

Identification of same-sex couples and families in censuses, registers and surveys

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Clara Cortina¹ and Patrick Festy²

Abstract:

Enumerating same-sex couples and families is much more difficult than it may seem. A basic reason is the small size of the group, in absolute and in relative terms compared to opposite-sex couples. Only very large sources can be used, exhaustive ones like population censuses or registers or surveys with huge samples. The purpose of this document is to evaluate the possibilities of identification of same-sex couples and families with such data sources. The analysis focuses on European countries with legal recognition of same-sex couples but expands to other legal and regional contexts as well. The analysis of the data sources leads to an evaluation of the main risks of measurement and of the limits to international comparability of same-sex couples and families.

Keywords: same-sex, couple, family, data sources, Europe

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1. Introduction

Analyzing the composition of the homosexuals as a group in the population is problematic, due to the difficult operationalization of the concept of sexual orientation (Heath, 2004). The issue looks much less challenging for same-sex couples, since living with a partner of the same-sex may be asserted on the basis of observed co-residence and answers on a couple relationship. Nevertheless, two reasons may make difficult the enumeration of same-sex partnerships. First, there is no simple set of questions phrased in such a way that same-sex partners can easily identify themselves with no ambiguities in censuses or surveys. Furthermore, there are also pure statistical issues, mostly linked to the minority position of same-sex couples compared to heterosexual couples, which creates risks of errors that may seem trivial at first sight. The relatively small number of same-sex couples in total population also implies serious constraints on available sources likely to document the size and the characteristics of the group: only large sources are relevant, either exhaustive ones like censuses and administrative records, or samples surveying important fractions of total population (Festy, 2007).

What will be said of same-sex couples is also valid for same-sex families, which may be taken as an extension of same-sex couples, more precisely a sub group with children. The question of living together will need consideration, and again the question of small numbers and its impact on the validity of conclusions drawn from limited samples (Festy, 2006; Rault, 2009).

When we move from stocks of same-sex couples (and families) to movements in the group due to marriage, partnership registration, divorce, separation, birth or adoption, things look much simpler as long as these events are routinely recorded by administration. It is partly an artifact due to our focus on legal stages in couples' trajectories. Difficulties would be more serious if our interest was extended to *de facto* changes in situations like stepping in a same-sex relationship or stepping out of it, without consideration of the legal status of the relationship. We will not enter this.

The purpose of this document is to evaluate the possibilities of identification of same-sex couples and families in quantitative data sources. The analysis focuses on European countries with legal recognition of same-sex couples but expands to other legal and regional contexts as well. We contrast the official exhaustive statistics (censuses and registers) and other non-exhaustive sources (surveys). In sections I and II each type of data source is described and its

methodological challenges are carefully discussed. In the final section we evaluate the main risks of measurement and the limits to international comparability.

2. Official exhaustive statistics: possibilities and limitations

2.1. Identifying same-sex couples in censuses

We are interested in using population censuses to enumerate same-sex couples and classify them as married (or registered) and not. Two main issues have been identified as possible obstacles to a precise numbering of same-sex couples. One is linked to difficulties that same-sex couples may have in declaring themselves on census forms, due to reluctance to be recognized as homosexuals or to difficulties in selecting the right answer among the options proposed by the questionnaire. Another obstacle is the risk that numbered same-sex couples are in fact opposite-sex who have mistakenly given a wrong answer. The two issues are closely linked to the way the census form is organized. Some pioneering countries faced the problem in the previous rounds of censuses; Statistics Canada gave answers that were not systematically followed by European countries in 2010-2011.

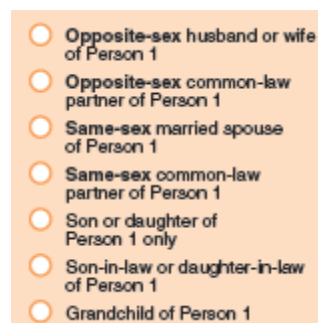
Two persons may live in the same household for a variety of reasons. Being a couple is one of them. To identify couples, information is needed on links between individuals in the household, which will include couple relationships. The link may be defined as simply as that, but it may also include various qualifications, in particular those concerning legality of the couple (formal versus informal) or sexual orientation (opposite-sex versus same-sex).

Details of couple relationships may also be documented at individual level. Questions on marital status will make the distinction between married, possibly registered and de facto couples. Questions on sex will permit identification of same-sex and opposite-sex couples.

Various strategies can be envisaged to collect information by census forms, which must be short enough, clear and precise enough and self-explanatory. The two extremes being: put all the details you need in the relationship question, even if it makes it long, or put no details, so as to remain short, and rely on individual characteristics to make the distinctions you need between same-sex and opposite-sex couples, between legalized or not legalized couples. We come back with examples.

2.1.1. Overseas examples: Canada and New Zealand

The most thorough examination of alternative solutions was made in Canada before the 2001 census (Turcotte et al., 2003). The conclusion has been applied to successive rounds of Canadian censuses, with due consideration of the state of legislation concerning the recognition of same-sex unions. The main guidelines are to follow the first strategy, i.e. to specify as precisely as possible the type of relationship between members of the household. In 2011, four categories have been explicitly listed as possible answers, with the expressions “opposite-sex” and “same-sex” on one hand, “married spouse” and “common-law partner” on the other hand (see an extract of the Canadian questionnaire in 2011).

- 
- Opposite-sex husband or wife of Person 1
 - Opposite-sex common-law partner of Person 1
 - Same-sex married spouse of Person 1
 - Same-sex common-law partner of Person 1
 - Son or daughter of Person 1 only
 - Son-in-law or daughter-in-law of Person 1
 - Grandchild of Person 1

After testing in 2001, it was also shown that the best sequence of questions was that ‘Relationship to person 1’ comes after rather than before ‘Sex’, ‘Date of birth’, ‘Marital status’ and ‘Is this person living with a common-law partner?’. In 2011, this last question is accompanied by the following definition on the census form: “Common-law refers to two people who live together as a couple but who are not legally married to each other.” The rationale behind this choice is to make the respondent familiar with some notions later used in the relationship question. In 2001, the notion of common law partner referred more explicitly than ten years later to “two people of the opposite sex or of the same sex who live together”.

