

# Online Appendix

## Policy Effects on Mixed-Citizenship, Same-Sex Unions: A Triple-Difference Analysis

November 7, 2022

### 1 Robustness Checks

#### 1.1 Adjusting proportions based on empirical mismatch rates

Published papers using the ACS to study same-sex couples overwhelmingly use the method by Gates and Steinberger (2009) employed our main paper to adjust for misreporting, where we drop all respondents that had either their relationship or sex variable allocated by the Census Bureau. However here we implement a novel method to adjust proportions of estimated immigrants in same-sex couples, based on the estimated mismatch rates from two U.S. Census Bureau studies. Beginning in 2019, the ACS provides explicit categories for “Opposite-sex husband/wife/spouse,” “Opposite-sex unmarried partner,” “Same-sex husband/wife/spouse,” and “Same-sex unmarried partner” (Walker and Taylor 2021), so sex misreporting in the 2019 data is unlikely, but we still adjust mismatch rates in these years as well.

In a Census Bureau working paper, Kreider and Lofquist (2015) use personal information such as names and addresses match same-sex couples from the 2010 ACS to Social Security administrative data. They find that 7 percent of unmarried couples coded as same-sex in the ACS are coded as different-sex in the administrative data, and 57 percent of married same-sex couples. A follow-up study (Kreider, Bates, and Mayol-García 2017) shows that these mismatch rates appear

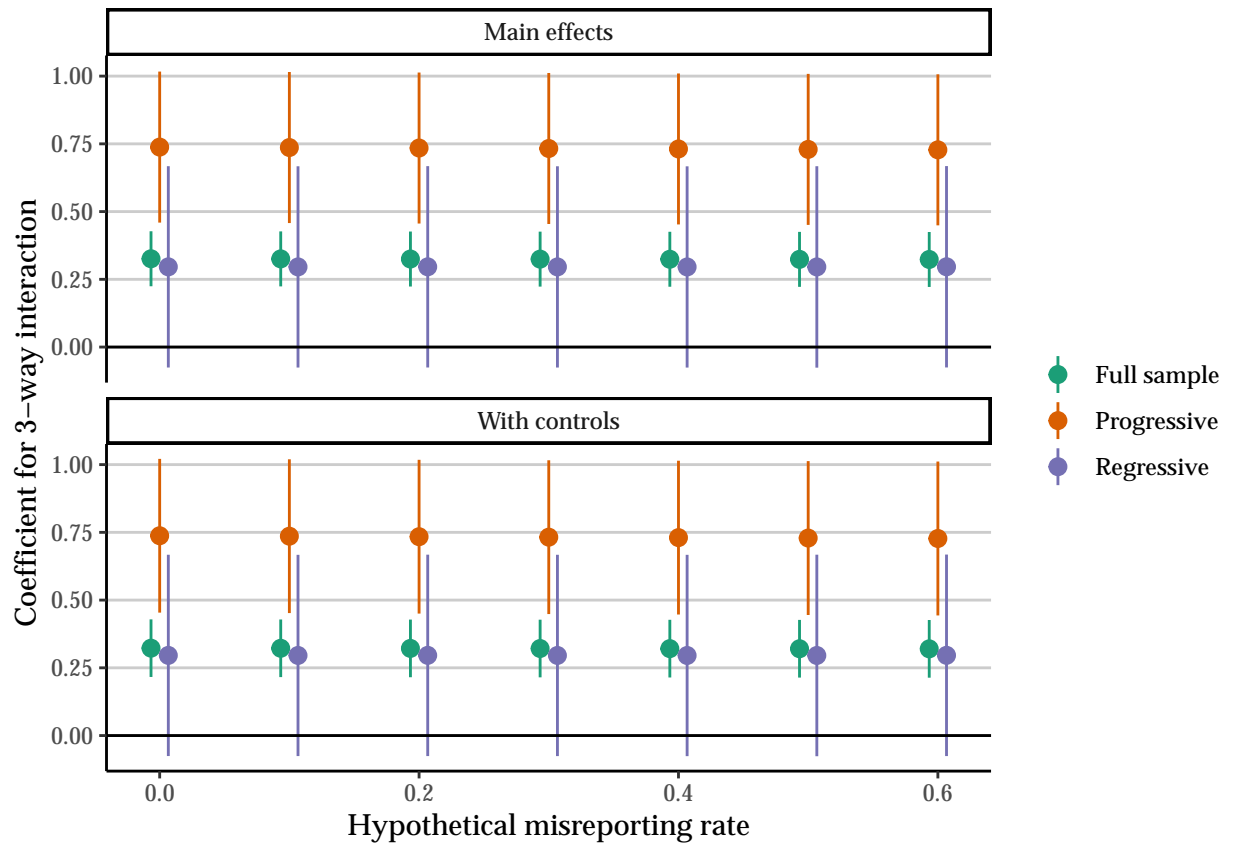
to have fallen: In a 2016 ACS test module that included explicit categories for different- and same-sex spouses and partners, 31 percent of married and 3 percent of unmarried same-sex couples had inconsistent sex responses.

