discrimination in the workplace. As the human capital approach suggests, LGBT people may be working in less productive positions than they are qualified for (e.g. working in the informal economy) because employers refuse to hire them or because they do not have the proper identification documents to be hired in more productive jobs. Additionally, LGBT people may lose their job if they are "outed" at work, which reduces the amount of labor being utilized in the economy and reduces output. Discrimination also reduces workers' incentives to invest in human capital through training and education, since the return on those investments is uncertain; that is, more training doesn't necessarily mean a promotion or higher wage.

WORKPLACE DISCRIMINATION

Bosnia and Herzegovina

"LGBT persons faced frequent harassment and discrimination, including termination of employment. In some cases dismissal letters explicitly stated that sexual orientation was the cause of termination, making it extremely difficult for them to find another job."(The Council for Global Equality, 2013, p. 32)

Turkey

"Many gay and bisexual women hide their identities in the work place for fear of losing their jobs... 58% [of 396 reported] hiding their identities from all their employers and managers...[Of 116 transgender women surveyed] 89.7% said that they were going to have to go into sex work due to a lack of alternatives." (LGBT Rights Platform, 2009, p. 4)

South Africa

"Terry is a transgender man… at his last place of employment, he says that his manager took a dislike to him because of his gender expression…shouting at him and threatening him…Even when Terry approached the human resources department at the store and requested a transfer, his manager stalled his transfer. As a result he quit his job. At the time we spoke with him he was barely able to make ends meet and did not know when or if he would find another job." (HRW, 2011, p. 57)

Survey data, reports based on anecdotal evidence, and other forms of research document the existence of employment discrimination that limits LGBT people's ability to both contribute to the economy and to maintain an adequate standard of living. For example, in Nepal, 18% of 475 lesbians surveyed reported not getting a job, and 13% had lost a job in the last year (CREA, 2012). In Bulgaria, Estonia, Lithuania, Poland, and Romania, approximately one in four LGBT people felt discriminated against when looking for a job or at work because of their gender identity or sexual orientation (FRA, 2013). Transgender people face particular risk of being fired when they transition (Marcos, Cordero, & IGLHRC, 2009).

The fear of discrimination and harassment is one reason why many LGBT people are not open about their sexual orientation or gender identity in the workplace, as reports from Turkey (LGBT Rights Platform, 2009) and Kenya (The Kenya Human Rights Commission, 2011) show. Low rates of openness, in turn, might reduce the amount of discrimination reported.

[9] The Yogyakarta Principles are a groundbreaking guide to the application of universal human rights law as it applies to LGBT people. The Principles were developed at a 2006 meeting of international human rights experts. The Principles have not been adopted by States as a legally binding treaty, but instead serve as a tool to interpret and implement existing international law.

LGBT people who experience discrimination are often reluctant to report it, even when discrimination is illegal. For example, LGBT people in South Africa reported barriers such as fear of retaliation, lack of information about the reporting process, and lack of confidence in the legal mechanisms (Human Rights Watch, 2011).

Health

The Yogyakarta Principles (2007, principle 17) state, "Everyone has the right to the highest attainable standard of physical and mental health, without discrimination on the basis of sexual orientation or gender identity. Sexual and reproductive health is a fundamental aspect of this right." However, LGBT people experience many health disparities, such as elevated rates of depression, anxiety, suicidality, HIV/AIDS, and substance abuse. These health disparities likely arise as a result of minority stress (Meyer, 1995, 2003), population-specific targeting by tobacco and alcohol companies *(Hipple, et al., 2011)*, and the failure of health systems to provide prevention and services that meet the needs of this population (UNDP, 2013). Health disparities affect LGBT people's ability to be productive at work, reduce labor force participation when people cannot work, and burden public health care funds when individuals rely on emergency care rather than regular or preventative care.

HEALTH

Venezuela
"…the government systematically denied legal recognition to transgender persons by preventing them from obtaining identity documents required for accessing education, employment, housing, and health care" (The Council for Global Equality, 2013, p. 22).

Kenya
"'The doctor refused to believe that I was gay; he said he had only heard of gay people on TV and that I was simply lying.... He then called his colleagues to come spectate. It was quite embarrassing for me. He later told me to go read Leviticus 18:25, I felt judged… ,' 23 MSM sex worker" (The Kenya Human Rights Commission, 2011, 37).

Turkey
Of 116 transgender women interviewed, "39.7% of the participants said that they considered suicide because of the pressures they faced based on their identity, while 32.8% of these did attempt suicide" (LGBT Rights Platform, 2009, p. 3).

There are specific barriers to health for LGBT people living in emerging and developing countries. While many people in developing countries may rely on family members or kin networks to compensate for a lack of access to formal medical care or to healthy living conditions, LGBT people who have been rejected by their families do not have this resource. Even for those LGBT people living with their families, disadvantages exist if LGBT people are not able to talk about their identity with their families, perhaps leading to inappropriate care (*Padilla, del Aguila, & Parker, 2007).*

The HIV epidemic has disproportionately affected the LGBT community, especially among gay and bisexual men and transgender women. In fact, a recent meta-analysis found that globally 19.1% of transgender woman are HIV positive, compared to 0.44% of all adults of reproductive age (Baral et al., 2013). This finding did not change for wealthier countries, likely because discrimination leads to the impoverishment of transgender woman in low and high income countries alike. Around the world, transgender women face discrimination in housing, employment, and access to services, all of which increase their odds of participating in risky sexual activity for economic reasons. The enormous amount

of funding spent on HIV/AIDS-related projects—in 2013 alone, PEPFAR[10] distributed $5.1 billion (PEPFAR, 2014)—suggests that reductions in HIV prevalence among LGBT people could result in global financial savings that could be allocated to other development uses.

However, the construction of such HIV-related programs may result in other forms of stigma that challenge the dignity and freedom of LGBT people. In fact, the narratives of many HIV/AIDS education programs have been presented in a way that reinforces heterosexual and cisgender gender norms.[11] Portrayals of women as the guardians of their chastity and men as uncontrollably sexual leave no room for expressions of women's sexual desire, men's vulnerabilities, and non-heterosexual sexuality that allow people to make healthy sexual choices, including avoiding high-risk sexual behavior (Bhana, Morrell, & Pattman, 2009; Esacove, 2010; Walsh & Mitchell, 2006).

As an additional threat to LGBT health, there are private religious organizations that have taken it upon themselves to conduct HIV education in the developing world. Focus on the Family, a U.S.-based Judeo-Christian organization dedicated to "helping to preserve traditional values and the institution of the family," has developed a very specific sexual education curriculum entitled "No Apologies: the Truth about Life, Love and Sex" (SIECUS, 2005, p. 1). Originally developed for U.S. schools, Focus on the Family has exported this curriculum abroad to Australia, Costa Rica, Japan, Ukraine, South Africa, Singapore, and seven Sub-Saharan countries. "Educators" are given prompts such as the following to lead discussions: *"What is the root of HIV/AIDS? (Answers may include unfaithfulness, lack of character or living outside the boundary for which sex was created: marriage"* (SIECUS 2005, p. 2). In the sub-Saharan African region alone, Focus on the Family trained over 2,500 educators who have taught over 100,000 students between 2001 and 2004 (ibid.).[12,13]

[10] The President's Emergency Plan for AIDS Relief (PEPFAR) is the United States program that funds HIV/AIDS related work globally.

[11] Cisgender refers to people whose gender identity is the same as their sex assigned at birth (e.g. someone who was assigned female at birth and currently identifies as a woman). Cisgender is the antonym to transgender.

[12] Although more recent figures were not available on the African Focus on the Family website, it is evident that the programs are still in place and have a significant presence in the field of HIV/AIDS education: https://www.safamily.co.za/?no_apologies.

[13] The preceding paragraph was excerpted from a previous paper of one of the authors (Nezhad, 2011).

Education

Article 26 of the Universal Declaration of Human Rights states, "Everyone has the right to education" (UNGA, 1948, emphasis added), which includes LGBT students. However, LGBT students face discrimination in schools by teachers and other students. Discrimination discourages LGBT students from getting an education and/or hampers their ability to fully take advantage of their schooling opportunities. The economic impact is clear: education discrimination excludes LGBT students from opportunities to increase their human capital (that is, their knowledge and skills) and to be employed in higher-skilled jobs that contribute to overall economic productivity.

Students have been pressured to drop out or have been denied admission to schools because of their sexual orientation or gender identity. For example, a study in India found that half of MSM (men who have sex with men) respondents had been harassed or assaulted by teachers and classmates, and this treatment reduced their ability to continue with their education (Khan et al., 2005). In Bulgaria, the Czech Republic, Estonia, Lithuania, Poland, and Romania, 83-95% of LGBT people surveyed had witnessed negative comments or negative conduct in school because a classmate was perceived to be LGBT (FRA, 2013). Transgender people have been denied admission to school when they did not have paperwork or identification that matches their current gender presentation, even if there are no legal mechanisms to allow them to change their documents (UNCEDAW, 2013). When they are admitted to schools, transgender students are often abused in the classroom, such as a case in the Philippines where LGBT student groups "documented cases of transgender students who were made to leave the classroom or threatened with being barred from graduating on the basis of their gender expression" (IGLHRC, 2011, p. 12). In

EDUCATION

Guatemala

"…a transgender student passed the entrance exam at El Instituto Técnico de Capacitación y Productividad (INTECAP), the primary technical training center in Guatemala. When the director of INTECAP learned that she was transgender, he told her that the institute's regulations established that they could not take on students like her but 'only men and women.' As a result, she was barred from admission to the school." (OTRANS et al., 2012, p. 12)

Kenya

"I was a student in Kenyatta University until 3 years when I appeared in the media and declared that I am gay and demanded legal recognition. What followed after this was a consistent chain of backlash. My landlord demanded that I move within a week, in college, my group members kicked me out of group work and failed to allot my course work. Some professors deliberately failed me and made side jokes about homosexuality in class all to spite me. It was difficult walking around campus as people would point fingers, whisper and sneer. I couldn't bare the stigma and frustration in the school environment and my academic pursuits. Further to these was withdraw [sic] of financial support by my family due to my coming out. Eventually I dropped out of college and I am now trying to resume studies outside the country…." (The Kenyan Human Rights Commission, 2011, p. 32)

Mexico

"In November 2009, two lesbian students attending public high school were prevented from accessing school because of their sexual orientation. Previously, they had been subjected to homophobic assaults, both verbal and physical, from teachers and students. One of the young women was struck by fellow students with a bag filled with rocks, which resulted in bruising. When she complained to her teachers, they responded that she had provoked the attack by being different from everyone else. The students presented a complaint to the State Commission for Human Rights, which concluded that no discrimination or rights violation had occurred." (Global Rights et al., 2010a, p. 8)

Colombia

"Why would someone go to school when they're always rejected there? You can't do well on your school work, you can't study well, so you stop going to school. They rejected me, they were always looking to start something with me . . . you're going to school to learn but your classmates and your teachers have something against you because of who you are. So I dropped out, I decided to stop going to high school…." (UNCEDAW, 2013, p. 31).

addition to losing out on skill-building opportunities, the UN notes, "Isolation and stigma generate depression and other health problems and contribute to truancy, absenteeism, children being forced out of school, and, in extreme cases, attempted or actual suicide" (High Commissioner, 2011, p. 19).

Summary

Surveys and human rights reports from many countries provide evidence of the harmful experiences for LGBT people with police abuse, violence, employment discrimination, health disparities, and educational exclusion.

- Police officers unjustly arrest, detain, jail, beat, humiliate and extort LGBT people. Police abuse misuses government funds and takes LGBT people out of productive employment by detaining them or by "outing" them to their employers.
- LGBT people face disproportionate rates of physical, psychological, and structural violence. Violence has an economic impact when physical injuries are costly and restrict someone's ability to work, when grief and trauma make it difficult to concentrate on work, and when fear of future assaults may make it difficult for people to travel to and from work.
- Workplace discrimination causes LGBT people to be less productive in the workplace and to avoid seeking or be denied higher skilled jobs because of employer bias.
- LGBT people face multiple barriers to physical and mental health, including high HIV rates, a lack of competent and affirming medical practitioners, and denial or insurmountable expense of transgender-related care.
- The future careers of LGBT people are limited when LGBT students face discrimination in schools by teachers and other students, which hampers their learning and encourages students to drop out.

