

Motivation

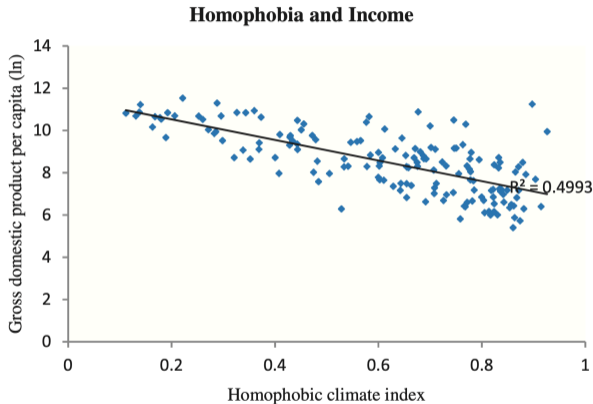


Figure from (Lamontagne et al. 2018). The authors develop a “Homophobic Climate Index” using i) the level of enforcement of laws that criminalize, protect or recognize same-sex relations, and ii) public opinion survey data.

Research question

Homophobia



Segregation



Misallocation

Labor market segregation of sexual minorities

Misallocation of human capital (which in turn slows down economic growth) (Hsieh et al. 2019)

This paper: Does homophobia drive segregation?

- Data:
 - Newly constructed measure of **homophobia** at the state-year level using web searches.
 - 1% sample American Community Survey data to construct a measure of **labor market segregation** at the state-year level.
- Results:
 - Opposite effects in **homophobia** depending on the legalization method. Theory largely based in the **judicial backlash thesis**; from constitutional law scholarship.
Judiciary ↑ & Legislature ↓
 - Opposite effects in **labor market segregation** depending on the legalization method:
Judiciary ↑ & Legislature ↓
- Identification strategy: Staggered roll-out design.

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Staggered roll-out design

- Traditionally, in staggered roll-out treatment settings researchers would run a Two Way Fixed Effects (TWFE) regression (using time and treatment-unit fixed effects).
- In the past couple of years, econometricians have shown that the TWFE is only valid when treatment effects are homogeneous across groups and time, which, for most applications, is implausible.
- The problem with TWFE arises when already-treated units act as controls, as changes in their treatment effects over time get subtracted from the TWFE estimate. (Goodman-Bacon 2018)

Stacked difference-in-differences

- My unit of observation is the state-year level
- I create event-specific datasets (one for every “wave” of legalization) including the state(s) treated and all the other states up to when they become treated.
 - Hence, I am only comparing treated with non-treated states in every dataset.
- Then, I “stack” these event-specific datasets in relative time to calculate the DID event-studies. (Baker, Larcker, and Wang 2021)

Stacked DiD Specification

$$y_{j,t,G} = \gamma_{j,G} + \tau_{t,G} + \sum_{k \neq 0} \delta_k \mathbb{I}[t - G_j = k] + \varepsilon_{j,t,G}$$

- $\gamma_{j,G}$ and $\tau_{t,G}$ are the state and year (cohort-, or “wave-”)saturated fixed effects.
- $\mathbb{I}[t - G_j = k]$ is an indicator for cohort G being k years from the treatment.
- G_j indicates state j cohort’s (G) treatment year.

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Mechanism: Legalization methods

Normative: The legitimacy of judicial review

Dobbs v. Jackson (The decision that overturned Roe v. Wade)

- “The scheme Roe produced looked like legislation, and the Court provided the sort of explanation that might be expected from a legislative body.”
- “Given that procuring an abortion is not a fundamental constitutional right, it follows that the States may regulate abortion for legitimate reasons, and when such regulations are challenged under the Constitution, courts cannot substitute their social and economic beliefs for the judgment of legislative bodies.”
- “It is time to heed the Constitution and return the issue of abortion to the people’s elected representatives. “The permissibility of abortion, and the limitations, upon it, are to be resolved like most important questions in our democracy: by citizens trying to persuade one another and then voting.” That is what the Constitution and the rule of law demand.”