Since 2006 New Zealand has opted similarly for a long explicit list of relationships, still made more complex by the possibility to have a civil union for opposite-sex as well as same-sex couples, but no marriage for the latter (Statistics New Zealand, 2003) (see an extract of the New Zealand questionnaire in 2011).

19 Mark as many spaces as you need to show all the people who live in the same household as you.

- my legal husband or wife
- my opposite-sex legally registered civil union partner
- my same-sex legally registered civil union partner
- my opposite-sex partner or de facto, boyfriend or girlfriend
- my same-sex partner or de facto, boyfriend or girlfriend
- my mother and/or father

See the Guide Notes for help

Note that Canada and New Zealand differ on one point. In Canada, the links are only from any person in the household to the reference person. Information can be collected on only one couple in the household, this couple involving the reference person. In New Zealand, the links are from any person to any person, so that several couples may be identified. It may be the case, for instance, if parents live with a child and his/her partner.¹

¹ When all the links converge to the reference person, there may still be room for an identification of “secondary” couples, i.e. couples not including the reference person, if there are categories like ‘son or daughter’ on one hand, ‘son in law or daughter in law’ on the other hand. It is the case in Canada, also in the Czech Republic, where a third option is even opened ‘son’s partner or daughter’s partner’. We know of no example where this type of relationship is also subdivided into same-sex and opposite-sex.

Box A. Errors in identifying same-sex common-law couples: Canada, 2001

Despite clarification, risks of inconsistency always exist between information on relationship to person 1 and on sex of the two persons concerned. It may happen either because of the respondent(s) who check(s) a wrong item, or because of operators who later process the data. In Canada, 2001, out of 41,880 couples who had declared to be common-law partners (same-sex), 11,864 were not between individuals of the same sex. Reciprocally, out of 1,100,000 couples who had declared to be common-law partners (opposite-sex), 6,227 were not between individuals of opposite sex. A careful check was made for inconsistent cases. (see table)

Among those identified as couples who had declared to be in a same-sex relationship but reported to be male and female, some 11,000 proved to be different-sex and 100 same-sex. The former statistics is to be compared with 1,100,000 heterosexual couples, 1% of which checked the wrong relationship item. The couples who ticked the wrong sex represent 0.3% of cases among the 30,000 homosexual couples. Among those who had declared to be in a different-sex relationship but who both had given the same sex, more than 5,500 proved to be different-sex and some 600 same-sex. For opposite sex couples 0.5% gave a wrong sex. For same-sex couples 2% gave the incorrect relationship. Rates of error differ little between the two groups (0.3 to 0.5% on sex; 1 or 2% on relationship), with two consequences. First, the impact is radically asymmetrical. Large numbers of different sex-couples were wrongly classified as same-sex and likely to seriously inflate the count of such couples. Tiny numbers of same-sex couples were wrongly classified as different-sex, with a marginal influence on the total. Second, methods that reallocate inconsistent cases in proportion of consistent ones are efficient: huge numbers of dubious cases are reclassified as heterosexual couples and small numbers as homosexual couples.

Table 1. Estimates of person 1 and person 2 in the household having a same-sex common law relationship

Common-law relationship to 1		Sex of person 1 and 2			Reported couples	Sampled cases ¹	Identified couples among the cases ²		Estimated same-sex couples ³
Same-sex	Opposite-sex	MM or FF	MF	Blank or invalid				Of which, same-sex	
X		X			30,016				30,016
X			X		11,062	647	383	4	116
X				X	802	405	320	127	318
	X	X			6,227	623	406	44	675
X	X				533	325	171	18	56
Total					48,640	2,000	1280	193	31,181

¹ Questionnaires examined for inconsistencies
² Questionnaires where couples and the sex of the partners were identified without ambiguity
³ Inconsistent cases are allocated to same-sex common law relationships in proportion of same-sex couples among the identified cases. The results are only likely averages since the procedure is stochastic, but the confidence interval is small.

Source: 2001 Census of Canada, from Statistics Canada.- *Families. 2001 Census Technical Report.*

Before any editing, the number of couples that consistently declared to be same-sex and to be both males or both females was 30,016 and the number of couples with inconsistent answers amounted to 18,624. After allocation of the cases with inconsistencies between the type of common-law partnership and the sex of the partner, the estimated number of same-sex couples raised to 31,181 (+1,165). A majority of re-allocated cases result from errors on relationship to person 1, which was wrongly checked 'opposite-sex', a minority from errors on sex. The result remains much below the raw number of these couples, cited above (41,880), because a large proportion of inconsistencies are due to opposite-sex couples that misclassify themselves.

Other errors are cases of same-sex couples who did not check the right box in the Relationship to Person 1. They provided a write-in response ('Other') or they classified themselves as 'room-mate' or 'husband/wife'. When each case was examined and when all other variables pointed to it being a valid same-sex couple, the total estimated number of these couples was raised once more, but less than previously, to 31,748 (+567). The numbers are small. Few same-sex couples mistakenly or deliberately declared themselves as married.

Extracted from Festy (2006)

A simpler example is that of Brazil in 2010. It is simpler since legal recognition was not opened to same-sex couples by that date (at least at national level). Relationships are to the

reference person and clearly distinguish “Spouse or partner of the same sex” (code 3) from “spouse or partner of different sex” (code 2)² (Goldani et al., 2013).

