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DISCUSSION PAPER SERIES

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Institutions, Attitudes and LGBT: Evidence from the Gold Rush

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ABSTRACT

Institutions, Attitudes and LGBT: Evidence from the Gold Rush*

This paper analyzes the determinants behind the spatial distribution of the LGBT population in the U.S. We relate the size of the present-day LGBT population to the discovery of gold mines during the 19th century gold rushes. Comparing the surroundings of these gold mines to other current and former mining counties, we find that there are currently 10-15% more same-sex couples in counties in which gold discoveries were made during the gold rushes. We also provide empirical evidence that residents of gold rush counties still have more favorable attitudes toward homosexuality nowadays. Our findings are consistent with two mechanisms. First, gold rushes led to a large (temporary) increase in the male-to-female ratio. Second, we show that gold rush counties were less likely to house a notable place of worship at the time of the discovery (and in the following decades) and are currently less religious, suggesting a role of institutions in shaping attitudes and norms.

JEL Classification: O13, O18, J10, R23

Keywords: persistence, LGBT, attitudes, religion

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1 Introduction

The geographic distribution of minority groups and attitudes toward these groups vary significantly across and within societies. Many contemporaneous socioeconomic determinants of these differences have been proposed, but few studies have analyzed their origins (e.g., Card et al. (2008); Dustmann and Preston (2001); Dustmann et al. (2011); Edin et al. (2003)).

In this paper, we investigate the role of the California Gold Rush (start date 1848) and other gold rushes (Oregon (1851), Colorado (1858), Washington (1873) and Alaska (1896)) on the current place of residence of the U.S. LGBT population and attitudes toward this group. A mineral "rush" is often defined in popular culture as an onrush of miners seeking high-profit opportunities. We provide empirical evidence that the current geographic distribution of the LGBT population is positively related to the gold rushes during the mid-to-late 19th century. We also provide evidence that the gold rushes led to more positive attitudes toward homosexuality which persisted in the long-run.

Identifying the causal effect of historical shocks such as natural resources discoveries on current outcomes is difficult for a number of reasons (Couttenier et al. (2017)). For example, characteristics of mining counties and non-mining counties differ along many dimensions (see Section 4) and economic shocks other than gold discoveries could have happened later. We address these issues by exploiting the year of discovery of gold and by comparing two types of gold mining counties: (1) counties in which gold was discovered during one of the gold rushes (1848-1899) and (2) counties in which gold was discovered before and after the gold rushes (see Figures 1 and 2).

This identification strategy is attractive because the latter group of mining counties is more comparable to gold rush mining counties than non-mining counties. The identification assumption is that gold rush mining counties would have the same number of LGBT individuals as counties in the control group if gold discoveries in these places had happened before or after the gold rushes. This assumption seems reasonable given that the sample of gold rush and non-gold rush mining counties is balanced across a wide range of geographic variables. Both tend to be in isolated regions, but the period of settlement differs. What differentiates gold rush from non-gold rush mining counties is primarily the fact that non-gold rush counties were already settled.

We provide empirical evidence that the two sets of counties differ in few key dimensions. We first show that gold discoveries during one of the gold rushes (henceforth "gold rush counties") led to a large (temporary) increase in the male-to-female ratio, whereas other gold discoveries had virtually no impact on sex ratios. Our estimates suggest that gold rush counties had male-to-female ratios of seven on average in the first census after the discovery of gold. This is likely due to the fact that gold rush counties were mostly inhabited at the moment of gold discovery and that the gold rushes led to the largest mass migration in the history of the U.S. (Table 1). The other dimension along which gold rush counties differ from other gold mining counties is the quality and existence of local institutions at the time of gold discovery. Gold rush counties were mostly in remote, isolated places, without strong legal institutions (Clay and Wright (2005)).[1] In order to document the lack of strong institutions for gold rush counties, we build a new data set of all notable cathedrals, churches and missions in the U.S. using data from the National Register of Historic Places. We show that only 9 percent of gold rush counties had a notable place of worship at the time of gold discovery in comparison to 44 percent for control counties.

In a first step, we test whether counties with gold rush discoveries currently have more (male and female) unmarried partner households of the same sex. Our estimates suggest that there are currently 10-15 percent more same-sex couples in gold rush counties than in our control group, i.e., non-gold rush discoveries. These findings are robust to several specification checks such as the inclusion in our model of state fixed effects, geographic controls and controls for the share of foreign born individuals and military bases, as well as the use of another comparison group, i.e., other mineral discoveries and fossil fuel.[2] The effects on same-sex unmarried couples for counties neighboring gold rush counties are smaller and less precisely estimated suggesting that the effects are mostly local. However, the estimated effect is amplified for gold rush mining counties that neighbor another gold rush county. Last, we also provide evidence that gold rush counties, in comparison to non-gold rush counties, have more same-sex couples who are married.

As an additional robustness check, we test whether the positive rela-

[1]Lack of law enforcement is documented in many historical narratives of the American Frontier (Bazzi et al. (2017); Clay and Troesken (2000); Couttenier et al. (2017)). For instance, there was no federal mining law at the onset of the California gold rush (Clay and Wright (2005)).

[2]Maurer and Potlogea (2017) examine the impact of male-biased demand shocks arising from oil discoveries in the South of the United States between 1900 and 1940. They find no effect on the female population share and women's labor force participation at the county level.

tionship between the gold rushes and the size of the LGBT population is driven by current socioeconomic characteristics and local amenities. We include in our model a broad range of county variables to proxy for geography/isolation, demography, economic activity, education and urbanization in 2010. (See Section 7 for the exhaustive list of variables.) Adding these variables to our model decreases the correlation between gold rush discoveries and the number of unmarried partner households of the same sex decreases by only one-fifth. This suggests that the estimates of the reduced-form relationship are too large to imply that the gold rushes mainly affects the geographic distribution of the LGBT population through current socioeconomic characteristics.

In a second step, we test whether individuals currently living in gold rush counties have pro-LGBT attitudes. We rely on data from the General Social Survey (GSS) for the time period 1993–2014 and show that residents in gold rush counties are more likely to report that homosexuality is not wrong than respondents in control counties.[3] The estimated effect of gold discovery during the gold rushes is quite large and robust to many specification checks including the use of a composite index of many questions related to homosexuality. We also provide evidence that both migrants and non-migrants living in gold rush counties are more likely to report pro-LGBT attitudes. These results suggest that pro-LGBT attitudes have persisted in gold rush counties and that both individuals growing up and moving to gold rush counties have more favorable attitudes toward this group.

These results are intriguing given that we are directly comparing gold rush and non-gold rush counties. Both set of counties are mostly located in the West, have similar geographical characteristics and have had balanced sex ratios for more than 75 years. It thus remains unclear why gold rush counties still have higher levels of pro-LGBT attitudes 150 years after the initial shock. We provide suggestive evidence that the differential in attitudes is partly driven by the lack of (local) formal institutions at the moment of gold discovery and in the following decades. Using data from the National Register of Historic Places, we show that 9 percent of gold rush counties had a place of worship at the time of gold discovery and that 42 percent still do not have a notable place of worship. For the remaining 49 percent of gold rush counties, it took on average about 30 years from

[3] In the GSS, the proportion of respondents who think that sexual relations between two adults of the same sex are not wrong at all ranges between 27 percent in Riverside county, California and 83 percent in Yolo county, California.

gold discovery to build a notable place of worship. We also confirm that residents of gold rush counties are currently less religious using GSS data. Overall, our findings suggest that gold rush mining counties initially lacked strong religious institutions which helped pro-LGBT attitudes and the high concentration of the LGBT population to persist.

We make three important contributions in our paper. First, to our knowledge, we are the first paper to empirically document the origins of the spatial distribution of the LGBT population in the United States. Second, we provide suggestive evidence on historical determinants of divergence in current attitudes regarding homosexuality.[4] Finally, we provide evidence that the initial institutional environment plays an important role in shaping social norms and attitudes in the short- and long-run (Acemoglu et al. (2001); Banerjee and Iyer (2005); Buggle and Durante (2017); Couttenier et al. (2017); Dell et al. (Forthcoming); Grosjean (2014)).[5]

Our work contributes to a literature that studies the persistent effects of historical shocks on the spatial distribution of population (e.g., Ahlfeldt et al. (2015)), economic activity (e.g., Bleakley and Lin (2012); Davis and Weinstein (2002); Miguel and Roland (2011); Redding et al. (2011)) and gender roles (e.g., Alesina et al. (2013)). Our results also add to a growing literature on the persistence of attitudes, culture and norms (e.g., Bazzi et al. (2017); Brodeur et al. (2018); Fernández and Fogli (2009); Nunn and Wantchekon (2011); Voigtländer and Voth (2012)). Our findings are relevant given the importance of culture, social norms and attitudes for economic development (Algan and Cahuc (2010); Fafchamps (2006); Knack and Keefer (1997); Nunn and Wantchekon (2011); Tabellini (2008b); Tabellini (2008a)).

Our findings also relate to papers analyzing the consequences of disequilibria in sex ratios (e.g., Abramitzky et al. (2011); Angrist (2002); Carranza (2014); Hesketh and Xing (2006); Schacht and Kramer (2016); Teso (Forthcoming)).[6] Baranov et al. (2018) and Grosjean and Khattar (Forthcoming) analyze the short- and long run effects of the large num-

[4] Asal et al. (2013) relate the decriminalization of homosexual acts for a large sample of countries to variables such as legal origin, religion and economic development. This study only shows partial correlations and does not tackle endogeneity issues and omitted variable bias.

[5] We contribute to a recent literature on the long-term effects of mineral discoveries (e.g., Barone and Mocetti (2014); Buonanno et al. (2015)). Couttenier et al. (2017) document that historical mineral discoveries in the U.S. are positively associated with current homicides and assaults in counties in which the discoveries occurred before formal institutions were established.

[6] Many papers examine the determinants of gender imbalance. See Anderson and Ray (2010) and Edlund and Lee (2009) for example.

bers of male convicts and far fewer female convicts sent to Australia in the 18th and 19th centuries. They provide evidence that people living in areas that were historically more male-biased were more likely to vote against same-sex marriage and have more conservative attitudes toward women working.[7] We provide a discussion in Sections 2 and 8 on the divergence of our results from these papers. We point out the contextual setting and selective migration as likely explanations.

Last, our paper contributes to a small literature on the economics of LGBT. Previous studies have analyzed homosexual/heterosexual earnings and labor supply differences (Allegretto and Arthur (2001); Antecol and Steinberger (2013); Black et al. (2003); Blandford (2003)), hiring and workplace discrimination (Weichselbaumer (2003); Aksoy et al. (2018)) and anti-gay sentiment (Andersen and Fetner (2008); Coffman et al. (2016)). Black et al. (2007) provide a literature review and Black et al. (2000) discuss data sources. Recent contributions document the spatial distribution of LGBT population (e.g., Black et al. (2002); Gates (2013); Smart and Whittemore (2017)) and revealed attitudes toward homosexuals using average home prices (Christafore et al. (2013)).

The remainder of this paper is structured as follows. In section 2, we offer a brief historical overview of the gold rushes and a conceptual framework. Section 3 details the data sets and provides descriptive statistics. Section 4 presents the methodology and the model specifications. In Section 5, we document initial conditions in gold rush counties. Section 6 presents the results on the current spatial distribution of the LGBT population and attitudes toward this group. Section 7 provides a discussion of our main findings and empirical evidence that the gold rushes may have affected the size of the LGBT population through the quality and existence of religious institutions. The last section briefly concludes.

2 Background

2.1 Brief History of the Gold Rushes

The discovery of gold on January 24, 1848, by James Marshall led to the largest gold rush in American history. It took most of 1848 for word to leak out. Rumors were later confirmed on December 5, 1848 by President James Polk in his State of the Union address. News about the California Gold Rush resulted in the largest mass migration in American history producing

[7] Chang (2015) finds that contemporaneous male-to-female ratios are negatively correlated with the likelihood of revoking state sodomy laws.

a swift demographic change. Overland or by ship, hundreds of thousands of migrant workers ("forty-niners") set off to California.

Shortly after the discovery of gold in California, the Josephine Creek discovery in 1851 by a group of miners originally from Illinois set in motion Oregon's Gold Rush. Following Josephine Creek's gold discovery, new discoveries were made following the rush of prospectors into Southern Oregon. For instance, significant gold discoveries occurred at Sailor Diggins and Althouse Creek in Illinois Valley in 1852. The Rogue Indian War and the Fraser River gold discovery in Canada marked the end of Oregon's gold rush in the 1860s.

Pike's Peak region of the Kansas and Nebraska Territories also witnessed a gold rush which lasted between 1858 and 1861, the Colorado Gold Rush. The Swauk Creek gold discovery in 1873 marked the only significant gold rush in the State of Washington. The deposits were depleted by early 1880's marking the end of the Washington gold rush. Montana's Gold Rush era lasted for a few years during the 1860–70s.

Alaska's Gold Rush dates back to 1896 when George Carmack and Skookum Jim discovered gold on Bonanza Creek. Between 1898 and 1899 gold was discovered in Nome, Alaska, launching what is referred to as the Nome Gold Rush.

Migration and Male-to-Female Ratio A number of characteristics make the gold rushes different than other mineral discoveries. First, the gold rushes attracted hundreds of thousands of young men to the West. The mass migration of men to areas where gold was discovered resulted in a large increase in population and temporarily unbalanced sex ratios in gold rush counties.

The most dramatic example may be the California Gold Rush. Clay and Jones (2008) document that about 2–3 percent of all native-born men aged 20–40 in the U.S. were residing in California by the end of 1850. Men from Mexico, Canada, the United Kingdom and mainland Europe also migrated to gold rush counties. California's population increased from 8,000 Californios[8] at the end of the 1840s to 120,000 in 1850 (U.S. California Census).[9] This increase was mostly driven by the influx of about 110,000

[8]A Californio was a Spanish speaking, Catholic person of Latin American descent born in Alta California between 1769 and 1848. Alta California is the area that roughly corresponds to modern-day California.

[9]The 1850 Census was subject to a number of criticisms including the loss of data for Contra Costa, Santa Clara and San Francisco counties and the fact that not everyone in California was enumerated. California, which became the 31st official state in 1850, made another official count in the 1852 California Census.

male gold rushers. By 1852, California's population increased to 200,000. Women constituted only 8% of the Californian population in 1850. This percentage increased to 30 percent by 1860 and to approximately 50 percent by 1940 (Clay and Troesken (2000); Holliday (2015)).[10]

The other gold rushes had a similar (temporary) effect on the male-to-female ratio. For instance, population in Alaska nearly doubled following the Alaska Gold Rush with about 64,000 inhabitants, out of which 46,000 were males and 18,000 females (Nugent (2007)).

Table 1 reports summary statistics for counties that had gold discoveries during one of the gold rushes (1848–1899), counties that had gold discoveries before this time period, counties that had gold discoveries after this time period and the rest of the U.S. The main variables of interest refer to population and population density per square mile. Population data is based on the first census before the year of earliest gold discovery. This table confirms that gold rush counties were mostly inhabited at the moment of the first gold discovery, whereas counties that had their first gold discovery before or after the gold rushes (1848–1899) were already settled. The average number of inhabitants for gold rush counties was 1,976 (population density of 1.2). This is in stark contrast to counties that had gold discoveries before 1848–1899 (average population of 9,455 and population density of 19.6) and to counties that had their first gold discoveries after 1848–1899 (average population of 29,838 and population density of 28.8). The rest of U.S. counties had on average 5,700 inhabitants (population density of 18.3) in 1840.

We document the presence of unbalanced sex ratios in gold rush counties in Appendix Figures A1 and A2. These figures illustrate sex ratios in 1860, 1870 and 1960 across U.S. counties. Sex ratios in the West were imbalanced during the 1860–70s, whereas counties in the South and Northeast regions had more balanced sex ratios. In contrast, sex ratios were nearly balanced across all counties in more recent years (see Appendix Figure A3).[11] Table 1 also documents sex ratios at the moment of gold discovery. Using the first census after the earliest gold rush discovery, we find that sex ratios were on average seven in gold rush counties and about one for counties with their first gold discovery before or after the gold rushes time period. We formally test in Section 5 that only gold rush discoveries led to temporarily

[10] This decrease in the male-to-female ratio resulted from the immigration of families and births in California, as well as the immigration of single females (Hurtado (1999)).

[11] Appendix Figure A4 reports sex ratios for all counties for the time period 1820-2010. Sex ratios are close to one for most counties before and after the gold rushes. In contrast, sex ratios are male-biased in many counties during the gold rushes time period.

unbalanced sex ratios.

Last, Table 1 confirms Clay and Jones (2008)'s findings that age and literacy are important factors in determining migration during the California Gold Rush. Using data from the first census following the first gold discovery, we show that 82 percent of the white population were prime age adults (15 to 49 years old) in gold rush counties and that only 10 percent were illiterate. In comparison, counties with discoveries before or after the gold rushes had a much smaller share of young white population (45 and 48 percent, respectively) and illiteracy rates among whites were about 18 and 22 percent, respectively.

Local Institutions The gold rushes were also different than other mineral discoveries because of the lack of (local) formal institutions. The lack of places of worship was particularly evident. Goodrich (1859) writes that "Away from law, away from public opinion, away from the restraints of home [...] puritan became a gambler; the boy taught to consider dancing a sin soon found his way to masked balls; *monte* became as familiar as the communion, and the catechism was forgotten, while the champagne popped sparked and excited."

Using historical data on Baptist, Congregational, Methodist, Presbyterian and Roman Catholic churches, Maffly-Kipp (1994) documents that there were twice as many churches per capita in New York and Ohio than in California in 1860. In Iowa, a frontier region that was settled and evangelized during the same years as California, there were three times more churches per capita than in California. Maffly-Kipp (1994) writes that "Gold rush California has consequently been depicted as a society without religion–'a prehistory'."

