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**Do Laws Shape Attitudes?
Evidence from Same-Sex Relationship Recognition Policies in Europe**

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Abstract

Understanding whether laws shape or simply reflect citizens' attitudes is important but empirically difficult. We provide new evidence on this question by studying the effects of legal same-sex relationship recognition policies (SSRRPs) on attitudes toward sexual minorities in Europe. Using data from the European Social Surveys covering 2002-2016 and exploiting variation in the timing of SSRRPs across countries, we show that legal relationship recognition is associated with statistically significant improvements in attitudes toward sexual minorities. These effects are widespread across demographic groups, emerge only after the policies are adopted, and are not observed for views about other minority groups or social issues. Our results suggest that laws can exert a powerful influence in shaping societal attitudes.

JEL codes: F5; K36

Key words: Public opinion; Same-sex relationship recognition policies; LGBT attitudes

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1. Introduction

Scholars have long recognized the importance of understanding whether laws shape or simply reflect societal attitudes, but providing credible empirical evidence on this question has proven difficult.¹ We present such evidence by studying the gradual rollout of same-sex relationship recognition policies throughout Europe as plausibly exogenous policy variation to understand whether laws shape attitudes toward sexual minorities. Studying these policies is timely because advancements in civil rights for lesbian, gay, bisexual, and transgender (LGBT) individuals throughout Europe and North America have been some of the most striking social changes in recent decades. As recently as 2000, same-sex marriage was not legal in any European country; as of the time of this writing, same-sex couples can legally marry in 17 countries throughout Europe while same-sex registered domestic partnerships/civil unions are available in 11 others. Figure 1 shows that over this same period the share of citizens who agree with the statement that “gay men and lesbians should be free to live their own life as they wish” increased considerably – by about ten percentage points.

How might same-sex marriage and same-sex registered domestic partnership policies (henceforth: same-sex relationship recognition policies, or SSRPs) affect attitudes toward sexual minorities? Flores and Barclay (2016) discuss four possibilities: backlash, legitimacy, polarization, and consensus. A

backlash model predicts that attitudes toward LGBT people might become substantially more negative following legal recognition of same-sex relationships, especially in the case of judicial rulings. A legitimacy model predicts that legal rulings may increase acceptance and approval of LGBT populations as people infer the laws as increasing social legitimacy. A polarization model predicts that focusing on events such as major same-sex relationship policies may reduce ambivalence toward LGBT people and increase both social approval and disapproval of sexual minorities. Finally, a consensus model predicts that attitudes shape policy but that policy has no effects on attitudes. These alternative hypotheses make clear that ultimately the relationship between legal same-sex marriage and attitudes towards gay men and lesbians is an empirical question. We provide direct evidence on this question by using variation in the timing of adoption of SSRRPs across a large set of European countries.

SSRRPs remain high on the policy agenda across the world, including in Australia, Europe, and Latin America. Understanding the impact of such policies on public attitudes is important for policymakers trying to gauge their social implications – particularly with respect to the risk of backlash and/or polarization. Our data allow us to examine whether relationship recognition policies have unintended negative effects on views toward sexual minorities for particular demographic groups such as men, rural populations, and religious individuals.

¹ See, for example, Downs (1957) and Besley and Case (2003).

Knowing whether there are adverse attitudinal effects for specific groups can help design policies to counterbalance any such spillover effects from SSRRPs.

Our analysis uses data from the 2002-2016 European Social Surveys which asked over 325,000 individuals across Europe identically worded questions about a range of social and economic issues. Of particular interest is a specific question on whether the respondent agrees that “*gay men and lesbians should be free to live their own life as they wish*”. We use cross-country variation in the timing of SSRRP adoption to estimate difference-in-differences models while controlling for individual demographic characteristics, country characteristics, other LGBT policies (such as nondiscrimination laws, adoption policies, and hate crimes legislation), country, year, and month fixed effects, and linear country-specific time trends.

To preview, we find that – consistent with a legitimacy model – laws *do* cause changes in attitudes. The introduction of a relationship recognition law for same-sex couples is associated with a statistically significant 3.6 percentage point increase in the likelihood that a respondent agreed that gay men and lesbians should be free to live their own life as they wish. This effect is about five percent of the baseline average. These results mean that the adoption of legal same-sex marriage can explain 36 percent of the ten percentage point increase over our sample period in the share of adults agreeing that gay men and lesbians should be free to live their own life as they wish (Figure 1).

Event study models confirm that the effects we identify emerge only after policy adoption, suggesting that the policies cause changes in attitudes (and not vice versa). We also show that the effects of same-sex relationship policies are unique to LGBT attitudes: there is no systematic relationship between these policies and people's views on a range of other social and economic issues (including attitudes toward other minority groups such as immigrants). Moreover, although the effects we observe are widespread across many demographic groups, we document interesting heterogeneity in the impact of relationship recognition policies. Finally, we provide some preliminary evidence that for the one country that adopted a constitutional ban on same-sex marriage during our sample period (Hungary), attitudes toward sexual minorities significantly worsened, suggesting symmetry in the effects of anti- and pro-LGBT policies on attitudes.

Our results also illustrate the importance of accounting for time invariant country-specific effects. Models that rely only on cross-sectional differences in the presence of SSRRPs across countries return associations between policies and attitudes that are two to six times larger than our two-way fixed effects estimates. Thus, we find that policies both reflect *and* affect attitudes. Regarding the latter, our results suggest that attitudes toward sexual minorities are likely to improve further as the trend toward more countries adopting SSRRPs continues.

We proceed as follows. Section 2 reviews the literature on same-sex relationship recognition policies and attitudes toward LGBT people. Section 3

then describes the data and outlines our empirical approach. Section 4 presents the results after which Section 5 concludes.