2.1.2. European countries with legal recognition of same-sex couples

No country in Europe has been so far in listing explicitly the groups we are interested in. There is also an amazing diversity in the way the information is collected in various countries. We will concentrate on countries that took censuses recently and that open some form of legal recognition to same-sex couples. Consider the 2011 census in England as a first example. A basic piece of information is available from the question about relationships among people living together in a household. All links in the household are considered, like in New Zealand.

The image shows a screenshot of a census form with three columns for 'Name of Person 1', 'Name of Person 2', and 'Name of Person 3'. Each column has fields for 'First name' and 'Last name'. Below these are relationship questions. For Person 2, the question is 'How is Person 2 related to Person: 1' with a circled '1' and a right-pointing arrow. For Person 3, the question is 'How is Person 3 related to Persons: 1 2' with circled '1' and '2' and a right-pointing arrow. A list of relationship types follows, each with a checkbox: Husband or wife, Same-sex civil partner, Partner, Son or daughter, Step-child, Brother or sister, Step-brother or step-sister, Mother or father, Step-mother or step-father, Grandchild, Grandparent, Relation - other, and Unrelated (including foster child). A large watermark 'SP' is visible over the form. A box on the left side of the form contains the text: 'ENTER NAME OF PERSON 1 HERE AS IN QUESTION HB'.

It is expected that people in a same-sex couple living in the same household declare themselves as “same-sex civil partner” if they have entered a civil partnership, a possibility opened by the Civil Partnership Act 2004, or as “partners” if they have not legalized their union³.

² By contrast, Uruguay had introduced some form of legal recognition in 2008 for unmarried couples (opposite or same-sex), but the 2011 census does not take it into consideration. The relationship question makes no distinction between different-sex and same sex “spouse or partner”. The marital question to individuals offers three options (married, de facto union with partner of opposite sex, de facto union with partner of same sex), without reference to registered partnership (Goldani et al. 2013).

³ By the time of the English 2011 census, marriage was not yet opened to gays and lesbians.

The relationship question is in the household form. It comes before any individual question. Legal situation of same-sex civil partners could be confirmed by the fact that both persons answer “In a registered same-sex civil partnership” as their legal marital status (Individual questions n° 4).



In the case of non-legalized same-sex unions, people are expected to check the ‘Partner’ box in the relationship question, although no specific indication suggests them to do so. They will be distinguished from heterosexual couples, thanks to the sex questions of both partners. Such a two-step procedure could have been avoided if the Partner box had been split into ‘Partner (opposite-sex)’/’Partner (same sex)’. We know from the Canadian experience in 2001 that allocation of common-law couples to opposite-sex and same-sex categories on the basis of sex of the two partners is far from ideal. It may result in over-estimation of the number of same-sex common-law partners, in particular due to errors in declaration of sex by opposite-sex partners.

The results for England and Wales, 2011, are in the following table. They evidence the fact that de facto same-sex unions largely outnumber legalized ones through civil partnership. At the time of census, by the end of March 2011, we know from ONS that a total of 43 581 civil partnerships has been celebrated, 1 195 of which had been dissolved. The remaining number (42 386) must be compared to 73 994 persons (36 997 couples) who have been enumerated, with a possible underestimate of the latter by 13%. Data is apparently unadjusted for any misreporting.

England and Wales. Number of persons living in a couple, by legal situation. 2011 Census

Married (opposite-sex)	20 355 316
Cohabiting, opposite-sex	4 996 164
<i>Total, In a couple, opposite-sex</i>	<i>25 351 480</i>
In a registered (same-sex) civil partnership	73 994
Cohabiting, same-sex	313 926
<i>Total, In a couple, same-sex</i>	<i>387 920</i>
Total, In a couple	25 739 400

Source: ONS

Censuses in other European countries can also permit to identify and number same-sex couples, with a distinction between legalized and non legalized ones. A question documents couple relationships between two members of the household, with or without details, and complementary information may help splitting couples into opposite-sex/same-sex and legalized/not legalized. It is the case in Portugal, Spain and the Czech Republic.

Item answers to the relationship and the individual questions in 2011 censuses

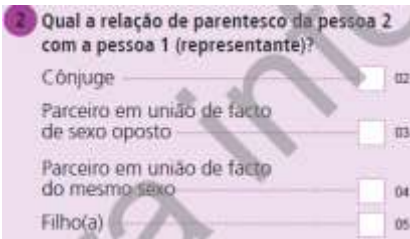
	England	Portugal	Czech Republic	Spain
Relationship among two persons in the household¹				
Legalized, opposite sex	Married	}Married	} Married, registered	} Married, Couple
Legalized, same-sex	Registered			
De facto, opposite-sex	}Partner	De facto, o-s.	} Common-law	
De facto, same-sex		De facto, s-s.		
Individual questions				
Sex	Male, female	Male, female	Male, female	Male, female
Marital status, <i>stricto sensu</i>		Married	Married	Married
Regist ^d partnership, <i>stricto sensu</i>			Registered	
Marital status + regist ^d partnership	Married, reg ^d			

¹ In England, Portugal and Spain, any two persons in the household; in the Czech Republic, any person and the reference person

The procedures to collect information on relationships in the household differ widely, and so do the details of the questions. Nowhere can we define immediately the four categories we look for.