At this micro-level, the costs to the economy of just these five examples of types of exclusionary treatment include lost labor time, lost productivity, underinvestment in human capital, and the inefficient allocation of human resources through discrimination in education and hiring practices. The decreased investment in human capital and suboptimal use of human resources in turn acts as a drag on economic output and growth at the macro level.

In the next two sections, the empirical analysis shifts to the macro-level to compare measures of economic development and LGBT human rights, an important aspect of LGBT inclusion, across 39 different countries.

5. Description of Data on LGBT Rights and Economic Outcomes

To assess the relationship between LGBT inclusion and economic development in the 39 countries for this study, we need a measure of exclusion or inclusion that we can compare with economic development measures across countries. Unfortunately, no consistent cross-country empirical data are available about the life experiences of LGBT people in emerging economies, such as how many LGBT people live in a country, whether LGBT people are earning the same income as non-LGBT people, or whether they have similar health outcomes. However, we have information on the legal rights and protections afforded to LGBT people, which vary across the 39 countries in the study.

Laws can grant or restrict freedoms, so they help define whether LGBT people are included or excluded. Laws are also likely to be a good proxy for the degree of social stigma and the inclusion of LGBT people in political processes, since LGBT-supportive laws may be the result of concerted political and legal effort by LGBT people and their allies. Also, studies mentioned in Section 3 show that positive laws are correlated with positive social attitudes about homosexuality. Of course, the actual impact of laws depends on whether they are implemented, so the presence of both positive and negative laws is, in the end, only a proxy for inclusion.

For this analysis, we have collected data on both rights related to homosexual orientation and to being transgender as a way to measure LGBT inclusion. The rights of sexual minorities were measured using the Global Index on Legal Recognition of Homosexual Orientation (GILRHO), a rigorous new indicator on the basis of data going back to the 1960's. Data about the rights of gender minorities are much more limited. However, for 18 of the 39[14,15] countries we are studying, data on a variety of gender-identity rights are available from the project "Transrespect versus Transphobia Worldwide" (TvT), conducted by the organization Transgender Europe, and we used these data to create a provisional index on transgender rights.[16] Each of these two indices is explained below.

Global Index on Legal Recognition of Homosexual Orientation (GILRHO)

The time has passed that countries could simply be divided between those that outlaw homosexuality and those that do not. Over the last 50 years, many countries have moved from criminalizing homosexual behavior to some decriminalization, to some protection against sexual orientation discrimination, and to some recognition of same-sex families. Meanwhile a few countries have introduced new or harsher penal prohibitions. The resulting legal diversity across the world is vast. Law has become a very visible aspect of societies' dealings with homosexual acts, with gay and lesbian

[14] Not included in the TvT project were Albania, Bulgaria, China, Colombia, Czech Republic, Estonia, Guatemala, Honduras, Hungary, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Morocco, Nepal, Pakistan, Peru, Romania, Taiwan, and Ukraine.

[15] Six countries in the TvT sample were countries of interest, and the remaining 12 were emerging economies.

[16] For more information about the TvT project of the organization Transgender Europe (TGEU), see www.transrespect-transphobia.org/en_US/mapping.htm. The data collected in that project sometimes contradict the data collected by ILGA Europe for its annual *Rainbow Map and Index* (which is limited to European countries, see www.ilga-europe.org/home/publications/reports_and_other_materials/rainbow_europe).

individuals, and with same-sex relationships. In this field, activism, controversies, policies, and opposition often focus on law or law reform.

Therefore, when assessing economic and human development in relation to sexual orientation, it makes sense to also look at law and legal changes. More and more information about the legal position of different aspects of homosexual orientation (attraction, behavior, relationships, and identities) in the countries of the world is becoming available. One way to make comparisons of laws across countries feasible is to develop an index that gives a numerical value to the level of legal recognition of homosexual orientation. One of the co-authors of this report has been working on the development of such an index for several years now (Waaldijk, 2009). This report is the debut of his provisional GILRHO index for this set of countries in a multidisciplinary analysis. This legal index has two innovative dimensions: its time coverage includes all years since 1966, with the potential to expand it further into the past, and it will eventually include all independent countries of the world, although this study only draws on 39 emerging economies and other countries of interest.

Developing a legal index involves at least three stages: (1) deciding what types of law will be included, (2) finding reliable information about the existence of such laws in different countries, and (3) awarding numerical values to such laws.

In stage (1), eight types of laws have been included in GILRHO,[17] and they cover many of the important legal steps that different countries have taken in this field and that international bodies have been deciding upon:

- Legality of consensual homosexual acts between adults
- Equality of age limits for consensual homosexual and heterosexual acts
- Explicit legislative prohibition of sexual orientation discrimination in employment
- Explicit legislative prohibition of sexual orientation discrimination regarding goods and/or services
- Any legal recognition of the non-registered cohabitation of same-sex couples
- Availability of registered partnership for same-sex couples
- Possibility of second-parent and/or joint adoption by same-sex partner(s)
- Availability of marriage for same-sex couples

Stage (2), finding reliable sources for all countries that indicate whether–and when–such legal steps were taken, is difficult and time consuming. More research is still needed to find more sources, to confirm many of the legal data found so far, and to resolve contradictions between different sources. The version of GILRHO used for this report is, therefore, only a provisional one. For linguistic and other reasons, consultation of primary sources is often not possible for a study like this. Sometimes this difficulty could be compensated for by looking at a translation or a secondary description of a law, or by

[17] On the limitations related to this selection of eight categories, see Appendix A, which has more details on the construction of the GILRHO.

consulting local legal experts. An important secondary source has been the annual report *State-Sponsored Homophobia – A World Survey of Laws*, published since 2006 by ILGA (the International Lesbian Gay Bisexual Trans and Intersex Association). That report often cites sources, but even when it does not, it represents the collective knowledge of numerous researchers, activists, and officials who have been corresponding with ILGA about the legal situation in their country.[18]

Finally, stage (3) of developing GILRHO involves the translation of laws into numerical values. For each of the eight categories that are applicable in a country, one full point is given to that country beginning in the year that the relevant law entered into force. If relevant laws only apply in part of the country (as is the case with same-sex marriage in Mexico, for example), a half point is given irrespective of the number of states, provinces, or regions where the laws apply. A half point is also given if the relevant legislation uses terminology that is much broader than words like "homosexual," "sodomy," "against nature," "same sex," or "sexual orientation."[19] The few countries where homosexual acts were never explicitly criminalized (such as the Philippines) get one full point for category A. And if a country makes marriage available to same-sex couples without also keeping or making a form of registered partnership available to them, that country gets two full points for category H and none for category F (this is the case for Denmark since 2012, for example).

Therefore, for each year since 1966 a country can have 0 to 8 points in total. Countries receive a score of 8 where homosexual behavior is not criminalized, where an equal age of consent applies, where sexual orientation discrimination is forbidden in employment and provision of goods and services, and where same-sex couples can get recognized as cohabitants and for the purposes of adoption or marriage, while countries that offer no equality in all eight categories have a score of 0.

A few examples will further illustrate the calculation of the index: *South Africa* had 0 points in 1966, then 2 points from 1994 (when 'sexual orientation' was included in the Interim Constitution), and then step by step (including decriminalization in 1998, adoption in 2002, and same-sex marriage in 2006) reached a total of 8 points by 2007. *Malaysia*, where homosexual behavior continues to be a crime, has had 0 points for the whole period. *Hungary* already had 1 point in 1966, and then gained more points with recognition of cohabitation in 1996, an equal age of consent in 2002, and anti-discrimination in 1997 and 2004, before reaching a total of 6 with registered partnership in 2009. For several countries it was difficult to find precise years for one or two categories: for example it still remains unclear when exactly decriminalization took place in Kosovo and Nepal.

Finally, in some analyses, we also substitute simpler variables that capture either only decriminalization of homosexual acts between adults or the presence of a nondiscrimination law. These alternative

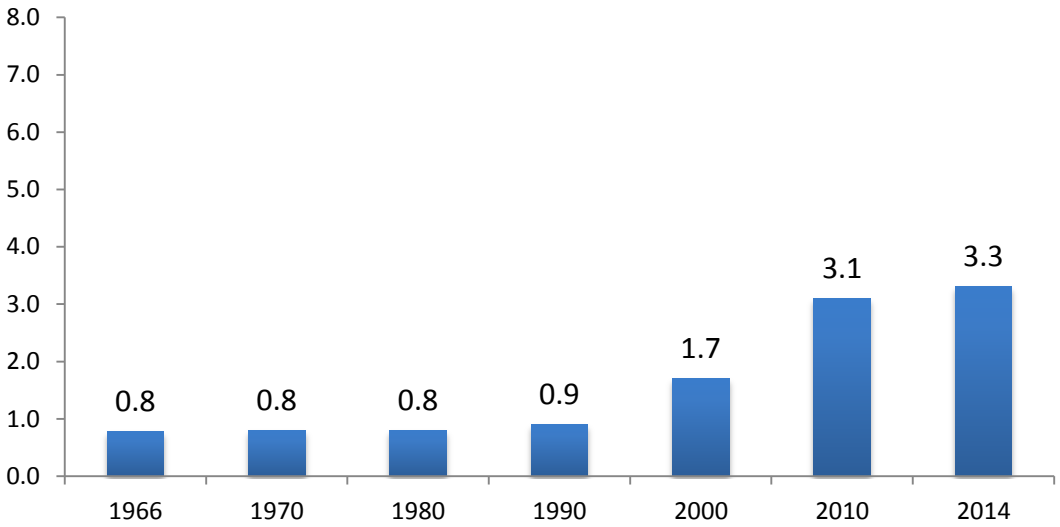
[18] In the interest of full disclosure, Kees Waaldijk has been advisor to the authors of this ILGA report since 2011.

[19] In several countries more general criminal provisions have been used to sentence people for homosexual behavior. Egypt, for example, does not have a specific criminal provision on homosexuality, but other provisions, including one on "debauchery," are used from time to time. Therefore it is not quite correct to say that in Egypt consensual homosexual acts between adults are legal, nor that they are illegal, so a half point is given for the current situation in Egypt with respect to category A of the index. Similarly, the use of the words "way of life" in the non-discrimination clause of the Swiss Constitution has generated a half point for the situation in Switzerland with respect to categories C and D of the index.

measures allow us to see whether it matters to assume that each type of law has the same effect on our measures of development, an implicit assumption in GILRHO.

Since 1966, the GILRHO score for most of the 39 countries has increased. Figure 4 shows that the average GILRHO score for these countries was less than one until 2000, when it rose to 1.7. The biggest increase in the average came in the 2000's, reaching 3.1 by 2010 and 3.3 in 2014.

Figure 4: Average GILRHO Score for 39 Emerging Economies and Countries of Interest



Looking more closely at the GILRHO values for each country reveals some interesting patterns:

- In eleven countries no change has occurred at all since 1966: Kenya, Malaysia, Morocco, and Pakistan have had a score of zero since 1966, and there was also no change since that year in Egypt, El Salvador, Guatemala, Honduras, Peru, Thailand, and Turkey.
- One country (Indonesia) had a decrease in its score from 1 to 0.5 in 2002.
- South Africa is the only country with a full score of 8.
- Among the 27 countries that have seen GILRHO increases over time, most of them saw little or no change until the 1990's.

Given the fact that most changes occurred in the last two decades or so, we focus our analysis in the next section on the time period 1990-2011, with 2011 being the most recent date for economic development data in our dataset (described further below).

Appendix B presents the GILRHO values for each country since 1990 and up to May 2014.

