

Spatial Segregation of Same-Sex Couples - the Example of Brazil

Thomas Stein, Albert Esteve, Antonio López, all Centre d'Estudis Demogràfics, Barcelona

Background

As same-sex couples still quantitatively represent a societal minority they are one component of family diversification in a number of modern societies. This paper focuses on spatial segregation of same-sex couples in Brazil for 2010. As up to now the few studies existing on conditions of same-sex couples, for instance from the US, explore spatial segregation with aggregate data, this work pioneers in using individual ones. Those data with high geographical detail enable to explore individual and contextual predictors' impact on spatial patterns.

Objective

Firstly demographics on same-sex couples, distinguished by sex, compared to opposite-sex couples are stated, furthermore the hypothesis that gay and lesbian couples are more attracted by urban areas than they are by rural ones gets tested. After giving a distributional overview concentrations of same-sex couples with increasing granularity of the territorial unit (from country to sub district¹ level) get measured by the Gini coefficient. Secondly results of the first part are supposed to get explained with multilevel logistic regression. Are location preferences declared by individual characteristics of partnered gays and lesbians? Are gay and lesbian unions different and if yes, to what extent?

Methods

For the analyzes individual data from the Brazil census 2010 get used, where around 20 million cases are available. In the main part reduced to our focus municipalities Rio de Janeiro and São Paulo we have more than 310.000 cases respectively around 550.000 available which get once again reduced as only individuals living in a couple are part of our estimations. We use descriptive statistics as well as multilevel logistic regression for testing predictors for different types of partnerships and to answer questions for potential location preferences. For individual analyzes we use the variables age group (under 30, 30-39, 40-49, 50+), education (less than primary, primary, secondary, tertiary), religion (Catholic, Evangelic, Spiritualists, Afrobrazilian, Others, No religion), ethnicity (White, Black, Brown, Others) and continuous income. For contextual explorations we include the regressors Whites share, mean income, Catholics share, mean age, single household share, population density, income inequality². As a method of visualizing results we use mapping techniques.

Results

The census data Brazil from 2010 detect 10,618 individuals living in 5,309 same-sex couples. 56% are female (5,948/ 2,974), 44% male (4,670/ 2,335). Its administrative structure starts naturally with the entire country, which is divided into five regions (North, North East, South East, South, Central Western), into 26+1³ states, 136+1 mesoregions, 557+1 microregions and finally into 5,564+1 municipalities. Likewise Brazil contains of 42 Metropolitan Regions⁴. The terms "meso-" and "micro-region" were

¹ A sub district is a territorial division within a municipality (IBGE, 2009a).

² All contextual variables show values per sub district.

³ The "+1" means the federal district surrounding Brazil's capital Brasilia.

⁴ Not the entire country is partitioned into Metropolitan Regions.

created by the Brazilian Institute for Geography and Statistics and do not represent any administrative area but are used for statistical purposes (IBGE, 2009b). The following overview compares male and female same-sex couples to opposite-sex couples by counts and shares.

Table 1: Distribution of individuals living in same-sex (ssc) or opposite-sex couples (osc) in Brazil and its Regions/ Metropolitan Regions