In Portugal, homosexual and heterosexual de facto unions are differentiated, but not marriages. Contrary to English practice, the choice has been made for an explicit declaration of sexual orientation among de facto situations rather than legal. It will probably prove to be a fruitful option since married same-sex couples were few by the time of the census, only 9

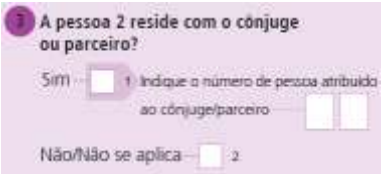
months after the passing of the law. Relationships only refer to any person in the household and the first person of the list.⁴ (See extract of the Portuguese questionnaire in 2011)



In the Czech Republic, the distinction is made between formal and informal unions, but not between opposite-sex and same-sex in any of the two groups. Legalization being possible by marriage for heterosexuals and by partnership registration for homosexuals, a reference is made to the two situations in the label of formal relationship, which is an implicit reference to sexual orientation. There is nothing similar for common law partners; no indication is given to same-sex partners that they should tick this box. Relationships are restricted to those with the reference person.⁵ See an extract of the household form of the Czech census in 2011)

Person no. 1	Husband / wife, registr. partner	Common-law partner	Son, daughter	Son-in-law, daughter-in-law	Daughter's partner, son's partner	Father, mother	Father-in-law, mother-in-law	Grandchild, great-grandchild	Grandchild' s / great-grandchild' s partner
1	2	3	4	5	6	7	8	9	10

⁴ There is also a question that covers couple relations among any two persons in the household, but it makes no distinction between spouses and de facto unions and between same-sex and opposite-sex. It is similar to the Spanish procedure (see below)



⁵ See note 1 for some reservation.

In Spain, the format of the relationship question differs from other countries⁶. It is not a list of possible links to designated persons. Each person is questioned on the presence in the household of his/her father, mother, spouse/partner or other. Among couples, none of the two dimensions is considered (formal/informal; opposite/same sex) and no reference is made in the questionnaire to same-sex or opposite-sex. All missing details must be introduced from individual questions. To differentiate same-sex from opposite-sex marriages or couples, sex of the partners needs to be considered. To differentiate formal from informal relationships, marital status must be taken into account. (see an extract of the Spanish census questionnaire in 2011)

6 ¿Viven en esta vivienda los siguientes familiares de la Persona 1?

Cuando marque Sí, escriba el número con el que este familiar aparece en la **Lista de personas** de la página 2:

Padre	<input type="checkbox"/> NO	<input type="checkbox"/> SÍ	→ Persona nº	<input type="text"/>
Madre	<input type="checkbox"/> NO	<input type="checkbox"/> SÍ	→ Persona nº	<input type="text"/>
Cónyuge o pareja	<input type="checkbox"/> NO	<input type="checkbox"/> SÍ	→ Persona nº	<input type="text"/>
Otros familiares (hijos, hermanos, etc.)	<input type="checkbox"/> NO	<input type="checkbox"/> SÍ	→ N° de persona de uno de ellos	<input type="text"/>

In Portugal and Spain, marriage is opened to homosexual and heterosexual couples, so that the marital status question is equally relevant for both. In the Czech Republic legalized couples are either married if opposite-sex or registered if same-sex, the answers to the two legal status questions may help evidencing the two categories.

In Germany and Hungary, individual questions exist in 2011 on sex, marital status and registered partnership, but we have not identified questions that might define couple relationships in the household, which could be complemented by the individual questions if necessary, or which could be confirmed by them.

France is a special case for two reasons:

- relationships in the household are collected through an open-ended question to be coded after fieldwork, during data entry
- a large family and housing survey (*Enquête famille et logement*, EFL) associated to the 2011 census gives information that enrich census itself.

⁶ See note 4 for some reservation concerning Portugal.

All the links refer to the first person in the household list. Classification of relationships results in one catchall item: ‘partner of the reference person’, that makes no distinction between opposite-sex and same-sex couples, legalized (by marriage or registration) or not. All this information is collected from the census forms or from survey questionnaires.

Individual questions are in the census and in the survey, sometimes in both. They deal with sex of the respondent, sex of his/her partner, marital status, registration⁷ (“pacs” opened to same sex as well as opposite sex couples). Combination of questions in the household and the individual forms permits to define the four categories of couples we look for. The fact that information on sex of the respondent and sex of the partner is collected twice, in the census and in the survey, reduces the risk of error to almost zero.

The results are in the table below. They refer to all couples, including those who do not share permanently the same household. We will come back to this point later. The relative numbers of registered and non-registered same-sex couples are much closer than in England and Wales. We know from registration that, by the end of 2010, 65 318 same-sex pacs have been performed and an estimate of 13 400 had been dissolved. The remaining number (51 900) must be compared to 85 500 persons (42 750 couples) who have been enumerated, with a possible underestimate of the latter by 18%. Thanks to EFL, census data is corrected for misreporting (to be developed hereafter). It may explain a large part of the difference with English results (Buisson Lapinte, 2013).

France. Number of persons living in a couple, by legal situation. 2011

Married (opposite-sex)	23 202 000
In a registered (opposite-sex) civil partnership	1 291 500
Cohabiting, opposite-sex	7 056 500
<i>Total, In a couple, opposite-sex</i>	<i>31 550 000</i>
In a registered (same-sex) civil partnership	85 500
Cohabiting, same-sex	112 500
<i>Total, In a couple, same-sex</i>	<i>198 000</i>
Total, In a couple	31 748 000

Source: INSEE, Census 2011 and family survey

2.1.3. Conclusion

From these examples, it appears that no European census fulfills the best practice conditions to enumerate same-sex couples and to classify them as formal or informal. Everywhere the

⁷ Information on registration (“pacs”) is only in the survey, not in the census.

risk exists that statistics are affected by errors on sex of the partners causing misclassification of opposite-sex couples into same-sex and by under-declaration of couples for a variety of reasons (lack of clarity in census forms, unwillingness to “come out”).

Each country will need a careful evaluation of potential biases before tentative estimates are provided. Comparability between different countries will be a challenge. Comparing England & Wales and France offers an illustration: registered same-sex partnerships exhibit comforting similarities (a reasonable and reasonably comparable rate of under estimation, 13-18%), while de facto couples are too different in numbers (over enumeration in England or under declaration in France?) to be taken at face value in any country.