Transgender Rights Index

In 2012, Transrespect versus Transphobia Worldwide (TvT), an ongoing research project conducted by Transgender Europe, published a transgender "map" that presents information about 15 possible rights (legal and medical) available to transgender people in 58 countries. The data come from a questionnaire that was completed by transgender activists and experts in 18 of the 39 countries analyzed in this report.[20] For our analysis, we used these data, roughly following the same index-building approach as was used for GILRHO: we assigned one point to each right (or lack of discriminatory law), and half a point for countries with rights only available in parts of the country, under certain circumstances, or through risky means (e.g. surgery available but not under licensed medical supervision). To the authors' knowledge, this is the first use of this data in an index format.[21]

Points A – E summarize the Transgender Rights Index, with index values in parentheses:

A *Legal Recognition*: Legal change of name (1) and legal change of gender (1)

B *Legal Protection*: Recognition of gender identity in anti-discrimination legislation (1); recognition of transgender or gender identity in hate crime laws (1); inclusion of transgender people in asylum guidelines (1); and inclusion of transgender or gender identity in the constitution (1)

C *Legal Discrimination*: The lack of the following: Laws criminalizing trans people and trans-related issues (1); prosecution of trans identities under such laws(1); and state-sponsored discriminatory use of general laws(1)

D *Hormone Access*: Access to hormones under medical supervision (1); access to hormones without medical supervision (.5); and the presence of funding for hormones through the public health system or private insurance (1)

E *Transgender-Related Treatment*: Availability of any forms of surgery (1); requirements for medical supervision of the practice (1); availability of funding (1); and alternative forms of transgender-related surgery available when medically supervised options are unavailable (.5)

The results of this index should be interpreted with caution. It is a provisional measure based on a one-time survey. The weighting of the different elements in this index is thus largely the result of the number of questions asked in the TvT questionnaire. Future research should examine the correlation of these medical and legal rights with the lived experiences of transgender people.

Legal Recognition: The index contains two measures of legal transgender recognition: legal change of name and legal change of gender. Being able to change one's name and gender marker is important for transgender people's safety and economic security. There have been accounts of transgender people being stopped by police and subsequently abused when their appearance is incongruent with their legal documents (UNCEDAW, 2013). Additionally, people who have been offered jobs have had job offers rescinded when their employment paperwork reveals their transgender status (UNDP, 2013). Countries were given one point for each legal recognition measure.

[20] Not included in the TvT project were Albania, Bulgaria, China, Colombia, Czech Republic, Estonia, Guatemala, Honduras, Hungary, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Morocco, Nepal, Pakistan, Peru, Romania, Taiwan, and Ukraine

[21] Appendix C presents the underlying data by country for the Transgender Rights Index.

Legal Protection: The index contains four measures of legal transgender protection: recognition of gender identity in anti-discrimination legislation; recognition of transgender or gender identity in hate crime laws; inclusion of transgender people in asylum guidelines; and inclusion of transgender or gender identity in the constitution. These legal protections offer transgender people the possibility of recourse in the event of discrimination, and may give them assurance that they can pursue a career that maximizes their skills and human capital, rather than choosing a career based on what will keep them safest. Countries were given a full point for each legal protection measure that they had.

Legal Discrimination: The index contains measures where countries gain points for not having three common forms of legal discrimination: laws criminalizing transgender people and trans-related issues, such as outlawing cross-dressing or gender-related surgeries; prosecution of transgender identities under such laws, meaning that the laws are on the books and they are actively enforced (vs. older laws that may have been carried over from colonial times or an earlier era but are not actively enforced); and state-sponsored discriminatory use of general laws, meaning that laws that do not explicitly criminalize gender identity or transgender people are used to target and persecute transgender people, such as prostitution, loitering, or nuisance laws. Countries were given a full point per measure that they did not have (that is, countries with all discriminatory legal measures received no points). Countries were awarded a half point if they still have the discriminatory measure in parts of the country, or if transgender people have to undergo gender reassignment surgery in order to avoid legal discrimination.

Hormone Access: The index contains three measures of hormone access: access to hormones under medical supervision; access to hormones without medical supervision (such as through the internet, pharmacies, or the black market); and the presence of funding for hormones through the public health system or private insurance. Not all transgender people choose to use hormone therapy, but for those who do, hormone access has been proven to be a medically necessary procedure (Coleman et al., 2012) that can affect individuals' capacity to function to the best of their ability. Hormone therapy needs to be monitored by a doctor as misdosage can have serious health consequences (Hembree et al., 2009). However, even in places where legal medical supervision of hormone therapy is not available, access to hormones without supervision may improve the quality of life for trans people (Murad et al., 2010). Finally, despite the fact that transgender medical care has been proven to be medically necessary, many private and public insurers refuse to fund any transgender-related care, which shifts the financial burden to individual transgender people (UNDP, 2013). Countries could score a maximum of 2.5 points on these measures. Countries were awarded a full point if they had hormone access with medical supervision. They were awarded a full point if they had funding available, but only a half point if funding was only available in certain parts of the country. Countries were awarded a half point if they had hormones available without medical supervision.

Transgender-Related Treatment: The index contains four measures of transgender-related treatment: availability of any forms of surgery; the presence of requirements for medical supervision of the practice; the availability of funding; and whether alternative forms of transgender-related surgery available when medically supervised options are unavailable. Like hormone therapy, transgender-related surgeries are medically necessary for transgender people who desire them, and they may affect people's productivity and be helpful to people even if they are provided under dangerous

circumstances, which may arise because of a lack of availability or a lack of funding. Countries could score a maximum of 3.5 points for these measures. Countries were awarded a full point if they had some forms of surgery available, a full point for medically-supervised surgery, and a full point for funding. Countries were awarded a half point if they had gender-related surgeries available outside of medical care.[22]

Other Data Sources

In addition to the GILRHO and Transgender Rights Index, for this report we use several key indicators of economic development, summarized in Table 2. Making economic data comparable across countries over time is a challenging process. Consider one of the key measures that we use, per capita GDP, a measure of the value of goods and services produced in a country in a given year. Comparing GDP for different countries requires making data comparable. But currencies differ across countries, rates of inflation differ across time and countries, and the purchasing power of local currencies varies because of price differences. Therefore, we rely on a commonly used dataset that has made appropriate adjustments for those differences: the Penn World Table, version 8.0.[23] Most of the variables for the statistical models come from that dataset. One additional measure, the share of women in parliament, comes from the World Bank Databank.

[22] For a full explanation of the original study methodology, please see: www.transrespect-transphobia.org/en_US/mapping.htm.

[23] Feenstra, R. C., Inklaar, R., & Timmer, M. (2013). *The Next Generation of the Penn World Table* (NBER Working Paper No. 19255). Cambridge, MA: National Bureau of Economic Research.

Table 2: Indicators and Data Sources

COMPOSITE	**Global Index on Legal Recognition of Homosexual Orientation** (GILRHO) Waaldijk (work in progress) 1966-2014	An index of the rights of LGB people that is still being developed by one of the authors of this report (see also Waaldijk, 2009). Includes measures of legality of homosexual activity; equal age of consent; employment anti-discrimination; goods and services anti-discrimination; adoption by same-sex partner(s); and various forms of recognition of same-sex relationships. Countries may score a maximum of 8 points.
	Transgender Rights Index (TRI) 2012	This tentative index of rights for transgender people has been created specifically for this report, based on the online results of the project "Transrespect versus Transphobia Worldwide" (TvT) of the organization Transgender Europe (TGEU) (see www.transrespect-transphobia.org/en_US/mapping.htm). Includes measures of legal recognition; legal protection; legal discrimination; hormone access; and availability of gender-related surgery. Countries may score a maximum of 15 points.
	Human Development Index (HDI) UNDP Human Development Index 2000, 2005-2012	A composite indicator of human development as defined by the indexed outcomes of life expectancy, education, and income. Countries may score 0-1 points.
ECONOMIC	**Real GDP per capita** Penn World Tables 8.0 1990-2011	Output-side real GDP at chained PPPs (in mil. 2005US$).
	Employment Penn World Tables 8.0 1990-2011	Number of persons engaged (in millions).
	Openness of the economy Penn World Tables 8.0 1990-2011	Share of merchandise exports at current PPPs plus share of merchandise imports both at current PPPs.
	Capital Investment Penn World Tables 8.0 1990-2011	Share of gross capital formation at current PPPs.
DEMOGRAPHIC	**Total Population** Penn World Tables 8.0 1990-2011	Total population of a country.
	Human Capital Penn World Tables 8.0 1990-2011	Index of human capital per person, based on years of schooling and returns to education.
EQUITY	**Women's Share of Parliament** World Bank Databank 1997-2011	Proportion of seats held by women in national parliaments (%).

6. Statistical Relationship between LGBT Rights and Development

In contrast to the findings of Section 4, this section's approach to assessing the relationship between legal rights for LGBT people and economic development is a statistical one, using data from individual countries. The statistical findings indicate positive links between measures of rights for LGBT people (the Global Index on Legal Recognition of Homosexual Orientation and the Transgender Rights Index) and two indicators of economic development (GDP per capita and the Human Development Index). First, we look at simple graphs that show the relationship between each rights index and a measure of economic development by plotting values for each country. Second, we present the results of more complex statistical models. Even after taking into account other standard influences on economic development measures, we continue to find a positive relationship between LGBT rights and economic development: countries with more LGBT rights tend to have higher levels of economic development.

Explaining the Graphs

As a simple illustration of the rights-development relationship, Figures 5-8 plot values of the GILRHO and TRI indices against different measures of economic development for 2011, the most recent available year for our GDP per capita data.[24] The horizontal axis represents the legal index, which ranges from zero to eight for GILRHO and from zero to fifteen for TRI.[25] The vertical axis represents the development measure, either the level of GDP per capita (which is the monetary value of the goods and services in an economy divided by population, measured in US dollars) or the HDI (from zero to one). Then we put on the graph the combinations of those two measures for 38 countries.[26]

For example, in Figure 5, the point for Kenya near the far left of the graph plots a GILRHO value of zero and a per capita GDP of $1,318. In contrast, Argentina has a GILRHO value of seven and a per capita GDP of $13,323.

[24] The use of one year of data for this illustration reflects the fact that we have both economic and rights data for 38 countries for 22 years, which would generate 836 different data points, which is too many for one clear graph. We use all 836 data points in the larger models.

[25] The graph stops at the value of 14 for the TRI since the highest value in our sample was 12.

[26] In this section, we do not include Kosovo, since our main dataset did not include GDP data from Kosovo, so we are analyzing 38 countries.