To test the robustness of our results these levels of misreporting, we re-assign up to 60 percent of counts of individuals in same-sex couples to counts in different-sex couples, within state, year, and citizenship group. We then re-fit the models reported in the main paper. Coefficients for the three-way interaction of interest are shown in Figure ???. Results are extremely robust to even high levels of sex misreporting.

```
## [1] "0"  
## [1] "0"  
## [1] "0"  
## [1] "0.1"  
## [1] "0.1"  
## [1] "0.1"  
## [1] "0.2"  
## [1] "0.2"  
## [1] "0.2"  
## [1] "0.3"  
## [1] "0.3"  
## [1] "0.3"  
## [1] "0.4"  
## [1] "0.4"  
## [1] "0.4"  
## [1] "0.5"  
## [1] "0.5"  
## [1] "0.5"  
## [1] "0.6"
```

## [1] "0.6"

## [1] "0.6"



## 2 Alternative Specifications: Main Model

Table 1: INDIVIDUAL LEVEL: STRATIFYING BY INDIVIDUAL POLICY ENVIRONMENT. Quasi-Poisson DDD regressions of counts of mixed-citizenship same-sex couples

	Full sample	Progressive	Regressive
Post-2013 × Same-sex × Mixed-citizenship	0.326 *** (0.052)	0.503 *** (0.091)	0.230 (0.143)
Post-2013 × Same-sex	0.369 *** (0.017)	0.376 *** (0.018)	0.376 *** (0.019)
Post-2013 × Mixed-citizenship	0.105 *** (0.015)	0.547 *** (0.052)	0.070 (0.043)
Post-2013	-0.035 ** (0.011)	-0.051 *** (0.011)	-0.064 *** (0.011)
Observations	2448	2448	2448

\*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05; † p < 0.1. The "Regressive" sample includes only countries with a LGB policy score less than 0, and the "Progressive" sample includes only those with a score greater than 3. Group-clustered standard errors shown in parentheses. Source: American Community Survey 2008-2019. Authors' calculations.

## 3 Alternative Specifications: Policies

```
## [1] "equal_age"
## [1] "unequal_age"
## [1] "constitution"
## [1] "conversion_therapies"
## [1] "death_penalty"
## [1] "employment_discrim"
## [1] "hate_crimes"
## [1] "incite_hate"
## [1] "joint_adoption"
```