Box B. Correcting censuses for sex misreporting and other: the French example

In 2011, the French annual census (*Enquête annuelle de recensement*, EAR) was accompanied by a family and housing sample survey (*Enquête famille et logement*, EFL). It offers a unique opportunity to double check the information collected on same people from different questionnaires. A careful analysis of discrepancies between the two databases has been performed by INSEE. It has resulted in a correction of census results and the conclusions are the following (Banens, 2013):

“According to EAR, 279,300 French residents live in a cohabiting same-sex relationship: 160,920 men and 118,380 women. After correction, EFL maintains 91,668 men (57.0%) and 64,008 women (54.1%). The others are redefined mostly as living in heterosexual couples. The correction relied for 88% of men and 84% of women on ego’s or ego’s partner’s sex miscoding. This correction was automatic.

	Man living with man		Woman living with woman	
	Before weighting	Weighted	Before weighting	Weighted
Total	1398	160920	1374	118380
Corrected for EFL sex#EAR sex	832	61225	706	45578
other	62	827	108	8794
Final	504	91668	560	64008

Table 7. Correction of men and women in same-sex couples in the census (EAR).

Source: INSEE EFL 2011

The automatic correction is justified by the assumption that sex miscoding is independent of the type of couple, same-sex or opposite sex. In that case, almost all sex coding conflicts concern heterosexual couples.

The remaining part of the correction was checking first names of partners. Only INSEE is able to execute this additional test because INSEE has access to the names. The test has been done for couples with children only. Nearly 9,000 women were redefined as living in cohabiting heterosexual couples, despite the absence of sex miscoding. It affects nearly one third of women with children. It is likely that the same test applied to other same-sex couples would also reveal previously undetected errors. The sex miscoding correction - 43% of couples of men and 46% of female couples have been reclassified - should then be considered as a conservative correction.

Let’s see the final estimates by socio-demographic characteristics. The final conservation rate of childless never-married living in same-sex couples - they make up about two-third of people living in same-sex couples - is 90%. It is 71% for all recorded same-sex couples living without children. They make up 93% of all same-sex couples.

People in s-s couple living without children	Conservation rate	Final number
Never-married	90%	107,744
Married	36%	24902
Widowed	92%	1003
Divorced	75%	9763
Total without children	71%	143,391

Women in s-s couple living with child(ren)		
Never-married	57%	8937
Married	8%	1646
Widowed	0%	0
Divorced	67%	1701
Total women with child(ren)	31%	10840
Men in s-s couple with child(ren)		
Never-married	0%	0
Married	0%	0
Widowed	-	-
Divorced	0%	0
Total men with child(ren)	0%	0
Total	57%	154,231

Table 8. Conservation rates and numbers living in a cohabiting same-sex relationship according to the census by marital status and presence of children in the household (all children aged 0 -17 years children aged 18-24 who have been declared as a child of at least one person in a couple). France.

Source: Insee EFL 2011

Most of the men (100%) and women (69%) living in same-sex couples with child(ren) have been redefined as living in heterosexual couples. The over-all conservation rate of 57% shows that almost one out of two recorded same-sex couples was a miscoded heterosexual couple. Most of the time, miscoded heterosexual couples were married and lived with children, real same-sex couples lived without children and were never-married." (Banens, 2013, p. 9-11)

"If EFL led to the redefinition of many "false" same-sex couples, it also recovered "real" cohabiting same-sex couples who did not identify as such at the Census. However, this inverse correction is more difficult to establish. By definition, it starts from a contradiction between EAR and EFL reporting. Choosing one against the other has to be done one by one, on the evaluation of all known characteristics.

EFL recovered 103 individuals unnoticed by the census, because at least one partner did not declare living in a couple. After weighting, EFL thus added 9% to the men and 11% to the women already identified as living in same-sex couples. In some cases, the EAR and EFL statements are consistent except for one missing declaration of the relationship. The recovering seems perfectly justified. But this scenario is rare. In most cases, the question of the relationship has not been left out. Both partners declared explicitly that they were not living with a partner. EFL nevertheless defined some of them as living in same-sex couples on the basis of other information, mostly when ego declared living with a "spouse / friend". In those cases, the recovering was not always justified as a detailed analysis shows." (Banens, 2013, p. 16-17)

Inspired by this analysis, Banens and Le Penven (2013) have suggested a method to correct census results in the absence of a companion survey like EFL, using the 2008 census as a case study.

The first step was to estimate sex miscoding on the basis of recorded same-sex couples in subpopulations that are very unlikely to count many of them. The authors chose the population of married men and women living in households of three or more persons, considering that married same-sex couples with children could only be the result of sex miscoding since same-sex marriage was not legal in France before 2013. On this basis, Banens and Le Penven estimated sex miscoding rates slightly lower than EFL observed rates.

Once the sex miscoding rate determined and adjusted for household size, Banens and Le Penven corrected reported same-sex couples by considering the miscoded heterosexual couples as a random sample of all heterosexual couples. The results of the correction turn out to be rather close to EFL results in 2011. Overall correction was similar in 2008 (47 %) and 2011 (43 %) and the correction targeted the same subpopulation in both censuses.

Unconvinced by the results of EFL on this last point, the authors have considered as negligible the impact of recovery on the estimated number of same-sex couples.

2.2. Population registers: answers without questions

In many European countries, especially northern ones, population censuses no longer exist and most demographic statistics are extracted from registers. Information is essentially based on vital events affecting individuals (birth, death, marriage, registered partnership, divorce, migration), which also reveals links between persons: direct links, like parents-children,

spouses or registered partners, or indirect ones, like brothers/sisters who share the same parent(s). One step further, indirect links may suggest the existence of unregistered relationships between individuals: if a child lives with two unrelated parents, these form an unmarried couple. Similarly, the fact that two unrelated adults moved simultaneously to their present address suggests they are a couple.

“Unattached” persons need an additional input to be classified as household members. Unmarried couples without children are inevitably the group that needs the highest fraction of imputation.