Figure 5: GILRHO compared to GDP per capita, 2011

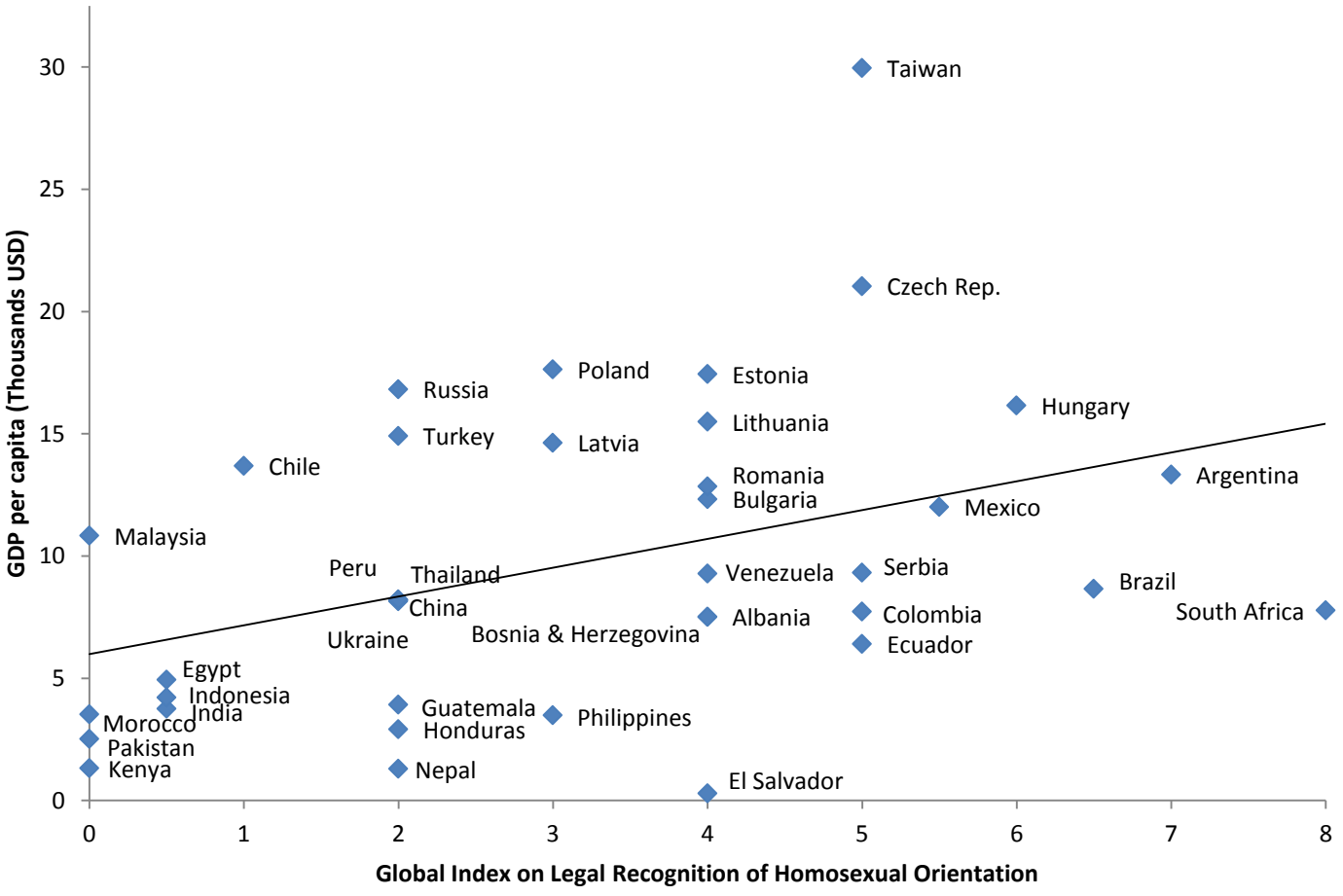
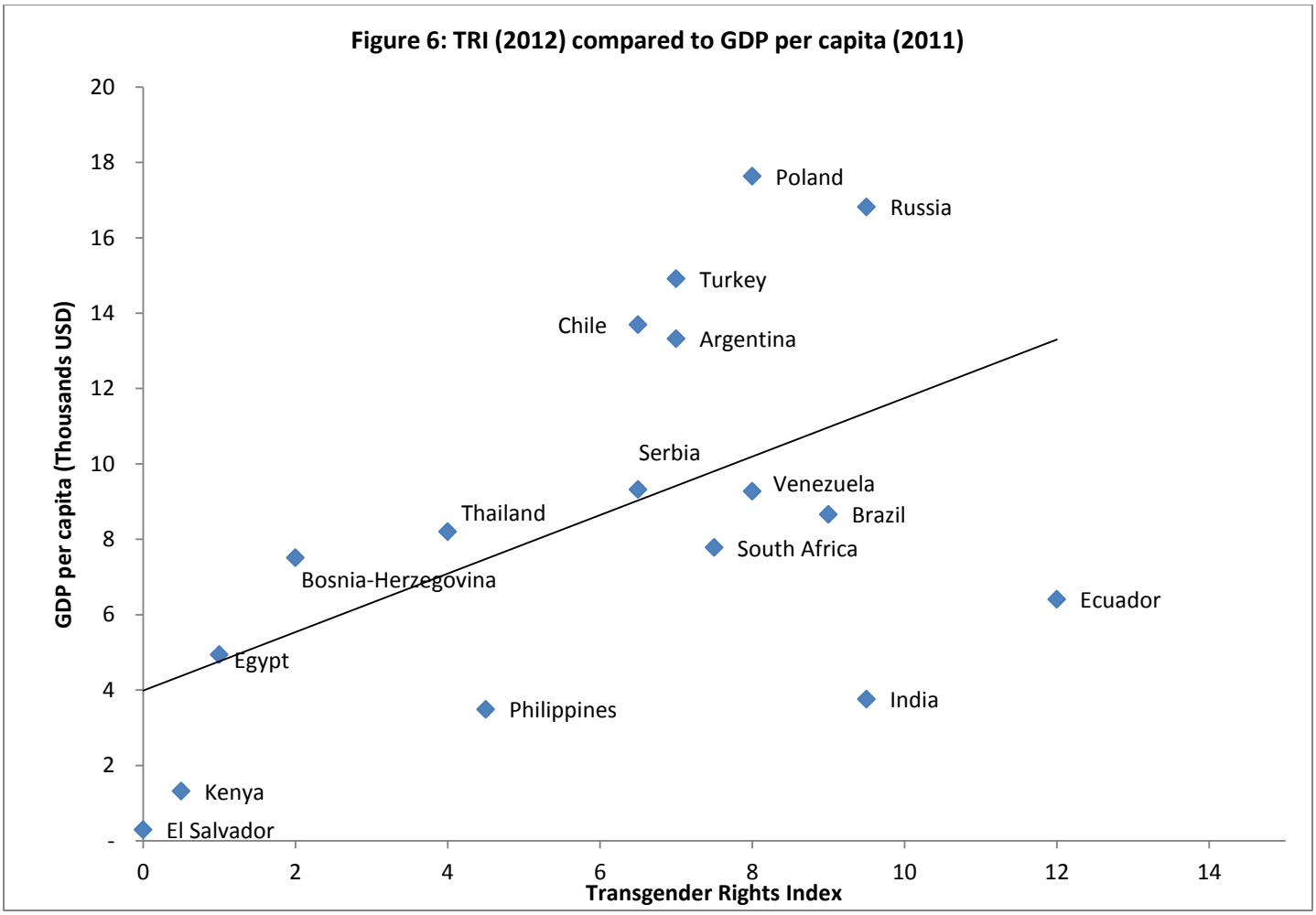


Figure 6: TRI (2012) compared to GDP per capita (2011)



Per capita GDP Graphs

Figures 5 and 6 graph the legal indexes with per capita GDP values from 2011. Figure 6 shows a smaller number of countries because of the coverage of the TRI, and that measure is only available for 2012.

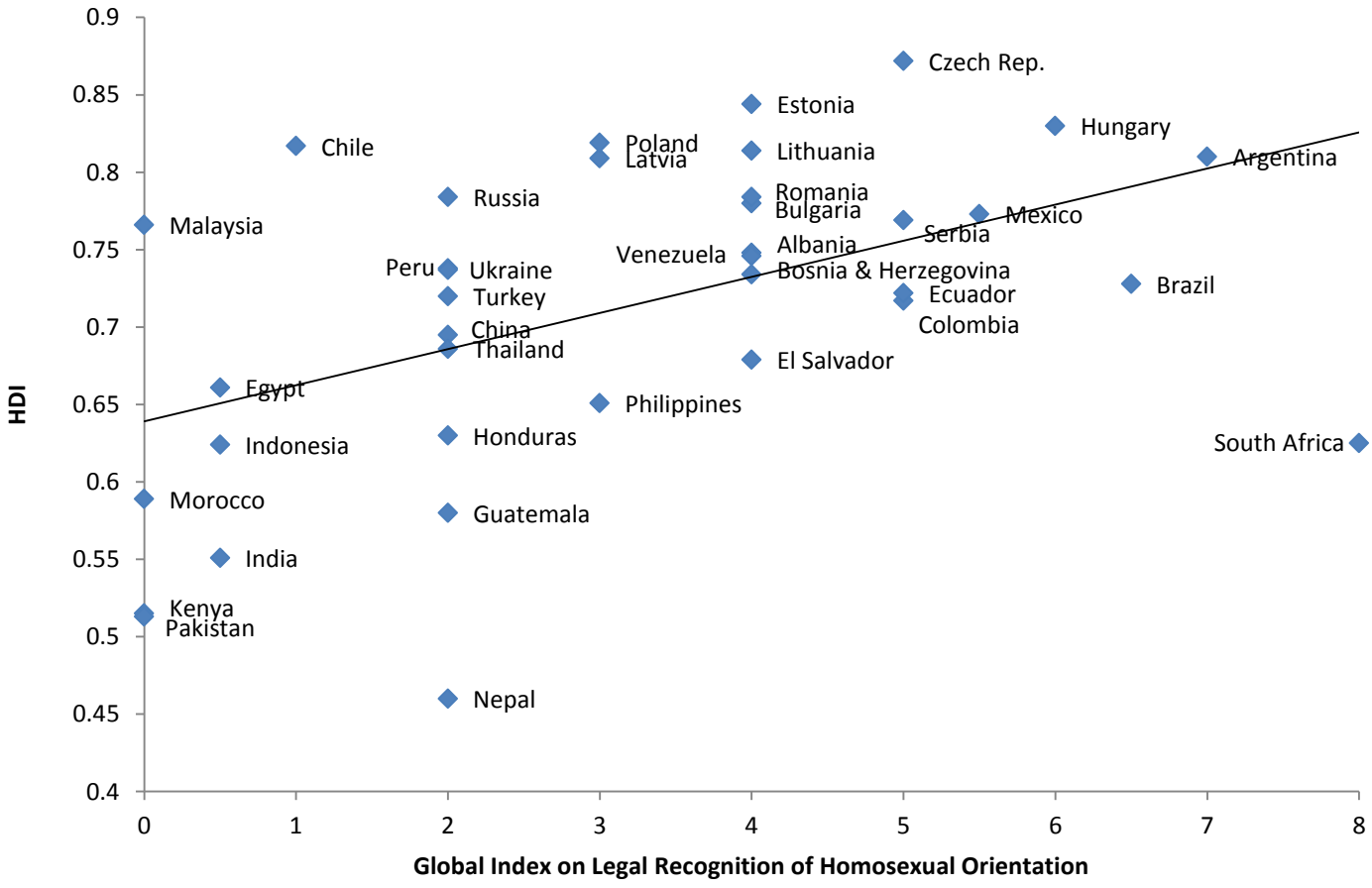
Both figures show a clear positive correlation between GDP per capita and the rights indexes related to homosexual orientation and transgender people: higher levels of rights for LGBT people are found in richer countries, as predicted by the theoretical frameworks outlined in Section 3. In Figure 5, as we move from countries with low GILRHO values (fewer rights) on the far left side of the bottom axis to countries with higher values to the right, the values of GDP per capita are also getting larger—those countries' points move up vertically. The example of Kenya and Argentina illustrates this relationship: Argentina has higher values of GDP per capita and GILRHO than Kenya. Figure 6 shows that TRI has a similar positive correlation with per capita GDP. Countries with higher levels of the TRI (moving toward the right along the horizontal axis) tend to be higher up along the vertical GDP per capita axis.