In this paper, we further investigate the role of religion in shaping attitudes toward homosexuals in gold rush areas. We first provide empirical evidence in Section 5 that gold rush counties lacked strong (local) religious institutions at the moment of gold discovery. We then show in Section 7 that individuals in these counties are currently less likely to be religious, which may itself be an outcome of the gold rushes. We focus on religion (and not on social, political or economic institutions) throughout given its importance in shaping attitudes toward homosexuals and migration patterns of the LGBT population (see Adamczyk and Pitt (2009), for instance). We also test in Section 7 whether residents in gold rush counties are currently more liberal. Arguably, there may be a broader selective migration of more liberal people to gold rush areas who sought freedom from religious, social and political pressures.

2.2 Gold Rushes and the LGBT Population

Historical records indicate more favorable attitudes regarding homosexuality in gold rush mining areas. During the 19th century, LGBT population lived in hiding to avoid persecution. Sodomy was a felony in all states and considered a capital offense in some states. The lack of formal institutions in gold rush counties made it easier for LGBT individuals to avoid oppression and discrimination. With very weak social and religious institutions at the time, sexual relations between men were not as socially opposed as in the rest of the country (Posner (1994)). Hurtado (1999) argues that what was otherwise damned as immoral, was not completely removed from gold rush societies. This seemed designed to satisfy the appetites of a population of young men.

The lack of religious institutions and punishment may have favored pro-LGBT attitudes in gold rush counties. Miners worked and lived together in mining camps. William (1999) writes that miners "lived cheek-by-jowl with one another, even sharing beds and blankets." Many historians highlight the fact that miners were fulfilling traditional women's role like cooking and housekeeping. Men accepted to become dancing partners of other men (Boyd (2003)). See Appendix Figures A5 and A6. At nights men were "identified" to have accepted to take a woman's part by either tying scarves around their arms or wearing a patch on a certain part of their expressibles (Lipsky (2006)). In some camps, better dressed men would be identified as those willing to be dancing partners of other men. Lipsky writes that "The people of the gold rush understood sexuality differently than they do today. Concepts of homosexuality, bisexuality and heterosexuality had not yet been invented, so people did not define themselves by their sexual orientation. Having intimate relations with a person of the same gender did not automatically make anyone into 'a certain kind' of individual."

While it may have been a matter of convenience for some migrants to move to these male abundant gold rush areas, some of the migrant men may have been homosexuals who seized this economic opportunity to move West at a time where norms where almost absent. Lipsky (2006) writes that "With few women in the city and even fewer in the mining camps, men undoubtedly turned to each other for comfort of all kinds. For some, in their physical and sexual primes, it may have been a matter of convenience only, but others certainly seized the opportunity to live exactly as they pleased, far from home and free of traditional social pressures."[12]

2.3 Persistence and Transmission of Attitudes

Many economics papers provide evidence that historical shocks may persist via culture and norms (Couttenier et al. (2017); Guiso et al. (2006); Tabellini (2008a)). Attitudes, culture and norms may be transmitted horizontally and vertically (Giuliano and Nunn (2017)).[13] This is important in our context given that experimental findings and self-reported data suggest that increased contact with persons known to be homosexuals increases tolerance and acceptance toward the LGBT population (e.g., Altemeyer (2002)).

Bisin and Verdier (2011) reviews models of cultural transmission and explain that beliefs and culture are partly transmitted through generations and acquired by different forms of learning. Importantly, the initial conditions in some of these models determine the long-run equilibrium.[14] This is important in our context given the lack of (or the presence of weak) strong religious institutions. If formal enforcement is weak, then individuals may be more likely to transmit pro-LGBT values and attitudes to other generations (Tabellini (2008a)).

We argue that the lack of formal institutions shaped cultural norms and attitudes in gold rush counties. Weak institutions and attitudes persisted and reinforced one another over time.

Pro-LGBT attitudes in gold rush counties may be linked to the likelihood for LGBT individuals to self-identify and self-disclose their sexual orientation and through selective migration to these counties. In other words, locational preferences could be a function of LGBT attitudes and formal enforcement in the area (Yue (2013)). A rich literature on migrants also point out that locational decisions are linked to the size of the minority group already in that location (e.g., Munshi (2003)). Expectations about future income, labor discrimination and persecution may explain this relationship.[15]

[12]While large male-to-female ratios in mining camps could have led to the development of the sex industry (Brodeur et al. (2018)), historical letters and diaries suggest that the small number of commercial sex workers led to very high sex act prices in mining camps (William (1999)). Lipsky (2006) reports that sex act prices ranged from \$200 to \$400 a night (\$4,000 to \$8,000 in 2005 dollars). Miners and clerks could thus not afford these services.

[13]In 2011, about 15 percent of same-sex couple households had at least one biological, step or adopted child in their household.

[14]Grosjean (2014) suggests a role of historical institutions in determining the culture of violence transmitted to subsequent generations in the South of the U.S.

[15]Using Census data, Black et al. (2007) show that gay male partners and lesbian

To sum up, the gold rushes could have a persistent effect on the size of the LGBT population through the transmission of pro-LGBT values and migration of homosexuals. The lack of formal institutions at the time of gold discovery may have determined the long-term equilibrium in gold rush counties through the formation of local institutions and attitudes.

3 Data Sources

3.1 LGBT Data

In order to construct the size of the LGBT population at the county level, we use decennial census data. The 2010 U.S. census identifies same-sex cohabiting couples based on information about the sex of the members of the household and information from the relationship question. The Census Bureau designates as the head of household (or householder) "the member (or one of the members) in whose name the home is owned, being bought, or rented." Then data are collected on all household members, with each person being identified in terms of her or his relationship to the householder. Our measure of unmarried partnered households is thus based on households of the same sex reporting an unmarried partnership. In 2010, there were 2.2 unmarried partner households of the same sex per 1,000 inhabitants, and about 515,000 unmarried partner households of the same sex. Figure 3 displays the number of unmarried partner households of the same sex per capita in 2010. This map illustrates that San Francisco, Seattle and Oakland are some of the (large) cities with the highest number of same-sex couples per inhabitants.[16]

As a preview of our main results, three out of the 15 counties with the highest number of unmarried partner of the same sex per capita are gold rush counties.[17]

We also use data from the American Community Survey (ACS) for the years 2013-2016. The ACS data is available at the Public Use Microdata

partners are less likely to be living in their state of birth than heterosexual couples. In 2000, about 22 percent of gay male partners were both living in their state of birth (Black et al. (2007)). This number goes up to 39 percent for heterosexual couples. These figures reflect the very high mobility of the LGBT population.

[16] We compute using 2010 Census data that about 20 percent of same-sex couples were residing in only 15 counties.

[17] Note that San Francisco county is also in the top 15, but is not a gold rush county. This is due to the fact that there were no gold discovery in this county. Nonetheless, San Francisco was greatly affected by the gold rush. The population of San Francisco increased from about 1,000 in 1848 to over 25,000 in 1950. Unsurprisingly, adding San Francisco to our treated group increases the size of our main estimates. Results available upon request.

Areas (PUMA) level. PUMAs are nested within states and contain at least 100,000 people. In 2016, about 3.3 percent of respondents reported being in a same-sex married couple. Of note, though, our research focuses on a time period in which the number of same-sex married couples was growing. There were 2.3 percent of same-sex married couples in the U.S. in 2013 in comparison to 4 percent in 2016. This is likely due to the rapid expansion of states legalizing same-sex marriage and to the ruling of the Supreme Court in the civil rights case of *Obergefell v. Hodges*.

Note that we examine a subset of the LGBT population: same-sex cohabiting (male and female) couples who describe their relationship as "unmarried partnership" and same-sex cohabiting (male and female) married couples. Census data at the county level is unfortunately not available for gay men and lesbians not in a cohabiting relationship (Carpenter and Gates (2008)), nor bisexuals and transgenders not in a same-sex cohabiting relationship.[18] Nonetheless, we believe that census data is informative on the whole LGBT population due to the high correlation of this measure with other surveys. Using Census data and self-reported data from Gallup's Daily Tracking survey, Gates (2015) show that the geographic patterns of same-sex couples and adults self-identifying as LGBT are similar. For instance, three metropolitan statistical areas are in the top five of the 1990 Census same-sex couple rankings and the Gallup rankings. Moreover, Carpenter and Gates (2008) compare individual level surveys (California's 2003 Lesbian, Gay, Bisexual, and Transgender Tobacco Survey and California Health Interview Survey (CHIS)) data and 2000 Census data. They find that the Census 2000 sample is very similar across a variety of demographic characteristics to both the CHIS and Tobacco Survey.[19]

Last, the spatial distribution of LGBT in the Census and ACS is similar to the data compiled by Fisher et al. (Forthcoming). In their paper, they provide estimates of the population of married same-sex tax filers for the years 2013-2014. They estimate that 0.35 percent of all joint filers were same-sex couples in 2014. Appendix Figure A7 illustrates the spatial distribution of married same-sex tax filers using their data. The data is available at the 3-digit ZIP code. Among the 100 largest commuting zones, San Francisco and Santa Rosa (California) had the highest rate of same-sex

[18] Carpenter and Gates (2008) provide estimates on the number of gay men and lesbians not in a cohabiting relationship. They find that more than half of gay men and a third of lesbians were not cohabiting.

[19] Carpenter and Gates (2008) document that gay and lesbian couples living in California are 39 years old on average. About 5 percent of gay and lesbian couples are Black, non-Hispanic, and 15 are Hispanic. Approximately 18 percent had a high school diploma or less.

couples in married filing jointly returns in 2014.

3.2 Mineral Resources Data

The Mineral Resources Data System (MRDS) provides information on all mineral discoveries in the United States. For the purpose of this paper, we keep only mineral discoveries for which the information on the exact geographic location and year of discovery is available. We use a variable generated by MRDS, "primary commodities," that reflects commodities that might be economically viable as the only commodity. Our sample comprises all different categories of development status defined by the MRDS: occurrence, prospect, producer, past producer and plant.[20]

The year and location of discovery enables us to categorize gold discoveries as part of a gold rush or not. Gold discoveries are deposits that include gold, exclusively or among other minerals, as a primary commodity. Our data set includes 4,086 gold deposits discovered between 1700 and 2000 across 26 states.

We construct a variable *GoldRushes* that is equal to one for a county if at least one gold discovery occurred during one of the gold rushes and zero otherwise. We define the gold rushes as discoveries that occurred between the years 1848-1899 in the Pacific and Mountain divisions, i.e., Western region. We also include the few discoveries in South Dakota during that time period. There are 321 counties in the U.S. with at least one gold discovery during the period 1700-2000. Of these, 211 are codified as gold rush counties. Figure 1 illustrates all gold rush discoveries in the U.S. (See Appendix Figure A8 for discoveries in Alaska.)[21] These figures confirm that there were many discoveries in Colorado, Montana, Northern California, Sierra Nevada, etc. Figure 2 shows the other gold counties, i.e., gold mining counties without a gold rush discovery.

3.3 Churches and Other Places of Worship

We use the National Register of Historic Places (NRHP) to create a database on notable cathedrals, churches and missions. NRHP provides information on the United States historic places deemed worthy of preservation. It categorizes five types of properties: district, site, structure, building, or object. This database includes data on more than one million property

[20]Note that our main conclusions are robust to the use of only deposits for which the status is producer or past producer. Results available upon request.

[21]Appendix Figures A9, A10 and A11 provide illustrations of gold rush discoveries for the time periods 1848-1859, 1860-1869 and 1870-1899.

out of which 80,000 are individually listed and the rest are contributing resources within historic districts.

4 Identification Strategy

In this section, we first show that gold rush counties differ from other counties. We then provide evidence that the sample of mining counties during the gold rushes (treated group) and non-gold rush mining counties (comparison group) is balanced across a wide range of covariates. Last, we describe the main specifications and the controls.

4.1 Predict the Location of Gold Rush Discoveries

We evaluate whether the location of counties with gold rush discoveries is related to observable characteristics in Table 2. The unit of observation is a county. Columns 1 and 2 show the results from linear probability models that consider many observable characteristics simultaneously. The dependent variable is the dummy *GoldRushes* and we include all U.S. counties in the analysis. The objective is to predict whether a county had gold discoveries during one of the gold rushes (1848-1899). We include in both columns Census division fixed effects and the following geographic variables: latitude, longitude, the natural log of total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. We also include the natural log of population in 2010, the percentage of foreign born in 2010 and a dummy for the presence of military bases. In column 2, we add contemporaneous county variables such as the natural log of median personal income and median house value of owner-occupied housing units, an ethno-linguistic fractionalization index, the unemployment rate, the urbanization rate and the percentage of residents who graduated high school.

The results suggest that gold rush discoveries are related to observable characteristics. In column 1, three variables out of 10 are statistically significant at conventional levels. For instance, gold rush discoveries are negatively associated with distance to the capital of the state. When considering the set of geographic variables jointly, the joint p-value is about 0.002 (excluding division dummies). In column 2, five out of the 18 variables included are statistically significant. These results suggest that the location of gold rush mines is not random and can be explained by observable characteristics.

4.2 Identification Strategy

Our identification strategy consists in comparing gold rush counties to counterfactual counties. In our main empirical specification, we compare gold rush counties to a set of gold mining counties in which gold was not discovered during one of the gold rushes. The key identification assumption is that the year and location of gold discoveries is geographic conditional on observables. The main concern is the omitted-variable bias. Gold rush counties could be in locations that have unobservable characteristics that are associated with the presence of the LGBT population. We investigate in Table 2, columns 3 and 4, whether observable characteristics at the county-level predict whether a gold mining county is a gold rush county or not. We thus restrict the sample to counties with gold discoveries and directly compare gold rush and non-gold rush mining counties.

The specification in column 3 is the same as in column 1. Similarly, column 4 includes the same controls as in column 2. In column 3, none of the ten variables is statistically significant at the 10 percent level. In column 4, only two variables are significantly (at the 10 percent level) related to whether the county is a gold rush county: urbanization and unemployment rate. When considering the set of geographic variables jointly, the joint p-value is about 0.41. Our findings suggest that the sample of gold rush and non-gold rush mining counties is balanced across a wide range of covariates and that the identification assumption is credible. In the empirical analysis, we include Census division or state fixed effects and the geographic variables to relax the identification assumption.

4.3 Model Specifications

The objective is to investigate the impact of the gold rushes. To identify this effect, we rely on the following empirical models.[22]

Basic Specification We first rely on a basic model comparing counties that experienced a gold rush to other counties controlling for covariates susceptible to affect the location of gold mines and the spatial distribution of the LGBT population.

[22] As a robustness check, we exploit the increase in the male-to-female ratio in gold rush counties and directly analyze the effect of the maximum male-to-female ratio on the size of the LGBT population. In this framework, we first instrument the maximum male-to-female ratio for the time period 1820-2000 using as an instrumental variable *GoldRushes*. The empirical model and the estimates are presented in the Appendix (See Section 8).

Our baseline equation is:

$$Y_{cs} = \alpha + \beta GoldRushes_c + \lambda NotGoldRushes_c + X_c'\zeta + \delta_s + \varepsilon_{cs}, \qquad (1)$$

where Y_{cs} is the natural log of one plus the number of unmarried partner households of the same sex in county c and state s in 2010. $GoldRushes_c$, our variable of interest, is a dummy indicating whether the county experienced a gold rush during the years 1848-1899. δ_s are state fixed effects and X_c' is a set of control variables at the county level. We control for a number of county geographic controls including latitude, longitude, land area in miles, mean elevation, standard deviation of elevation, oil or gas resources existence, distance from the county to the state capital, and lastly whether or not it is a coastal county. We also control for the natural log of population. In some specifications, we further control for a set of (endogenous) contemporary controls to proxy for demography, economic activity, education and urbanization. We cluster standard errors at the state level.

Since our identification strategy relies on the comparison between gold rush mining counties and non-gold rush mining counties, we construct a dummy, $NotGoldRushes_c$, indicating whether a county had at least one gold discovery either before or after the gold rushes time period.[23] This dummy is also equal to one for gold discoveries in the East during the years 1848-1899. We include this placebo treatment in equation 1 to show that non-gold rush discoveries are usually not related to the current size of the LGBT population.

Differences-in-Differences The previous specification does not directly compare gold rushes and non-gold rushes mining counties. We rely on another model that relies on non-gold rush mining counties as a direct comparison group. We estimate the following specification using a difference-in-difference approach:

$$Y_{cs} = \alpha + \gamma Gold_c + \phi Gold \times GoldRushes_c + X_c'\zeta + \delta_s + \varepsilon_{cs}, \qquad (2)$$

where ϕ denotes the coefficient of the interaction term between $Gold_c$, a dummy equal to one if gold was discovered in county c and zero otherwise, and $GoldRushes_c$, a dummy equal to one if gold was discovered in county c between 1848 and 1899 and zero otherwise. γ captures the average re-

[23] There were also gold discoveries in the East during the years 1848-1899. We include these discoveries in the control group. Note that excluding these gold discoveries has no effect on our main conclusions.

lation between gold discoveries and the natural log of unmarried partner households of the same sex, whereas ϕ reports whether the effect is different whether or not discoveries occurred during one of the gold rushes.

Our results hinge on the assumption of quasi-random variation in the relative timings of gold discovery and place of discovery, conditional on a set of observable characteristics.

5 Historical Environment

In this section, we show that our treated and control groups differ in two key dimensions. We first confirm that the gold rushes temporarily increased sex ratios. We then provide evidence that most gold rush counties did not have formal religious institutions at the time of gold discovery.