Netherlands offer the only example we know where the number of same-sex couples is estimated. Rules of imputation were extracted from a regression analysis on a sample of addresses where household rosters were collected for the Labour Force Survey (in 2000-2001, 230,000 persons were interviewed). For cases with two unattached persons living together, 4,000 addresses were in the sample. They were used to determine the probability for such persons to belong to the same household and to be linked by a steady relationship (Steenhof & Harmsen, 2004).

The variables in the regression are age, sex and marital status of the two persons and degree of urbanisation. Combination and interaction of variables are used, like age difference between the two persons, their average age, interaction of these variables by same-sex, etc. Parameters calculated in the sample of addresses are then applied to the whole of pairs of unattached persons in the registers. They identify stochastically those who are linked (they form a unique household) and those who are not linked (they are two one-person households).

This procedure results in a yearly estimate of the number of same-sex couples. Raw calculation reveals a high number of such couples among young ages. Hence a complementary assumption is made that same-sex students or workers below the age of 30 years who share the same household are not couples.

According to the Dutch Central bureau of statistics, the number of homosexual and lesbian couples living together totaled 57 thousand in 2010. Nearly 11 thousand couples were married and more than 6 thousand had registered partnerships (de Graaf, 2011).

In population registers, links between the persons in the household are not asked, contrary to censuses. They may be known from administrative information, they may be postulated from individual behaviour or they may be postulated in probability. It may result in a statistics of same-sex couples that is not based on declaration.

Population registers exist in countries other than the Netherlands and could be used to estimate the number of cohabiting same-sex couples. Belgium and Nordic countries are examples of population registers that have been totally substituted for censuses to make periodic estimates of population numbers and demographic characteristics. Replication of the Dutch exercise could be undertaken.

2.3. From same-sex couples to same-sex families

“A couple living with children forms a family” is a very short definition for families that raises a lot of questions. It is still more the case if one moves from this to: “same-sex couples living with children form same-sex families”. Censuses were adapted to number opposite-sex families in their traditional forms, when both parents lived with their children or one-parent families resulted from marital disruption or births outside marriage; they are not necessarily so for reconstituted families. It is still less the case with same-sex families, where children may have been born or adopted in a variety of circumstances.

The basic thing a census can do is to observe that same-sex couples live with children in the same household, with or without limitations on the age of children (e.g. children below 18 or 25 years) and their marital status (e.g. children unmarried). Beyond this, a distinction is possible between children who live with their two parents and those who live with only one. Precisions are vague on legal links between children and adults.

In England and Wales, relationships are described between any member of the household and all other members. For instance, referring to part of the census form copied above (p. 4), person 3 may be ‘son/daughter’ of person 1 and ‘son/daughter’ of person 2 or he/she may be ‘son/daughter’ of person 1 and ‘stepchild’ of person 2. The notion of stepchild is not fully clear, but it suggests a link that is neither biological nor legal (adoption). A possibility is also opened, at the bottom of the list, to tick the ‘unrelated’ answer that explicitly includes ‘foster child’.

In Portugal and Spain, any person is to state whether his/her father lives in the household and whether his/her mother lives there. That leaves no room for declaring two fathers or two mothers. The procedure is clearly tailored to reconstituted opposite-sex families, not same-sex ones.

In the Czech Republic and in France, relationships are restricted to links with the reference person in the household. It is not adapted to the complexity of same-sex families, not even to reconstituted ones. However, in France, the association of the 2011 census with a very large sample survey on family formation opens wider opportunities. Questions are put to men and women on each child living in the household: to women, ‘are you his/her mother?’, ‘is your present partner his/her father?’; to men, ‘are you his/her father?’, ‘is your present partner his/her mother?’. It opens the possibility for a child to be son/daughter of the respondent, of his/her partner or both. A few results for same-sex couples are in Buisson, Lapinte, 2013.

Compared to population censuses, population registers should be able to document more clearly legal links of children to their parents in same-sex families. However, we do not know so far of studies in this direction from this kind of source.

2.4. An overview

An overview of the material proposed by recent population censuses and population registers is given in the following table. It expresses potentialities offered by existing data collection procedures. Actual availability of data should be another step of research.

Information available for a selection of European and overseas countries

Country, date of census	Identification of same-sex couples			Distinction married/registered	Same-sex families	
	Census Direct/ Explicit	Re constructed	Register		Census	Register
Belgium			X	X		X
Czech Republic, 2011	X					
England & Wales, 2011	X			X	X	
France, 2011 (+ EFL)	X			X		
Germany 2011		X				
Hungary, 2011		X				
Netherlands			X	X		X
Portugal, 2010		X				
Spain, 2011		X		X		
Sweden			X	X		X
Brazil, 2010	X				X	
Canada, 2011	X			X	X	
New Zealand, 2006	X					

3. Beyond official exhaustive statistics

3.1. Living apart together

Population registers rely on a strict material definition of living together at the same address. So do censuses despite recent attempts to open the possibility to document multiple residence. The topic has become a necessity with the growing number of children living part-time with divorced parents and with couples maintaining two addresses. The latter issue is supposed to be especially crucial for same-sex couples, but we lack information (Bochow, 2004). France is the first European case we know of with a large survey linked to the 2011 census, where respondents were questioned about the location of their partner.

In publishing the results, INSEE has grouped together couples living at the same address (“cohabiting”) and those living apart together (“non cohabiting”). Among all couples (opposite-sex or same-sex), 95.9% live under the same roof and 4.1% have maintained two addresses. Among same-sex couples, the proportions are respectively 84.3% and 15.7%. The proportion of couples who do not live permanently together is four times higher among same-sex couples (Buisson, Lapinte, 2013).

But the situation differs radically between married or registered couples and those in common law situations. The first two almost never live at distance (respectively .9% and 1.7%), while the proportion is 15.2% for informal couples. Part of the difference between all couples and same-sex ones results from the absence of married persons among the latter. Imagine that 1.7% of registered same-sex couples and 15.2% of common-law same-sex couples live in distinct households, as do the other couples, the total proportion among gays and lesbians would be 9.4%. It is almost half way between actual proportion for all couples (4.1%) and actual proportion for same-sex couples (15.7%).