2. Related literature

Only few papers have examined how same-sex relationship policies may be related to public opinion and attitudes. Similar to us, Takács and Szalma (2011) and Hooghe and Meeusen (2013) use European Social Survey (ESS) data but instead rely on cross-sectional designs. They find that individuals in countries with marriage equality had significantly more pro-LGBT attitudes than individuals in countries without relationship recognition for same-sex couples. Takács et al. (2016) use the 2008-2010 European Values Survey (EVS) to show that legislation permitting same-sex couples to adopt children is associated with respondents' views about whether homosexual couples should be allowed to adopt children. However, the cross-sectional nature of these research designs limits their ability to make credible causal claims.

Our study is more closely related to a recent working paper by Kenny and Patel (2017) who use the 1989-2014 World Values Survey data and the 2006-2016 Gallup World Poll data to estimate difference-in-differences models relating legalization of homosexuality to attitudes toward sexual minorities. They find evidence that when countries make homosexuality illegal, individuals are significantly more likely to state that they would not like to have a gay neighbor,

less likely to state that homosexuality is justifiable, and more likely to state that their area is a bad place for gay men and lesbians to live.

Our contribution differs in several respects. First, we focus on relationship recognition policies instead of policies to make homosexuality illegal. Our results are therefore more germane for understanding shifts in attitudes in North and South America, where relationship recognition has recently been adopted or is on the current political agenda. Second, we employ data from the European Social Survey which includes a far less ambiguous measure of attitudes toward sexual minorities than the Gallup World Poll data. Third, we explore heterogeneity in the effects of policies on attitudes toward sexual minorities to see if the effects widened or reduced pre-existing gaps in these views.

Our study is also related to two recent papers in political science that use individual-level panel data to examine the effects of same-sex marriage policies. Kreitzer et al. (2014) study a panel of individuals before and after Iowa's state Supreme Court legalized same-sex marriage. They examine stated support for various relationship recognition statuses for same-sex couples and find that the law signaled new social norms which pressured some respondents to modify their expressed support. Flores and Barclay (2016) examine the effects of the 2013 rulings on same-sex marriage in the United States on attitudes toward LGBT people as measured by 'feeling thermometers' (in addition to questions about support for same-sex marriage). They find that people in states that introduced

same-sex marriage saw the greatest reduction in anti-gay attitudes. They interpret this evidence as consistent with a legitimacy model and inconsistent with backlash or polarization models.

Unlike these two studies, we lack panel data to follow the same individuals over time. Our data and setting, however, does provide some unique advantages that allow us to complement prior work. Relative to the Kreitzer et al. (2014) study, for example, our paper examines effects of policies on mass attitudes toward LGBT people as opposed to support for specific policy proposals such as marriage equality. Unlike Kreitzer et al. (2014) and Flores and Barclay (2016), we are also able to test for heterogeneity in the relationship between same-sex relationship policies and attitudes toward LGBT people, and we show this variation is empirically important.

Our work also contributes to recent research examining the determinants of homophobia and transphobia. Broockman and Kalla (2016), for example, performed a randomized experiment and find that conversations with residents in South Florida that asked participants to take the perspective of others significantly reduced prejudice, and that the effect persisted for three months. They also show that the intervention increased support for a nondiscrimination law. In contrast, this paper asks if public policies related to relationship recognition independently lead to meaningful changes in attitudes toward sexual minorities.

Finally, our paper is related to State and Wernerfelt (2017) who use data from Facebook profiles. The authors examine how state and federal court rulings on same-sex marriage impact individuals' social-media behavior including using the 'rainbow filter' to show support for same-sex marriage, 'liking' a page for LGBT rights organizations, or changing one's relationship status. They find sharp changes in these LGBT-support measures coincident with the timing of legal same-sex marriage in the United States.

3. Data description and empirical approach

Our data on attitudes toward sexual minorities people come from the 2002-2016 European Social Surveys (ESS). These surveys are fielded every year in over 30 European countries and include questions on a range of topics. Our main sample includes over 300,000 respondents age 18 and older from 32 European countries. The key outcome variable in this paper comes from a question asked to all ESS respondents: "*Do you believe that gay men and lesbians should be free to live their own life as they wish?*".² We also examine responses to other questions

² Other European datasets also ask relevant questions about homosexuality and/or sexual minorities but do not provide sufficient coverage in terms of countries and years to support the two-way fixed effects empirical framework we use. Despite this, we have confirmed that our ESS 'free to live their own life as they wish' question is strongly correlated with questions from other European surveys when aggregated by country-year. For example, the 1990, 1999, and 2008 European Values Survey (EVS) asked: "*On this list are various groups of people. Could you please sort out any that you would not like to have as neighbors?*" 'Homosexuals' was one response option, so we can identify individuals who would prefer not to live next to a gay person. The 2010 and 2016 Life in Transition Survey (LiTS) includes a similar question. The EVS also

about immigration and related social issues as placebo outcomes. We do not have information on the sexual orientation of ESS respondents, but most credible population-based surveys indicate that sexual minorities constitute a very small share of the overall population (generally between 1 and 3 percent of adults).