5.1 Male-to-Female Ratio

We estimate the effect of the gold rushes on male-to-female ratios in Table 3. The equation is:

$$MFRatio_{cd} = \alpha + \beta GoldRushes_{cd-10} + \delta_c + \gamma_d + \varepsilon_{cd}, \tag{3}$$

where $MFRatio_{cd}$ is the male-to-female ratio in county c and decade d. $GoldRushes_{cd-10}$ is a dummy variable that assumes the value of one for county-decade observations with the earliest gold rush discovery during the 10 years preceding a decennial census and zero otherwise. Gold rush counties are counties with at least one gold discovery during one of the gold rushes (1848-1899). County and decade fixed effects are included in the model. β thus captures the average relation between the first gold discovery and the male-to-female ratio in the next decennial census for gold rush counties. The time period for this analysis is 1820-2000.

The estimate in column 1 suggests that the male-to-female ratio increases by about 5.8 following a gold discovery during one of the gold rushes. Our estimate is statistically significant at the 1 percent level. The mean of the dependent variable is about 1.1 suggesting that there were 7 men for each women on average in gold rush counties. In columns 2 and 3, we also include in the model two variables capturing the medium- and long-term effect of the gold rushes on the male-to-female ratio. The estimates suggest that the male-to-female ratio was approximately 1.5 (1.0) 10 to 20 years (20 to 30 years) after the first gold rush discovery. These results suggest that unbalanced sex ratios in gold rush counties did not last.

As a comparison group, we rely on non-gold rush discoveries. We present the estimates in column 4. We find no evidence that non-gold rush discoveries had a positive impact in the short-, medium- and long-run on the male-to-female ratio in these localities. The estimates are all very small and negative and range from -0.01 to -0.07. These results are consistent with the idea that only gold rush discoveries led to a mass migration of men and that gold rush counties were virtually inhabited at the moment of the first gold discovery. In other words, non-gold rush discoveries occurred in counties already populated by single men, women and families.

Our results are robust to alternative definitions of the variable $GoldRushes$. For example, we show that subsequent gold discoveries in gold rush counties, i.e., after the first gold discovery, also increased the male-to-female sex ratio, but to a lesser extent (see Appendix Table A1).

5.2 Places of Worship During the Gold Rushes

We now provide empirical evidence that gold rush counties lacked strong institutions at the moment of gold discovery in comparison to the control group. We focus on religious institutions and rely on a novel data set of notable cathedrals, churches and missions (see Section 3). We provide two pieces of evidence that individuals in gold rush counties lacked strong religious institutions. We first plot the share of gold mining counties with at least one notable place of worship by decade. As shown in Figure 4, the percentage of gold mining counties with at least one notable place of worship at the time of gold discovery is much lower during the gold rushes (1848–1899) than during any other decade for the time period 1830–2000. For example, about 10 percent of counties with at least one gold discovery during the 1860s had a place of worship. In contrast, the share of gold mining counties pre- and post-gold rushes with a notable place of worship was over 40 percent.

Second, we check whether gold rush counties were less likely to have a notable place of worship at the time of (the first) gold discovery. We find that only 9 percent of gold rush counties had a notable place of worship at the time of gold discovery. This is in stark contrast to gold mining counties *without* gold rush discoveries. For this group, about 44 percent had a notable place of worship at the time of gold discovery. As a robustness check, we compute the percentage of non-gold rush counties with a gold discovery prior to 1900 that had a notable place of worship. Similarly, we find that approximately 37 percent of these counties had a notable place of worship.

We formally test whether gold rush counties were less likely to have a notable place of worship at the time of gold discovery than other gold mining counties in Table 4. We present estimates of equation (1) in which the dependent variable is a dummy that takes the value of one for counties with a notable place of worship at the time of (the first) gold discovery and zero for counties without a notable place of worship at the time of discovery. We rely on probit estimation and report marginal effects. We restrict our sample to counties with at least one gold discovery at any time. We thus directly compare gold rush counties to non-gold rush counties.

The estimated relationship between having a notable place of worship at the time of gold discovery and being a gold rush mining county is negative and statistically significant at the 1 percent level. The estimate in column 1 suggests that gold rush counties were about 35 percent less likely to have a notable place of worship. Adding our set of county geographic controls (columns 2–5) and Census region (column 3), Census division (column 4) or state fixed effects (column 5) has no effect on the magnitude and significance of our estimates.[24]

Overall, our results confirm that gold rush counties and control counties differ along two dimensions: temporarily unbalanced sex ratios and the lack of strong (local) religious institutions.

6 Present-Day Outcomes

In this section, we describe the relationship between the gold rushes and the current spatial distribution of the LGBT population. We use data on unmarried partner households and same-sex married couples. We also present a set of robustness checks to validate our main estimates. Last, we test whether present-day attitudes toward the LGBT population are more favorable in gold rush counties using the General Social Survey.

6.1 Basic Results: LGBT Population

The results derived from estimating equation (1) are reported in Table 5. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. What clearly emerges

[24] We present further robustness checks in Appendix Table A2. For instance, we show that our estimates are robust to adding to the model additional controls such as an indicator for whether or not counties had other mineral discoveries, the percentage of foreign born and a dummy for whether or not the county is hosting a U.S military base.

is that counties with at least one gold discovery during the gold rushes time period, i.e., 1848-1899, currently have statistically significantly more unmarried partner households of the same sex than other counties. In column 1, we include only the natural log of population in 2010. The estimated relationship between the number of unmarried partner households of the same sex and being a gold rush mining county is positive and statistically significant at the 2 percent level. The estimate suggests that there are about 14 percent more unmarried partner households of the same sex in 2010 in gold rush mining counties than in other counties.

In column 2, we add an indicator for whether there was at least one gold discovery in the county either before or after the gold rushes time period. This dummy serves as our first "placebo" treatment. The point estimate is small and statistically insignificant. We test and confirm that the estimated effect of the gold rushes is larger than the effect for this additional variable. Note that this finding is robust to splitting our "placebo" counties into two categories: before the gold rushes and after the gold rushes. (See Appendix Table A3 for the estimates.)

In column 3, we include all our geographic controls in the model: latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. The estimate for gold rush counties (coeff. 0.175, std. error 0.045) is now larger and significant at the 1 percent level, while the estimated coefficient for our "placebo" treatment remains small and statistically insignificant.

Columns 4, 5 and 6 add to the model respectively Census region, Census division and state fixed effects. Adding state fixed effects to the model helps us to control for state policies and anti-discrimination laws. The point estimates range is stable around 0.12, suggesting that there are 12 percent more unmarried partner households of the same sex in gold rush mining counties. The estimates are all statistically significant at the 2 percent level. By contrast, the estimates for counties with gold discoveries before or after the gold rushes are now *negative* and statistically significant in two specifications out of three.

We also explore a different measure of intensity for the gold rushes: the number of gold discoveries during the gold rushes (1848-1899). There are approximately 8 gold rush discoveries on average for counties with at least one gold rush discovery. Furthermore, there is a lot of variation in gold discoveries across treated counties (std. dev. 11). See Appendix Figure A12. We exploit the intensity of the treatment in Appendix Table A4. In other words, we text whether the abundance of gold discoveries during the gold rush is related to the number unmarried partner households of the same sex in 2010. The structure of the table is the same as Table 5. As we can see, the estimated coefficients of gold rushes intensity are positive and statistically significant in all columns. In contrast, the evidence presented suggests that the number of gold discoveries before or after the gold rushes is not related to the number of unmarried partner households of the same sex. The estimates are all very small and statistically insignificant.

6.2 Differences-in-Differences: LGBT Population

One concern with the previous estimates is that they do not directly compare gold rushes and non-gold rushes mining counties. Table 6 reports the results of equation (2), where we implement our differences-in-differences approach. Column 1 first shows the relationship between being a gold mining county and the number of unmarried partner households of the same sex. In column 2, we include the variable *GoldRushes* interacted with the gold mining dummy. We then progressively add control variables and fixed effects in the remaining columns as in Table 5.

In all regressions, the coefficient of interest, ϕ, is positive and the estimated coefficients range from 0.080 to 0.177. The estimates are statistically significant at conventional levels in five our of six regressions. (Statistically significant at the 12 percent level in column 5.) This means that counties with at least one gold discovery which occurred during one of the gold rushes in the West currently have approximately 10–15 percent more unmarried partner households of the same sex.

6.3 Robustness Checks

We test the sensitivity of our results to the choice of covariates, the definition of the dependent variable and our control group, and the way we compute our standard errors in Table 7 and Appendix Tables A5, A6 and A7. Table 7 presents estimates of equation 2. (See Appendix Table A8 for estimates of equation 1.) In columns 1–5, we include our full set of geographic controls and state fixed effects. In column 1, we add a variable for other mineral discoveries. This serves as a placebo treatment and as an additional control. The variable "Other Minerals" equals one for counties with discoveries of either copper, iron, oil or gas resources, nickel or silver and zero otherwise. The point estimate is very small and statistically insignificant. The estimated effect of the gold rushes is significantly larger than the effect for the variable "Other Minerals." This result is in line with the idea that other mineral discoveries did not lead to large male-to-female ratios and occurred in many areas with existing institutions. For instance, Maurer and Potlogea (2017) find that oil discoveries in Texas, Louisiana, and Oklahoma during the time period 1900-1940 had no effect on oil county sex ratios.

Columns 2 and 3 include controls for the percentage of foreign born and a dummy for whether the county is housing a U.S. military base.[25] Arguably, military bases may lead to male biased sex ratios. In column 4, we include these additional controls simultaneously. The point estimates are virtually the same as in Table 6, column 6, confirming the robustness of our results. Last, we test whether our estimates are similar if we keep only counties in the West, i.e., we drop counties in the other three Census regions. Restricting the sample to the West slightly increases the size of our coefficient of interest and its corresponding t-statistic.

In Appendix Table A5, we check whether defining the prevalence of LGBT individuals as a share of the population rather than as a level, conditional on population, affects our main conclusions. We present estimates of equation 2 in which the dependent variable is the natural log of unmarried partner households of the same sex per capita in 2010. The estimates are all positive, statistically significant at conventional levels and of similar magnitudes than for the specifications using the size of the LGBT population as a level.

We show that our findings are also robust to alternative definitions for our main comparison group in Appendix Table A6. Our estimates are robust to the exclusion of gold discoveries before the gold rushes (column 1), during the years 1848–1899, but in the Eastern and Southern regions (column 2), during the years 1900-1950 (column 3) and since 1950 (column 4). For example, in column 1, *Gold* is now equal to zero for gold discoveries before the gold rushes. The estimates presented in these four columns are all positive, statistically significant and of similar magnitudes than in Table 6, column 6.counties with at least one gold discovery which occurred during one of the gold rushes in the West currently have approximately 10–15 percent more unmarried partner households of the same sex.

In Appendix Table A7, we use the estimation method developed by Con-

[25]We collect information on U.S. military bases from this website https://militarybases.com/. The military base variable is equal to one if there is an air force, army, coast guard, marine corps, navy or joint operations military bases and zero otherwise. Including dummies for the different categories of military bases has no effect on our main conclusions. About seven percent of counties have at least one military base.

ley (1999, 2008) to take into account spatial correlation (Hsiang (2010)). In columns 1–2, standard errors are adjusted for spatial correlation within a 100-km radius. Columns 3–4 report standard errors adjusted for spatial correlation within a 300km radius. In columns 5–6, we rely on a 500-km radius. Standard errors are slightly smaller than for the corresponding columns (5–6) of Table 5.

So far, our findings suggest that there are currently more unmarried partner households of the same sex in counties (within a state) in which gold was discovered during one of the gold rushes. We now test whether there are currently more same-sex married couples in these areas. We rely on ACS data for the years 2013-16. In our sample, the mean of the variable "Same-Sex Married Couples" is 3.3 per 1,000 inhabitant.

Appendix Table A9 presents estimates of equation (2) where the dependent variable is the natural log of one plus the number of same-sex married couples. The analysis is at the PUMA level and we thus have 2,346 observations. In the specifications without region, division or state fixed effects, the estimates are large, positive, significant at the 2 percent level and range from 22 to 33 percent. In contrast, the estimates are much smaller (coeff. 0.106 and std. err. 0.069) and statistically significant solely at the 14 percent when we include state fixed effects. These results suggest that same-sex married couples are much more likely to be living in gold-rush counties and more generally in Western states. But we provide only weak evidence that the gold rushes are related to the number of same-sex married couples when we compare counties within a region or a state.[26]

The discrepancy in the size of the estimates for the different measures of the LGBT population, i.e., same-sex married couples and unmarried partner households of the same sex, may be due to many reasons. First, the analysis is at the PUMA level for the analysis using same-sex married couples data, whereas it is at the county level for our main outcome variable. Second, the analysis covers a time period in which the number of same-sex married couples was growing and in which the Supreme Court ruled that states must license and recognize same-sex marriages.[27]

[26] The estimates are virtually the same if we instead rely on the natural log of one plus the number of same-sex married couples per capita as a dependent variable. See Appendix Table A10.

[27] Over 30 states had legalized same-sex marriage before nationwide legalization on June 26, 2015.

6.4 Neighboring a Gold Rush County

Table 8 explores another measure of intensity: neighboring a county with at least one gold discoveries during the gold rushes.[28] In column 1, we show that counties neighboring a gold rush county do not have significantly more unmarried partner households of the same sex than other counties in the U.S. The coefficient is positive, but not statistically significant.

In columns 2–6, we interact our variable $GoldRushes_c$ with an indicator for whether the county is neighboring a gold rush county. The interaction is positive and statistically significant at conventional levels in most specifications. The estimates range from 0.10 to 0.30, suggesting that gold rush counties neighboring another gold rush county have approximately 10 to 30 percent more unmarried partner households of the same sex. These results suggest that the long-run effects of the gold rushes are somewhat local, but amplifies when many neighboring counties had gold discoveries.

6.5 Socioeconomic Characteristics

The association between gold discoveries in the West during the mid-late 19th century and the number of same-sex couples may reflect positive income shocks on local economies that would have persisted. We test in Table 9 and Appendix Table A11 whether current local amenities and socioeconomic characteristics may explain the geographic distribution of the LGBT population in gold rush and non-gold rush mining counties. Table 9 presents estimates of equation 2, whereas Appendix Table A11 reports estimates of equation 1. In column 1, as a baseline, we report estimate for our specification with geographic controls and state fixed effects. Column 2 adds to our model the percentage of black or African American and an ethno-linguistic fractionalization index in 2010 to take into account differences in partnership status and homosexuality approval by race (Black et al. (2007); Christafore et al. (2013)). In column 3, we control for the county unemployment rate, the natural log of median personal income and the percentage of families below the poverty level in 2010 as proxies for economic activity. Column 4 adds controls for current urbanization (the natural log of median house value of owner-occupied housing units, the per-

[28] We estimate the following specification:

$$Y_{cs} = \alpha + \beta GoldRushes_c + \mu GoldRushes \times Neighbor_c + X_c'\zeta + \delta_s + \varepsilon_{cs}, \qquad (4)$$

where Y_{cs} is the natural log of one plus the number of unmarried partner households of the same sex in county c in 2010. The variable $Neighbor_c$ is equal to one if the county neighbors a county for which $GoldRushes_c$ is equal to one.

centage of units with a value of less than $100,000, the percentage of units with a value of more than $500,000, population density and the urbanization rate) to capture location preferences of homosexual and heterosexual individuals (Black et al. (2002); Black et al. (2007); Smart and Whittemore (2017); Stephan and McMullin (1982)). In column 5, we control for the percentage of high school graduate. Column 6 includes the following *historical* controls for isolation and geography: distance to the nearest lake, distance to the nearest river, the average potential agricultural yield (Bazzi et al. (2017)), the year the county was first connected to the railway (Atack et al. (2010)) and a dummy indicating whether the nearest portage site is within 15 miles (Bleakley and Lin (2012)). Column 7 includes all these additional controls simultaneously. Appendix Table A12 report the estimates for some of these controls.[29]

As apparent in columns 2, 3 and 6, controlling for the racial composition in 2010, the local economic environment in 2010 and isolation does not alter the estimate. In other words, including these controls does not affect the size and significance of our coefficient of interest for equations 1 and 2. By contrast, the correlation between gold rush and the number of unmarried partner households of the same sex slightly decreases when controlling for education and urbanization in 2010. In column 7, when all the controls are included simultaneously, our estimates decrease in size by about one-fifth and are statistically significant at conventional levels.

To sum up, our estimates suggest that the persistence in the geographical distribution of LGBT population is (mostly) not explained by current socioeconomic characteristics and isolation/geography.

6.6 Attitudes Regarding Homosexuality

In this subsection, we present the results on the impact of the gold rushes on current attitudes regarding homosexuality. We rely on data from the General Social Survey (GSS) over the years 1993–2014[30] and focus on the following question: "What about sexual relations between two adults of the same sex–do you think it is always wrong, almost always wrong, wrong only sometimes, or not wrong at all?" Answers to this question are somewhat polarized. In our sample, about 55 percent of respondents report that it is always wrong, whereas a third of the respondents report it is not wrong at

[29] We find a positive and statistically significant association between the number of unmarried partner households of the same sex and the median personal income, the percentage of units with a value of more than $500,000 and educational attainment.

[30] The GSS geographic identification code files are available only since 1993.

all.[31]

The model is similar to equation (2) with the exception that the unit of observation is now the individual. We also control for the individual's demographic characteristics. Specifically, we estimate:

$$Y_{icst} = \alpha + \gamma Gold_c + \phi Gold \times GoldRushes_c + X_c'\zeta + Z_{it}'\theta + \delta_s + \varepsilon_{icst} \quad (5)$$

where Y_{icst} is the answer to the question of whether sexual relations between two adults of the same sex is always wrong, almost always wrong, wrong only sometimes, or not wrong at all for individual i in county c, state s and year t. We rely on ordered probit response models where the dependent variable is discrete and defined on a finite ordinal scale. Z_{it}' is a vector of individual characteristics. These characteristics include the individual's gender, age, age squared, six education dummies, three race dummies and five marital status dummies. X_c' include our set of county geographic controls.[32]

Table 10 shows the results from ordered probit regressions. See Appendix Table A13 for the estimates of the individual control variables.[33] The structure of Table 10 is quite similar to Table 6. We control for respondents' characteristics in columns 3–6 and include our set of geographic controls in columns 4–6. We include division fixed effects in column 5 and state fixed effects in column 6. The estimates are all positive and statistically significant suggesting that the gold rushes had a persistent (positive) effect on attitudes toward homosexuality.