Another way to think about this positive correlation is that walking along the set of points from left to right means going "uphill" along the solid line placed on the graph. That "trendline" represents the line that comes the closest to all of the points on the graph. The steepness of the trendline in each graph reflects the degree to which the two measures are related.[27]

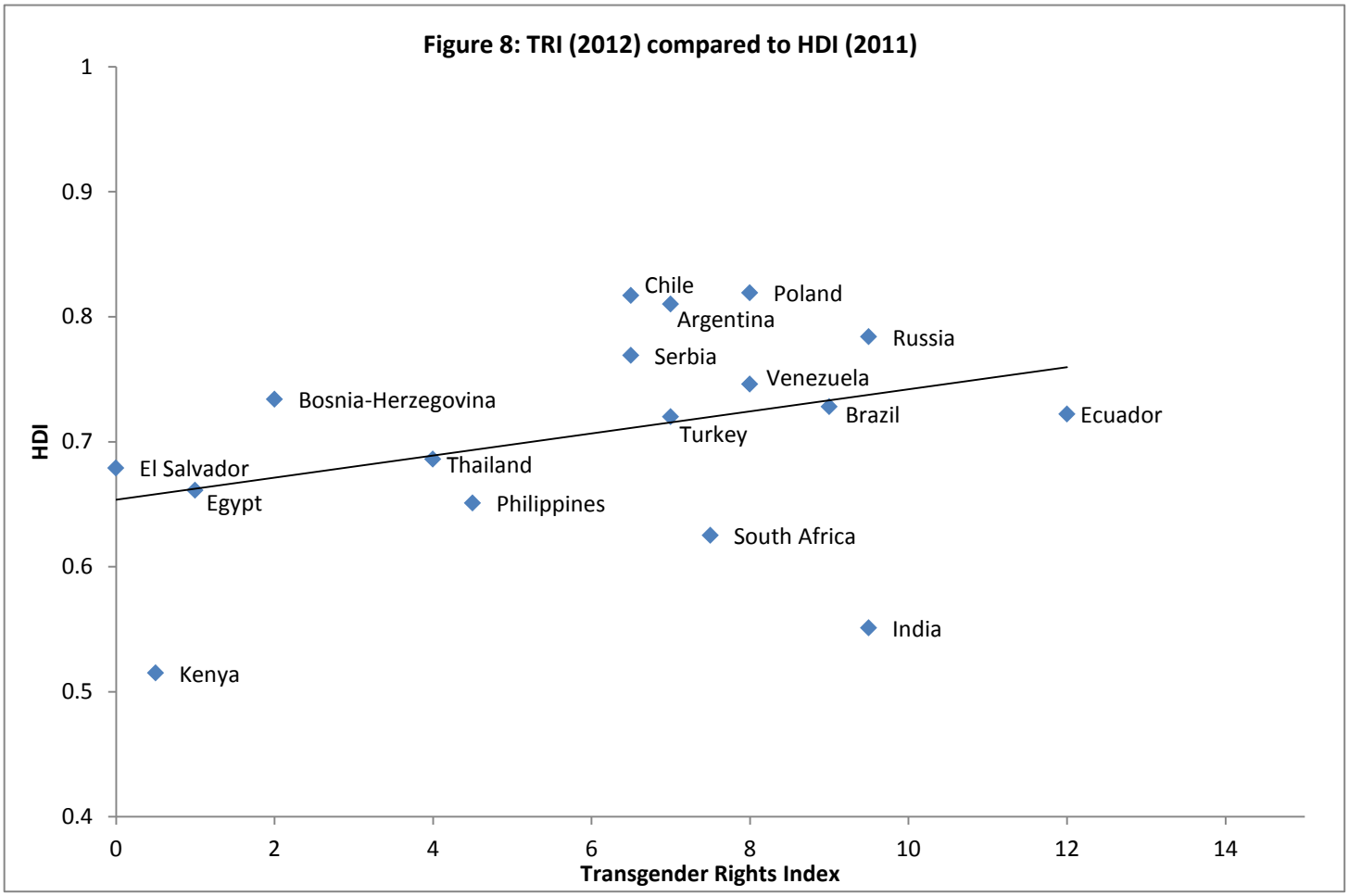
Human Development Index Graphs

Comparisons of rights with the Human Development Index in Figures 7 and 8 show a similar pattern. **For both measures of rights, LGBT rights are associated with higher levels of the Human Development Index.** The points for countries also sketch out an uphill pattern going from left to right. LGBT people have more rights in countries with a higher standard of living as captured in the HDI measure, suggesting more rights are associated with the components of the HDI: more educational attainment, longer life expectancy, and higher per capita income.

Figure 7: GILRHO compared to HDI, 2011



[27] The line represents the result of a regression of the relevant legal index on the relevant development measure.



Statistical Models of the Relationship

(This section can be skipped by readers with less interest in statistical methods.) The simple graphs with just one year of data illustrate a positive relationship between LGBT rights and economic development that is confirmed by the more sophisticated statistical procedures in this section. In this section we take into account the fact that many other factors affect these economic development measures beyond LGBT rights, and we report findings from more rigorous statistical models on data from 1990-2011. The objective is to estimate the net impact of rights for sexual minorities, controlling for other relevant factors, on measures of economic development.

The rationale for including these other relevant factors draws from a large economics literature on the determinants of economic growth. Studies have shown that the most powerful and important factors to consider include investment in a country's stock of capital, the degree to which a country's economy includes international trade, investment in physical capital, and investment in human capital—that is, skills and knowledge that allow people to be more productive in the workplace. In addition to those economic determinants, certain cultural and legal factors have also been shown to matter for economic growth, including the prevalence of particular religious affiliations within a country, the existence of

political and legal rights for individuals, and other institutional features that can generate lasting economic effects (Levine and Renelt, 1992; Sala-i-Martin, 1997; Sala-i-Martin, Doppelhofer, and Miller, 2004; Klasen and Lamanna, 2009).

This study takes advantage of comprehensive "panel" datasets on many of these economic variables, in which the same variable is measured across countries in each year. These data are used to estimate a regression model that pinpoints the net effect of the GILRHO index on GDP per capita and the HDI. As noted in Section 5, we use economic data that have been carefully adjusted to take into account differences across countries in currencies, inflation, and purchasing power.

There are two advantages of using data that covers many countries over time. First, we can take advantage of variations in the legal index within countries as well as differences across countries when assessing the impact of changes in rights on measures of economic development. Second, we can control in a simple way for what are called "country fixed effects"—the unobservable factors related to culture, geography, or history that also influence countries' development. Those influences do not change much over time, so adding in controls for each country is a way of capturing some of those influences. On a practical level, these "fixed effects" for countries and, in some models, years involve adding control variables for each country and year to the regression.

The general strategy is to use statistical models that predict economic development with the legal index without any other variables to see what the simplest relationship is between rights and development, an analysis that is similar to the trendlines in Figures 5-8.[28] Next, we add the other factors that influence development to the model to get a better measure of the net relationship that remains between rights and development, holding all else equal. Appendix D offers more details about the estimation strategy.

Finally, because the TRI is only available for one year, we can only use this strategy for the GILRHO, which has values for each country in each year back to the 1960's. As noted earlier, we focus our analysis on 1990-2011 since very few changes in the GILRHO occurred before 1990 in these emerging economies and other countries of interest.

Relationship between GILRHO and GDP per capita

The analysis of the data for the selected countries reveals a clear positive correlation between the legal index and per capita GDP in the statistical models. Table 3 presents the estimated relationship (the regression coefficient) of the GILRHO to GDP per capita and HDI for a series of separate models. Each row of the table (A-F) shows the relationship between the legal measure to either GDP (column 3) or HDI (column 4), given the controls used in that row's model (column 2).[29]

Before adding in any other variables, the result reported in row A of Table 3 shows that each point of the GILRHO index is associated with just over $1,400 more in a country's per capita GDP. To put this figure in perspective, the average GDP per capita level for this sample of 38 countries in 2011 was $9,690, so this rights effect is equivalent to 14.5% of the average. (Unless otherwise noted, all reported

[28] Figures 5-8 only assess the relationship for one year; our bigger models look at 1990-2011.
[29] More details on the estimation strategy and the full model results are found in Appendix C.

effects are statistically significant at the 15% level or better. In other words, we would be very unlikely to see these effects by chance.[30]) It is important to note that this finding does not mean that adding one right will necessarily cause the addition of $1,400 to a country's per capita GDP, but simply that a strong correlation exists between development and rights.

That positive correlation persists after controlling for other factors used by economists to predict per capita GDP (population, employment, capital, international trade, and human capital), and for country-level fixed effects. By accounting for the latter, we also take into account other unmeasured characteristics of countries that might influence development.[31] After taking all of those factors into account, the association of a one point change in the GILRHO index is smaller (not surprisingly): a country has $489 more in per capita GDP for each index point, shown in row B of Table 3, which amounts to about 5% of average GDP per capita for the sample countries.

A slight complication in measuring the relationship of GDP per capita and GILRHO comes when including dummy variables for year fixed effects, as in row C of Table 3. Because both GDP per capita and GILRHO are trending upward for most countries, adding year dummies takes away some of the statistical effect of GILRHO (and vice versa). The correlation is still positive, with each point in the GILRHO adding approximately $320 to per capita GDP (about 3% of average GDP per capita in this sample), but that effect is only weakly statistically significant at the 15% level. That 15% level is slightly higher than normally considered a statistically significant effect, but it is still suggestive that we are not seeing this result simply by chance.

In addition to these basic analyses, we explored two possible concerns about the interpretation of these findings.[32]

The first concern is that GILRHO assumes each component of the index has the same value and, therefore, the same relationship to GDP. Decriminalization counts in the index exactly the same amount as allowing a same-sex couple to marry or passing an anti-discrimination law, although those changes in laws could have very different social and economic consequences. Therefore, we consider two components in the index separately—one capturing the decriminalization of consensual homosexual acts between adults and one capturing the presence of a national anti-discrimination law (either with respect to employment or selling goods and services)—to see if some legal changes are more closely related to GDP per capita than others.[33] Comparing those two elements with development separately

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[30] Reported models used standard errors clustered by country. Findings of statistical significance rarely vary when clustering standard errors by country or region. In general, clustering by region tends to reduce the standard errors when compared to the country-level clustering, making it more likely that a coefficient will be statistically significant.

[31] Accounting for country-level fixed effects alone reduces the GILRHO effect from $1,408 to $938.

[32] Other sorts of tests of the "robustness" of these findings to changes in the models are also discussed in Appendix D.

[33] In the models reported in Table 3, we define decriminalization as a value of one in the relevant GILRHO component, indicating that consensual homosexual acts between adults are clearly legal in the whole country. We get the same result of a statistically insignificant effect using different combinations of decriminalization and equal age of consent laws that we constructed and tested. We consider a country to have an anti-discrimination law if

reveals an interesting pattern. Decriminalization alone is not associated with a change in per capita GDP; its coefficient is not statistically significant (row D of Table 3). However, an anti-discrimination law is associated with a $1,763 increase in per capita GDP, and it is significant at the 15% level (row E).[34]

This apparent difference between the two types of rights might reflect several possible dynamics. Decriminalization might be most important as a step that paves the way for anti-discrimination laws, as it is often a precursor to anti-discrimination laws (Waaldijk, 1994).[35] As such, decriminalization may be seen as a necessary but insufficient step toward the protection of rights that are associated with development. Another possibility is that decriminalization alone might not have had an independent economic effect in this particular sample of 38 countries but could be important for economic outcomes in other countries. Also, it is possible that those laws might have been repealed because they had not been strictly enforced in the years before formal decriminalization, reducing the practical effect of a change in the law (Waaldijk, 2013, p. 188).

A second concern is that what we are picking up in our analysis might not be an LGB-specific effect, but instead a much broader positive connection between economic development and a country's general commitment to equity and inclusion. If countries with more rights and inclusion of women or disadvantaged minority groups also give more rights to LGB people, then what we call an LGB rights effect might be more properly interpreted as a broader equity and inclusion effect.

We can test this possibility in a simple way. If the GILRHO effect simply reflects the degree of a country's commitment to equity, then adding a different equity measure to the statistical model should greatly reduce the size and significance of the GILRHO effect. It is difficult to find a consistent measure of group inclusion or equity that extends across many years and countries, but data are available for many countries and years on the percentage of a country's members of parliament who are women. The GILRHO is positively correlated with the percentage of women in parliament, as this argument suggests. However, the GILRHO effect remains (row F of Table 3) even after including the parliament measure in the model. The effect is still positive and only slightly smaller (falling from $320 to $289), but it is not quite statistically significant at the 15% level.[36] This finding suggests that the correlation between LGB rights and development is picking up something LGB-specific rather than a more general connection to gender equity.

Overall, the positive relationship between the GILRHO and per capita GDP remains even after controlling for other factors that also affect economic development. Particular rights for LGB people appear to be

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either an employment or goods and services anti-discrimination law is clearly present at the national level (that is, one of those variables has a value of 1). An alternative specification of the anti-discrimination variable captures countries with both kinds of anti-discrimination law, which resulted in a smaller but still statistically significant positive effect. Relatively few countries in this sample legally recognized same-sex couples and even then only in the later years of the time period studied, so we did not explore the impact of those laws.

[34] This coefficient has a p-value of 0.106, so it is almost statistically significant at the 10% level.

[35] However, in at least five African countries a legal prohibition of sexual orientation discrimination was introduced while homosexual acts were still a crime (Waaldijk, 2013, p. 188-189).

[36] The p-value is 0.166 if clustering standard errors by country and 0.076 if clustering by region. The sample is also smaller than in rows A-E, which would tend to decrease the likelihood of statistical significance.

more closely related to development than others, with anti-discrimination legislation having a much stronger direct effect than decriminalization of homosexual acts for adults.