To estimate the effect of relationship recognition policies for same-sex couples on attitudes toward sexual minorities, we estimate standard difference-in-differences models that rely on plausibly exogenous variation in the timing of policy adoption across countries. These models take the form:

$$Y_{ict} = \beta_0 + \beta_1 X_{ict} + \beta_2 (SSRRP)_{ct} + \beta_3 (Ban)_{ct} + \beta_4 Z_{ct} + \beta_5 C_c + \beta_6 T_t + \beta_7 C_c * Trend + \varepsilon_{ict} \quad (1)$$

where Y_{ict} is a variable indicating positive attitudes toward sexual minorities for individual i in country c at time t . We estimate linear probability models for ease of interpretation. X_{ict} is a vector of standard individual characteristics: a *Male* dummy; *Age* and its square; dummy variables for *Education* categories (secondary and tertiary schooling, with less than secondary education as the excluded category); dummy variables for *Marital/partnership status*; a dummy variable for living in an *Urban* area; and dummy variables for religion (*Orthodox Christian, Catholic, Protestant/Other Christian, Muslim, and Other religion*, with atheist/agnostic/None as the excluded category). Same-Sex Relationship

included a question about the ‘justifiability of homosexuality’ on a scale of 1 to 10, with 1 being ‘always justifiable’ and 10 being ‘never justifiable’. The Gallup World Polls asks respondents whether their city or area is ‘a good place to live for gay men and lesbians’. Appendix Table A1

Recognition Policy (*SSRRP*) is an indicator variable equal to one in the countries and periods when these legal statuses are available to same-sex couples.³ The variable constitutional *Ban* (on same-sex marriage) is defined similarly.

The coefficients of interest are β_2 and β_3 which in the presence of country and year dummies (described below) are identified from within-country changes in outcomes coincident with variation in the timing of policy adoption across countries. The key identifying assumption is that LGBT attitudes would have evolved identically in countries with and without relationship recognition policies had they not been adopted.

Z_{ct} is a vector of other country-time varying policies and characteristics that may correlate with the policies we study. The data come from the International Lesbian, Gay, Bisexual, Trans and Intersex Association (ILGA) and various government webpages. These variables indicate whether the country's antidiscrimination protections include sexual orientation, whether the country permits adoption by same-sex couples, whether the constitution explicitly protects sexual minorities, and whether the country allows sexual orientation-based crimes

presents a correlation matrix for our ESS measure and these other variables and shows that they are all strongly correlated in predictable ways.

³ In robustness analysis, we experimented with separately controlling for same-sex marriage and same-sex registered partnerships/civil unions, but we did not have precision to separately identify their effects. In a few countries, there was a lag between the legalization of same-sex marriage (enactment date) and the issuance of the first same-sex marriage licenses (effective date). For example, Finland approved same-sex marriage in December 2014, but marriage licenses for same-sex couples were not available until March 2017. Given that same-sex couples constitute a small fraction of the population and given that we think the treatment is mainly about the legitimization

to be classified as hate crimes. Z_{ct} also includes the log of GDP per capita (in 2010 US Dollars). C_c and T_t are a full set of country and year dummies, respectively. The former absorb time-invariant variation in the outcome variable caused by factors that vary across countries while the latter eliminate time-varying shocks that affect all countries simultaneously. We also include calendar month-of-interview dummies (not shown in equation 1).

Lastly, we control for country-specific linear time trends by interacting each country fixed effect with a variable *Trend* that equals 1 in the first year of the sample, 2 in the second, and so forth. These trends remove variation in within-country attitudes toward sexual minorities due to factors that are country-specific over time. Sample weights make the data representative at the country level and we cluster standard errors by country (Bertrand, Duflo, and Mullainathan, 2004).

4. Results

4.1. Descriptive statistics

We first present descriptive statistics for the policy variables, LGBT attitudes, and individual demographic characteristics in Table 2. We provide means for the full sample in column 1, for countries that had adopted SSRPs by the end of our

of same-sex couples by the government, we code the policy variables according to the enactment dates. In most cases, there was little time between the enactment and effective dates.

sample period in column 2, and for countries that did not adopt SSRRPs by the end of our sample period in column 3.

The majority of respondents in our sample live in a country that had adopted legal same-sex marriage or registered domestic partnership/civil unions by 2016. Table 2 also shows that countries with legal relationship recognition for same-sex couples by 2016 were also much more likely to have adopted other pro-LGBT policies such as employment protection for sexual minorities, the establishment of hate crimes laws covering sexual orientation, explicit constitutional protection for sexual minorities, and adoption rights for same-sex couples. Moreover, these differences are large, in the order of 30-50 percentage points between countries with and without legal relationship recognition policies for same-sex couples by the end of the sample period. This pattern suggests that unobserved fixed differences across countries may be important as well, an issue we address by using a quasi-experimental approach.

Table 2 also shows that individuals in countries with relationship recognition policies for same-sex couples were much more likely (40 percentage points or twice as likely) to agree with the statement that gay men and lesbians should be free to live their own life as they wish. These differences are much larger than the differences for questions related to immigrants (which are not very different across columns 2 and 3). We also see that differences in demographic characteristics across countries with and without legal relationship recognition for

same-sex couples are small, with a few exceptions. One notable difference is the share of individuals who identify as religious: while less than 80 percent of individuals in countries that had same-sex marriage or registered domestic partnerships/civil unions by 2016 report a religion, the share reporting a religion in countries without legal relationship recognition for same-sex couples by 2016 is significantly higher at 91 percent. This pattern also underlines the importance of accounting for country fixed effects.

4.2. Main results

Table 3 presents our baseline estimates, based on equation (1), of the link between relationship recognition policies and attitudes toward sexual minorities. Each column reports a separate regression model. Column 1 includes time-varying controls for the LGBT policy variables while Column 2 adds country, year, and calendar month of interview fixed effects. Column 3 also includes individual characteristics and country-specific linear time trends.

The results in column 1 indicate that individuals in country/year combinations with same-sex relationship recognition have significantly more positive attitudes toward sexual minorities than individuals in country/year combinations without these policies. Specifically, we estimate that availability of SSRPs is associated with a statistically significant 20 percentage point higher likelihood of agreeing that gay men and lesbians should be free to live their own

life as they wish. There is also a marginally significant negative relationship between the presence of a country-specific ban on same-sex marriage and attitudes toward sexual minorities.