France, 2011. Proportion of couples living apart by marital status

Marital status	All couples		Same-sex couples		
	Distribution	% living apart	Distribution	% living apart	Standardized %
Married	73.1	0.9%	-		
Registered	4.3	1.7%	43.2		
De facto	22.6	15.2%	56.8		
Total	100.0	4.1%	100.0	15.7%	9.4% ¹

¹. Total proportion of same-sex couples that would live apart if proportions by marital status were similar to all couples

Source: INSEE, Census 2011 and Family survey

Restricting the enumeration of couples to those living together in the same household is more drastic for same-sex than opposite-sex couples. It is imposed by census technique and still more obviously by constraints on population registers. However the impact we are able to measure in France is less than could have been expected. That remains to be confirmed by other data. Extension is also needed to same-sex families, but the issue is still trickier since not only adults may live at distance from one another but also children and parents, especially in case of reconstituted families.

3.2. Survey programmes as sources of comparative data

So far, we have dealt almost exclusively with population censuses or registers. The reason why is directly linked to the necessity to rely on very large sources to produce results on a small population like same-sex couples and families. We have used only one survey, which is a large one, in France, associated to the census in 2011. There were 367 000 respondents aged 18 years and more. We could have dealt similarly with the German microcensus, a 1% sample of the German households, involving some 820 000 persons, which also provides results on same-sex couples on a yearly basis.

One of the weaknesses of such sources – censuses, registers, very large surveys – is the difficulty to compare results internationally, due to national specificities in their conception and execution. We have illustrated this point above. Efforts by Eurostat rely on ex post harmonization in order to produce comparable results based on heterogeneous procedures of data collection, but numbering same-sex couples and families is not part of Eurostat objectives. Together with numbering same-sex couples and families, it will be necessary to evaluate comparability of the estimates between different countries.

Another way to tackle the issue is to use pre-harmonized material, i. e. data collected through similar procedures in different countries. This is the case for a number of European survey programmes, coordinated by Eurostat or other international bodies. But most of these surveys aim at limited sample sizes that preclude their use for small populations like same-sex couples or families. The Generation and gender surveys (GGS), which are clearly oriented towards couples and families, are based on national samples typically comprised between 10 000 and 15 000 respondents. This is far too little.

The EU Statistics on income and living conditions (SILC) is based on similar sample sizes annually, but the operation has been repeated each year since 2004. Annual repetition opens the possibility to compile surveys from successive years to build a much larger sample, e.g. ten times larger if one compiles data for the whole period 2004-2013. However, this is partly spurious since SILC is a panel where respondents accept to answer at least four successive years. Compilation must be made from “fresh” samples entering each year the follow-up procedure for the first time, which is only one fourth of the total sample the same year. For instance in France, new samples each year are extracted from 3 000 visited households; aggregation on ten years will result once more in too limited a total for a reasonable estimation of same-sex couples and families.

Much more promising could be the use of the EU Labour force surveys (LFS). Through compilation of the Spanish LFS from five successive rounds between 2006 and 2012, 893 individuals have been identified as members of a same-sex couple (310 gay couples and 132 lesbian couples) (Cortina 2013). Similarly, aggregation of French LFS on twelve years (1996-2007) had resulted in the identification of 904 individuals as members of a same-sex couple in a restricted age-bracket (27-59 years) for an analysis of wages in non-agricultural activities (Laurent, Mihoubi, 2009). Surveys in the two countries have numerical similarities: with a response rate of 84% in 2011, the actual number of households participating in the survey each quarter is about 60 000 (64 500 in Spain, 57 100 in France). Each respondent being maintained for six consecutive quarters, “fresh” samples each quarter may be estimated as six times less, i.e. 21 200 individuals in Spain, 15 600 in France.

Sample size, number of rotations and response rate of the EU-FFS by country 2011

Country	Achieved sample (per quarter)		Number of rotations	Persons 15-74 per rotation	Response rate (%)
	Households	Persons 15-74			
BE Belgium	9 900	19 000	1	19 000	**67.4
BG Bulgaria	14 200	25 200	4	6 300	79.9
CZ Czech Republic	24 900	45 200	5	9 000	80.6
DK Denmark	-	24 400	4	6 100	**51.5
DE Germany	83 300	130 800	4	42 700	97.9
EE Estonia	2 000	4 400	4	*1 100	**62.5
IE Ireland	20 600	40 700	5	10 200	79.7
EL Greece	28 300	51 500	6	8 600	82.0
ES Spain	64 500	127 100	6	21 200	83.5
FR France	57 100	93 500	6	15 600	84.0
IT Italy	71 000	120 600	4	30 100	88.9
CY Cyprus	4 000	8 200	6	*1 600	96.3
LV Latvia	3 700	6 900	4	*1 700	**66.7
LT Lithuania	6 500	13 000	4	*3 300	83.8
LU Luxembourg	2 100	3 800		*3 800	**32.7
HU Hungary	28 500	55 200	6	9 200	84.8
MT Malta	2 100	4 600	4	*1 200	**69.2
NL Netherlands	40 200	80 900	5	16 100	78.2
AT Austria	19 800	34 700	5	6 900	92.7
PL Poland	37 600	81 700	4	20 400	75.6
PT Portugal	15 600	30 500	6	5 100	82.4
RO Romania	24 900	48 800	4	12 200	93.0
SI Slovenia	5 500	12 400	5	*2 500	78.3
SK Slovakia	9 700	21 000	5	*4 200	93.1
FI Finland		32 600	5	6 500	76.1
SE Sweden		63 200	8	7 900	74.6
UK United Kingdom	43 000	76 700	5	25 300	**61.9
IS Iceland		3 200	5	*600	83.5
NO Norway	12 400	20 200	8	*2 500	83.4
CH Switzerland		30 700	4	7 700	84.9
HR Croatia	3 700	7 500	4	*1 900	75.6
MK Macedonia	3 900	10 800	4	*2 700	84.4
TR Turkey	36 100	91 900	4	23 000	87.0

* 12 countries with too small a sample size

** 7 countries with response rate below 70%

Source: Eurostat, *Labour force survey in the EU, candidate and EFTA countries. Main characteristics of national surveys, 2011*, Eurostat Methodological and Working papers, 2012 edition

The size of quarterly fresh samples differs widely from country to country: it is below 2 000 persons in Estonia, Malta, Cyprus and Latvia (and Iceland); it is over 20 000 in Germany, Italy, UK, Spain and Poland (and Turkey).