Positive: Counterproductive effects of judicial review

Judicial backlash thesis. “[J]udicial decisions ‘shutting down’ politics could frustrate democratic majorities in ways that would produce more virulent politics than might have resulted had judges refused to intervene.” (Siegel 2017)

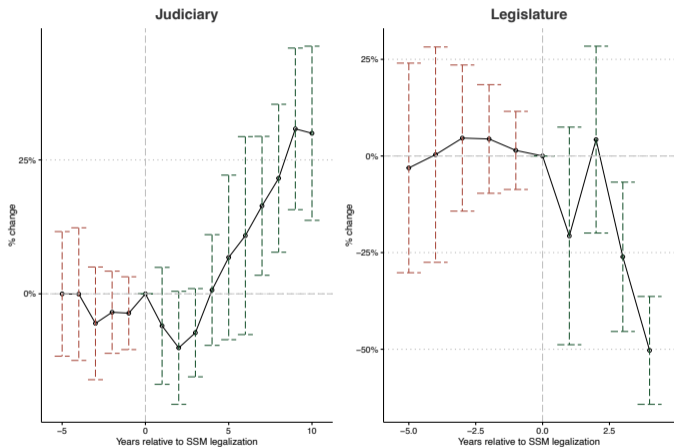
Problems with measuring homophobia

- Most studies on the impact of same-sex marriage on public opinion (which one can argue is a proxy for homophobia) rely on survey data.
- Nonetheless, Coffman, Coffman, and Ericson 2017 show that it is likely that these measures underestimate the prevalence of homonegative attitudes.
- They conduct a series of online experiments to compare estimates of homonegative attitudes using standard surveys vs. a “veiled” methodology:
 - “Would you be unhappy to have an openly lesbian, gay, or bisexual manager at work?”
Standard: 16% vs. Veiled: 27% (difference, $p < 0.01$)
 - “Do you believe it should be legal to discriminate in hiring based on someone’s sexual orientation?”
Standard: 14% vs. Veiled: 25% (difference, $p < 0.01$)
- Similarly, Kreitzer, Hamilton, and Tolbert 2014 study the effect of the 2009 Iowa Supreme Court ruling, *Varnum v. Brien*, which declared that limitation of marriage based on sexual orientation was unconstitutional.
 - Using survey data from before and after the court’s ruling, they find that the signaling of social norms pressured some respondents to modify their expressed attitudes.

Homophobia as anonymous web searches

- I collect data on Google search queries of the “f-word” at the state level for every US state plus DC between 2004 and 2019.
- I construct a homophobic search index (HSI) index which is normalized to the state and year with the highest search hits, and the rest of the state-year observations are re-scaled from 0 to 100, this way, each state-year observation of the HSI represents the relative popularity across geographies and years.

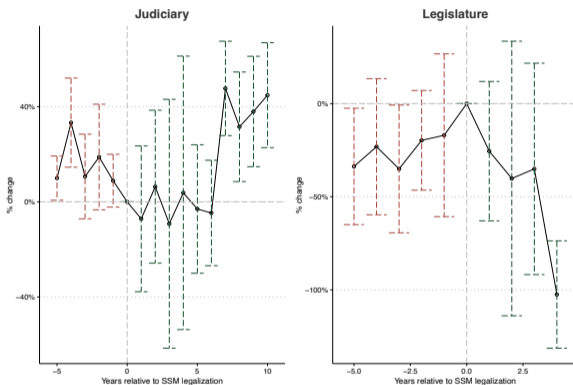
Opposite effects in homophobia



log(HSI) as the dependent variable.

Results using the IAT

Does homophobia have “real” effects?



$\log(\#\text{hate crimes})$ as dependent variable.

Note: Using the public compiled dataset of hate crimes from the FBI. I count the hate crimes at the state-year level that are coded as motivated by an “Anti-gay”, “Anti-lesbian”, “Anti-bisexual” or “Anti-transsexual” bias.