The results in column 2 of Table 3 speak directly to the importance of accounting for time-invariant country-specific unobserved heterogeneity. Once we account for country, year, and month fixed effects, the association between same-sex relationship recognition policies and attitudes toward sexual minorities is substantially reduced in magnitude. This is consistent with the idea that unobserved permanent cross-country differences explain a substantial portion of the variation in support for sexual minorities. Yet, we continue to find that same-sex relationship recognition is associated with a statistically significant increase in the likelihood of agreeing with the pro-LGBT statement, an effect of 2.6 percentage points. We also find that a constitutional ban on same-sex marriage is associated with a statistically significant 4.7 percentage point reduction in support for the idea that sexual minorities should be free to live their life as they wish.⁴

In column 3 of Table 3 we add individual characteristics, linear country-specific time trends, and GDP per capita. In this augmented model the LGBT

⁴ Table 1 shows when European countries adopted various relationship recognition policies. Countries in bold are observed in the ESS data before and after the relevant policy adoption, meaning that these countries contribute meaningful identifying variation. Table 1 also shows that although we have considerable variation in adoption of SSRPs over our sample period (2002-2016), the same is not true for constitutional bans on same-sex marriage. In our current models, this estimate is identified from Hungary alone. We expect to get an updated wave of ESS data in Spring 2018 which should allow us to add within-country variation in the constitutional ban on same-sex marriage indicator variable for two additional countries.

policy variables are identified from sharp deviations off smooth trends in outcomes coincident with the timing of the relationship recognition policies across countries. These country-specific time trends are jointly significant predictors of the sexual minority attitude outcome (p-value < 0.01). Notably, we still find that adoption of same-sex relationship recognition is associated with a 3.6 percentage point increase in the likelihood of agreement with the pro-LGBT statement. This estimate is statistically significant at the five percent level. We also continue to find that a constitutional ban on same-sex marriage is associated with a 3.1 percentage point reduction in support for sexual minorities. This estimate is also statistically significant at the five percent level. Relative to the base year sample mean, these are effects of 5.3 and 4.6 percent, respectively.

Figure 2 shows event-study estimates of the relationship between the adoption of legal SSRRPs and improved LGBT attitudes. The figure is based on our preferred specification (column 3 in Table 3) with linear country trends, a battery of individual covariates, and the full set of fixed effects. The sample consists of all countries that ever adopted a same-sex relationship recognition policy during our sample period.

The event study estimates in Figure 2 provide evidence that relationship recognition policies for same-sex couples led to improved attitudes toward sexual minorities, and not vice versa. Specifically, we do not find a statistically significant pre-trend in outcomes prior to adoption of same-sex relationship

recognition policies, and we find an immediate and sizable improvement in attitudes toward LGBT people in the year(s) after policy adoption. Notably, most of the event-time estimates are statistically significant. The broad pattern and magnitude matches the baseline difference-in-differences estimates in Table 3.⁵

4.3. Robustness and placebo tests

Table 4 gauges the robustness of our main finding that relationship recognition policies are associated with statistically significant improvements in attitudes toward sexual minorities. Column 1 replicates the baseline estimate from column 3 of Table 3 (with controls for individual characteristics, country and year fixed effects, and linear country trends).

Column 2 shows results from a model where we exclude all of the LGBT policy controls except the relationship recognition variable to address concerns about collinearity among the various policies. We continue to find that same-sex relationship recognition policies are associated with marginally significant improvements in attitudes toward sexual minorities. Column 3 shows estimates based on a sample of only those countries that ever adopted a relationship recognition policy; our core findings are robust to this sample restriction. Lastly, columns 4 and 5 show estimates for the sample of individuals in countries that were observed for at least 12 or 10 years during the 2002-2016 ESS period. Our

⁵ Due to the fact that our constitutional ban on same-sex marriage variable is identified only from

main result is largely robust to these sample restrictions, though the SSRRP estimate in column 5 is not statistically significant.

In Table 5, we strengthen identification further by showing that the relationship between SSRRPs and attitudes toward sexual minorities is unique to the LGBT domain. Specifically, we estimate similar models where we consider other outcome variables related to attitudes about non-LGBT issues such as immigration. If the timing of same-sex relationship recognition policies were correlated with other unobserved factors associated with more liberal or accepting societies in general, it would be incorrect to interpret the findings in Table 3 and Figure 2 as the effect of the relationship recognition policies at improving attitudes toward LGBT people. In this case, we might expect that the coefficient on same-sex marriage policies would be significantly related to more liberal attitudes on a range of issues and minority populations.⁶

Each row of Table 5 presents a separate regression model using the fully saturated specification with country-specific linear trends as in column 3 of Table 3. We report the pre-reform outcome means in column 1. Column 2 shows the coefficient estimates on the key indicator variable of interest: whether the country has legal same-sex relationship recognition. Moreover, column 3 shows the coefficient estimate on the indicator for constitutional ban on same-sex marriage,

Hungary, we are unable to get meaningful event study estimates for that policy.

again with the caveat that this estimate is identified only from Hungary (as is true in the models of Tables 3 and 4).

We begin by reprinting the baseline estimates for the “*gay men and lesbians should be free to live their own life as they wish*” question in the top row of Table 5. Row 2 then shows results for an outcome that equals one if the individual agreed that the country would be better if most people shared the same values. Row 3 shows results for an outcome that equals one if the individual agreed that immigrants cause crime. Row 4 shows results for an outcome that equals one if the individual agreed that immigrants take out more than they take in. Row 5 shows results for an outcome that equals one if the individual agreed that immigration undermines cultural life. Together, these results confirm that the significant associations documented in Table 3 are unique to views about sexual minorities: we find no statistically significant associations between the availability of same-sex relationship recognition and any of the other attitudes in column 2 of Table 5. The same null pattern is true for the constitutional ban on same-sex marriage indicator in column 3 of Table 5.