Based on the French example of the 2011 Family and housing survey, we may guess that necessary samples for a good estimate of same-sex couples and families are about 200 to 400 000 respondents. If compilation of fresh samples were to be made on 10 years (40 quarters), average size of new samples should be at least 5 000. Such a rule of thumb would exclude 12 countries from a comparative analysis. We will not go further at the present stage.

Information collected in national questionnaires and reported in standard files is close to the one in the Spanish census detailed above. Beyond the question on relationship to the reference person in the household (Spouse or cohabiting partner; Child of reference person or of his/her spouse or cohabiting partner; etc.), each person is questioned on the presence in the household of his/her father, mother, spouse/partner or other. There is no distinction between formal and informal couples or between opposite-sex and same-sex. Hence the necessity to consider individual questions on sex and marital status, which may bring in a distinction between married and not married couples, but not between registered and not registered ones, when legal registration is possible.

Only minimal data processing will be possible, with risks of overestimation of same-sex couples due to sex miscoding and risks of underestimation due to reluctance to declare same-sex relationships in questionnaires not fully adapted to the issue.

Core variables in EU Labour Force Survey database (codification)

Demographic background	
HHSEQNUM	Sequence number in the household
HHLINK	Relationship to reference person in the household
	<ul style="list-style-type: none"> • Reference person • Spouse (or cohabiting partner) of reference person • Child of reference person (or of his/her spouse or cohabiting partner) •
HHSPOU	Sequence number of spouse or cohabiting partner
	<ul style="list-style-type: none"> • Has no partner or the partner does not belong to the private household • Sequence number of spouse or cohabiting partner
HHFATH	Sequence number of father
	<ul style="list-style-type: none"> • The father does not belong to this private household • Sequence number of father in the household
HHMOTH	Sequence number of mother
	<ul style="list-style-type: none"> • The mother does not belong to this private household • Sequence number of mother in the household
SEX	Sex
	<ul style="list-style-type: none"> • Male • Female
MARSTAT	Marital status
	Marital status is aggregated in the anonymised microdata in this way:
	<ul style="list-style-type: none"> • Widowed, divorced or legally separated • Single • Married

Source: Eurostat, *EU Labour Force Survey database, User Guide*, Version: November 2012

Any comparative analysis of the EU Labour force survey database, in order to produce estimates of same-sex couples and families, would imply more thorough investigation of data

quality and comparability of the surveys. Large differences in the response rate in the table above (from less than one third to more than 95%) suggest differences in the way respondents are approached during fieldwork (or differences in the definition of response rates). Differences in wording and sequence of questions in the various questionnaires would also deserve careful consideration (http://circa.europa.eu/irc/dsis/employment/info/data/eu_ifs).

4. Conclusion

Enumerating same-sex couples and same-sex families is a difficult issue. The basic reason is the small size of the group, in absolute and in relative terms compared to opposite-sex. Only sources with very large samples can be used, the best being the exhaustive population censuses or registers or surveys with huge samples. However, due to their large sample size, such sources generally rely on rudimentary questionnaires, which cannot always be fully explicit in describing finely-tuned categories of answers like “same-sex legally registered civil union partner” or “same-sex partner or de facto boyfriend or girlfriend” (New Zealand census, 2006).

A major risk is the confusion with opposite-sex couples or families in case of miscoding sex during data collection or processing, a very rare error but occurring in a group 100 to 200 times larger than same-sex couples and families. An example in France shows that more than 40% of enumerated same-sex couples may prove to be “false” in a census. Crude results in general may largely exaggerate actual ones. An evaluation of this phenomenon, based on an estimate of miscoding errors, is necessary to produce realistic numbers.

Another risk is underreporting of same-sex situations due to ambiguities in the formulation of questions or to the reluctance of respondents to declare a socially stigmatized condition. A few numerical examples were provided (Canada, France), which suggest a limited risk but it is not sure that such a conclusion can be extended to other countries (with more traditional attitudes, for example). No rule has been evidenced to estimate the magnitude, except for a careful analysis of groups where same-sex couples or families could be “hidden”: categories like “friends”, “other relatives” or “unrelated”.

Comparability of the results from one country to the other still has to be studied. Analyzing census questionnaires and an example of data processing in population registers show a large diversity, which exposes crude results to a large discrepancy in risks of errors (miscoding and

underreporting). Identifying errors and correcting them should increase comparability in adjusted results. It has been suggested on a comparison between crude results in England and Wales and adjusted ones in France.

Another option would be to rely on a harmonized source like the EU Labour force survey. Possibilities have been envisaged to aggregate data from successive waves of surveys to produce large enough samples. However, the questionnaire is oriented towards economic activity with few details on household relationships and built-in comparability remains to be tested. Evil is often in the details.

A final remark: a large part of necessary information is in the hands of national statistical offices and may be not accessible to academic researchers. We have seen examples of data processing that relied on names in censuses or population registers and that could not be performed by non-affiliated personnel. Similarly, same-sex populations being of limited size, it will happen that public use samples are too small to be efficient. Close connection with statistical offices are necessary.

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