Blurred Differences:
Childbearing within marriage and consensual union in Latin America, 1980-2010

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PRELIMINARY VERSION

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SHORT ABSTRACT

This paper compares the fertility patterns of women in consensual union and marriage in 13 Latin American countries, using census microdata from the three most recent census rounds and a methodological approach that combines the own-children method and Poisson regression. Results show that in all these countries, fertility is slightly higher within consensual unions than marriages. The age pattern of fertility is also documented to be very similar in marital and consensual unions. The largest difference can be observed among women aged 30 to 45. Further analyses show that over the period considered, childbearing within a consensual union has become more common for highly educated women in most of the countries. According to these results, we can conclude that in Latin America, at least since the 1980s, women's childbearing patterns depend on their age and on their living in a conjugal relationship, but not on the legal nature of this relationship. The rise in childbearing within consensual union for highly educated women suggests that the observed transformations can be interpreted as an advance of the Second Demographic Transition.

Keywords

Nuptiality, family formation, marriage, cohabitation, consensual union, non-marital fertility, census microdata, Poisson regression, Latin America, Second Demographic Transition

INTRODUCTION

One of the most salient demographic features of Latin America is its dual nuptiality regime. Marriage and consensual union coexist side by side in all countries of the region, although the prevalence of consensual unions varies from country to country: from about 20% of all conjugal unions among women aged 15 to 49 in Chile, up to 74% in the Dominican Republic (Castro Martín et al. 2011).

Both forms of conjugal union receive similar level of social acceptance, but they differ in terms of stability, legal obligations and economic rights after breakdown (Quilodrán 1999, De Vos 2000, Castro Martín 2002, Rodríguez Vignoli 2004). Unlike what occurred in the developed world, where cohabitation did not achieve social –and statistical– visibility until the 1980s, consensual unions have been an integral part of the family system in Latin America for centuries. Furthermore, whereas in most European countries cohabitation is usually a preliminary and transitory step in the family formation process, in Latin America the prevalence of consensual union remains high in later stages of the life course. Nevertheless, the most notable difference is that, whereas in North America and Europe—with several exceptions such as the Nordic countries, France or Quebec—cohabitation tends to be a childless stage, in Latin America it is very common having and raising children while living in a consensual union. This feature blurs the differences between *de jure* unions and *de facto* unions. According to a recent study, in Latin America, the proportion of births from lone mothers has risen from 7% to 15% from 1970 to 2000 and the proportion of births that occurred within a consensual union has risen from 17% to 39% (Castro Martín et al. 2011). In the 21st century Latin America, hence, more children are born out of wedlock than within marriage.

This new setting is what motivated this study. We wish to explore further the similarities and differences in the reproductive behaviour of married women and women living in a consensual union. We know that for many Latin-American women, marriage is not a prerequisite for having children, but we need to measure more precisely the differences in fertility patterns of formal and informal unions over age groups. Doing so, we hope to see whether some of the observed differences can be accounted for by the effect of some related variables, like the education level, that we use as a proxy of human capital and of location in the social hierarchy.

In the European and North-American literature, cohabitation is usually discussed from the perspective of the Second Demographic Transition (Seltzer 2000, Kiernan 2001). The emergence and diffusion of cohabitation is seen as a product of secularisation trends, rising expectations of personal autonomy, rejection of Church and State intervention in the regulation of private life, and growing importance of personal satisfaction within the couple relationship. In Latin America, however, the fact

that the prevalence of consensual unions has traditionally been much higher among underprivileged social sectors and in rural areas makes it likely that the union form in which the family formation process is initiated is not always the result of personal choice, but, at least in part, the consequence of limited economic and social opportunities (Greene 1991, Castro Martín 2001, García and Rojas 2004).

An important recent change in nuptiality patterns is that, over the last decade, for the first time, the presence of consensual unions has started to become noticeable among the well-educated and in urban areas (Parrado and Tienda 1997); this presence is more manifest and better documented in the Southern Cone (Cabella 2009, Laplante and Street 2009, Binstock 2010). In the past, informal conjugal unions were commonplace in rural areas and among the less-educated—leading to it being dubbed the "poor people marriage"—, but they were virtually nonexistent among the upper class. However, the recent rise in unmarried cohabitation has taken place in all educational groups (Castro Martín, Martín García and Puga González 2008, Esteve, Lesthaeghe and López-Gay 2012). According to data from the 2000 census round, a significant proportion of Latin American college-educated women aged 15 to 49 in a conjugal union are cohabiting with their partner, for instance, 38% in Colombia and 38% in Peru.

The fact that cohabitation has recently disseminated among the middle class has lead researchers to make a distinction between "traditional" and "modern" consensual unions (Quilodrán 2008). The traditional consensual unions, still the most common in all Latin-American countries, are thought of as being related to cultural heritage, limited economic opportunities, and asymmetrical gender relations. By contrast, the "modern" consensual unions, still in an emerging stage, would be the result of a conscious choice in the pursuit of individual autonomy and freedom from institutional control, of a better quality conjugal life, and of less asymmetry between the genders, pretty much along the lines of the Second Demographic Transition (Lesthaeghe 1995, 2010, Billari y Liefbroer 2004).