4.4. Impact heterogeneity

⁶ Of course, it is also possible that there are ‘real’ spillover effects of the treatment effects of relationship recognition policies at improving attitudes on other social issues, but we would expect any such spillovers to be small relative to the findings in Table 3.

In Table 6, we investigate heterogeneity in the effects of same-sex legal relationship recognition policies on attitudes toward sexual minorities. The format is the same as that of Table 5 except that we now examine associations for various demographic groups. In each case, the outcome in Table 6 is the same outcome as in Table 3 (i.e., agreeing that gay men and lesbians should be free to live their own life as they wish). Column 1 reports the mean of the LGBT attitude question for 2002-2004 (the beginning of the sample) for the sub-group identified in each row. We report the relevant policy coefficient estimates in column 2 (for the SSRRPs) and 3 (for the constitutional ban on same-sex marriage indicator). As in Table 5, each row is a separate regression that is fully saturated with controls for individual and country characteristics, country and time fixed effects, and linear country-specific time trends.

Table 6 reveals interesting descriptive heterogeneity in attitudes toward sexual minorities. For example, there is a large gender effect: men report significantly more negative attitudes toward sexual minorities than women. There is also a substantial age effect: older individuals have significantly more negative attitudes toward sexual minorities than younger ones. Partnership, education, religion, and urban/rural differences are also observed clearly in the data. All of these differences are statistically significant at at least the 5 percent level.

The regression results in Column 2 indicate that legal same-sex relationship recognition policies were associated with statistically and

economically significant improvements in attitudes toward sexual minorities across a broad demographic spectrum. We do, however, find some interesting heterogeneity in the impact of relationship recognition policies. For example, partnered individuals (i.e., those married or with a cohabiting partner) hold significantly more negative attitudes toward sexual minorities than non-partnered people. Importantly, we also find that relationship recognition policies have larger effects at improving attitudes toward sexual minorities for partnered people than for non-partnered people.

In contrast, however, we do not find similar evidence that relationship recognition policies work to “close the gaps” associated with age, education, or religious affiliation. There is strong evidence that all of those gaps exist (i.e., younger, more educated, less religious individuals all report significantly more positive attitudes toward sexual minorities). Regarding the constitutional ban on same-sex marriage, we find that this ban had a larger negative effect on attitudes towards sexual minorities among females and older people as well as those with less education and without a partner. We again note, however, that these estimates should be interpreted very cautiously.

5. Discussion and conclusion

Do laws shape attitudes? Or do they simply reflect them? The results in this paper provide evidence that cross-country variation in policies toward sexual

minorities reflects attitudes of the citizenry but also that such policies do have real effects in terms of shaping attitudes. Over our sample period, 12 countries adopted relationship recognition policies for same-sex couples. Our 2002-2016 data return evidence that such policies significantly improved attitudes toward sexual minorities. We also show that cross-sectional designs used in some of the prior literature tend to dramatically overstate the true relationship between policies and attitudes.

Event study estimates confirm that there were no systematically different pre-existing trends in attitudes and that improvements in attitudes toward sexual minorities only occur after policy adoption, suggesting that the policies changed attitudes as opposed to simply reflecting them. Effects are unique to attitudes about sexual minorities and are broad-based across gender, age, education, and relationship status, though we do estimate notably stronger responses for partnered individuals who had systematically more negative attitudes toward sexual minorities at the beginning of the sample period.

Importantly, we also find suggestive evidence of symmetric policy effects. Just as the expansion of relationship-recognition for same-sex couples significantly improved attitudes toward sexual minorities, we also find that Hungary's constitutional ban on same-sex marriage significantly worsened attitudes toward sexual minorities.

What do our results suggest about the underlying structure of policies and attitudes? Recall that the political science literature on same-sex marriage and attitudes toward sexual minorities has considered four somewhat competing models of how legal same-sex marriage might be related to attitudes: backlash, legitimacy, polarization, and consensus (Flores and Barclay 2016). Our findings provide direct commentary on these candidate models. First, the findings from Europe – like those in Flores and Barclay (2016) for a single state in the United States – do not support the backlash model. In no case do we find that policies to legally recognize same-sex relationships are associated with significant worsening of attitudes toward LGBT people. Second, the results also are broadly inconsistent with a model of polarization. That model would predict that some groups’ attitudes would worsen while others would improve. We did not find much evidence for this at least as proxied by base period differences in attitudes toward sexual minorities. Third, the findings are also generally not supportive of the consensus model which predicts that there will be no effect on attitudes as the policies simply reflect changes in attitudes (and not vice versa). Instead, we find evidence that legal adoption of same-sex relationship recognition increases agreement with pro-LGBT views. This finding is most consistent with the legitimacy model whereby legal status confers legitimacy toward a particular group (here, sexual minorities), and attitudes adjust in response. Indeed, our finding that a *ban* on same-sex marriage in Hungary was associated with

subsequent *declines* in attitudes towards sexual minorities can be interpreted as evidence for a negative legitimizing effect.

Our results suggest that as marriage equality and other relationship recognition policies continue to expand throughout the world, we might expect to observe continued improvements in attitudes towards sexual minorities. This could translate into less discrimination (or more inclusion) in labor and housing markets, improved mental health for sexual minorities, and a range of other potential benefits associated with less anti-LGBT sentiment.