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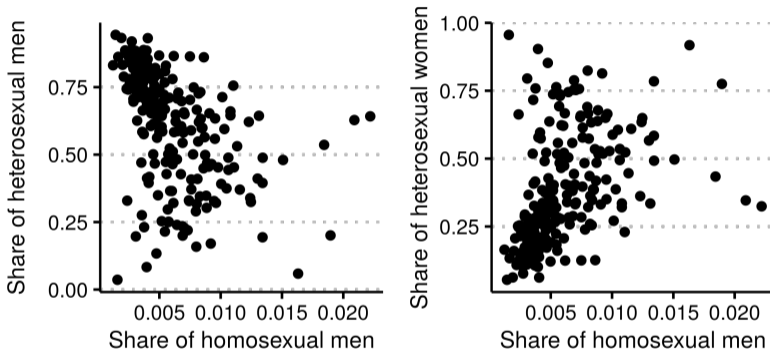
Data source: American Community Survey

- I use the 1% yearly ACS dataset from 2004 to 2019.
- **Identifying behavioral sexual orientation:** household members can be classified as “unmarried partners” when recording their relationships to the household head, i.e., roommates and unmarried partners are treated as two separate categories.
- Further, same-sex couples have been allowed to report their marital status since 2012. (Sansone 2019)

Mechanism (Theory)

Black, Sanders, and Taylor 2007's find that homosexual men tend to crowd out of (crowd into) industries where most workers are heterosexual men (women), as they might experience more (less) discrimination.

Segregation: \uparrow stigma \Rightarrow industry crowd-out



4-digit NAICS comparisons of homosexual men vs. heterosexual men industry shares (Left) and homosexual men vs. heterosexual women industry shares (Right).

Rest of scatter plots

Measurement: Industry dissimilarity index

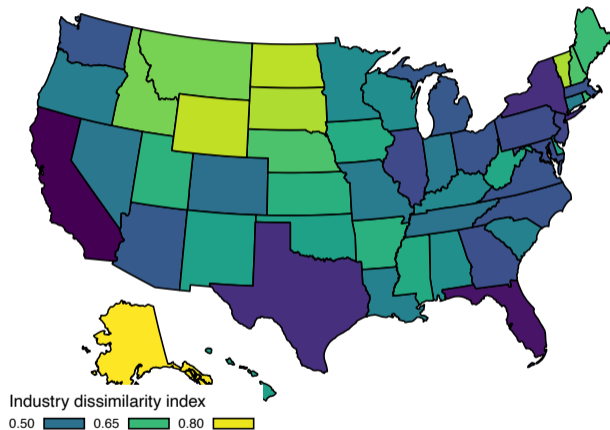
I measure labor market segregation using a dissimilarity index between men in same-sex relationships and men in different-sex relationships. (As there is little to no labor market segregation for women.)

Dissimilarity index (Duncan and Duncan 1955)

$$D_j = \frac{1}{2} \sum_i \left| \frac{h_{j,i}}{H_j} - \frac{b_{j,i}}{B_j} \right|$$

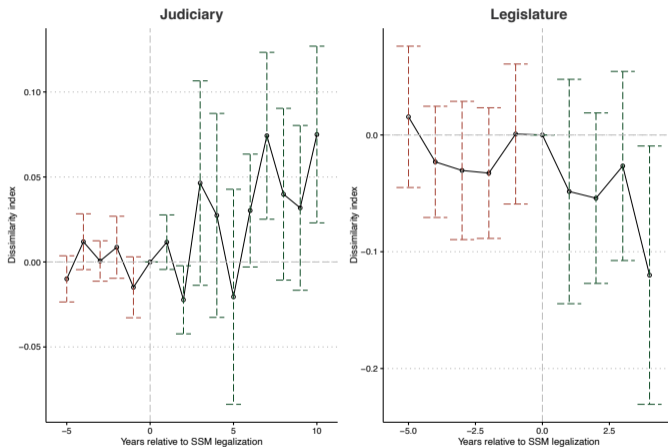
- $\frac{h_{j,i}}{H_j}$ is the share of homosexual men workers from state j in industry i, using the pool of homosexual men workers in state j
- $\frac{b_{j,i}}{B_j}$ is the share of heterosexual men workers from state j in industry i, using the pool of heterosexual men workers in state j
- D_j represents the share of men in state j that would have to move across industries in order to have similar distributions for both groups.
- **Implicit assumption:** The skill distribution is the same for both groups, so the differences arise from factors such as discrimination/stigma. (Hsieh et al. 2019)