Table 3: Effects of the GILRHO Index on Economic Development Indicators

	(1) **Outcome variable**	(2) **Controls**	(3) **Effect on GDP per capita** (1990-2011)	(4) **Effect on Human Development Index** (2000 - 2011)
(A)	GILRHO	None	$ 1,408.25***	0.031***
(B)	GILRHO	Basic economic variables (population, employment, capital, international trade, and human capital); and country fixed effects	$ 489.17***	0.011***
(C)	GILRHO	All as in (B); plus year fixed effects	$ 319.83*	-0.004***
(D)	Decriminalization only	All as in (C)	$ -211.12	0
(E)	Anti-discrimination laws only	All as in (C)	$ 1,763.18***	-0.002
(F)	GILRHO	All as in (C); plus percentage of members of parliament who are women	$288.58	-0.003**

*** statistically significant at 5% level
** statistically significant at 10% level
* statistically significant at 15% level

Relationship between GILRHO and the Human Development Index

As with GDP per capita, the Human Development Index is also positively correlated with the GILRHO. An additional point in the index is associated with an increase of 0.031 in the HDI value in the simple model with no other influences on development (row A, column 4 of Table 3). Since the HDI ranges from zero to one, this result amounts to a 3% change in HDI. While the change in HDI does not directly translate into a more intuitive measure, the correlation suggests that more LGBT rights are associated with an improved well-being of people, as measured by education, health, and per capita income.

That positive correlation persists after controlling for the same factors used in the GDP per capita model of row B.[37] The model also takes into account other unmeasured characteristics of countries that might affect the HDI through the inclusion of country-level fixed effects. After taking all of those factors into account, the association of a one-point change in the index with the HDI is smaller, with each point adding 0.011 to the HDI in row B.

As in the GDP models, it is complicated to interpret the effect of trends in both the GILRHO and HDI over time in the model when taking into account the impact of different years (row C). Because both HDI and the GILRHO are trending upward on average over time, adding year dummies takes away the positive effect of the GILRHO. The effect in row C is -0.004, which is very small but negative and statistically significant. Since the negative effect only appears when the model includes the year variables, that suggests that the HDI is rising faster than the index overall, so rising values of the index in a country will appear to have a negative effect on HDI in row C.[38]

We can also check for the same concerns mentioned in the GDP analysis. First, we again consider two components of GILRHO separately, one reflecting decriminalization in a country and the other the presence of an anti-discrimination law. However, neither of those measures alone has a statistically significant impact on HDI in the models (row D and E). Second, adding the percentage of women in national parliaments as a gender equity measure into the model does not affect the size of the GILRHO effect—it is still small and negative when using year fixed effects (row F).

Summary

Overall, then, we find strong evidence that countries that have more rights for LGB people also have higher levels of economic development. And the same may be true for countries with more rights for transgender people given the simple correlations seen in one year of data in Figures 6 and 8. **Both GDP per capita and the Human Development Index are higher in countries that have more rights related to LGB people (as measured in GILRHO), and also in countries with more right for transgender people (as measured in TRI). For LGB people, the simplest correlation shows that one additional right is associated with approximately $1400 more in per capita GDP and with a higher HDI value.**

The relationship remains strong for LGB rights even after taking into account other factors that influence development, although the effect is smaller. The impact of an additional right on per capita GDP is approximately $320 after those controls, or about 3% of the average GDP per capita in our sample. The positive relationship persists when we look at some specific rights within the GILRHO (but not for all). The impact of GILRHO also persists after we control for a measure of gender equity.

The positive link found between LGBT rights and economic development supports the models outlined in section 3 that predict a positive relationship. These findings at the macro-level are properly thought

[37] The models include population, employment, capital, and international trade; the human capital index was omitted since the HDI includes measures of educational attainment.

[38] Note also that the time period for the HDI models is 2000-2011, a shorter period than the GILRHO models, which could be another source of the difference in findings.

of as correlations, and at this stage of research we cannot separate out the causal direction to say whether rights have a causal effect on development or that development has a causal effect on rights.

However, it seems likely that all of the theoretical factors could be at work and we are seeing their net effect in this study. More rights might allow LGBT people to achieve their fuller economic potential when they can get education and training that improves their productivity and when they are treated equally in the labor market (the human capital model). Greater rights and freedoms might improve individual well-being by expanding individuals' capabilities to be and do what they value (the capabilities approach). Greater economic development might make countries more likely to respect the rights of LGBT people, as LGBT can freely organize and push for legal changes and as public opinion shifts to support greater individual autonomy and minority rights (the post-materialist hypothesis). And countries hoping to become more visibly modern and successful trading partners might be using LGBT rights strategically as a way to promote and expand economic opportunities (strategic modernization).

7. Broader Conclusions and Recommendations

Putting together both the detailed, more qualitative data from the research on the lived experiences of LGBT people with the macro-level statistical analysis results in the same conclusion: LGBT rights are related to economic development. **Exclusion of LGBT people causes harms to the economy (as well as to individual LGBT people); the addition of legal rights for LGBT people is associated with higher levels of economic development.**

In surveys and human rights reports from many countries, the micro-level analysis finds evidence of harmful experiences of LGBT people:

- Police officers unjustly arrest, detain, jail, beat, humiliate, and extort LGBT people.
- LGBT people face disproportionate rates of physical, psychological, and structural violence.
- Workplace discrimination reduces employment and wages for LGBT people.
- LGBT people face multiple barriers to physical and mental health.
- LGBT students face discrimination in schools by teachers and other students.

The costs to the economy of these forms of exclusionary treatment include lost labor time, lost productivity, underinvestment in human capital, and the inefficient allocation of human resources through discrimination in education and hiring practices. The decreased investment in human capital and suboptimal use of human resources in turn would reduce economic output and growth at the level of the overall economy in a direct causal way.

At the broader macroeconomic level, our statistical analysis found that GDP per capita and the Human Development Index are higher in countries that have more rights related to LGB people (as measured by GILRHO) and to transgender people (as measured by TRI). For LGB people, the simplest correlation shows that one additional right is associated with $1,400 more in per capita GDP and with a higher HDI value.

After holding constant other factors that influence development, the correlation between GDP per capital and the GILRHO remains, although it is smaller. The impact of an additional right for LGB people on per capita GDP is approximately $320 after those controls, or about 3% of the average GDP per capita in our sample.

Unlike the micro-level analysis, we cannot draw a firm conclusion about the direction of the causal link in the macro-level analysis, that is, whether more rights cause higher levels of development or whether more developed countries tend to introduce more rights. **However, we can say that economic development in emerging economies happens alongside and appears to be compatible with expansions of human rights for LGBT people. As such, these findings suggest that development programs can and should incorporate the links between LGBT human rights and economic development into development programs and policies. As this study suggests, it is very likely that LGBT inclusion and economic development are mutually reinforcing each other.**

Limitations

Of course, as with any study, there are some limitations to the study's findings. First and most importantly, this set of countries is not a random sample of the world's countries, so the findings here might not be generalizable to other countries. The emerging economies have relatively high growth rates compared with other low- and high-income economies, making them very different by definition. Also, the "countries of interest" that were added to the sample might also be quite different from the other countries not included. For example, there are only four African countries included. Given this issue with the sample, it would not be appropriate to apply these findings directly to other countries without further research.

Second, we cannot directly establish whether there is a causal link in which LGBT rights generate additional economic development. Another reasonable interpretation of the macro-level results is that countries that have higher per capita income are more likely to adopt LGBT rights. However, the micro-level data reviewed here suggests a causal link from rights to development is a plausible one, since the lack of rights allows discrimination and other forms of exclusion that reduce the productive contributions of LGBT people.

Third, our measures allow only for indirect measures of inclusion and limited measures of economic development. Formal legal rights might not be a good proxy for the level of inclusion of LGBT people in the countries studied. Even though rights are correlated with attitude measures, individual attitudes might also not correlate directly with the lived experience of LGBT people, and they would not necessarily reflect social or systemic forms of exclusion. Also, our macroeconomic measures of economic development, GDP per capita and the Human Development Index, are very broad measures that do not capture the distribution of income (for example, higher average economic well-being might not improve LGBT people's well-being).

Recommendations

Given these limitations, we recommend further research and data development efforts in order to better understand the links between LGBT inclusion or rights and economic development. In particular, further research on the causal connection is an important direction. Some additional extensions of this work are possible with existing data:

- Expand the study to a broader set of countries and years. Most of these data are potentially available for a very large proportion of countries (although more easily available for sexual orientation than gender identity), and expanding the sample to include low-income and high-income countries would allow for a better understanding of the rights-development linkage. With such a broader set of data, we could more reliably test the economic effects of specific rights. And we could also see if the general effects vary for different income levels of countries, for different regions, or for different periods.
- Use different economic outcome measures to compare to LGBT rights. For example, creating a broader and larger sample would allow for an analysis of how rights might be linked to GDP

growth rates. At least two other outcome measures that are related to economic development strategies would be likely candidates: tourism and foreign direct investment. These outcome measures require different kinds of statistical modeling and data, so they would likely be distinct subjects of future research.

- Study the determinants of LGBT rights across the countries of the world. Very little existing research explores the factors that predict the passage of laws across countries. The factors that make passage of LGBT rights laws more likely could include economic ones, so understanding which factors are most important can also help sort out the question of causation in this study. For example, if GDP per capita is not a major influence on the passage of LGBT rights laws, then we might be more confident in interpreting the correlations reported here as having a causal sequence from rights to development.
- Create a database of existing research from a wide variety of countries to use both for additional comparisons and to inform the creation of new indicators.

Other extensions of the research will require the collection of new data on the lived experience of LGBT people. New datasets are a crucial element in the much-needed development of an LGBT research infrastructure in developing countries. New data would facilitate not just new studies of the link between inclusion and development, but potentially a larger wave of research by scholars in a wide variety of fields. Those new studies would likely inform many different policy areas that are relevant for LGBT people in the countries studied. Important recommendations to facilitate this effort include the following:

- New Data: We recommend the collection of data on the lived experience of LGBT people that can be compared across countries. These data should measure life outcomes that are relevant to the economic contributions of LGBT people, especially health, education, earnings, poverty, family structure, living situations, access to social services, and coming out. New country-level indicators should also include the prevalence of violence and discrimination, the enforcement of rights for LGBT people, and more detailed social attitudes toward LGBT people.
- Practical Methodological Issues: Most likely, these data collection efforts will involve surveys, and adopting several strategies can make survey efforts more manageable and useful.
    - Collecting data at the regional level might make sense both analytically and practically.
    - On-line surveys and computer-assisted interviews are increasingly common and helpful tools, especially for collecting “sensitive data” on sexual orientation and gender identity.
    - Creation of a bank of common survey questions would reduce the start-up costs for local researchers or statistical agencies.
    - National statistical agencies should be encouraged to conduct methodological studies as a step toward adding questions on sexual orientation and gender identity to national surveys.
- Research on Local Identities: We recommend more qualitative research to understand the variation in identities across cultural contexts. The global categories of lesbian, gay, bisexual, and transgender do not always match local understandings of sexual orientation and gender identities. Qualitative knowledge about local identities is important for creating rigorous survey

instruments and sampling strategies, as well as for putting quantitative research findings into context.

- Strengthening the Two New Legal Indices Presented in this Report: The Transgender Rights Index would benefit from covering more countries and more years. The TRI could also become more solidly based on legal and other sources. The Global Index on Legal Recognition of Homosexual Orientation can be improved by incorporating additional rights (for example regarding the criminalization of information about homosexuality, and regarding protection against hate crimes). A major challenge would be to incorporate into GILRHO some measures of actual law enforcement.

Finally, we recommend that research within all development areas incorporate concerns about LGBT people. The findings in this study demonstrate links between LGBT people's lives and their potential economic contributions at the national level, making LGBT inclusion relevant for development agency programs. Mainstreaming the inclusion of LGBT people within the context of development research would mean looking at the experiences of LGBT people in food policy, poverty alleviation, gender empowerment, microfinance, democracy and governance, education, health, conflict situations, gender-based violence, and other areas in which LGBT people are likely to experience specific challenges to meeting their needs.