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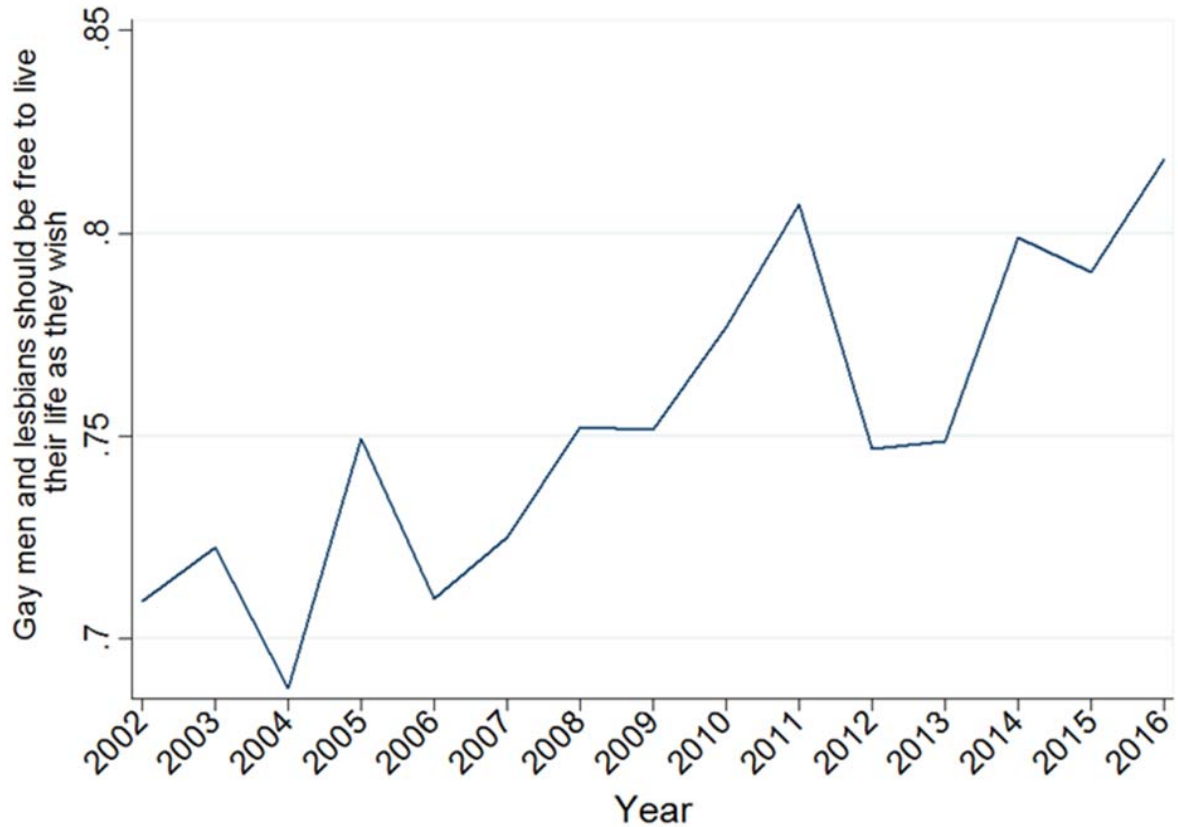
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Figure 1

Trends in Attitudes Toward Sexual Minorities

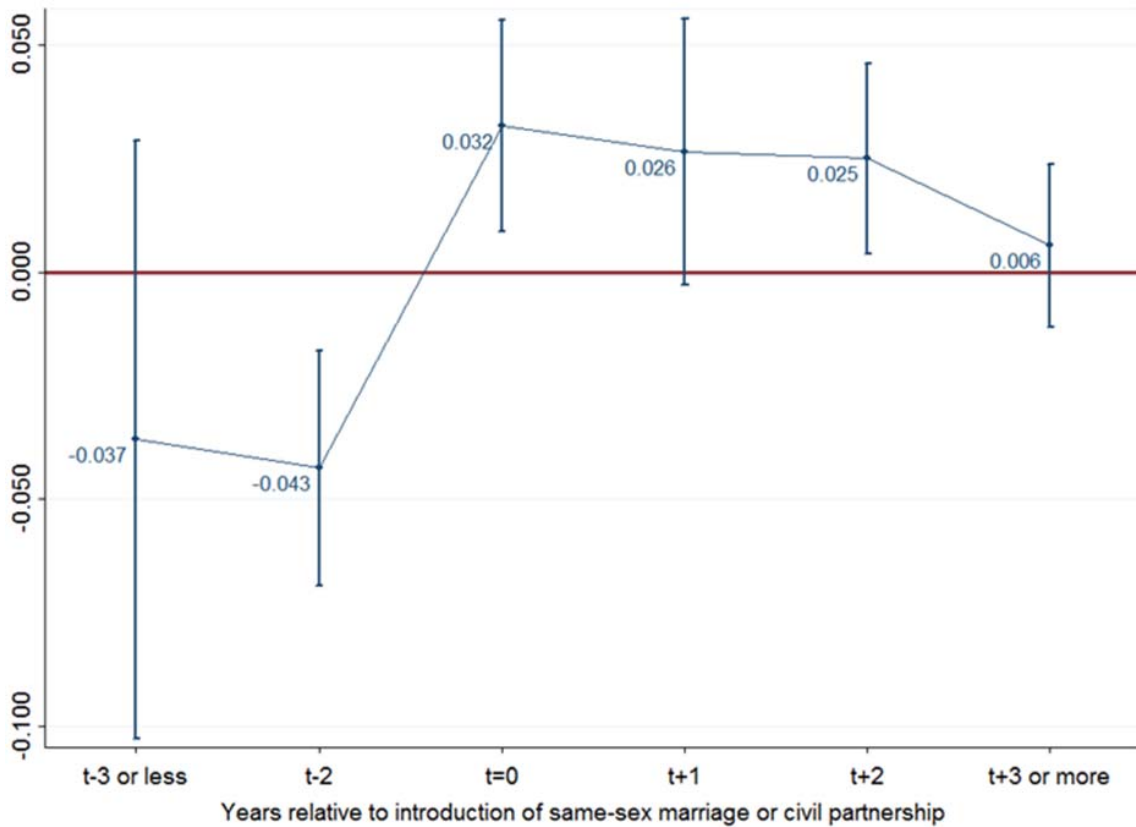
Outcome is share of people in the country who agree that “*Gay men and lesbians should be free to live their life as they wish*”

2002-2016 European Social Survey Data, Adults age 18+



Note: This figure includes all countries that were observed during at least 10 years of the ESS. We further restrict the sample to observations used in the full-sample estimation.