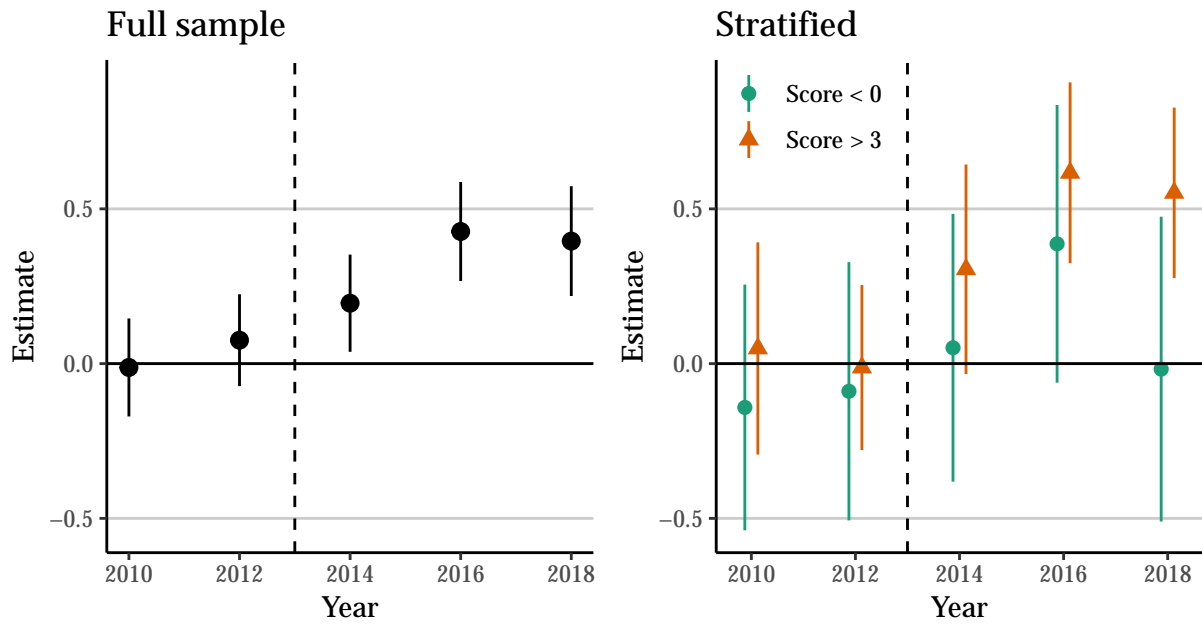


Figure 1: INDIVIDUAL-LEVEL: Dynamic specification of quasi-Poisson regression with two-way fixed effects, displaying the coefficient for the Year  $\times$  Same-sex  $\times$  Mixed-citizenship interaction. Survey years are aggregated into pairs, with 2008-2009 as the base category.

```
## [1] "lgb_military"
## [1] "lgb_military_ban"
## [1] "marriage_equality"
## [1] "marriage_ban"
## [1] "samesex_legal"
## [1] "civil_unions"
## [1] "propaganda"
```