Measurement: Industry dissimilarity index



State average of D_j between 2004 and 2019.

Opposite effects in segregation



$D_{j,t}$ as the dependent variable.

Occupation D_j results

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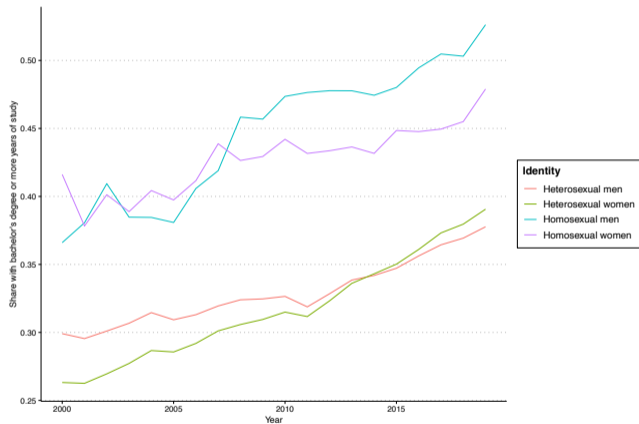
Indicators of misallocation

The Allocation of Talent and U.S. Economic Growth. Hsieh et al. 2019

- In 1960, white men accounted for 94 percent of doctors and lawyers; by 2010, they made up for just over 60 percent and similar patterns occurred throughout the economy, particularly in high-skill occupations.
- Since 1960, women and black men both increased their human capital accumulation and increased their participation in high-skill industries, which in turn shifted the skill distribution of many industries to the right.
- These reallocation of resources explain 44 percent of U.S. GDP per capita growth between 1960 and 2010.

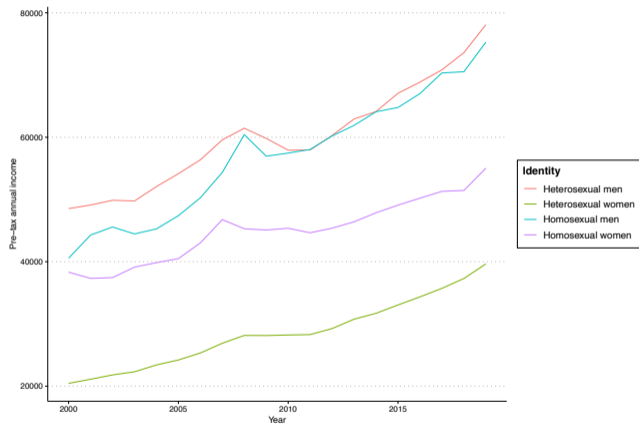
So, misallocation occurs whenever the skill, human capital and industry/occupation labor force participation are not “correctly” mapped to one another, i.e., high skilled individuals are not acquiring human capital, and/or individuals with high human capital are not working in matching high skilled jobs.