However, there is no broad consensus on whether recent changes in the patterns of union formation in Latin America should be attributed to modernity and the advance of the Second Demographic Transition in the region, or to the increasing uncertainty that the middle class, as well as the lower class, is now confronted with in their working, social, and family life within the current context of globalisation (García and Rojas 2004, Cabella, Peri and Street 2005, Arriagada 2007, Quilodrán and Castro Martín 2009). Actually, there are large differences not only in the prevalence of cohabitation, but also in its social meaning, symbolic value, motivation and consequences, across countries, ethnic groups, and social classes. In many indigenous communities, lacking of a marriage certificate does not lead to instability, whereas in the poorest social segments, it is commonly a sign of precariousness, exclusion, and vulnerability. In the middle and upper classes, it is not clear whether the emerging form of

cohabitation is a step in the union formation process that precedes formalisation or is an alternative to marriage and will lead to the formation of family units in which children will be born and raised (CEPAL 2002).

One of the elements that may help shedding light on the meaning and the role of consensual unions within the family system is its connection with reproductive behaviour (Raley 2001). Our main objective is to explore whether the recent change in the socioeconomic profile of the people who live in a consensual union is reflected in a change in the patterns of non-marital childbearing and childrearing. By comparing the reproductive patterns of married women and of women living in consensual union, we should be in a better condition to see whether consensual unions are short-lived couple relationships, trial marriages, a consequence of exclusion and gender inequality or long-lasting alternatives to marriage. We should also be able to explore the diversity of the meaning of non-marital cohabitation in several Latin-American societies and across social classes. Acknowledging this diversity and its consequences for the well-being of children and families is still an unsettled challenge for public policies (Rodríguez Vignoli 2005, Cerrutti and Binstock 2009).

Starting with these premises, this paper is an attempt at better understanding the process of family formation outside of marriage in Latin America. We have two specific objectives: a) to estimate total fertility rates by conjugal situation, and b) to estimate total fertility rates according to different socioeconomic characteristics, such as education level, labour force status, living in a rural or an urban environment, and home ownership, all as proxies of socio-economic status, hoping to see whether the differences in conjugal and reproductive patterns between social classes may lead, in the short, middle or long-term, to even greater social polarisation.

THE PREVALENCE OF COHABITATION AND BIRTHS WITHIN COHABITATION IN LATIN AMERICA

In Latin America, as above-mentioned, informal unions are part of the family system since ancient times and nowadays they go hand in hand with marriages within the nuptiality pattern in the region (Fussell and Palloni 2004). However, the prevalence of consensual unions varies considerably across countries. In countries such as the Dominican Republic, Nicaragua, Honduras, Colombia and Panama, consensual unions even surpass marriages among women in their reproductive years (see Table 1). In the Dominican Republic, the country with the highest prevalence of consensual unions, three out of four women in union aged 15 to 49 are currently in an informal union. Cuba, El Salvador, Venezuela, Peru and to a lesser extent Paraguay, Ecuador and Bolivia have also a significant prevalence of consensual

unions in all women aged 15-49, ranging from 49% to 37%. In the rest of the countries, except Chile, about one-third of unions are unmarried unions.

Table 1. Prevalence of consensual unions among women aged 15 to 49 in conjugal union in Latin America, according to the most recent source

	% consensual unions/all women 15-49	Source and date
Dominican Rep.	73.9	DHS 2007
Nicaragua	59.8	RHS 2006/07
Honduras	58.3	DHS 2005
Colombia	58.3	DHS 2010
Panama	58.1	Censo 2000
Cuba	49.4	Censo 2002
El Salvador	48.9	Censo 2007
Venezuela	47.8	Censo 2001
Peru	47.7	DHS 2004-5
Paraguay	39.5	RHS 2004
Ecuador	38.2	RHS 2004
Bolivia	37.0	DHS 2008
Uruguay	34.0	Censo 2006
Brasil	33.3	Censo 2000
Mexico	33.0	Censo 2010
Guatemala	33.1	RHS 2002
Argentina	30.6	Censo 2001
Costa Rica	29.4	Censo 2000
Chile	19.8	Censo 2002

Sources: Census, Demographic and Health Surveys; Reproductive Health Surveys

According to vital statistics, the number and proportion of non-marital births are very high in most countries of the region. In the 2000s, the proportion of births from unmarried women is higher than that from married women in all Latin American countries for which data are available (see Table 2). In some countries, like the Dominican Republic, Venezuela, Cuba and Panama, the proportion of non-marital births reaches four-fifths of all births. In some countries where trend data are available, like Panama or El Salvador, the proportion of births to unmarried mothers was already very high in the 1970s. In the rest of the countries, there has been a remarkable increase.

However, these vital statistics do not provide information on whether or not the parents live together, because in most countries, children born from a mother living in a consensual union are not reported separately from those born from a mother who does not have a co-residential partner.