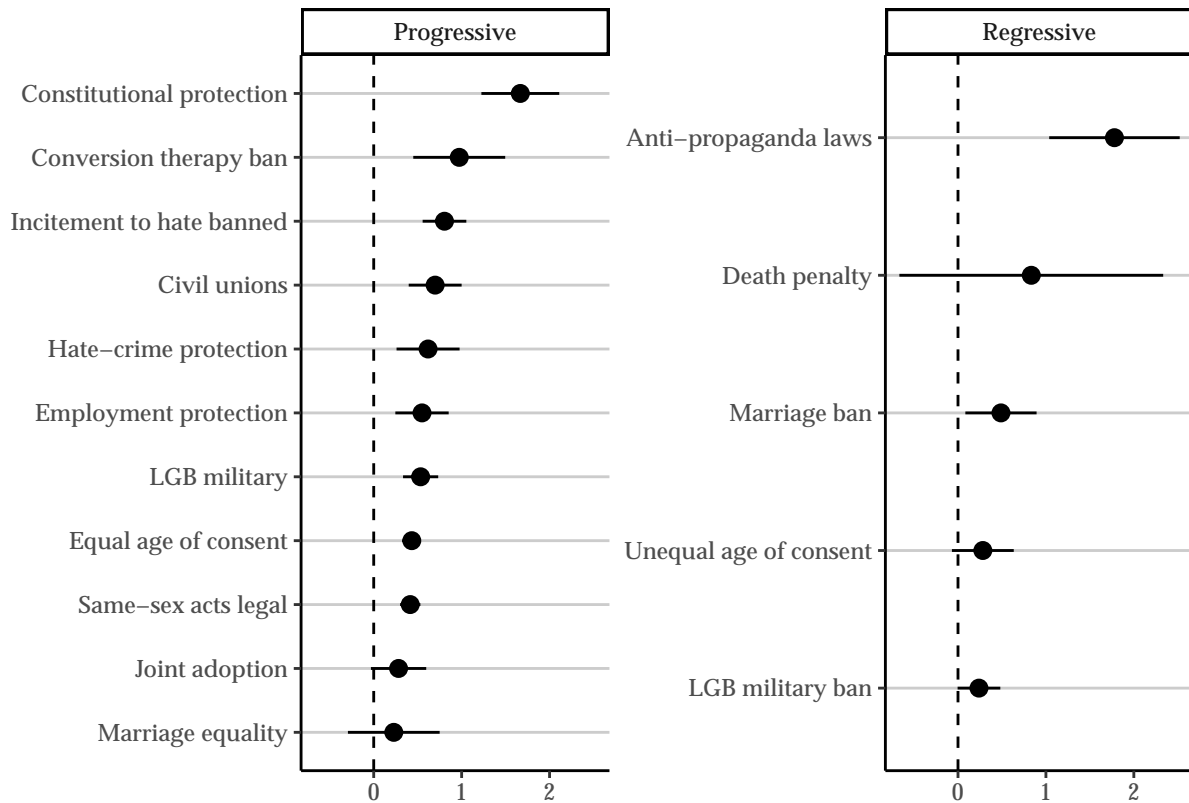


Figure 2: COUNTRY-LEVEL: STATE-COUNTRY-YEAR-GROUPS WITH POLICY AVERAGE GREATER THAN 0.5. Stratified by specific policy: quasi-Poisson DDD regressions of counts of mixed-citizenship same-sex couples. Estimates and 95-percent confidence intervals are for the three-way interaction between indicators for same-sex, mixed-citizenship, and post-2013 survey year