Sexual minorities are more educated



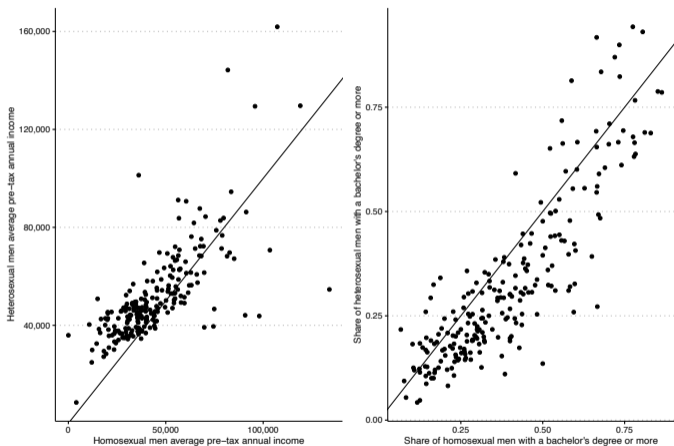
Time series of behavioral-identity-group share with a bachelor's degree or more years of education.

Sexual minorities earn less



Time series of behavioral-identity-group pre-tax average annual income.

Patterns are consistent across industries



4-digit NAICS comparisons of average pre-tax annual income (Left) and share with a bachelor's degree or more (Right) between men in same-sex relationships (X-axis) and men in different-sex relationships (Y-axis).

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Causality?

- So... I don't really prove that homophobia directly causes labor market segregation of sexual minorities.
- **Reverse causality?** I think it is very unlikely. Labor market segregation is being driven by shifts of homosexual men across industries, and the measure of homophobia consider the search volume of the “f-word” for the whole population.
- True, the true mechanism could be another variable Z . Which one would that be?

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What next?

- Polarization as an outcome? Using the racial animus search index as the dependent variable I get similar effects to using the HSI. What is driving this? Polarization?

Racial animus DiD

- “Policy” implications:
 - Assume a Rawlsian social welfare function such that society’s welfare depends on the welfare of minority groups, which are, arguably, the worse-off groups.
 - We have the resources that make a better equilibrium feasible.

What next?

- Polarization as an outcome? Using the racial animus search index as the dependent variable I get similar effects to using the HSI. What is driving this? Polarization?

Racial animus DiD

- “Policy” implications:
 - Assume a Rawlsian social welfare function such that society’s welfare depends on the welfare of minority groups, which are, arguably, the worse-off groups.
 - We have the resources that make a better equilibrium feasible.
 - BUT, the social planner(s) (judges?) can’t allocate rights to achieve a better equilibrium.
 - How do we achieve marriage equality?

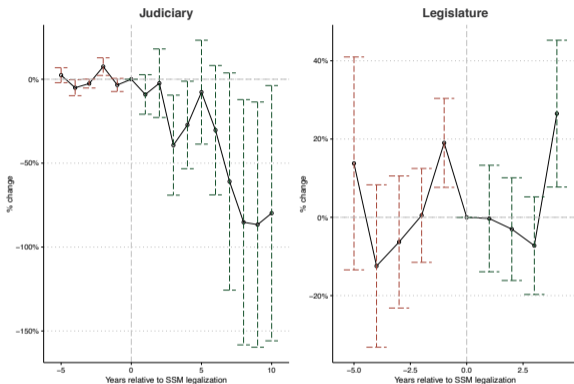
Regression controls

Table: Descriptive statistics by behavioral sexual identity

Variable	SS men	DS men	DS women	SS women
Emp. rate	0.75	0.75	0.75	0.75
% aged between 18 and 35	0.18	0.18	0.18	0.18
Avg pre-tax annual income	60,076	62,272	29,918	46,853
% black	0.05	0.06	0.06	0.07
% hispanic	0.11	0.10	0.10	0.10
% with a bachelor's degree or more	0.46	0.33	0.33	0.44
Share who speaks english	1.00	0.99	0.99	1.00
N	141,202	11,390,086	11,390,086	142,188