One way to gauge the size of our estimates is to standardize the dependent variable for all respondents (within each year) to have a mean of zero and a standard deviation of one. We then run OLS regressions using equation 5. Our estimates suggest that respondents in counties with gold discoveries during one of the gold rushes are about 10 to 25 percent of a

[31] Worthen (2012) points out that many studies relate attitudes toward the LGBT population to the beliefs about sexuality, whether it is a "choice" or whether there exists a "gay gene." Attitudes regarding homosexuals are more favorable for those who think that homosexuality is imputed by genetics whereas attitudes regarding LGBT are less favorable for those who think that homosexuality is a choice (Altemeyer (2002); Hegarty and Pratto (2001)).

[32] The GSS includes a sexual orientation question since 2008. About 1.7 percent of respondents report being homosexual and 2.1 percent report being bisexual. We unfortunately cannot use this variable as an outcome because of the small sample size. Note that excluding respondents reporting being homosexual or bisexual does not affect our findings.

[33] Females and educated individuals tend to be more likely to report pro-LGBT attitudes. Black or African Americans and other races (in comparison to white respondents) are less likely to report pro-LGBT attitudes.

standard deviation more likely to report that sexual relations between two adults of the same sex is not wrong. Another way to gauge the size of the effect is to contrast it with control variables. For instance, the estimated effect of the gold rushes is about half of the coefficient of graduating college in comparison to having a high school diploma and approximately the size of being a women (in comparison to men).

We test in Appendix Table A14 whether the results on pro-LGBT attitudes are driven by individuals who grew up in gold rush counties or by migrants who are now living in these counties. To answer this question, we restrict the sample respectively to respondents who are living in the same city since the age of 16 (columns 1–3) and to individuals who moved to a different state or city since the age of 16. The estimates are all positive and statistically significant, suggesting that both migrants and individuals growing up in gold rush counties are more likely report pro-LGBT attitudes. (The estimates are slightly larger for non-migrants.) These findings provide suggestive evidence that pro-LGBT attitudes have persisted through migration and intergenerational transmission.[34]

As a robustness check, we analyze the effect of the gold rushes on other questions concerning attitudes toward LGBT. We create a pro-LGBT index using answers to the question of whether sexual relations between two adults of the same sex is wrong or not and the following three questions: "A man admits to be homosexual: should he be allowed to make a speech in your community?", "A man admits to be homosexual: should he be allowed to teach in a college or university?" and "If some people in your community suggested that a book he wrote in favor of homosexuality, should it be taken out of your public library?" We code the variables as dummies. They are equal to one if respondents report "allowed/not removed" and zero if they report "not allowed/removed" to the last three questions. We also create a dummy for the question of whether sexual relations between two adults of the same sex is not wrong. The dummy is equal to one if the respondents report that it is "not wrong at all" and zero otherwise.

We use these four dummies to create the pro-LGBT index. The index is equal to the sum of the four dummies. For instance, the index takes the value zero if respondents reported that it is "always wrong," "almost always

[34]We also check whether our results are robust to the omission of homosexuals respondents. We rely on the GSS sexual orientation question available since 2008 to identify respondents who report being heterosexual or straight About 96 percent of respondents between 2008 and 2014 report being heterosexual or straight. Our conclusions remain unchanged, although our estimates are not as precisely estimated given the smaller sample size. Estimates available upon request.

wrong" or "wrong only sometimes" to the first question and answered "not allowed/removed" to the last three questions. Approximately 11 percent of respondents have a score of zero. In contrast, the index takes the value four if respondents answered "not wrong at all" to the first question and "allowed/not removed" to the last three questions. About 31 percent of respondents have a value of four. The mean of this index is 2.7 (std. dev. 1.27). Our estimates are presented in Appendix Tables A15. The estimates are all positive and of similar sizes than the estimates in Table 10.

To sum up, we find that gold rushes had persistent effects on pro-LGBT attitudes. Our results are consistent with the historic accounts of the gold rushes describing pro-LGBT attitudes. These findings could explain the positive relationship between the number of same-sex couples and gold rush discoveries for two reasons. First, LGBT individuals could migrate to gold rush counties because of the local population's pro-LGBT attitudes or because of the thickness of the LGBT marriage market. We confirm in Appendix Figure A13 that respondents living in counties with more same-sex couples are more likely to report pro-LGBT attitudes. This figure plots the relationship between unmarried partner households of the same sex per capita and the percentage of respondents reporting "Not wrong at all" at the county level. The relationship is positive and has a concave shape. Second, pro-LGBT attitudes could be related to the likelihood to self-disclose one's sexual orientation or gender identity.

7 Possible Channels of Causality

In this section, we provide a discussion of our main findings and provide suggestive evidence that the lack of local religious institutions in gold rush counties may partly explain the short- and long-term effects of the gold rushes on the geographic distribution of the LGBT population. We then test whether current attitudes in gold rush counties are more liberal in general or only toward the LGBT population.

7.1 Discussion

Before testing empirically whether gold rush counties had formal religious institutions in the decades following gold discovery, we situate our main results in the literature.

A growing literature investigates the long-term impact of temporary imbalanced sex ratios. Two recent papers are Bazzi et al. (2017) and Baranov et al. (2018). Baranov et al. (2018) analyze the impacts of the large number of male convicts sent to Australia in the 18th and 19th centuries. They provide evidence that areas receiving more male convicts are now more likely to vote against same-sex marriage. Bazzi et al. (2017) study whether the American frontier fostered individualism. They provide evidence that frontier populations tended to have more prime-age male adults and foreign-born. They then show that U.S. counties that were at the frontier for a longer period of time are currently more likely to oppose redistribution and to support the Republican Party.

It may thus seem surprising, at first glance, that the gold rushes led to temporary unbalanced sex ratios and to more positive attitudes toward homosexuality which persisted until today. We argue that the disparity in long-term outcomes could be partly due to the institutional setting. In Australia, homosexuality was heavily repressed under Victorian norms and would be very negatively connoted, as perhaps associated with convictism.[35] Gold rush counties were also different than other frontier regions. For instance, states such as Iowa were "successfully" evangelized, whereas most gold rush counties did not have a notable place of worship at the moment of gold discovery (Maffly-Kipp (1994)).

In what follows, we provide two pieces of evidence that the gold rushes may have affected the size of the LGBT population through the quality and existence of religious institutions. We first test whether gold rush counties had formal religious institutions in the years/decades following gold discovery permitting the transmission of pro-LGBT values. Second, we rely on GSS data to check whether residents of gold rush counties are still less religious than residents of our comparison group.

7.2 Religiosity Since the Gold Rushes

We compute the number of years from gold discovery to having at a notable place of worship. Recall that only 9 percent of gold rush counties had a notable place of worship at the time of discovery. We find that about 42 percent of gold rush counties still do not have a notable place of worship in 2000. For the remaining 49 percent, it took on average 28 years before a notable place of worship was built. This figure confirms that residents of gold rush counties were not subject to the presence of strong religious institutions in the decades following gold discovery. While the presence of a notable place of worship at the time of discovery may be plausibly exogenous, it is likely that the lack of a notable place of worship in the

[35] We thank Pauline Grosjean for pointing this out.

following decades is an outcome of the gold rush.

We also test whether residents of gold rush counties are currently less fundamentalist using answers to the following question in the GSS: "How fundamentalist is r currently?" where respondents have three choices (1=Fundamentalist, 2=Moderate, and 3=Liberal). We present estimates from ordered probit regressions in Table 11. The structure of the table is the same as Table 10. The estimates are all positive and statistically significant at the 1 percent level, confirming that individuals in gold rush counties are less likely to be fundamentalist and more likely to be liberal. Our OLS estimates (not shown for space consideration) suggest that the gold rushes decreased by about 10 to 25 percent of a standard deviation self-reported fundamentalism. In another set of regressions, we also provide evidence that respondents in gold rush counties are significantly more likely to report that they never pray. We present the estimates in Appendix Table A16.

Overall, our findings paint a clear picture of religiosity during and following the gold rushes. Individuals living in gold rush counties remained less religious and more tolerant toward the LGBT population up to nowadays.

7.3 Other Attitudes

Our findings suggest that the gold rushes led to pro-LGBT attitudes that persisted until today. But it remains unclear whether attitudes in gold rush counties are more liberal in general or only toward the LGBT population. One the one hand, temporary imbalanced sex ratios and historical mining activity are typically associated with greater opposition to redistribution and economically conservative positions (e.g., Bazzi et al. (2017); Couttenier and Sangnier (2015)). On the other hand, the initial conditions in gold rush counties were different than in other mining counties, without strong institutions.

We thus test the effect of the gold rushes on other attitudes and values. We scoured the GSS questionnaires and found four variables covering diverse aspects of traditional American values that were asked repeatedly. The questions are "Please tell me whether or not you think it should be possible for a pregnant woman to obtain a legal abortion if she is married and does not want any more children", "Do you think the use of marijuana should be made legal or not?", "Do you favor or oppose the death penalty for persons convicted of murder?" and "Would you favor or oppose a law which would require a person to obtain a police permit before he or she could buy a gun?" We code the variables as dummies. We also rely on answers to a question in which respondents are asked whether they think of themselves as liberal or conservative. Respondents are offered seven choices (7 =extremely liberal, 6 =liberal, 5 =slightly liberal, 4 =moderate, 3 =slightly conservative, 2 = conservative and 1 =extremely conservative).

We present estimates of equation 5 in Appendix Table A17. We include individual covariates, our set of geographic controls and state fixed effects in all columns. In column 1, we present the estimate from an ordered probit regression where the dependent variable is whether respondents think they are liberal or conservative. We find a positive and statistically significant relationship between the gold rushes and the likelihood to report being liberal. The point estimate suggests that respondents in counties with gold discoveries during one of the gold rushes are 4 percent of a standard deviation more likely to report being liberal. In a further set of OLS specifications (not shown for space consideration), we find that respondents in counties with gold discoveries during one of the gold rushes are 2 percent more likely to report being either an extremely liberal, liberal or slightly liberal.

In columns 2–5, we present estimates from probit regressions for the other four variables. We find a positive and statistically significant relationship between gold rush mining counties and the likelihood to be in favor of gun laws and legalizing marijuana. The estimates suggest that residents in gold rush counties are about three percent more likely to favor gun laws and five percent more likely to support legalizing marijuana. On the other hand, the estimates are not statistically significant for death penalty and abortion.[36]

To sum up, we find weak evidence that gold rush counties are more liberal in general. Individuals in gold rush counties report being slightly more liberal on average, but the estimated effect is quite small in comparison to the impact of the gold rushes on attitudes toward the LGBT population.

8 Conclusion

This paper provides empirical evidence that the current geographic distribution of the LGBT population is related to the largest mass migration in the history of the U.S.–gold rushes during the mid-to-late 19th century–and to the lack of local (religious) institutions.

We first rely on census estimates of the LGBT population to analyze

[36] This finding for abortion is robust to the use of alternative questions on this topic.

the association between the number of unmarried partnered households of the same sex and gold discovery in the West during the gold rushes. We find that gold mining counties with at least one discovery during a gold rush have significantly more LGBT individuals nowadays than other mining counties. We then provide evidence that residents of gold rush counties are currently more likely to report pro-LGBT attitudes.

Our empirical findings have interesting policy implications. First, we provide evidence that a historical shock may have persistent effects on where people live, but also on attitudes. These findings suggest that economic policies or shocks such as migration of workers may shape social norms in the long-run. Second, our results point to a role for early social and religious institutions in shaping norms and attitudes (Cage and Rueda (2017); Nunn (2010)). That the initial institutional environment would affect norms and values is of particular importance for economic development (Bisin and Verdier (2011)).

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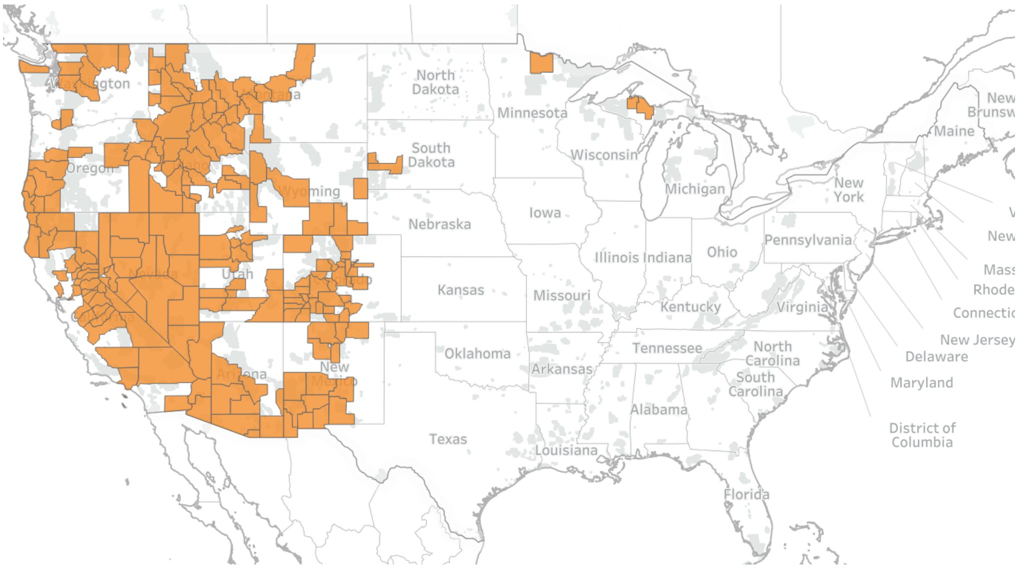
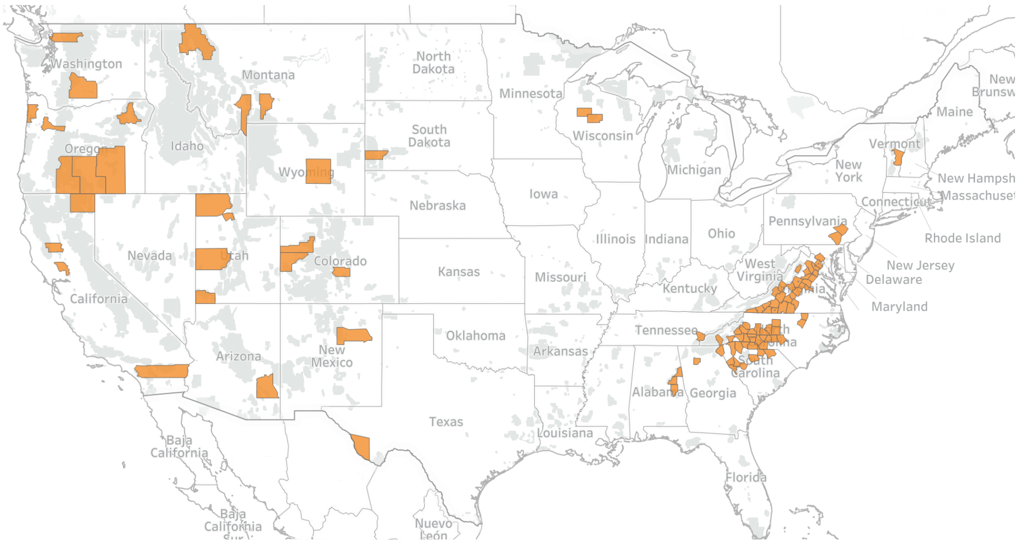
Figure 1: Gold Discoveries During the Gold Rushes



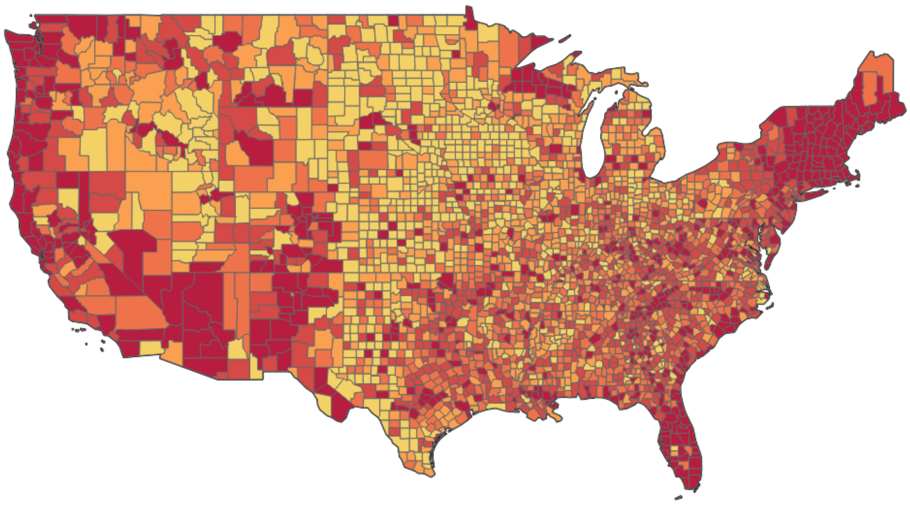
Notes: Based on data from the Mineral Resources Data System. Orange indicates that a county had at least one gold discovery during the gold rushes (1848–1899).