Such a broadened research agenda will assist development agencies and other stakeholders to better understand how the full inclusion of LGBT people might improve economic outcomes for all countries, including developing countries, as well as providing evidence of the fulfillment of the human rights of LGBT people.

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Appendix A. Global Index on Legal Recognition of Homosexual Orientation (GILRHO) Methodology

In this report we have used a provisional version of a newly developed *Global Index on Legal Recognition of Homosexual Orientation (GILRHO)* (see section 5). It is based on an ever-growing collection of legal data, supported by extensive footnotes, that refer to primary and/or secondary sources, and that discuss any major discrepancies between different sources. A first version of this collection of legal data, including many question marks and unconfirmed data, has been published online as a conference paper (Waaldijk 2009). Since then, a number of inaccuracies in the data in that paper have come to light, more sources have become available, and of course many new developments have happened. Once the dataset is improved, completed, and updated, it will be published.

The strength of GILRHO lies in its coverage of all countries of the world for all years since 1966, in its careful consideration of different sometimes contradictory sources, and in its concentration on eight categories of law that can recognize key aspects of homosexual orientation.

The data for GILRHO have been collected using the following eight questions:

- Are consensual homosexual acts between adults (women and men) legal in criminal law?
    - If so, since when?
- After decriminalization, are age limits now equal for consensual homosexual and heterosexual acts?
    - If so, since when?
- Is (some) sexual orientation discrimination regarding employment explicitly forbidden in legislation?
    - If so, since when?
- Is (some) sexual orientation discrimination regarding goods and/or services explicitly forbidden in legislation?
    - If so, since when?
- Is there any recognition in law of non-registered cohabitation by same-sex partners? If so, since when?
- Can same-sex couples enter into a registered partnership?
    - If so, since when?
- Is second-parent and/or joint adoption by same-sex partner(s) legally possible?
    - If so, since when?
- Can same-sex couples get legally married?
    - If so, since when?

For these questions it is generally possible to find correct legal answers for almost all countries in the world. And the questions are relevant across the world: most countries have had penal prohibitions of homosexual acts, all have excluded same-sex couples from marriage, many countries have some non-discrimination provision, etc. Finding correct answers for all countries for all years would become almost

impossible, if more precise questions were added (such as: What punishments are possible in case of conviction for homosexual offences? Does or did the criminal prohibitions apply equally to sex between women and sex between men? What remedies are available in cases of sexual orientation discrimination? What legal benefits and obligations are attached to registered partnership?).

The index gives a rough but representative indication of the state of the law in this field at a particular time and place. It is important to note that GILRHO has a strong focus on legislation, while case law has only been taken into account if it was a highest domestic court striking down a particular law. So for example, to get a point for category C or D, it is not enough if there is case law that has interpreted a non-discrimination clause as also covering sexual orientation (as for example in Canada). But case law that made an end to the criminalization of homosexual acts, or to a ban on same-sex marriage, has been considered as sufficient ground to give a point for category A or H. Furthermore, GILRHO does not aim to reflect the application and interpretation of laws in the courts, let alone in administrative practice or in the daily life of actual people. Whether or not laws are actually enforced in this field is often difficult to establish (especially over the past decades for countries all over the world), and is therefore not reflected in GILRHO.

At least two other indexes have been developed in this field. Although in some ways these other indexes are more comprehensive than GILRHO, they also have limitations that meant that they could not be used in this report:

- Since 2009-2010 ILGA-Europe has published a *Rainbow Map and Index*, "reflecting the national legal and policy human rights situation of lesbian, gay, transsexual, trans and intersex people in Europe" (see www.ilga-europe.org/rainboweurope). This is not limited to sexual orientation, but also covers gender identity, and it includes far more legal categories (for example also concerning hate speech and asylum) and a few policy categories (for example "public events held, no state obstruction (last 5 years)"). However, the data are limited to the last few years and to European countries, and do not cover the (de-) criminalization of homosexual acts.
- Three academics have proposed a *Barometer of Gay Rights* (Dicklitch, Yost, & Dougan 2012). This *"BGR"* is also more comprehensive than GILRHO, in that it not only includes legal categories but also various policy and social categories (for example "Current Government supports civil union or gay marriage" and "No known acts of violence against homosexuals"). However, the authors present it as "A Case Study on Uganda" and do not provide any data on other countries.

Finally, Kees Waaldijk (who created GILRHO) would like to express his gratitude to everyone who assisted him in finding, documenting and interpreting legal data for GILRHO, including colleagues in many countries, and especially his research assistants Freeke Mulder, Lucas Paoli Itaborahy, Jingshu Zhu, Nitin Sood, Paulius Murauskas, and Gabriel Alves de Faria.

Appendix B. Summary of GILRHO Index Values

The Global Index on Legal Recognition of Homosexual Orientation takes into account eight different legal aspects:

A	Legality of consensual homosexual acts between adults
B	Equality of age limits for consensual homosexual and heterosexual acts
C	Explicit legislative prohibition of sexual orientation discrimination regarding employment
D	Explicit legislative prohibition of sexual orientation discrimination regarding goods and/or services
E	Any legal recognition of non-registered cohabitation of same-sex couples
F	Availability of registered partnership for same-sex couples
G	Possibility of second-parent and/or joint adoption by same-sex partner(s)
H	Availability of marriage for same-sex couples

Table B.1: The GILRHO Score for the 39 Countries from 1980 to 2014

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Albania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Argentina	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
Bosnia and Herzegovina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brazil	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Bulgaria	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
China	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Columbia	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Czech Republic	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Ecuador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Egypt, Arab Republic	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
El Salvador	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Estonia	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Guatemala	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Honduras	2	2	2	2	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	1	1	1	1	1	2	3
India	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indonesia	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
Kosovo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0.5	0.5
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
Malaysia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	2	2	2	2	2	2	2	2	2	2	2	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
Nepal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pakistan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peru	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Philippines	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Poland	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Romania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5
Russian Federation	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2
Serbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
South Africa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3
Taiwan (RoC)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Thailand	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Turkey	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Ukraine	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2
Venezuela	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
1	1	1	2	2	2	2	2	2	2	2	2	4	4	4	4	4	**Albania**
3	3	3	3.5	3.5	4	4	4	4	4	4.5	4.5	7	7	7	7	7	**Argentina**
1	1	2	3	3	4	4	4	4	4	4	4	4	4	4	4	4	**Bosnia and Herzegovina**
3	3	4	4.5	4.5	4.5	5	5	5	5	5	5	5.5	6.5	6.5	7	7	**Brazil**
0.5	0.5	0.5	0.5	1	1	4	4	4	4	4	4	4	4	4	4	4	**Bulgaria**
0	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	**Chile**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**China**
2	2	2	3	3	3	3	3	3	4	4	4	4	5	5	5	5	**Columbia**
2	3	3	4	4	4	4	4	5	5	5	5	5	5	5	5	5	**Czech Republic**
4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	**Ecuador**
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	**Egypt, Arab Republic**
2	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	**El Salvador**
1	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	4	**Estonia**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**Guatemala**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**Honduras**
3	3	3	3	4	4	5	5	5	5	5	6	6	6	6	6	6	**Hungary**
0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0.5	0.5	0.5	0.5	**India**
1	1	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	**Indonesia**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**Kenya**
0.5	0.5	0.5	0.5	0.5	0.5	4	4	4	4	4	4	4	4	4	4	4	**Kosovo**
1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	**Latvia**
1	1	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	**Lithuania**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**Malaysia**
2	3	3	3	3	4	4	4	4	4.5	4.5	4.5	5.5	5.5	5.5	5.5	5.5	**Mexico**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**Morocco**
0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	**Nepal**
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**Pakistan**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**Peru**
2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	**Philippines**
2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	**Poland**
0.5	0.5	2.5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	**Romania**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**Russian Federation**
1	1	1	1	1	1	1	3	3	4	4	5	5	5	5	5	5	**Serbia**
4	4	4	4	5	5	5	5	7	8	8	8	8	8	8	8	8	**South Africa**
2	2	2	2	2	2	3	3	3	4	4	5	5	5	5	5	5	**Taiwan (RoC)**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**Thailand**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**Turkey**
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	**Ukraine**
2	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	**Venezuela**

Table B.2.1: Legality of Homosexual Acts

	Period with Limited, Implicit, Uncertain or Regional Criminalization	Legal for Consenting Adults	Equal Age Limits
Philippines		Never explicitly criminalized	✓
Brazil		1831	1831
Peru		1836/37	1836/37
Turkey		1858	1858
Mexico		1872	1872
Argentina		1887	1887
Honduras		1899	✓
El Salvador		1800's	✓
Venezuela		1800's	✓
Guatemala		1800's	✓
Taiwan (RoC)		1912	1912*
China	Until 1997	1912/1997	1997*
Poland		1932	1932
Thailand		1957	1957
Czech Republic		1962	1990
Hungary		1962	2002
Colombia		1981	1981*
Ukraine		1991	1991
Latvia		1992	2000
Estonia		1992	2002
Russian Federation		1993	1997
Lithuania		1993	2003
Serbia		1994	2006
Kosovo	1994-2004	1994/2004	2004
Albania		1995	2001
Ecuador		1997	1997
South Africa		1998	2007
Chile		1999	-
Romania	1996-2001	2001	2001
Bosnia & Herzegovina	1998-2001	2001	1998/2001
Bulgaria	1968-2002	2002	2004
Nepal		2007	2007*
India	Since 2009	-	-
Indonesia	Since 2002	Never criminalized nationally	-
Egypt, Arab Republic	Until now	Currently not criminalized explicitly	-
Kenya		-	-
Malaysia		-	-
Morocco		-	-
Pakistan		-	-

Key: ✓= equal age limits, but unclear since when; *= information not confirmed

Table B.2.2: Explicit Legislative Prohibition of Sexual Orientation Discrimination

	First National Legislation Regarding Employment	First National Legislation Regarding Goods and/or Services	First Regional Legislation
Brazil	-	-	1989
South Africa	1994	1994	
Argentina	-	-	1996
Hungary	2004	1997	
Ecuador	1998	1998	
Czech Republic	1999**	2001	
Venezuela	1999**	2011**	
Mexico	2003	2003	1999**
Romania	2000	2000	
Bosnia & Herzegovina	2003**	2003**	2000
Lithuania	2003	2003	
Philippines	-	-	2003
Bulgaria	2004	2004	
Kosovo	2004	2004	
Taiwan (RoC)	2007**	2004	
Estonia	2004	-	
Poland	2004	-	
Serbia	2005**	2009*	
Latvia	2006	-	
Colombia	2007*	2011*	
Albania	2010	2010	
El Salvador	2010	2010	
Chile	2012	2012	

Key: *= information not confirmed; **= year of entry into force not confirmed

Table B.2.3: Legal Recognition of Same-Sex Couples

	Recognition of Non-Registered Cohabitation	Possibility of Partnership Registration	Possibility of Adoption	Possibility of Marriage
South Africa	1996	2006	2002	2006
Hungary	1996	2009	-	-
Brazil	2000	Nationally 2011* Regionally 2004*	Nationally 2010 Regionally 2001	Nationally 2013* Regionally 2011
Argentina	Nationally 2008 Regionally 2001	Regionally 2003	2010	2010
Colombia	2001	-	-	-
Mexico		Regionally 2007	Regionally 2010	Regionally 2010
Serbia	2005**	-	-	-
Estonia	2006**	-	-	-
Ecuador	2009	-	-	-
Taiwan (RoC)	2009*	-	-	-
Poland	2012	-	-	-

Key: *= information not confirmed; **= unclear if the gender-neutral legislation will indeed be interpreted as including same-sex couples; Regionally = only possible or available in certain parts of the country