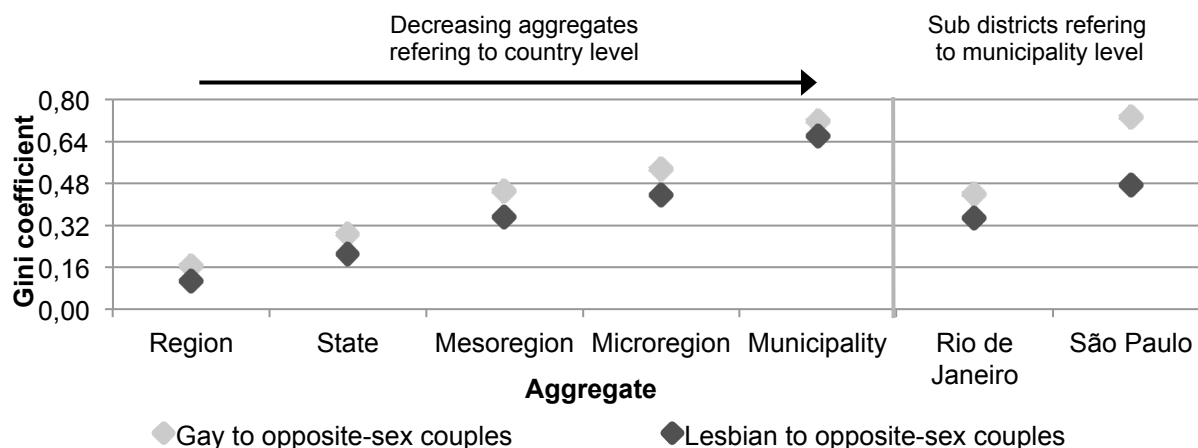
	Individuals living in a ...				total population in 10% census	Share of same-sex couple compared to entire Brazil	Share of opposite-sex couple compared to entire Brazil
	Gay couples	Lesbian couples	Same-sex couples	Opposite-sex couples			
Brazil	4,670	5,948	10,618	8,247,432	20,635,457	1	1
North	238	408	646	604,310	1,723,249	0.061	0.073
North East	900	1,346	2,246	2,294,088	6,170,511	0.212	0.278
South East	2,408	2,814	5,222	3,121,184	7,701,226	0.492*	0.378*
South	662	930	1,592	1,607,418	3,553,719	0.150	0.195
Central Western	462	450	912	620,432	1,486,752	0.086	0.075
Brazil - Metropolis	2,854	3,224	6,078	2,650,342	6,766,334	1	1
North - Metropolis	92	176	268	92,644	287,555	0.044	0.035
North East - Metropolis	552	682	1,234	566,314	1,556,942	0.203	0.214
South East - Metropolis	1,518	1,490	3,008	1,154,314	2,964,756	0.495	0.436
South - Metropolis	500	666	1,166	667,306	1,516,645	0.192	0.252
Central Western - Metropolis	192	210	402	169,764	440,436	0.066	0.064

Source: 2010 Census Brazil ***Interpretation:** From all ssc living in the entire country of Brazil 49.2% are living in the South East region while this share for osc with 37.8% is much lower.

Counts show that in big aggregates (region level) there mostly live clearly more lesbians than gays do (exception: South East region, only just Central Western region). The latter fact is remarkable as up to now studies for other countries usually show the considerable extent of gay couples (e.g., Goldani et al., IUSSP conference paper 2013 for Uruguay; Gates & Ost, 2004, for the USA). It is also eye catching that in one out of five regions in Brazil (South East - within Rio de Janeiro and São Paulo are located) there live around 50% of all gays and lesbians maintaining a partnership, this is true for focusing on the entire region as well as on only the metropolitan regions. The census sample allows for analyzes for Rio de Janeiro of 293 (165 gay, 128 lesbian), for São Paulo of 341 same-sex couples (185 gay, 156 lesbian). The concentrations are higher for gays than for lesbians and higher for São Paulo than for Rio de Janeiro. The socio-demographic profile presents that those people have an increased chances of living in a same-sex couple who are youngest, highest educated, Non-Catholic and Non-Evangelical. More general findings show increasing concentration of same-sex couples with increasing granularities of territorial unit. The higher the granularity the higher the urbanity which indicates higher concentration of gays and lesbians in urban areas than in rural ones (figure 1).

The different distribution of gays and lesbians is again noteworthy as besides the above mentioned cha-

Fig. 1: Gini coefficients for various aggregates for Brazil & Rio de Janeiro/ São Paulo



Source: 2010 Census Brazil

racteristic concentration patterns are different - as in the vast majority only one lesbian couple lives in a municipality the quantity of gay couples in a municipality is more often much higher. Hence all the quartiles of all same-sex couples in Brazil got calculated referring to the number of municipalities needed to reach. Municipalities got sorted by the number of hosted individuals living in a ssc and cumulated. This shows that on smaller aggregates gays are more present than lesbians are. For reaching each quartile women need clearly more municipalities than gays do (table 2).