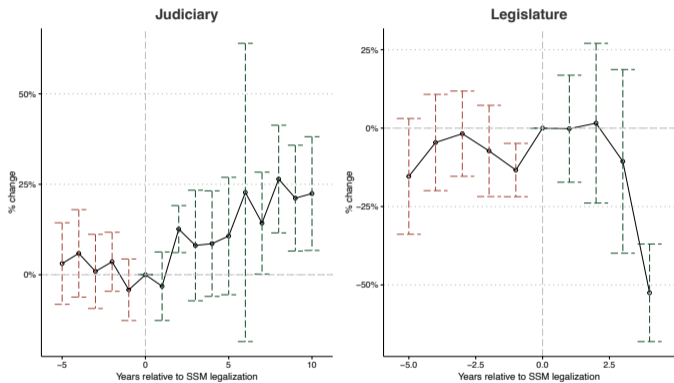
Notes: SS denotes groups that are in a same-sex marriage or partnership, and DS denotes groups that are in a different-sex marriage or partnership. The data consists of married or partnered individuals in the ACS 1% samples from 2000 to 2019.

Opposite effects in homophobia: IAT



Using the public Sexuality IAT dataset from 2004-2019. The possible range of the implicit biases measure is $[-2, 2]$, -2 signifying the most negative bias against sexual minorities and 2 signifying the most positive bias about sexual minorities. I consider the average implicit bias change at the state-year level. (Lamontagne et al. 2018)

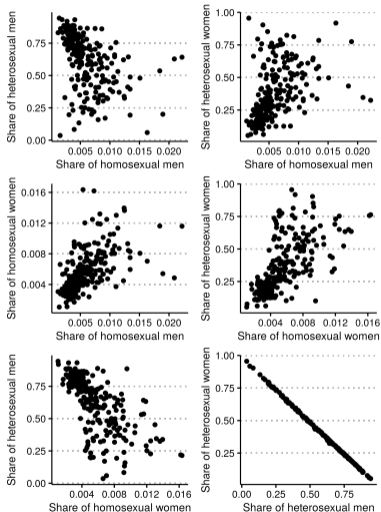
Opposite effects in racial animus search index



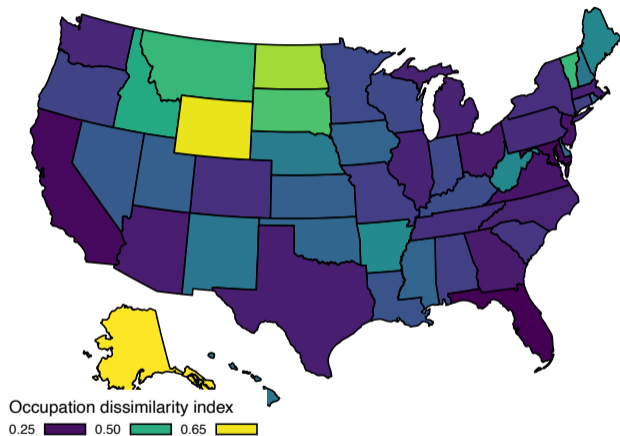
log(racial animus search index) as dependent variable.

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Mechanism: \uparrow stigma \Rightarrow industry crowd-out

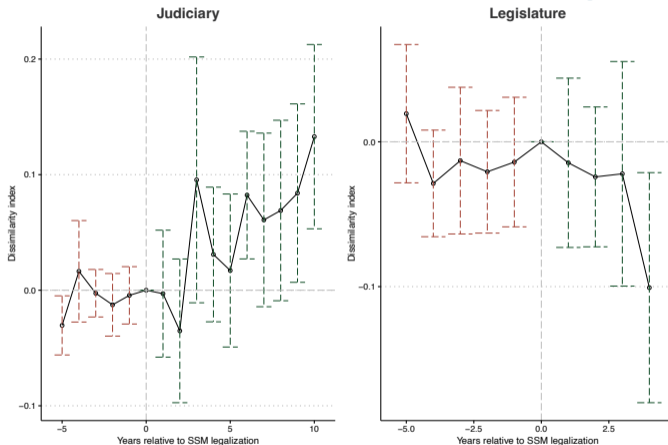


Measurement: Occupation dissimilarity index



State average of D_j between 2004 and 2019.

Heterogeneous effects in segregation: D_j^{Occup}



State average of D_j^{Occup} between 2004 and 2019.

Thank you!

If you have any questions/comments do reach out at
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