Figure 2: Gold Mining Counties *Without* Gold Rush Discoveries



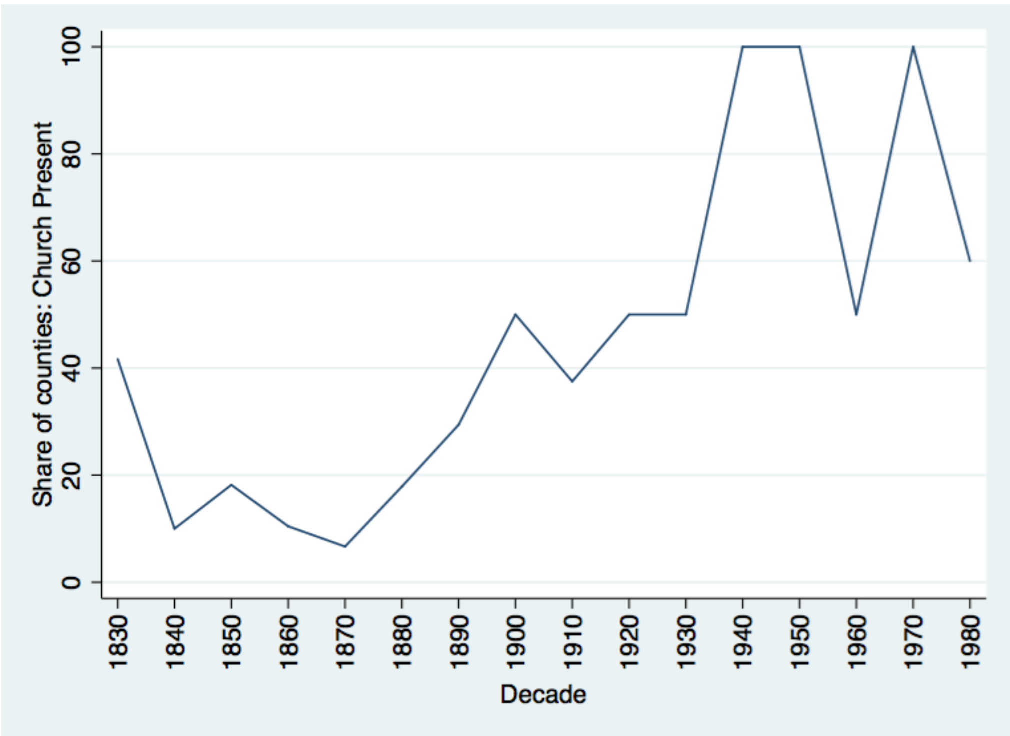
Notes: Based on data from the Mineral Resources Data System. Orange indicates that a county had at least one gold discovery before or after the gold rushes (1848–1899) and no gold discoveries during one of the gold rushes. Orange also indicates counties with gold discoveries in the East during the gold rushes.

Figure 3: Unmarried Partner Households of the Same Sex



Notes: Unmarried Partner Households of the Same Sex per Capita in 2010. Light yellow indicates the lower quintile and dark red the top quintile.

Figure 4: Gold Mining Counties and Notable Place of Worship



Notes: Share of gold mining counties with at least one notable place of worship at the time of gold discovery by decade. Based on data from National Register of Historic Places.

Table 1: Descriptive Statistics at the Moment of Discovery

	Mean (1)	SD (2)	Counties (3)
Gold (Before Gold Rushes)			
Population	9,455	(5173.6)	33
Population Density	19.56	(9.835)	33
Sex Ratio	1.009	(0.027)	32
Prime Age Adult Share Among Whites	0.450	(0.030)	29
Immigrant Share	0.001	(0.001)	17
Illiteracy Among Whites	0.180	(0.104)	17
Gold Rushes			
Population	1,976	(5,625)	195
Population Density	1.21	(3.396)	195
Sex Ratio	6.937	(10.84)	188
Prime Age Adult Share Among Whites	0.810	(0.189)	52
Immigrant Share	0.269	(0.172)	188
Illiteracy Among Whites	0.096	(0.251)	22
Gold (After Gold Rushes)			
Population	29,838	(81,252)	69
Population Density	28.75	(31.09)	69
Sex Ratio	1.088	(0.160)	58
Prime Age Adult Share Among Whites	0.477	(0.015)	13
Immigrant Share	0.053	(0.093)	58
Illiteracy Among Whites	0.215	(0.191)	7
Other Counties			
Population	5,719	(12,764)	2,811
Population Density	18.32	(260.20)	2,811
Sex Ratio	1.287	(1.653)	2,418
Prime Age Adult Share Among Whites	0.498	(0.075)	2,418
Immigrant Share	0.099	(0.145)	2,418
Illiteracy Among Whites	0.200	(0.173)	2,418

Notes: Data from the Minnesota Population Center (2011). *Gold Rushes* are counties with at least one gold discovery during the gold rushes. *Gold (Before Gold Rushes)* and *Gold (After Gold Rushes)* are counties with at least one gold discovery before or after the gold rushes, respectively. *Other Counties* are counties that never had a gold discovery before, during after the gold rushes. Population data is based on the first census before the year of earliest gold discovery for gold counties and for the year 1840 for *Other Counties*. The data on population density per square mile is based on the census year of the earliest gold discovery for gold counties and for the year 1840 for *Other Counties*. Sex ratio is measured for the first census after the year of earliest gold discovery for gold counties and for the year 1850 for *Other Counties*. Prime age adult (15 to 49 years old) share among whites data, illiteracy among whites above 20 years old and immigrant share is measured for the first census after the year of earliest discovery for gold counties and for the year 1950 for *Other Counties*.

Table 2: Predict Gold Rush Counties

	Gold Rush County			
	Compare to All Counties		Compare to Other Gold Counties	
	(1)	(2)	(3)	(4)
Latitude	-0.000	0.001	-0.004	-0.003
	(0.003)	(0.002)	(0.004)	(0.005)
Longitude	-0.006	-0.009	-0.004	-0.004
	(0.004)	(0.004)	(0.003)	(0.004)
ln(Total Land Area)	0.018	0.030	-0.012	-0.026
	(0.014)	(0.017)	(0.024)	(0.022)
Mean of Elevation	0.0002	0.0002	0.0000	0.0000
	(0.0001)	(0.0000)	(0.0000)	(0.0000)
Standard Deviation of Elevation	-0.0001	-0.0002	-0.0001	-0.0005
	(0.0001)	(0.0002)	(0.0001)	(0.0004)
Distance State Capital	-0.0001	-0.0001	-0.0001	-0.0001
	(0.0000)	(0.0000)	(0.0001)	(0.0001)
Coastal County	0.022	0.001	0.071	0.052
	(0.019)	(0.019)	(0.062)	(0.063)
% Foreign Born	-0.001	-0.001	0.002	-0.000
	(0.002)	(0.002)	(0.002)	(0.005)
Military Base	0.002	0.012	0.056	0.043
	(0.014)	(0.015)	(0.048)	(0.059)
% Black or African American		0.043		-0.418
		(0.067)		(0.311)
Fractionalization Index		-0.030		0.323
		(0.072)		(0.266)
ln(Median Personal Income)		0.002		0.164
		(0.030)		(0.098)
Poverty Rate		-0.0005		0.006
		(0.0015)		(0.009)
Unemployment rate		0.018		0.011
		(0.004)		(0.005)
ln(Median House Value)		0.077		0.006
		(0.024)		(0.093)
% Urban		-0.0003		-0.0021
		(0.0003)		(0.0010)
% High School Graduate		0.0003		0.006
		(0.0011)		(0.006)
ln(Population)	0.016	0.006	-0.018	-0.152
	(0.006)	(0.031)	(0.012)	(0.105)
Census Division FE	Yes	Yes	Yes	Yes
Observations	3,128	3,070	311	300
Adjusted R-Squared	0.466	0.501	0.634	0.625

Notes: The unit of observation is a county. The dependent variable is a dummy for whether the county had at least one gold discovery during the gold rushes. Standard errors clustered by state are reported between parentheses. Columns 3–4 restrict the sample to counties with at least one gold discovery.

Table 3: Gold Rushes and Male-to-Female Ratio: Unbalanced Panel

	Male-to-Female Ratio			
	(1)	(2)	(3)	(4)
Gold Rushes	5.806	5.892	5.892	5.876
(Within 10 Years)	(3.591)	(3.597)	(3.592)	(3.597)
Gold Rushes		0.519	0.519	0.504
(10-20 Years Later)		(0.056)	(0.063)	(0.066)
Gold Rushes			0.001	0.004
(20-30 Years Later)			(0.067)	(0.066)
Gold (Not Gold Rushes)				-0.070
(Within 10 Years)				(0.050)
Gold (Not Gold Rushes)				-0.011
(10-20 Years Later)				(0.023)
Gold (Not Gold Rushes)				-0.037
(20-30 Years Later)				(0.014)
Constant	1.128	1.125	1.125	1.126
	(0.010)	(0.010)	(0.011)	(0.011)
Decade FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Observations	50046	50046	50046	50046
Adjusted R-Squared	0.135	0.139	0.139	0.139

Notes: The unit of observation is a county-decade. The dependent variable is the male-to-female ratio. The time period is 1820-2000. *Gold Rushes (Within 10 Years)* equals one for county-decade observations with the earliest gold rush discovery and zero otherwise. *Gold Rushes (10-20 Years Later)* and *Gold Rushes (20-30 Years Later)* equal one for county-decade observations with respectively the earliest gold rush discovery 10-20 years earlier and 20-30 years earlier. *Gold–Not Gold Rushes– (Within 10 Years)* equals one for county-decade observations with the earliest gold discovery before or after the gold rushes and zero otherwise. *Gold Rushes–Not Gold Rushes– (10-20 Years Later)* and *Gold Rushes–Not Gold Rushes– (20-30 Years Later)* equal one for county-decade observations with respectively the earliest non-gold rush discovery 10-20 years earlier and 20-30 years earlier. Standard errors clustered by state are reported between parentheses. Columns 1–4 include county and decade fixed effects.

Table 4: Gold Rushes and Notable Places of Worship

Probit	Place of Worship at the Moment of Gold Discovery				
	(1)	(2)	(3)	(4)	(5)
Gold Rushes	-0.348	-0.338	-0.379	-0.378	-0.328
	(0.064)	(0.077)	(0.081)	(0.094)	(0.113)
ln(population)	Yes	Yes	Yes	Yes	Yes
Census Region FE	No	No	Yes	No	No
Census Division FE	No	No	No	Yes	No
State FE	No	No	No	No	Yes
Geographic Controls	No	Yes	Yes	Yes	Yes
Observations	311	311	308	299	279
Pseudo R-Squared	0.228	0.261	0.263	0.267	0.310

Notes: The unit of observation is a county. The sample is restricted to counties with at least one gold discovery at any time. The dependent variable is a dummy which equals one if a notable place of worship existed at the time of gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Marginal effects are reported. Standard errors clustered by state are reported between parentheses. Columns 1–5 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table 5: Simple Difference: Main Estimates

	Ln(1 + Unmarried Partner Households Same Sex)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold Rushes	0.143	0.133	0.175	0.117	0.116	0.123
β	(0.056)	(0.058)	(0.045)	(0.046)	(0.048)	(0.049)
Gold (Not Gold Rushes)		0.015	0.003	-0.023	-0.052	-0.042
λ		(0.024)	(0.021)	(0.020)	(0.017)	(0.016)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
Census Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
$P(\beta \neq \lambda)$		0.088	0.001	0.008	0.002	0.001
Observations	3,128	3,128	3,128	3,128	3,128	3,128
Adjusted R-Squared	0.956	0.956	0.958	0.961	0.963	0.965

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. *Gold (Not Gold Rushes)* equals one for counties with at least one gold discovery before or after the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table 6: Differences-in-Differences: Main Estimates

	Ln(1 + Unmarried Partner Households Same Sex)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.104	0.026	0.006	-0.029	-0.063	-0.038
	(0.045)	(0.026)	(0.025)	(0.019)	(0.017)	(0.012)
Gold × Gold Rushes		0.144	0.177	0.101	0.080	0.097
		(0.056)	(0.048)	(0.048)	(0.050)	(0.054)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
Census Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
Observations	3,128	3,128	3,128	3,128	3,128	3,128
Adjusted R-Squared	0.955	0.956	0.958	0.961	0.963	0.965

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table 7: Differences-in-Differences: Robustness Checks

	Ln(1 + Unmarried Partner Households Same Sex)				
	(1)	(2)	(3)	(4)	(5)
Gold	-0.041	-0.038	-0.038	-0.041	-0.022
	(0.014)	(0.013)	(0.013)	(0.014)	(0.043)
Gold × Gold Rushes	0.094	0.097	0.097	0.094	0.101
	(0.054)	(0.054)	(0.055)	(0.054)	(0.054)
Other Minerals	0.008			0.008	
	(0.018)			(0.018)	
ln(population)	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes
% of Foreign Born	No	Yes	No	Yes	No
Military Base	No	No	Yes	Yes	No
Observations	3,128	3,128	3,128	3,128	434
Adjusted R-Squared	0.965	0.965	0.965	0.965	0.965

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population and our set of geographic controls (see Table 6). In column 1, we add a control for other minerals (oil or gas resources, copper, iron, nickel or silver). Column 2 includes a control for the share of foreign born. Column 3 includes a dummy for whether the county is housing a U.S. military base. Column 5 restricts the sample to the Western region.

Table 8: Simple Difference: Neighbor

	Ln(1 + Unmarried Partner Households Same Sex)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold Rushes	0.101	0.069	0.132	-0.037	-0.049	0.020
	(0.047)	(0.091)	(0.082)	(0.071)	(0.054)	(0.045)
Neighbor	0.046	0.045	0.182	0.023	0.002	0.053
	(0.044)	(0.045)	(0.063)	(0.064)	(0.062)	(0.062)
Gold Rushes ×		0.148	0.295	0.127	0.096	0.150
Neighbor		(0.059)	(0.073)	(0.080)	(0.082)	(0.088)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
Census Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
Observations	3,128	3,128	3,128	3,128	3,128	3,128
Adjusted R-Squared	0.955	0.955	0.959	0.961	0.962	0.964

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. *Neighbor* equals one for counties neighboring a *Gold Rushes* county and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table 10: Attitudes Toward LGBT: GSS

	Sexual Relations Between Two Adults of the Same Sex: Not Wrong					
	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.197	-0.156	-0.204	-0.184	-0.102	0.025
	(0.103)	(0.147)	(0.125)	(0.063)	(0.077)	(0.065)
Gold × Gold Rushes		0.341	0.255	0.209	0.146	0.148
		(0.095)	(0.080)	(0.094)	(0.081)	(0.076)
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Individual Controls	No	No	Yes	Yes	Yes	Yes
Geographic Controls	No	No	No	Yes	Yes	Yes
Observations	16,084	16,084	16,084	16,084	16,084	16,084
Pseudo R-Squared	0.002	0.005	0.072	0.082	0.090	0.098

Notes: The unit of observation is a respondent. The period covered is 1993-2014. Attitudes toward LGBT is assessed through the following question: "What about sexual relations between two adults of the same sex–do you think it is" where respondents have four choices (4=not wrong at all, 3=wrong only sometimes, 2=almost always wrong and 1=always wrong). *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. The set of individual controls include the following variables: gender, age, age squared, six education dummies, three race dummies and five marital status dummies.

Table 9: Differences-in-Differences: Socioeconomic Characteristics

	Ln(1 + Unmarried Partner Households Same Sex)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gold	-0.049	-0.043	-0.036	-0.064	-0.044	-0.051	-0.046
	(0.018)	(0.018)	(0.018)	(0.023)	(0.019)	(0.019)	(0.024)
Gold × Gold Rushes	0.091	0.092	0.095	0.082	0.086	0.088	0.074
	(0.049)	(0.048)	(0.042)	(0.038)	(0.047)	(0.048)	(0.034)
Additional Controls							
Demographic Mechanism:							
% Black or African American		Yes					Yes
Fractionalization Index		Yes					Yes
Economic Mechanism:							
Median Personal Income			Yes				Yes
Poverty Rate			Yes				Yes
Unemployment rate			Yes				Yes
Urban Mechanism:							
Median House Value				Yes			Yes
% House Less $100K				Yes			Yes
% House More $500K				Yes			Yes
% Urban				Yes			Yes
Population Density				Yes			Yes
Education Mechanism:							
% High School Graduate					Yes		Yes
Isolation Mechanism							
Distance to Lake						Yes	Yes
Distance to River						Yes	Yes
Portage Site						Yes	Yes
Access to Railroad						Yes	Yes
Average Agricultural Yield						Yes	Yes
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2873	2873	2873	2873	2873	2873	2873
Adjusted R-Squared	0.966	0.966	0.967	0.968	0.967	0.966	0.969

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. We also control for other minerals (oil or gas resources, copper, iron, nickel or silver), the share of foreign born and for whether the county is housing a U.S. military base.

Table 11: Fundamentalist or Liberal?: GSS

	Currently Fundamentalist, Moderate or Liberal?					
	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.160	-0.150	-0.168	-0.156	-0.110	0.014
	(0.082)	(0.117)	(0.099)	(0.056)	(0.072)	(0.070)
Gold × Gold Rushes		0.288	0.196	0.191	0.126	0.120
		(0.065)	(0.050)	(0.048)	(0.043)	(0.046)
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Individual Controls	No	No	Yes	Yes	Yes	Yes
Geographic Controls	No	No	No	Yes	Yes	Yes
Observations	28,436	28,436	28,436	28,436	28,436	28,436
Pseudo R-Squared	0.001	0.004	0.046	0.055	0.060	0.067

Notes: The unit of observation is a respondent. The period covered is 1993-2014. Fundamentalism is assessed through the following question: "How fundamentalist is r currently" where respondents have three choices (1=Fundamentalist, 2=Moderate, and 3=Liberal). *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. The set of individual controls include the following variables: gender, age, age squared, six education dummies, three race dummies and five marital status dummies.