Table 2: Differences in quantity of municipalities providing quartiles of same-sex couples based on all same-sex couples, own calculations

	Quartile	Gays	Men total (in respective municipalities)	Lesbians	Women total (in respective municipalities)
Number of municipalities per quartile	25%	8	6.70%	21	10.90%
	50%	63		115	
	75%	250		400	

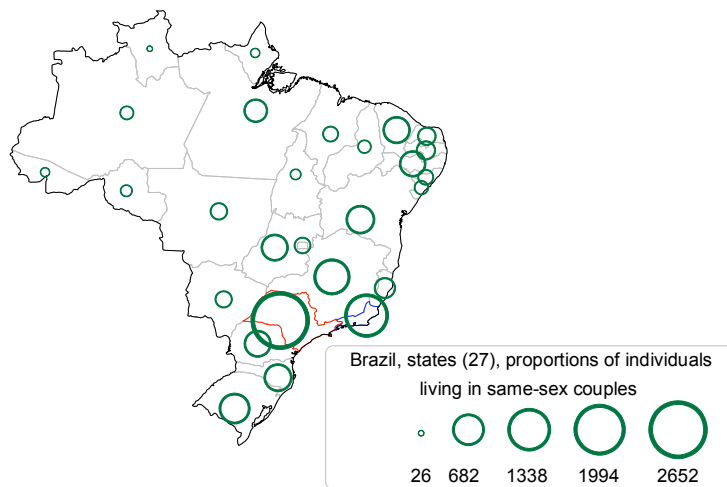
Source: 2010 Census Brazil

By simple counting of municipalities in which at least one couple (i.e., two individuals) is present it gets also revealed that this number is much higher for lesbians (1,135) than it is for gays (808). These findings indicate that gays tend to concentrate in few urban areas while lesbians do not to that extent.

Conclusions and limitations

The Brazilian Census (10% microdata) detects 10,618 individuals living in same-sex couples. 56% of them are lesbians, 44% are gays. The highest amount of same-sex couples live in the South East Region of Brazil (map 1), the region with the highest population. Within this region Rio de Janeiro and São Paulo are located which makes the high numbers of homosexuals plausible as metropolis tend to be diverse and attract all kind of people which likely leads to liberality and tolerance and decreases the necessity for conformal behavior to feel good (e.g., Suchy, 2007).

Map 1: Proportions of individuals living in same-sex couples in Brazil, by state (Rio de Janeiro blue, São Paulo red borders), own calculations and mapping



Above mentioned results find that concentration shows fractionally parting differences between male and female homosexuals as well as between various aggregates. As lesbians concentration is always lower than it is for gays, Gini coefficients for country level are higher for smaller aggregates than they are for bigger ones. Besides that as a matter of course it is a milestone that same-sex couples can get detected by the cen-

sus it also is a limitation that firstly only couples can get detected - it might be a big advantage to analyze also singles. On the one hand this will increase the number of cases meaningful and lead to more robust results, on the other hand comparisons between singles and couples will be enlightening to what extent they are different in their behavior. Secondly only couples living together in a household get detected. Probably, as same-sex couples less often have children, the necessity to live together in one household is on average existing less often as well. This means that the household principle decreases the number of evaluable cases substantial again. It is by now hard to find contextual characteristics which can explain the same-sex couples locational choice. Potential predictors like population density, income and religion didn't show clear results so that further research should focus on that for a better understanding of potential location preferences of same-sex couples. It might be that the desire of "living-together" is detached from any specific area characteristics. Even if sub districts with a high presence of same-sex couples show specific characteristics also sub districts with low presence of them can show similar ones.

Bibliography

Amnesty International (2003): Gewalttaten gegen Angehörige sexueller Minderheiten. <http://www.amnesty.de/umleitung/2003/deu05/100?lang=de%26mimetype%3dtext%2fhtml> [last access: 12.09.2014, 08:00 pm, CET]

Esteve, A., Goldani, A., Turu, A. (2013): Coming out in the 2010 census: Same-sex couples in Brazil and Uruguay. Centre d'Estudis Demogràfics, Barcelona & Princeton University.

Gates, G. J. & Ost, J. (2004): The Gay and Lesbian Atlas. The Urban Institute Press, Washington DC.

Instituto Brasileiro de Geografia e Estatística (2009a): http://www.ibge.gov.br/english/geociencias/cartografia/territ_doc3.shtm [last access: 13.09.2014, 11:00 am, CET]

Instituto Brasileiro de Geografia e Estatística (2009b): http://www.ibge.gov.br/english/geociencias/geografia/default_div_int.shtm [last access: 12.09.2014, 09:00 pm, CET]

Suchy, S. (2007): Familienform und Erziehungsleistung - Gleichgeschlechtliche Elternschaft. Grin, Munich.