Figure 2
Event Study for Same-Sex Relationship Recognition
2002-2016 European Social Survey Data, Adults age 18+



Note: This figure is based on the specification in column 3 of Table 3, which contains linear country-specific time trends. The sample consists of countries that ever adopted legal same-sex marriage between 2001 and 2016.

Table 1: Relationship Recognition Policies for Same-Sex Couples in Europe

	Same-sex registered domestic partnerships legal	Same-sex marriage legal	Same-sex marriage banned by Constitution
Andorra	Mar 2005	--	--
Armenia	--	--	Jan 2016
Austria	Jan 1, 2010	--	
Belarus	--	--	Nov 26, 1996
Belgium	Dec 23, 1999	Feb 13, 2003	
Bulgaria	--	--	Jul 13, 1991
Croatia	Aug 5, 2014	--	Dec 1, 2013
Cyprus	May 21, 2016	--	--
Czech Republic	Mar 2006	--	--
Denmark	June 7, 1989	June 15, 2012	--
England	Nov 18, 2004	July 1, 2013	--
Estonia	Jan 1, 2016	--	--
Finland	2002	Dec 12, 2014	--
France	Nov 1, 1999	May 18, 2013	--
Germany	Aug 1, 2001	October 2017	--
Greece	Dec 23, 2015	--	--
Hungary	Jul 1, 2009	--	Jan 2012
Iceland	June 4, 1996	June 27, 2010	--
Ireland	2010	Nov 16, 2015	--
Italy	May 21, 2016	--	--
Latvia	--	--	Dec 2005
Lithuania	--	--	Oct 25, 1992
Luxembourg	2004	June 18, 2014	--
Malta	Apr 14, 2014	--	--
Moldova	--	--	Aug 27, 1994
Netherlands	Jan 1, 1998	April 1, 2001	--
Northern Ireland	Nov 18, 2004	--	--
Norway	April 30, 1993	June, 2008	--
Poland	--	--	Apr 2, 1997
Portugal	May 11, 2001	May 17, 2010	--
Scotland	Nov 18, 2004	Feb 1, 2014	--
Serbia	--	--	Nov 8, 2006
Slovakia	--	--	Feb 7, 2015
Slovenia	July 2006	February 2017	
Spain	--	June 30, 2005	
Sweden	June 1, 1994	April 1, 2009	
Switzerland	Jan 1, 2007	--	
Ukraine	--	--	Jun 28, 1996
Wales	Nov 18, 2004	July 1, 2013	

Source: Various websites. Policy changes that provide identification in the context of our fixed-effects models are marked in **bold**.

Table 2: Sample Characteristics
2002-2016 European Social Survey Data

Variables	(1) Full sample	(2) Countries that had relationship recognition for same-sex couples by 2016	(3) Countries that did not have relationship recognition for same-sex couples by 2016
<i>LGBT public policies</i>			
Same-sex marriage/domestic partnerships legal	0.56 (0.49)	1	--
Constitutional ban on same-sex marriage	0.14 (0.34)	--	0.31 (0.46) *
LGBT employment protection	0.69 (0.46)	0.92 (0.27)	0.40 (0.49) *
Hate crimes law for sexual orientation	0.34 (0.47)	0.56 (0.49)	0.05 (0.22) *
Adoption legal for same-sex couples	0.25 (0.43)	0.45 (0.49)	0.01 (0.04) *
Constitutional protection for sexual minorities	0.20 (0.40)	0.36 (0.48)	0.01 (0.10) *
<i>Attitudes toward minority groups</i>			
Gay men and lesbians should be free to live their own life as they wish	0.62 (0.48)	0.80 (0.39)	0.40 (0.49) *
Better for a country if almost everyone shares customs and traditions	0.46 (0.49) – N: 75,281	0.41 (0.49) – N: 45,493	0.55 (0.49) – N: 29,788*
Immigrants put in more than they take out	0.15 (0.36) – N: 71,901	0.15 (0.36) – N: 43,951	0.15 (0.35) – N: 27,950
Immigrants make crime problems worse	0.06 (0.24) – N: 73,076	0.06 (0.24) – N: 44,573	0.06 (0.23) – N: 28,503
Immigration undermines cultural life	0.35 (0.47) – N: 310,764	0.41 (0.49) – N: 186,630	0.27 (0.44) – N: 124,134*
<i>Individual demographics</i>			
Age	48.70 (17.95)	49.64 (17.84)	47.51 (18.04) *
Male	0.45 (0.49)	0.47 (0.49)	0.43 (0.49)*
Less than degree level education	0.69 (0.46)	0.72 (0.44)	0.65 (0.47)
Partnered	0.53 (0.49)	0.53 (0.49)	0.54 (0.49)
Urban	0.33 (0.47)	0.30 (0.46)	0.36 (0.47) *
Any religion	0.84 (0.36)	0.79 (0.40)	0.91 (0.28) *
N	326,069	191,840	134,229

Notes: Weighted means (standard deviations). * indicates the difference in means between column 2 and column 3 is significant at $p < .05$.