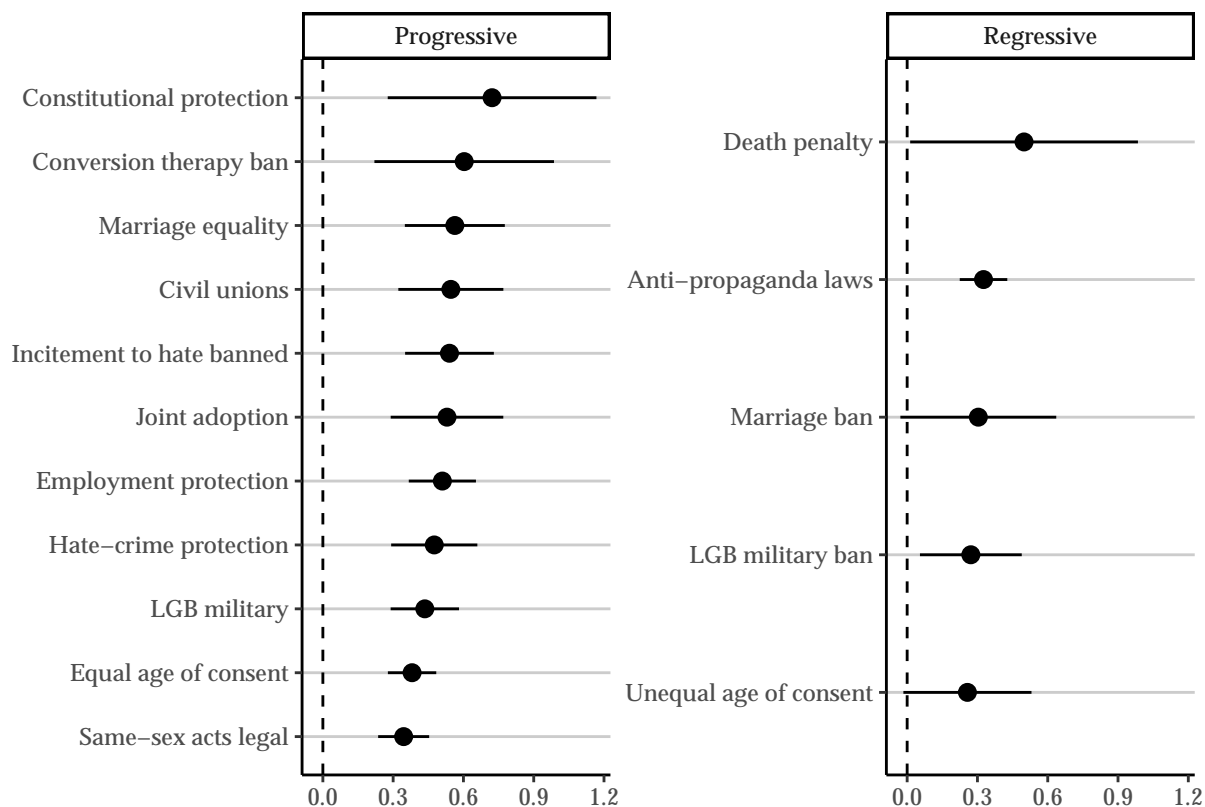


Figure 3: INDIVIDUAL LEVEL: ONLY INDIVIDUALS EXPERIENCING POLICY. Stratified by specific policy: quasi-Poisson DDD regressions of counts of mixed-citizenship same-sex couples. Estimates and 95-percent confidence intervals are for the three-way interaction between indicators for same-sex, mixed-citizenship, and post-2013 survey year