Appendix: NOT FOR PUBLICATION

8.1 Maximum Male-to-Female Ratio

In this subsection, we check whether the maximum male-to-female ratio for gold rush counties is related to the size of the LGBT population. In this robustness check, we instrument the maximum male-to-female ratio for the time period 1820-2000 using as an instrumental variable $GoldRushes_c$. Our strategy relies on the idea that gold discoveries during the gold rushes significantly increased male-to-female sex ratios. As shown in Section 5 and Appendix Figure A4, male-to-female ratios in the U.S. were historically high in many counties during the decades 1850-1900s. On the other hand, sex ratios were close to one for virtually all counties pre- (1820-1840) and post- (1900-2010) gold rushes.

We estimate:

$$\begin{cases} MaxMF_{cs} = \rho + \sigma \cdot GoldRushes_c + X_c'\zeta + \delta_s + \nu_{cs} \\ Y_{cs} = \alpha + \theta Ma\hat{x}MF_{cs} + X_c'\zeta + \delta_s + \varepsilon_{cs}, \end{cases} \tag{6}$$

where c indexes a county and s a state. $MaxMF_{cs}$ is the natural log of the maximum male-to-female ratio for the time period 1780-2000.

The instrument is valid if having a gold discovery during one of the gold rushes is only correlated with the subsequent increase in the size of the LGBT population through the maximum male-to-female ratio. We will come back to the plausibility of this assumption and potential biases in what follows. Note that we see this instrumental variable strategy simply as a robustness check and as a way to directly exploit variation in historical sex ratios across counties.

We present estimates of equation 6 in Appendix Table A18. In the first three columns, we present OLS estimates of the effect of the maximum male-to-female ratio on the number of unmarried partner households of the same sex in 2010. In columns 4–6, we present the 2-stage estimates in which we instrument the maximum male-to-female ratio in a first stage by the discovery of gold during one of the gold rushes. We include our set of geographic controls and state fixed effects in columns 2–3 and 5–6. We control for the presence of oil or gas resources, the percentage of foreign born and whether the county is housing a U.S. military base in columns 3 and 6.

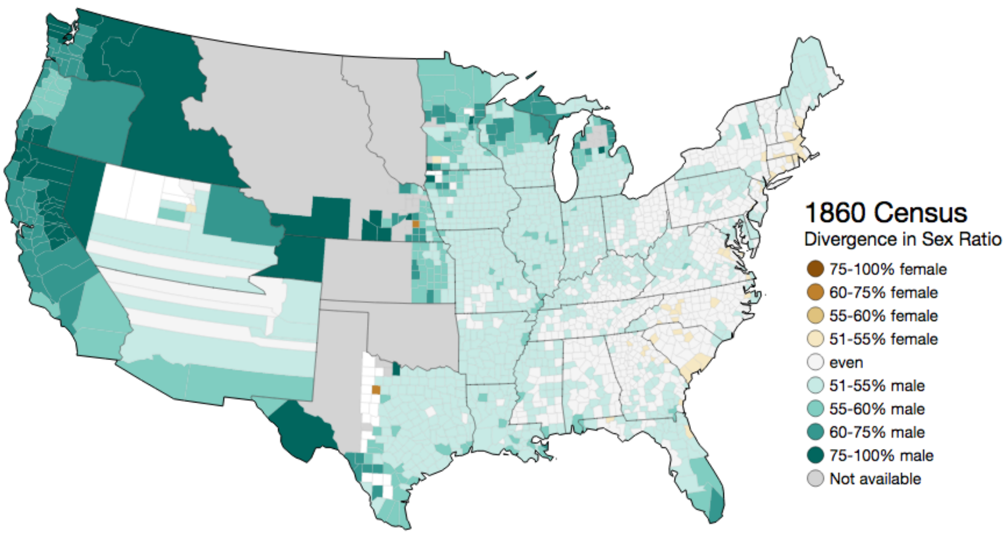
The OLS estimates are all small and statistically insignificant indicating that the maximum male-to-female ratio in a county's history is not related to the current size of the LGBT population. Of note, though, the estimation is on all counties (gold mining and non-gold mining) and possibly suffer from omitted variables.

The first stage is reported in panel A. Consistent with Table 3, we find that gold rush counties have higher maximum male-to-female ratios than other counties. The estimates with state fixed effects are statistically significant at the 1 percent level and suggest that gold rushes increased the maximum male-to-female ratio by approximately 27 percent. The F-statistics range from 9.5 to 16. The second stage estimates are reported in the bottom panel. We find that the maximum male-to-female ratio is positively related to the current number of unmarried partner households of the same sex. The estimates are all positive and range from 22 to 45 percent. Our estimates are statistically significant at the 5 percent level in column 4 and at the 12 percent level in columns 5–6.

These results point to role of the male-to-female ratio on the current size of the LGBT population for gold rush counties. One of the critical issue is whether the exclusion restriction is satisfied. There are a number of reasons why that may not be the case. For instance, gold discovery during one of the gold rushes may affect the current number of unmarried partner households of the same sex through the quality and existence of institutions at the time of discovery (see Section 7). Our 2SLS estimates should thus be viewed with caution.

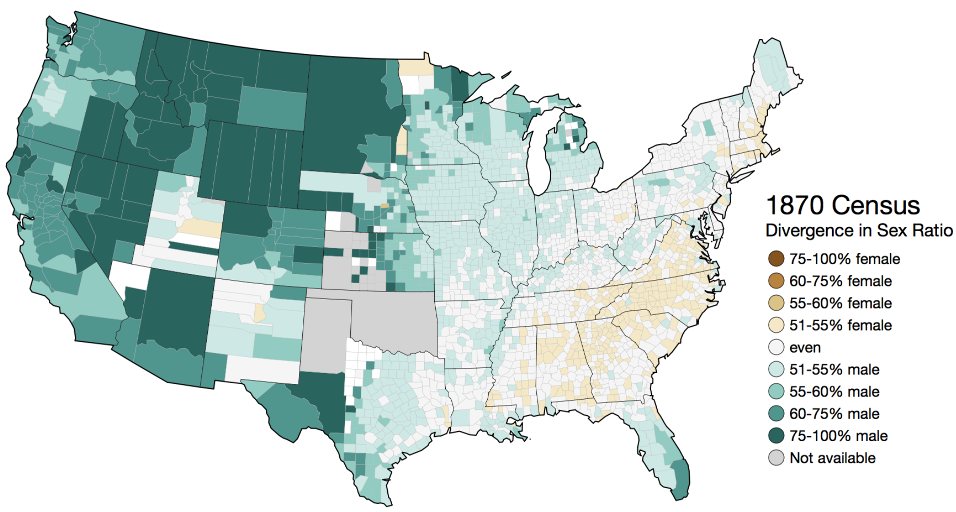
Appendix: NOT FOR PUBLICATION

Figure A1: Male-to-Female Ratio in 1860



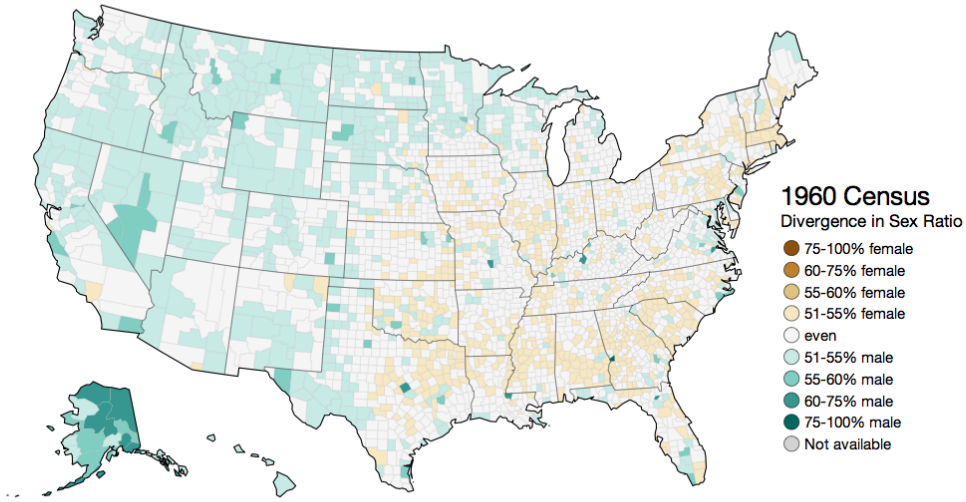
Notes: Figure from Mullen (2018). Data from the NHGIS. Male-to-female ratio in 1860.

Figure A2: Male-to-Female Ratio in 1870



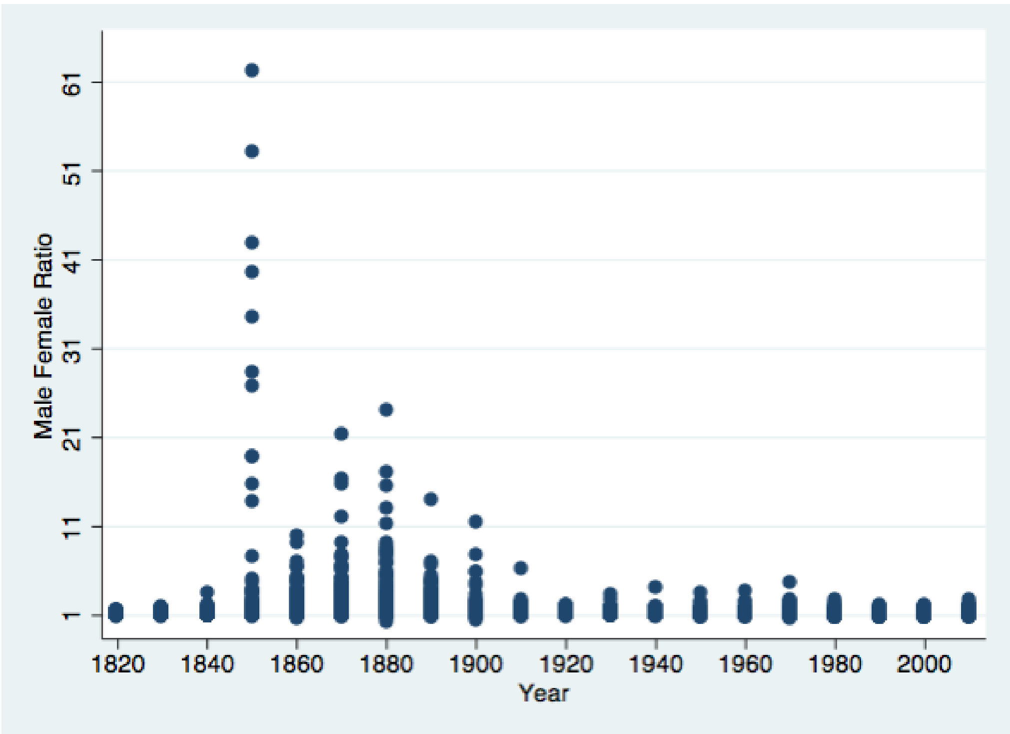
Notes: Figure from Mullen (2018). Data from the NHGIS. Male-to-female ratio in 1870.

Figure A3: Male-to-Female Ratio in 1960



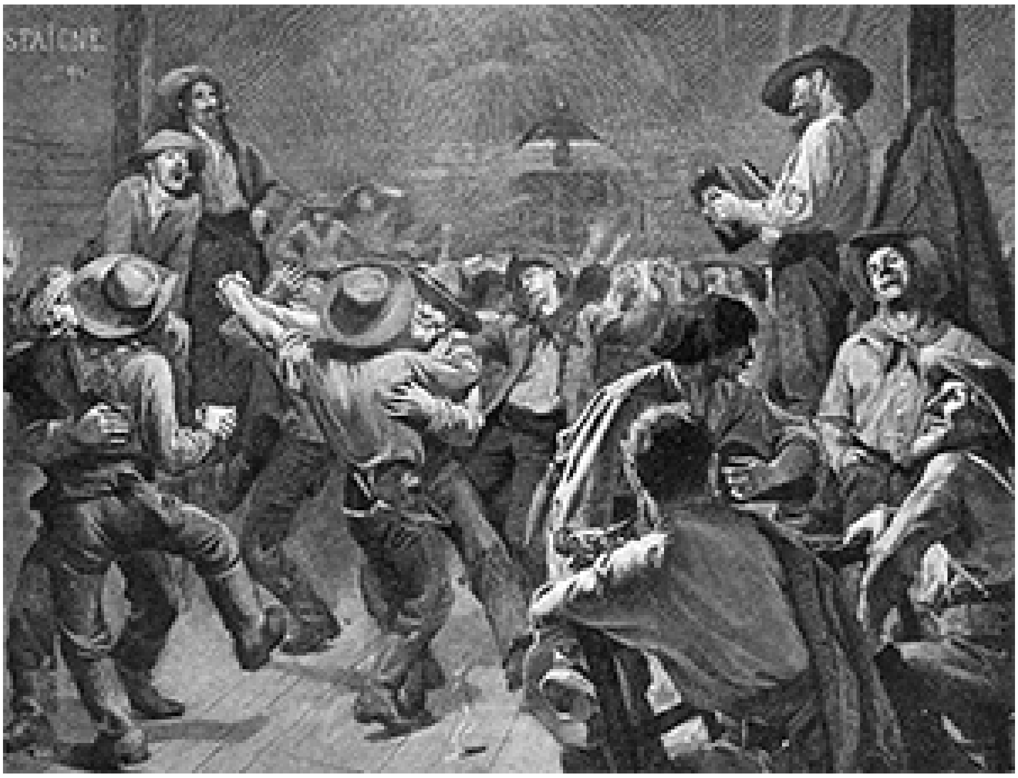
Notes: Figure from Mullen (2018). Data from the NHGIS. Male-to-female ratio in 1960.

Figure A4: Male-to-Female Ratio



Notes: Male-to-Female Ratio across all counties.

Figure A5: Imaginary Men Ball During the 1849 California Gold Rush

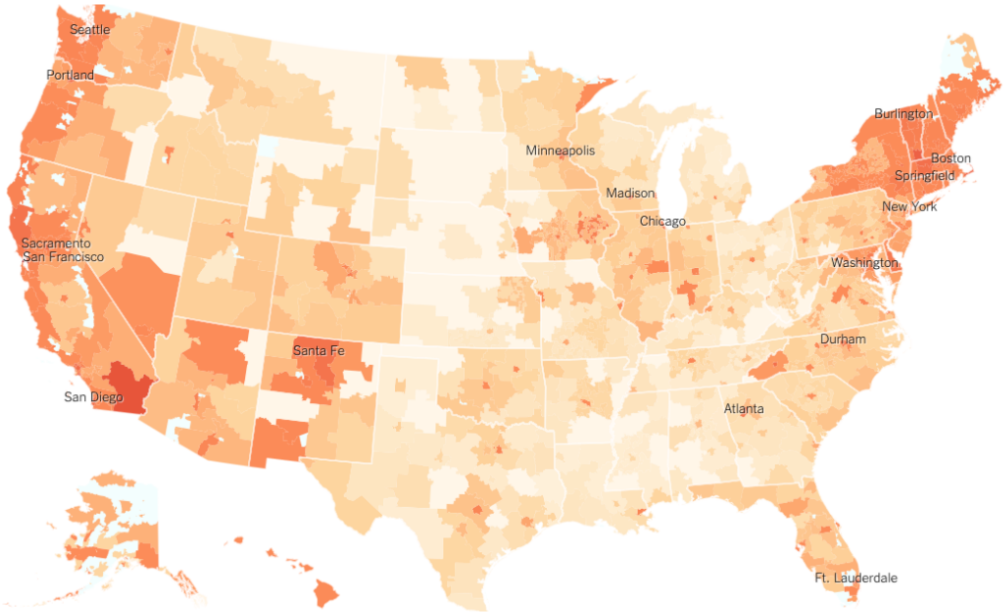


Source: 1891 etching by Andre Castaigne.

Figure A6: Men Dancing in the Old West

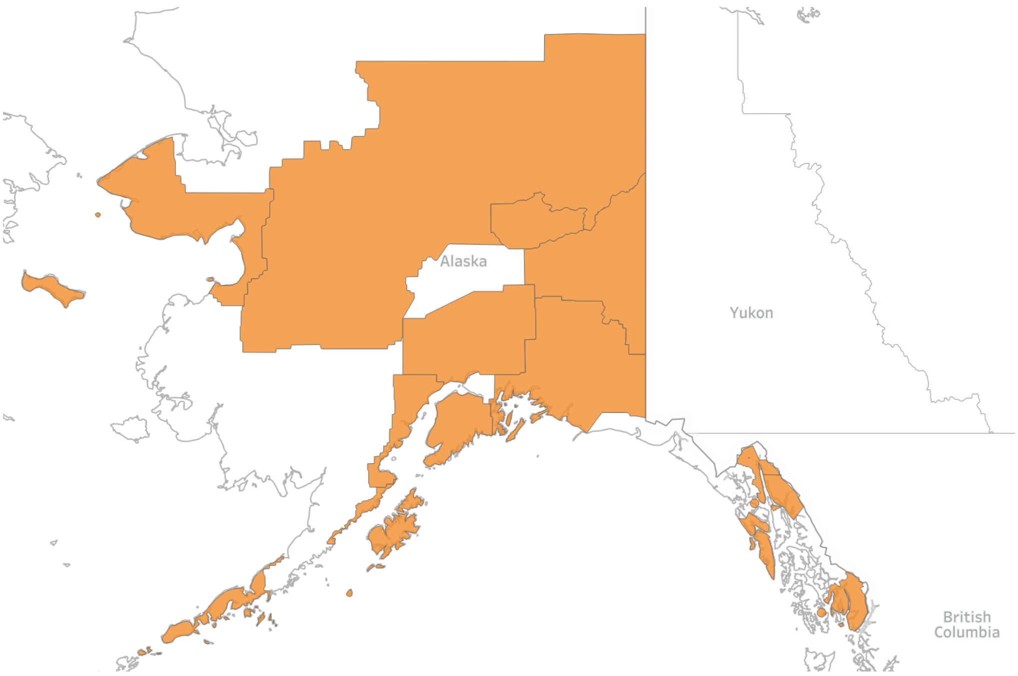
Source: True West Archive.