Table 3: Relationship Recognition Policies for Same-Sex Couples Significantly Improve Attitudes Toward Sexual Minorities

2002-2016 European Social Survey Data, Adults age 18+

	(1) Agrees with: “ <i>Gay men and lesbians should be free to live their own life as they wish.</i> ”	(2) Agrees with: “ <i>Gay men and lesbians should be free to live their own life as they wish.</i> ”	(3) Agrees with: “ <i>Gay men and lesbians should be free to live their own life as they wish.</i> ”
Relationship recognition for same-sex couples	.201*** (.063)	.026** (.012)	.036** (.013)
Constitutional ban on same-sex marriage	-.097* (.054)	-.047** (.017)	-.031** (.013)
Mean of outcome in 2002-2004	.678	.678	.678
R-squared	0.203	0.253	0.303
N	326,069	326,069	326,069
Other LGBT-related policies?	Yes	Yes	Yes
Country characteristics	No	No	Yes
Individual characteristics?	No	No	Yes
Month and year fixed effects?	No	Yes	Yes
Country fixed effects?	No	Yes	Yes
Country-specific linear trends?	No	No	Yes

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. The individual characteristics include: a male dummy, age and its square, dummy variables for education categories (secondary and tertiary schooling, with less than secondary education as the excluded category), a dummy variables for being partnered (married or living with a partner), a dummy variable for living in an urban area, and dummy variables for religion (Orthodox/Catholic, Protestant, Jewish, Islamic, and other, with no religion as the excluded category). Other LGBT-related policies include: LGB employment protection, hate crimes law for sexual orientation, adoption legal for same-sex couples, and constitutional protection for sexual minorities. Country characteristics include GDP per capita (in 2010 US Dollars). Results are weighted, and standard errors are clustered at the country level.

Table 4: Effects on Attitudes Toward Sexual Minorities Are Robust
 2002-2016 European Social Survey Data, Adults age 18+

Outcome is indicator for agreeing with “*Gay men and lesbians should be free to live their own life as they wish*”

	(1) Baseline (column 3, Table 3)	(2) (1), but exclude all other LGBT policies	(3) (1), but only countries that ever adopted relationship recognition for same-sex couples	(4) (1), but only countries observed in at least 12 of the 14 years	(5) (1), but only countries observed in at least 10 of the 14 years
Relationship recognition for same-sex couples	.036** (.013)	.030* (.011)	.025** (.011)	.031** (.014)	.014 (.016)
Constitutional ban on same-sex marriage	-.031** (.013)	-.016 (.012)	-.028** (.010)	--	--
Mean of outcome in 2002-2004	.678	.678	.704	.750	.732
R-squared	0.303	.302	.143	.162	.161
N	326,069	326,069	255,307	165,853	188,609

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. See notes to Table 3; specification is from column 3 of Table 3 with linear country-specific time trends.

Table 5: No Effects on Placebo Outcomes
 2002-2016 European Social Survey Data, Adults age 18+

	(1)	(2)	(3)
	Mean of outcome (2002-2004)	Coefficient on Relationship recognition for same-sex couples (standard error)	Coefficient on Constitutional ban on same- sex marriage (standard error)
Gay men and lesbians should be free to live their own life as they wish	.678	.036** (.013)	-.031** (.013)
Better for a country if almost everyone shares customs and traditions	.524	.235 (.122)	1.75 (1.32)
Immigrants put in more than they take out	.143	-.089 (.256)	.025 (.031)
Immigrants make crime problems worse	.049	.087 (.070)	--
Immigration undermines cultural life	.421	-.032 (.021)	-.021 (.023)

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. See notes to Table 3; specification is from column 3 of Table 3 with linear country-specific time trends.

Table 6: Effect Heterogeneity
2002-2016 European Social Survey Data, Adults age 18+

	(1)	(2)	(3)
	Average of 'gay men and lesbians should be free to live their own life as they wish' (2002-2004)	Coefficient on Relationship recognition for same-sex couples (standard error)	Coefficient on Constitutional ban on same-sex marriage (standard error)
Full sample	.678	.036** (.013)	-.031** (0.013)
Males	.657	.039** (.016)	-.020 (.013)
Females	.698	.035** (.014)	-.040** (.014)
Above median age	.604	.030 (.020)	-.053*** (.015)
Below median age	.747	.041*** (.011)	-.007 (.014)
Less than degree level	.646	.032* (.016)	-.047*** (.014)
Degree level education	.793	.053*** (.013)	.024 (.016)
Partnered	.659	.046*** (.016)	-.010 (.014)
Not partnered	.703	.025* (.014)	-.052*** (.013)
Rural	.664	.035** (.016)	-.053*** (.018)
Urban	.710	.034* (.015)	.022* (.012)
Any religion	.665	.035** (.013)	-.024** (.012)
Atheist or no religion	.762	.043** (.016)	-.041 (.026)

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. See notes to Table 3; specification is from column 3 of Table 3 with linear country-specific time trends.

Appendix Table A1: ESS Measure is Strongly Correlated with LGBT Attitudes Questions from Other Surveys

	ESS ' <i>Gay men and lesbians should be free to live their own life as they wish</i> ' question	LiTS ' <i>don't want homosexuals as neighbors</i> ' question	Gallup ' <i>area is a good place to live for gay or lesbian people</i> ' question	EVS ' <i>justifiability of homosexuality</i> '	EVS ' <i>homosexuality is never justified</i> '	EVS ' <i>homosexuality is always justified</i> '
ESS 'free to live' question	1	--	--	--	--	--
LiTS 'neighbor' question	-0.919***	1	--	--	--	--
Gallup 'area' question	0.958***	-0.906***	1	--	--	--
EVS 'justifiability' question	0.870***	-0.881***	0.923***	1	--	--
EVS 'never justified'	-0.876***	0.878***	-0.925***	-0.974***	1	--
EVS 'always justified'	0.884***	-0.781***	0.834***	0.947***	-0.853***	1

Notes: *** significant at 1%. Author calculations, various datasets.