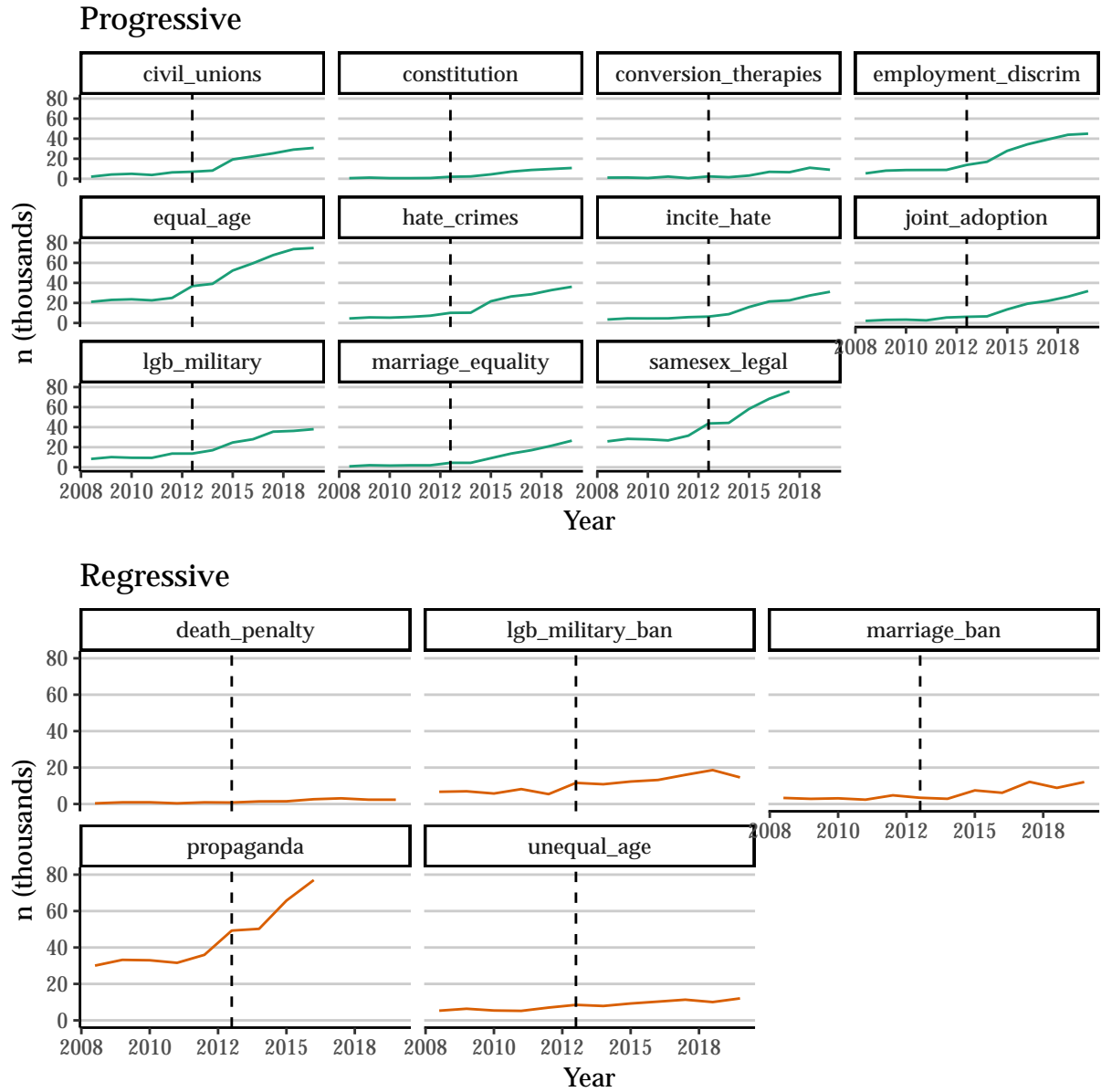


Figure 4: Counts of individuals in mixed-citizenship couples originating from countries with specific LGB policies



## References

- Gates, Gary J., and Michael D. Steinberger. 2009. “Same-Sex Unmarried Partner Couples in the American Community Survey: The Role of Misreporting, Miscoding and Misallocation.” In *Annual Meetings of the Population Association of America, Detroit, MI*.
- Kreider, Rose M, Nancy Bates, and Yerís Mayol-García. 2017. “Improving Measurement of Same-Sex Couple Households in Census Bureau Surveys: Results from Recent Tests.” In *PAA 2017 Annual Meeting*. PAA.
- Kreider, Rose M, and Daphne A Lofquist. 2015. “Matching Survey Data with Administrative Records to Evaluate Reports of Same-Sex Married Couple Households.” {{SEHSD Working Paper}} 2019-30.
- Walker, Laquitta, and Danielle Taylor. 2021. “Same-Sex Couple Households: 2019.” American {{Community Survey Briefs}} ACSBR-005. U.S. Census Bureau.

Table 2: Quasi-Poisson DiD regressions of counts of mixed-citizenship same-sex couples, stratifying by state-country-year-group average policy environment. The sample is limited to mixed-citizenship couples only.

	(1)	(2)	(3)
Post-2013 × Same-sex	0.124 *** (0.034)	0.043 (0.044)	-0.224 † (0.121)
Post-2013	0.043 * (0.020)	0.043 * (0.020)	0.043 * (0.020)
Post-2013 × Same-sex × Policy score		0.025 * (0.012)	
Civil unions			0.076 (0.104)
Marriage equality			0.067 (0.121)
Equal age of consent			0.261 (0.173)
Constitutional protection			0.095 (0.093)
Conversion therapy ban			0.165 (0.161)
Employment protection			0.305 * (0.119)
Hate-crime protection			0.009 (0.134)
Incitement to hate banned			-0.084 (0.094)
Joint adoption			-0.060 (0.159)
LGB military			-0.574 *** (0.167)
Same-sex acts legal			0.323 * (0.137)
Unequal age of consent			0.354 (0.255)
Death penalty			0.169 (0.166)
LGB military ban			-0.212 * (0.106)
Marriage ban			-0.338 ** (0.108)
Anti-propaganda laws			-0.090 (0.155)