Figure A7: Married Couples who Have Filed Jointly



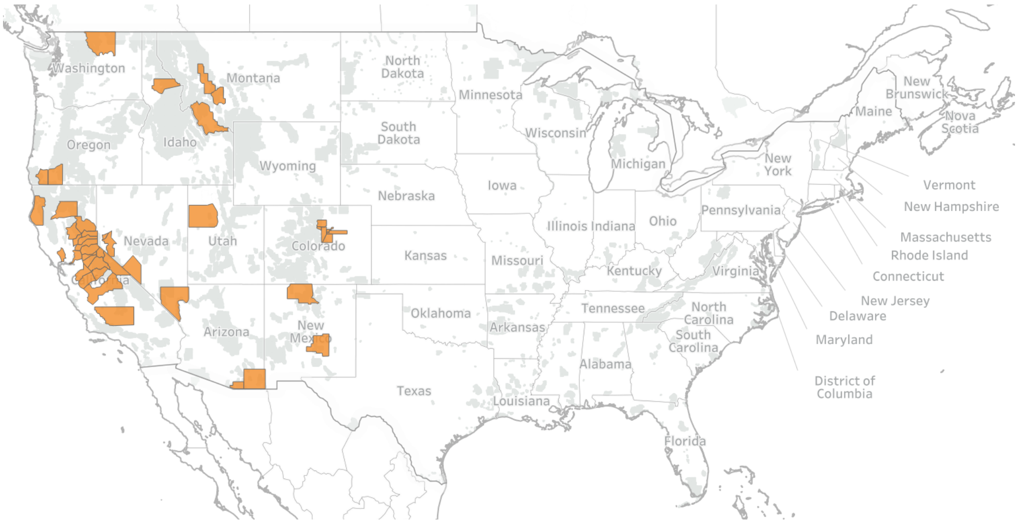
Notes: Same-sex marriage as a percentage of all marriages for married couples who have filed jointly on their tax return. Data presented at the three-digit zip code area. No data in areas where there are fewer than 500 married couples.

Figure A8: Gold Rush Discoveries in Alaska: 1848–1899



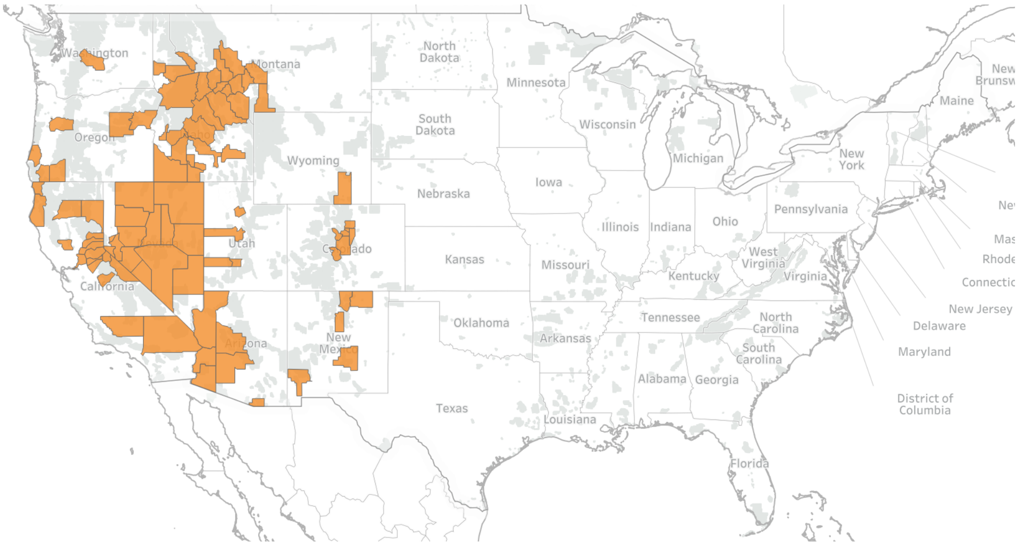
Notes: Based on data from the Mineral Resources Data System. Orange indicates gold discoveries during the gold rushes, only 1848–1899.

Figure A9: Gold Rush Discoveries: 1848–1859



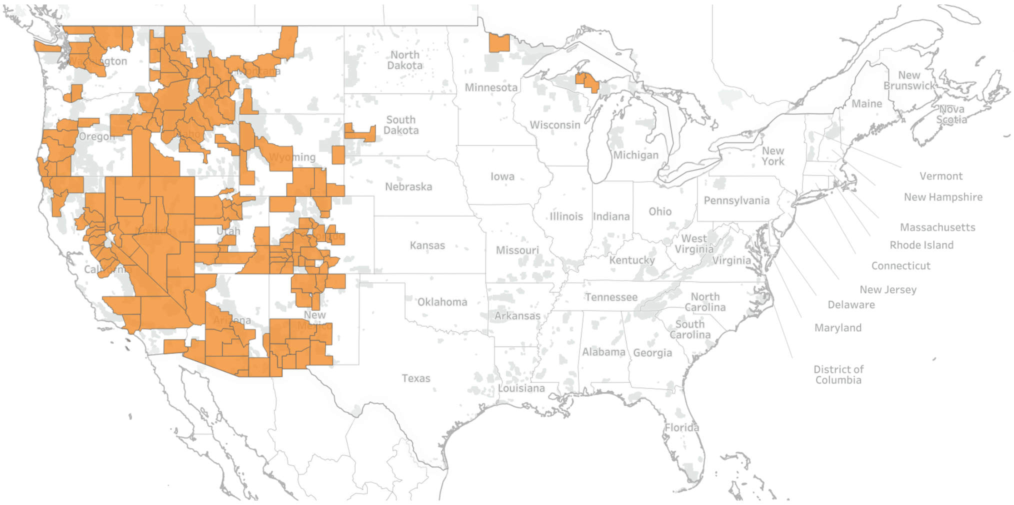
Notes: Based on data from the Mineral Resources Data System. Orange indicates gold discoveries during the gold rushes, only 1848–1859.

Figure A10: Gold Rush Discoveries: 1860–1869



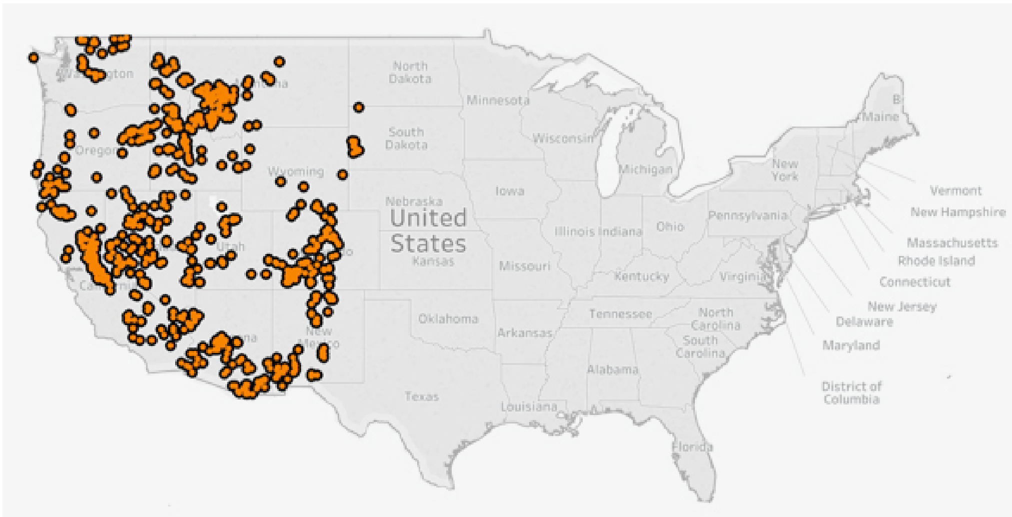
Notes: Based on data from the Mineral Resources Data System. Orange indicates gold discoveries during the gold rushes, only 1860–1869.

Figure A11: Gold Rush Discoveries: 1870–1899



Notes: Based on data from the Mineral Resources Data System. Orange indicates gold discoveries during the gold rushes, only 1870–1899.

Figure A12: Gold Discoveries During the Gold Rushes: Intensity



Notes: Based on data from the Mineral Resources Data System. Dots indicate gold discoveries during the gold rushes (1848–1899).

Figure A13: Sexual Relations Between Same Sex Adults Not Wrong at All

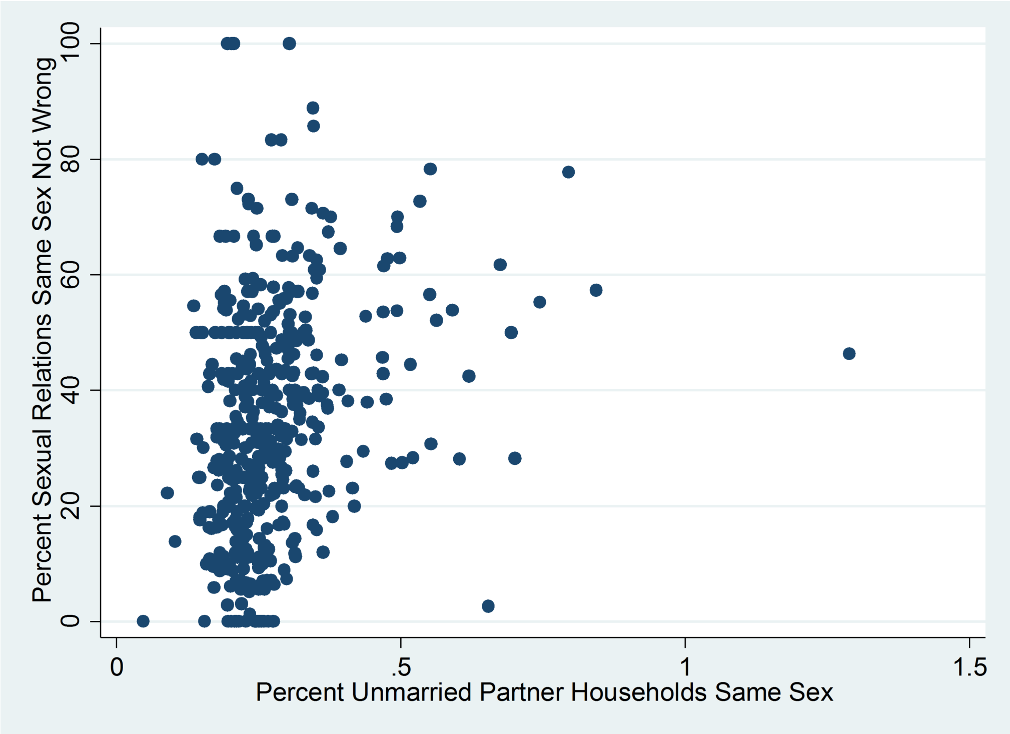


Figure A14: Based on data from the General Social Survey. Relationship between unmarried partner households same sex per capita and the percentage of respondents reporting "Not wrong at all" to the following question: "What about sexual relations between two adults of the same sex–do you think it is always wrong, almost always wrong, wrong only sometimes, or not wrong at all?" The unit of observation is a county.

Table A1: Gold Rushes and Male-to-Female Ratio: Unbalanced Panel

	Male-to-Female Ratio			
	(1)	(2)	(3)	(4)
Gold Rushes	1.956	2.234	2.254	2.249
(Within 10 Years)	(0.871)	(1.149)	(1.171)	(1.175)
Gold Rushes		-0.569	-0.475	-0.483
(10-20 Years Later)		(0.585)	(0.499)	(0.499)
Gold Rushes			-0.234	-0.239
(20-30 Years Later)			(0.234)	(0.236)
Gold (Not Gold Rushes)				-0.011
(Within 10 Years)				(0.034)
Gold (Not Gold Rushes)				0.033
(10-20 Years Later)				(0.035)
Gold (Not Gold Rushes)				-0.064
(20-30 Years Later)				(0.022)
Constant	1.126	1.128	1.129	1.130
	(0.010)	(0.011)	(0.011)	(0.011)
Decade FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Observations	50046	50046	50046	50046

Notes: The unit of observation is a county-decade. The dependent variable is the male-to-female ratio. The time period is 1820-2000. *Gold Rushes (Within 10 Years)* equals one for county-decade observations with at least one gold rush discovery and zero otherwise. *Gold Rushes (10-20 Years Later)* and *Gold Rushes (20-30 Years Later)* equal one for county-decade observations with respectively at least one gold rush discovery 10-20 years earlier and 20-30 years earlier. *Gold–Not Gold Rushes– (Within 10 Years)* equals one for county-decade observations with at least one gold discovery before or after the gold rushes and zero otherwise. *Gold Rushes–Not Gold Rushes– (10-20 Years Later)* and *Gold Rushes–Not Gold Rushes– (20-30 Years Later)* equal one for county-decade observations with respectively at least one non-gold rush discovery 10-20 years earlier and 20-30 years earlier. Standard errors clustered by state are reported between parentheses. Columns 1–4 include county and year fixed effects.

Table A2: Gold Rushes and Notable Places of Worship: Robustness Checks

Probit	Place of Worship at the Moment of Gold Discovery				
	(1)	(2)	(3)	(4)	(5)
Gold Rushes	-0.332	-0.327	-0.334	-0.336	-0.331
	(0.107)	(0.112)	(0.124)	(0.127)	(0.116)
Other Minerals	0.024			0.025	
	(0.037)			(0.041)	
ln(population)	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes
% of Foreign Born	No	Yes	No	Yes	No
Military Base	No	No	Yes	Yes	No
Observations	279	279	279	279	216
Pseudo R-Squared	0.310	0.311	0.311	0.312	0.299

Notes: The unit of observation is a county. The sample is restricted to counties with at least one gold discovery at any time. The dependent variable is a dummy which equals one if a notable place of worship existed at the time of gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Marginal effects are reported. Standard errors clustered by state are reported between parentheses. Columns 1–5 include the (log of) 2010 county population and the following geographic controls: latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. In column 1, we add a control for other minerals (oil or gas resources, copper, iron, nickel or silver). Column 2 includes a control for the share of foreign born. Column 3 includes a dummy for whether the county is housing a U.S. military base. Column 4 adds indicators for military basis and other minerals simultaneously. Column 5 restricts the sample to the Western region.

Table A3: Simple Difference: Before, During and After Gold Rushes

	Ln(1 + Unmarried Partner Households Same Sex)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold Rushes	0.143	0.148	0.175	0.122	0.120	0.128
β	(0.056)	(0.062)	(0.044)	(0.047)	(0.049)	(0.050)
Gold (Before Gold Rushes)		0.071	0.012	0.028	0.020	0.025
λ_1		(0.052)	(0.055)	(0.055)	(0.054)	(0.046)
Gold (After Gold Rushes)		-0.012	0.002	-0.035	-0.061	-0.056
λ_2		(0.034)	(0.029)	(0.029)	(0.027)	(0.025)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
Census Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
$P(\beta \neq \lambda_1)$		0.133	0.014	0.079	0.056	0.028
$P(\beta \neq \lambda_2)$		0.063	0.001	0.012	0.005	0.001
Observations	3,128	3,128	3,128	3,128	3,128	3,128
Adjusted R-Squared	0.955	0.955	0.958	0.961	0.962	0.964

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. *Gold (Before Gold Rushes)* equals one for counties with at least one gold discovery before the gold rushes and zero otherwise. *Gold (After Gold Rushes)* equals one for counties with at least one gold discovery after the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table A4: Simple Difference: Intensive Margin

	Ln(1 + Unmarried Partner Households Same Sex)					
	(1)	(2)	(3)	(4)	(5)	(6)
Num. Gold Rushes	0.0081	0.0081	0.0074	0.0053	0.0046	0.0042
Discoveries	(0.0027)	(0.0028)	(0.0024)	(0.0022)	(0.0019)	(0.0022)
Num. Gold (Not Gold		0.0000	-0.0004	-0.0008	-0.0008	-0.0006
Rushes) Discoveries		(0.0011)	(0.0011)	(0.0009)	(0.0007)	(0.0012)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
Census Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
$P(\beta \neq \lambda)$		0.088	0.001	0.008	0.002	0.001
Observations	3,128	3,128	3,128	3,128	3,128	3,128
Adjusted R-Squared	0.955	0.955	0.958	0.961	0.963	0.965

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Num. Gold Rushes* is equal to the number of gold rush discoveries. *Num. Gold (Not Gold Rushes)* is equal to the number of gold discoveries before or after the gold rushes. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table A5: Differences-in-Differences: Unmarried Partner Households Same Sex per Capita

	Ln(1 + Unmarried Partner Households Same Sex per Capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.123	0.070	0.034	-0.010	-0.043	-0.016
	(0.046)	(0.032)	(0.028)	(0.020)	(0.018)	(0.013)
Gold × Gold Rushes		0.150	0.220	0.119	0.098	0.114
		(0.059)	(0.051)	(0.050)	(0.052)	(0.056)
Census Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
Observations	3128	3128	3128	3128	3128	3128
Adjusted R-Squared	0.011	0.012	0.116	0.187	0.215	0.253

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus unmarried partner households of the same sex per capita in 2010. *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table A6: Robustness Checks: Definition of the Control Group

	Ln(1 + Unmarried Partner Households Same Sex)			
	Exclude Discoveries Pre-1848	Exclude Discoveries East/South 1848-1899	Exclude Discoveries 1900-1950	Exclude Discoveries Since 1950
	(1)	(2)	(3)	(4)
Gold	-0.033	-0.043	-0.005	-0.052
	(0.019)	(0.014)	(0.017)	(0.015)
Gold × Gold Rushes	0.098	0.097	0.103	0.096
	(0.055)	(0.055)	(0.053)	(0.055)
ln(population)	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes
Observations	3,128	3,128	3,128	3,128
Adjusted R-Squared	0.965	0.965	0.965	0.965

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. *Gold* equals one for counties with at least one gold discovery and zero otherwise. In column 1, *Gold* equals zero for gold discoveries before the gold rushes. In column 2, *Gold* equals zero for gold discoveries during the years 1848-1899, but in the Eastern and Southern regions. In column 3, *Gold* equals zero for gold discoveries during the years 1900-1950. In column 4, *Gold* equals zero for gold discoveries since 1950. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table A7: Simple Difference: Conley's 100-, 300-, and 500-KM Spatial Adjustments

	Ln(1 + Unmarried Partner Households Same Sex)					
	Spatial Adjust. 100-km	Spatial Adjust. 100-km	Spatial Adjust. 300-km	Spatial Adjust. 300-km	Spatial Adjust. 500-km	Spatial Adjust. 500-km
	(1)	(2)	(3)	(4)	(5)	(6)
Gold Rushes	0.116	0.123	0.116	0.123	0.116	0.123
β	(0.038)	(0.036)	(0.049)	(0.047)	(0.040)	(0.045)
Gold (Not Gold Rushes)	-0.052	-0.042	-0.052	-0.042	-0.052	-0.042
λ	(0.027)	(0.027)	(0.017)	(0.017)	(.)	(0.016)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
Census Division FE	Yes		Yes		Yes	
State FE		Yes		Yes		Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
$P(\beta \neq \lambda)$	0.0008	0.0005	0.0011	0.0001	0.0000	0.0003
Observations	3,128	3,128	3,128	3,128	3,128	3,128

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. *Gold (Not Gold Rushes)* equals one for counties with at least one gold discovery before or after the gold rushes and zero otherwise. Standard errors are computed following Conley (1999, 2008) and Hsiang (2010) and using 100-, 300-, and 500-km spatial adjustments. Columns 1–6 include the (log of) 2010 county population and our set of geographic controls (see Table 5). We add controls for the presence of oil or gas resources, the share of foreign born and a dummy for whether the county is housing a U.S. military base.