Appendix C. Summary of Transgender Rights Index Value

Table C.1: Transgender Rights Index, 2012

	Score	Legal Change		Protection				Discrimination			Hormone Access			Gender Reassign-ment Surgery			
		Legal Name Change	Legal Gender Change	Gender Identity in Anti-Discrimination	Trans Inclusive Hate Crime Law	Trans Inclusive Asylum Guidelines	Gender Identity in Constitution	No Trans Criminalization	No Enforced Trans Prosecution	No State Sponsored Discrimination	Hormones without Medical Supervision	Hormones under Medical Supervision	Hormone Funding	Surgery Available	Medical Supervision Required	Surgery Funding	Alternatives without Medical Supervision
Ecuador	**12**	✓	✓	✓	-	-	✓	✓	✓*	✓*	✓	✓*	✓	✓	✓	✓	✓*
India	**9.5**	✓	✓	-	-	-	-	✓	✓*	✓*	✓	✓*	✓	✓	✓	✓*	✓*
Russian Federation	**9.5**	✓	✓	✓	-	✓	-	✓	✓*	✓*	✓	✓*	-	✓	✓	-	-
Brazil	**9**	✓	✓	-	-	-	-	✓	-	✓*	✓	✓*	✓	✓	✓	✓*	✓*
Poland	**8**	✓	✓	-	-	-	-	✓*	✓*	✓*	✓	✓*	✓	✓	✓	-	-
Venezuela	**8**	✓	-	-	-	-	-	✓	✓*	✓*	✓	✓*	-	✓	✓	✓	✓*
Kosovo	**7.5**	-	-	✓	-	✓	-	✓	✓*	✓*	✓	✓*	-	✓	✓	-	-
South Africa	**7.5**	✓	✓	-	-	-	-	✓	✓*	✓*	✓	✓*	-	✓	✓	-	-
Argentina	**7**	✓	✓	✓	-	-	✓*	-	-	✓*	-	✓*	-	✓	✓	-	✓*
Turkey	**7**	-	✓	-	-	-	-	✓	-	✓*	✓	✓*	-	✓	✓	✓	-
Chile	**6.5**	-	-	-	-	-	-	-	-	✓*	✓	✓*	✓	✓	✓	✓	✓*
Serbia	**6.5**	-	-	✓	-	-	-	✓	✓*	✓*	✓	✓*	-	✓	✓	-	-
Philippines	**4.5**	-	-	-	-	-	-	✓	✓*	✓*	-	✓*	-	✓	✓	-	-
Thailand	**4**	-	-	-	-	-	-	-	✓	✓*	-	-	✓*	-	✓	✓	-
Bosnia & Herzegovina	**2**	-	-	-	-	-	-	✓	✓*	-	✓*	-	-	-	-	-	-
Egypt, Arab Rep.	**1**	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
Kenya	**0.5**	-	-	-	-	-	-	-	-	✓*	-	-	-	-	-	-	-
El Salvador	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Key: ✓* = countries with some, but not all, aspects of a right.
See text in Chapter 5 for an explanation of the scoring.
The source for these data is www.transrespect-transphobia.org/en_US/mapping.htm. Please note that we did not check these data with other sources.

Appendix D. Additional Methodological Details

This study takes advantage of the consistent collection over time of many economic variables for each country to examine the relationship between LGBT rights and economic development. With panel data that span a large cross section of countries and a fairly long time period (1990 – 2011 for GDP per capita and 2000-2010 for the Human Development Index, our two economic development outcome measures), we can see the effect of change in the legal index across countries and over time. The panel data help to control for time-invariant country-specific effects, thus eliminating a potential source of omitted-variable bias. For example, egalitarian countries may be more likely to promulgate LGBT rights and also have more favorable economic development outcomes.

The key economic control variables come from the Penn World Tables, version 8.0, as discussed in Table 2 in the main text. For controls, we use investment as a share of GDP, the ratio of international trade to GDP, total population, the size of the labor force, and a human capital index (based on years of schooling and returns to education).

The study adopts a fixed-effects approach that conditions out country-level heterogeneity using the xtreg procedure in Stata 13. Such an approach controls for unobservable factors that influence a particular country's level of economic development but do not vary over time. The time window for the data series is arguably small enough such that country-level unobservable characteristics may be treated as time-invariant. Year dummy variables are included in some models to control for other unobservable factors that may influence economic development, change contemporaneously from year to year, and are common across countries.

In addition, in the reported estimates, standard errors are clustered by country to reduce potential bias that results from serial correlation in the dependent variables. We also estimate models with clustering by region, which resulted in smaller standard errors than with country-level clustering, but these are not reported.

We could not include region in the panel data regressions, since region does not vary over time, although regional effects might be important. For example, the prospect or process of joining the European Union has had a large impact on both economic development and the level of LGBT rights of most countries in the region.

We present the full models estimated in Tables D.1-D.4. In order to examine the mechanisms that could link LGBT rights to economic development, we estimate a series of nested models starting with a baseline model of economic development outcomes regressed on the LGBT rights index using ordinary least squares. In the next model, we simply add country fixed effects, which reduced the simple correlation to some extent. Next we introduce the key economic control variables with the country dummies, reducing the LGBT rights coefficient. In a final step we added the year dummy variables. This format allows us to test alternative mechanisms for how LGBT rights relate to economic development, in isolation and in a full model that includes all of the explanatory variables. This series of models is estimated for both of the dependent variables: GDP per capita levels and the Human Development

Index. The text reports statistical significance at the 5%, 10%, and 15% level, while Tables D.1-D.4 report 1%, 5%, and 10% levels.

As discussed in the text, it is not possible to distinguish the direction of causation from these regression models. More LGBT rights might lead to higher levels of economic development, and/or economic development might increase the likelihood that a country will recognize the rights of LGBT people. Given this endogeneity issue, it is possible that the coefficient estimates on GILRHO are biased as a measure of the actual causal impact of LGBT rights on economic development. Therefore, we interpret the effects measured by the coefficients as correlations rather than as causal. We hope that future research will uncover an instrumental variable or other type of modeling that could be used to more precisely estimate the causal effect.

Several other exploratory models are worth mentioning and relate to the robustness of these findings.

- We tested different time periods, including an earlier version of the Penn data (7.1) for 1993-2010, and the results were quite similar in magnitude and size.
- We considered including the growth rate of GDP or of GDP per capita as a separate outcome measure, but in the end the fact that the emerging economy sample was mostly selected based on having a high growth rate meant that any findings would suffer from biased estimates and would not be generalizable. In addition, the theoretical models seem more relevant for thinking about levels of GDP rather than GDP growth rates. In some very preliminary regressions, the growth rate was not significantly correlated with the GILRHO.
- We explored whether the inclusion of countries that did not see a change in the GILRHO over the 1990-2011 time period affected the results. Leaving out the countries with no change in the GILRHO made little difference in the GDP per capita models, although with year dummies the effect is a small negative coefficient that is statistically insignificant. The findings were very similar for the HDI.

Table D.1: Main Models Predicting GDP per capita

	OLS	Fixed Effects	Base + index	Base + index + year
GILRHO	1,408.249	937.991	489.170	319.832
	(101.238)***	(167.138)***	(159.325)***	(198.120)*
Population (millions)			-27.709	-27.271
			(21.151)	(19.973)
Number of persons engaged (millions)			40.674	37.985
			(34.770)	(32.369)
Share of gross capital formation at current PPPs			8,435.445	7,002.304
			(3,928.830)***	(3,872.527)**
Openness			-353.732	-317.680
			(122.037)***	(114.688)***
Human capital index, based on years of schooling and returns			5,569.033	1,837.210
			(1,618.870)***	(3,268.408)
Constant	4,689.930	5,585.446	-7,794.925	1,836.165
	(249.277)***	(318.282)***	(3,584.484)***	(7,284.770)
Adjusted R2	0.19	0.30	0.43	0.47
N	836	836	814	814
Year dummies?	No	No	No	Yes

Standard errors in parentheses; * *p*<0.15; ** *p*<0.10; * *p*<0.05**

Table D.2: Alternative Models Predicting GDP per capita

	Base + year + gender equity	Base + year; Decriminalization	Base + year; Anti-discrimination
GILRHO	288.581		
	(204.757)		
Decriminalization		-211.122	
		(643.496)	
Anti-discrimination law			1,763.176
			(572.585)***
Population (millions)	-54.989	-34.294	-31.155
	(35.139)*	(23.085)*	(18.019)**
Number of persons engaged (millions)	74.303	46.465	50.522
	(58.125)	(38.327)	(30.177)*
Share of gross capital formation at current PPPs	6,573.334	7,420.597	6,410.741
	(3,029.251)***	(3,881.200)**	(3,478.221)**
Openness	-252.757	-331.181	-301.762
	(91.557)***	(121.744)***	(96.409)***
Human capital index, based on years of schooling and returns	-5,001.668	658.058	956.390
	(4,009.726)	(3,302.241)	(2,715.198)
Women's share of seats in parliament	-42.681		
	(24.192)**		
Constant	19,371.987	5,103.952	4,069.131
	(10,178.002)**	(7,407.583)	(5,962.518)
Adjusted R2	0.61	0.45	0.51
N	511	814	814
Year dummies?	Yes	Yes	Yes

Standard errors in parentheses; * *p*<0.15; ** *p*<0.10; * *p*<0.05**

Table D.3: Models Predicting HDI

	OLS	Fixed Effects	Base + index	Base + index + year
GILRHO	0.031	0.014	0.011	-0.004
	(0.003)***	(0.002)***	(0.002)***	(0.002)***
Population (millions)			-0.000	-0.000
			(0.001)	(0.000)
Number of persons engaged (millions)			0.002	0.000
			(0.001)**	(0.000)*
Share of gross capital formation at current PPPs			0.111	0.082
			(0.039)***	(0.016)***
Openness			-0.001	-0.002
			(0.001)	(0.000)***
Constant	0.613	0.657	0.587	0.631
	(0.009)***	(0.006)***	(0.033)***	(0.007)***
Adjusted R2	0.27	0.20	0.43	0.91
N	293	293	293	293
Year dummies?	No	No	No	Yes

Standard errors in parentheses; * *p*<0.15; ** *p*<0.10; * *p*<0.05**

Table D.4: Alternative Models Predicting HDI

	Base + year + gender equity	Base +year; Decriminalization	Base + year; Anti-discrimination
GILRHO	-0.003		
	(0.002)**		
Decriminalization		-0.000	
		(0.004)	
Anti-discrimination law			-0.002
			(0.003)
Population (millions)	-0.000	-0.000	-0.000
	(0.000)*	(0.000)	(0.000)
Number of persons engaged (millions)	0.001	0.001	0.001
	(0.000)**	(0.000)**	(0.000)**
Share of gross capital formation at current PPPs	0.086	0.071	0.072
	(0.016)***	(0.017)***	(0.017)***
Openness	-0.002	-0.002	-0.002
	(0.000)***	(0.000)***	(0.000)***
Women's share of parliament seats	-0.000		
	(0.000)		
Constant	0.635	0.625	0.625
	(0.006)***	(0.009)***	(0.008)***
Adjusted R2	0.91	0.90	0.90
N	287	293	293
Year dummies?	Yes	Yes	Yes

Standard errors in parentheses; * *p*<0.15; ** *p*<0.10; * *p*<0.05**

About the Williams Institute

The Williams Institute is dedicated to conducting rigorous, independent research on sexual orientation and gender identity law and public policy. A national think tank at UCLA Law, the Williams Institute produces high-quality research with real-world relevance and disseminates its work through a variety of education programs and media to judges, legislators, lawyers, other policymakers, and the public.

About the Authors

M.V. Lee Badgett is a Williams Distinguished Scholar at the Williams Institute, and Director of the Center for Public Policy and Administration at the University of Massachusetts Amherst, where she is also a Professor of Economics.

Sheila Nezhad is a Public Policy Fellow at the Williams Institute. She holds a Masters Degree in International Development from the University of Minnesota, Twin Cities.

Kees Waaldijk is Professor of Comparative Sexual Orientation Law, Leiden Law School, The Netherlands; during Spring 2014, Waaldijk served as McDonald/Wright Chair of Law, The Williams Institute, UCLA, Los Angeles.

Yana van der Meulen Rodgers is Professor and Undergraduate Director in the Women's and Gender Studies department at Rutgers, the State University of New Jersey. In 2013-14 she served as President of the International Association for Feminist Economics.

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For more information

The Williams Institute
UCLA School of Law
Box 951476
Los Angeles, CA 90095

williamsinstitute@law.ucla.edu
www.law.ucla.edu/williamsinstitute