Table A8: Simple Difference: Robustness Checks

	Ln(1 + Unmarried Partner Households Same Sex)				
	(1)	(2)	(3)	(4)	(5)
Gold Rushes	0.121	0.123	0.123	0.121	0.122
β	(0.049)	(0.049)	(0.049)	(0.049)	(0.042)
Gold (Not Gold Rushes)	-0.046	-0.042	-0.042	-0.046	-0.040
λ	(0.016)	(0.017)	(0.016)	(0.016)	(0.033)
Other Minerals	0.009			0.009	
	(0.018)			(0.018)	
ln(population)	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes
% of Foreign Born	No	Yes	No	Yes	No
Military Base	No	No	Yes	Yes	No
$P(\beta \neq \lambda)$	0.001	0.001	0.001	0.001	0.003
Observations	3,128	3,128	3,128	3,128	434
Adjusted R-Squared	0.965	0.965	0.965	0.965	0.965

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. *Gold (Not Gold Rushes)* equals one for counties with at least one gold discovery before or after the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population and our set of geographic controls (see Table 5). In column 1, we add a control for other minerals (oil or gas resources, copper, iron, nickel or silver). Column 2 includes a control for the share of foreign born. Column 3 includes a dummy for whether the county is housing a U.S. military base.

Table A9: Differences-in-Differences: Same-Sex Married Couples

	Ln(1 + Same-Sex Married Couples)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.191	0.118	0.156	0.112	0.036	0.115
	(0.081)	(0.079)	(0.059)	(0.059)	(0.059)	(0.056)
Gold × Gold Rushes		0.218	0.333	0.046	0.076	0.106
		(0.090)	(0.117)	(0.078)	(0.081)	(0.070)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
Census Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
Observations	2,346	2,346	2,346	2,346	2,346	2,346
Adjusted R-Squared	0.057	0.057	0.089	0.125	0.143	0.184

Notes: The unit of observation is a PUMA. The dependent variable is the natural log of one plus the number of same-sex married couples. The time period is 2013-2016. *Gold Rushes* equals one for PUMAs with at least one gold discovery during the gold rushes and zero otherwise. *Gold* equals one for PUMAs with at least one gold discovery and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table A10: Differences-in-Differences: Same-Sex Married Couples per Capita

	Ln(1 + Same-Sex Married Couples Per Capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.192	0.124	0.159	0.116	0.039	0.117
	(0.081)	(0.082)	(0.061)	(0.061)	(0.060)	(0.057)
Gold × Gold Rushes		0.218	0.331	0.044	0.075	0.103
		(0.090)	(0.117)	(0.078)	(0.081)	(0.070)
Region FE	No	No	No	Yes	No	No
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Geographic Controls	No	No	Yes	Yes	Yes	Yes
Observations	2346	2346	2346	2346	2346	2346
Adjusted R-Squared	0.006	0.006	0.040	0.078	0.097	0.140

Notes: The unit of observation is a PUMA. The dependent variable is the natural log of one plus the number of same-sex married couples per capita. The time period is 2013-2016. *Gold Rushes* equals one for PUMAs with at least one gold discovery during the gold rushes and zero otherwise. *Gold* equals one for PUMAs with at least one gold discovery and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table A11: Simple Difference: Socioeconomic Characteristics

	Ln(1 + Unmarried Partner Households Same Sex)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gold Rushes	0.121	0.119	0.117	0.120	0.117	0.119	0.101
β	(0.045)	(0.044)	(0.040)	(0.031)	(0.041)	(0.044)	(0.029)
Gold (Not Gold Rushes)	-0.049	-0.044	-0.034	-0.062	-0.053	-0.049	-0.044
λ	(0.019)	(0.018)	(0.018)	(0.022)	(0.019)	(0.019)	(0.022)
Additional Controls							
Demographic Mechanism:							
% Black or African American		Yes					Yes
Fractionalization Index		Yes					Yes
Economic Mechanism:							
Median Personal Income			Yes				Yes
Poverty Rate			Yes				Yes
Unemployment rate			Yes				Yes
Urban Mechanism:							
Median House Value				Yes			Yes
% House Less $100K				Yes			Yes
% House More $500K				Yes			Yes
% Urban				Yes			Yes
Population Density				Yes			Yes
Education Mechanism:							
% High School Graduate					Yes		Yes
Isolation Mechanism							
Distance to Lake						Yes	Yes
Distance to River						Yes	Yes
Portage Site						Yes	Yes
Access to Railroad						Yes	Yes
Average Agricultural Yield						Yes	Yes
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2873	2873	2873	2873	2873	2873	2873
Adjusted R-Squared	0.966	0.966	0.967	0.968	0.967	0.966	0.969

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. *Gold (Not Gold Rushes)* equals one for counties with at least one gold discovery before or after the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. We also control for other minerals (oil or gas resources, copper, iron, nickel or silver), the share of foreign born and for whether the county is housing a U.S. military base.

Table A12: Socioeconomic Covariates

	Ln(1 + Unmarried Partner HH Same Sex)				
	(1)	(2)	(3)	(4)	(5)
% Black or African American	0.022				
	(0.086)				
Fractionalization Index	0.195				
	(0.122)				
ln(Median Personal Income)		0.349			
		(0.059)			
Poverty Rate		0.006			
		(0.003)			
Unemployment rate		0.002			
		(0.005)			
ln(Median House Value)			-0.239		
			(0.122)		
% House Value Less $100K			-0.006		
			(0.002)		
% House Value More $500K			0.01		
			(0.002)		
% Urban			-0.001		
			(0.000)		
Population Density			Omitted		
% High School Graduate				0.01	
				(0.002)	
Distance to River					-3.75e-08
					(0.000)
Distance to Lake					Omitted
Portage site					0.022
					(0.035)
Access to railroad					0.003
					(0.001)
Average agricultural yield					0.317
					(0.186)
ln(population)	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Other Minerals	Yes	Yes	Yes	Yes	Yes
% of Foreign Born	Yes	Yes	Yes	Yes	Yes
Military Base	Yes	Yes	Yes	Yes	Yes
Observations	2873	2873	2873	2873	2873

Notes: The unit of observation is a county. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. Columns 1–4 include the (log of) 2010 county population and our set of geographic controls. We also control for the presence of oil or gas resources, the share of foreign born and for whether the county is housing a U.S. military base.

Table A13: Attitudes Toward LGBT: Socioeconomic Covariates

	Sex Between Two Adults of the Same Sex		
	(1)	(2)	(3)
Male	-0.209	-0.211	-0.212
	(0.022)	(0.022)	(0.022)
Age	0.005	0.003	0.004
	(0.004)	(0.004)	(0.004)
Age Squared	-0.015	-0.014	-0.016
	(0.004)	(0.004)	(0.004)
Elementary School	-0.992	-0.963	-0.945
	(0.062)	(0.060)	(0.067)
Attended High School	-0.846	-0.822	-0.799
	(0.041)	(0.041)	(0.041)
Grad. High School	-0.663	-0.653	-0.637
	(0.042)	(0.042)	(0.039)
Attended College	-0.446	-0.440	-0.430
	(0.041)	(0.040)	(0.039)
College	-0.181	-0.180	-0.179
	(0.043)	(0.043)	(0.044)
Post Graduate	Omitted	Omitted	Omitted
White	0.170	0.216	0.245
	(0.057)	(0.049)	(0.050)
Black or African American	-0.383	-0.289	-0.262
	(0.057)	(0.056)	(0.058)
Other Race	Omitted	Omitted	Omitted
Married	Omitted	Omitted	Omitted
Widow	0.097	0.087	0.095
	(0.039)	(0.039)	(0.040)
Separated	0.297	0.284	0.271
	(0.061)	(0.063)	(0.060)
Divorced	0.293	0.304	0.304
	(0.035)	(0.036)	(0.036)
Never Married	0.489	0.466	0.457
	(0.029)	(0.029)	(0.029)
Census Division FE		Yes	
State FE			Yes
Geographic Controls	Yes	Yes	Yes
Observations	16,084	16,084	16,084
Pseudo R-Squared	0.082	0.090	0.098

Notes: The unit of observation is a respondent. The period covered is 1993-2014. Attitudes toward LGBT is assessed through the following question: "What about sexual relations between two adults of the same sex–do you think it is" where respondents have four choices (4=not wrong at all, 3=wrong only sometimes, 2=almost always wrong and 1=always wrong). Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties.

Table A14: Attitudes Toward LGBT: Geographic Mobility

	Sexual Relations Between Two Adults of the Same Sex: Not Wrong					
	Same City Since 16			Moved Since 16		
	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	-0.306	-0.267	0.132	-0.108	-0.153	0.010
	(0.265)	(0.254)	(0.109)	(0.086)	(0.052)	(0.067)
Gold × Gold Rushes	0.461	0.254	0.208	0.273	0.193	0.139
	(0.114)	(0.155)	(0.105)	(0.098)	(0.081)	(0.071)
State FE	No	No	Yes	No	No	Yes
Individual Controls	No	Yes	Yes	No	Yes	Yes
Geographic Controls	No	Yes	Yes	No	Yes	Yes
Observations	6,112	6,112	6,112	9,972	9,972	9,972
Pseudo R-Squared	0.000	0.084	0.109	0.001	0.082	0.098

Notes: The unit of observation is a respondent. The period covered is 1993-2014. Attitudes toward LGBT is assessed through the following question: "What about sexual relations between two adults of the same sex–do you think it is" where respondents have four choices (4=not wrong at all, 3=wrong only sometimes, 2=almost always wrong and 1=always wrong). Columns 1–3 restrict the sample to respondents who are living in the same city since age 16. Columns 4–6 restrict the sample to individuals who moved to a different city or state since the age of 16. *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. The set of individual controls include the following variables: gender, age, age squared, six education dummies, three race dummies and five marital status dummies.

Table A15: Attitudes Toward LGBT: Pro-LGBT Index

	Pro-LGBT Index					
	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit	Ordered Probit
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.172	-0.170	-0.224	-0.217	-0.128	0.002
	(0.099)	(0.130)	(0.108)	(0.053)	(0.058)	(0.083)
Gold × Gold Rushes		0.326	0.251	0.165	0.131	0.108
		(0.091)	(0.075)	(0.082)	(0.077)	(0.079)
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Individual Controls	No	No	Yes	Yes	Yes	Yes
Geographic Controls	No	No	No	Yes	Yes	Yes
Observations	15,359	15,359	15,359	15,359	15,359	15,359
Adjusted R-Squared	0.001	0.004	0.066	0.073	0.079	0.086

Notes: The unit of observation is a respondent. The period covered is 1993-2014. We use answers to the following four questions to create a pro-LGBT index: "What about sexual relations between two adults of the same sex–do you think it is, not wrong at all, wrong only sometimes, almost always wrong and always wrong?", "A man admits to be homosexual: should he be allowed to make a speech in your community?", "A man admits to be homosexual: should he be allowed to teach in a college or university?" and "If some people in your community suggested that a book he wrote in favor of homosexuality, should it be taken out of your public library?" The index goes from 0 to 4. *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. The set of individual controls include the following variables: gender, age, age squared, six education dummies, three race dummies and five marital status dummies.

Table A16: Praying: GSS

	Respondent Reports Never Praying					
	Probit	Probit	Probit	Probit	Probit	Probit
	(1)	(2)	(3)	(4)	(5)	(6)
Gold	0.186	-0.181	-0.185	-0.164	-0.059	0.057
	(0.067)	(0.158)	(0.151)	(0.123)	(0.148)	(0.116)
Gold × Gold Rushes		0.287	0.219	0.207	0.157	0.187
		(0.062)	(0.060)	(0.101)	(0.087)	(0.091)
Census Division FE	No	No	No	No	Yes	No
State FE	No	No	No	No	No	Yes
Individual Controls	No	No	Yes	Yes	Yes	Yes
Geographic Controls	No	No	No	Yes	Yes	Yes
Observations	19,724	19,724	19,724	19,724	19,724	19,546
Pseudo R-Squared	0.003	0.006	0.084	0.089	0.099	0.113

Notes: The unit of observation is a respondent. The period covered is 1993-2014. The dependent variable is a dummy for whether the respondent reports never praying. This is assessed through the following question: "How often does r pray?" *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. The set of individual controls include the following variables: gender, age, age squared, six education dummies, three race dummies and five marital status dummies.

Table A17: Other Attitudes and Values: GSS

	Rs is Liberal Ordered Probit (1)	Abortion Legal Probit (2)	Marijuana Legal Probit (3)	Death Penalty Probit (4)	Permit Gun Probit (5)
Gold	0.054	0.032	0.008	0.038	0.081
	(0.042)	(0.039)	(0.069)	(0.081)	(0.038)
Gold × Gold Rushes	0.042	0.098	0.150	-0.015	0.095
	(0.016)	(0.072)	(0.071)	(0.026)	(0.045)
State FE	Yes	Yes	Yes	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Observations	26,010	16,300	16,002	23,918	16,753
Pseudo R-Squared	0.018	0.064	0.062	0.072	0.067

Notes: The unit of observation is a respondent. The period covered is 1993-2014. In column 1, the dependent variable is whether respondents think of themselves as liberal or conservative. Respondents are offered seven choices (7 =extremely liberal, 6 =liberal, 5 =slightly liberal, 4 =moderate, 3 =slightly conservative, 2 = conservative and 1 =extremely conservative). In columns 2–5, the dependent variables are answers to the following questions "Please tell me whether or not you think it should be possible for a pregnant woman to obtain a legal abortion if she is married and does not want any more children", "Do you think the use of marijuana should be made legal or not?", "Do you favor or oppose the death penalty for persons convicted of murder?" and "Would you favor or oppose a law which would require a person to obtain a police permit before he or she could buy a gun?" *Gold* equals one for counties with at least one gold discovery and zero otherwise. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. Standard errors clustered by state are reported between parentheses. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. The set of individual controls include the following variables: gender, age, age squared, six education dummies, three race dummies and five marital status dummies.

Table A18: Instrumental Variable: Maximum Male-to-Female Ratio

Panel A: First stage						
	ln(Maximum Male-to-Female Ratio)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gold Rushes				0.619	0.274	0.271
				(0.153)	(0.089)	(0.086)
Kleibergen-Paap F-statistic				16.39	9.45	9.90

Panel B: Second stage						
	Ln(1 + Unmarried Partner Households Same Sex)					
	(1)	(2)	(3)	(4)	(5)	(6)
ln(Max Male-to-Female Ratio)	-0.025	-0.026	-0.026	0.216	0.448	0.452
	(0.034)	(0.020)	(0.021)	(0.113)	(0.299)	(0.298)
ln(population)	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	Yes	No	No	Yes
Geographic Controls	No	Yes	Yes	No	Yes	Yes
% of Foreign Born	No	No	Yes	No	No	Yes
Military Base	No	No	Yes	No	No	Yes
Observations	3,128	3,128	3,128	3,128	3,128	3,128
Adjusted R-Squared	0.955	0.965	0.965	0.952	0.956	0.956

Notes: The unit of observation is a county. In panel A, the dependent variable is the natural log of the maximum male-to-female ratio. The instrumental variable is the variable *Gold Rushes*. *Gold Rushes* equals one for counties with at least one gold discovery during the gold rushes and zero otherwise. We present 2SLS estimates in panel B. The dependent variable is the natural log of one plus the number of unmarried partner households of the same sex in 2010. Standard errors clustered by state are reported between parentheses. Columns 1–6 include the (log of) 2010 county population. The set of geographic controls include latitude, longitude, total land area, mean and standard deviation of elevation, distance to the state's capital and a dummy for coastal counties. In columns 3 and 6, we add controls the share of foreign born and a dummy for whether the county is housing a U.S. military base.