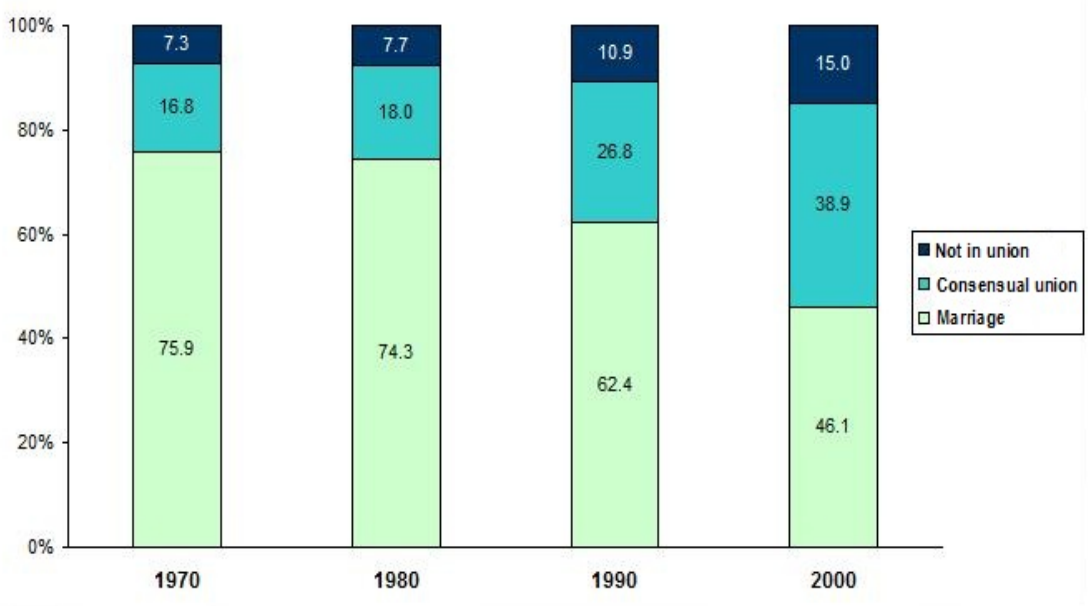
Table 2. Proportion of births from unmarried mothers according to vital statistics (%)

	Year	%	Year	%
Argentina	1980	29.8	2000	57.6
Chile	1970	18.8	2001	50.5
Costa Rica	1970	29.4	2010	67.4
Cuba			2011	80.7
Ecuador	1966	32.0	…	…
El Salvador	1970	67.8	1998	72.8
Guatemala	1970	61.9	…	…
Mexico	1970	27.3	2010	59.4
Panama	1970	70.9	2002	79.9
Paraguay	1970	42.6	2002	51.0
Peru	1972	41.3	…	…
Dominican Rep.			2011	89.8
Uruguay	1970	21.1	2001	55.2
Venezuela	1970	38.8	2010	83.5

Sources: United Nations Demographic Yearbook; World Fertility Report; National Institutes of Statistics

Census microdata allow us to identify recent births in consensual couples and married couples. A recent analysis based on census microdata for 13 Latin American countries documents that there has been a significant growth of births outside marriage over the last decades, and that most of this rise is concentrated in cohabiting unions (Castro Martín et al. 2011). Figure 1 illustrates the evolution of the distribution of births according to the conjugal situation of the mother from 1970 to 2000. The dramatic decline in the percentage of births within marriage over the whole period (from three quarters to just nearly half) goes in parallel with the significant rise in births from parents in consensual unions (from 16.8% to 38.9%). Data show that the percentage of births from single mothers has also increased, but more modestly (from 7.3% to 15%). That is, the increase in the relative weight of extramarital fertility is mainly due to the significant increase of births from parents in consensual unions.

Figure 1: Evolution of the distribution of births according to the conjugal situation of the mother in Latin America, 1970-2000 *



Source: Census microdata, IPUMS-International.
** Countries included: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Mexico, Panama, Peru, Uruguay and Venezuela.*

DATA

We use data from the IPUMS collection of harmonized census microdata files from the three most recent census round available (Minnesota Population Center 2011). Census data contain reliable information on the current conjugal situation of all individuals (Rodríguez Vignoli 2011) and provide a workable alternative to vital statistics or biographical surveys when used with the own-children method of fertility estimation.

We focus on 13 Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Mexico, Panama, Peru, Uruguay, and Venezuela.

METHOD

We compare the fertility of women in consensual union and marriage estimating TFR within each conjugal situation. We do not interpret such TFRs as approximations of completed fertility, which they are not in such a context, but as a measure of the overall intensity of fertility within each conjugal situation. We estimate TFR using an approach that combines the own-children method and Poisson regression. Given that preliminary analyses have shown that their effects are not proportional, we study

the effect of independent variables on fertility by estimating TFR for each category of these variables within marriage and within consensual union.

Measuring the fertility of marriages and consensual unions

According to Heuveline and Timberlake's (2004) typology, cohabitation is an alternative to marriage when individuals choose to cohabit instead of marrying, but with the intention to form a family as a married couple would. The rise of childbearing and childrearing within cohabitation is the focus of increasing interest, but most research has focused on trends in non-marital fertility and the impact of pregnancy and birth among cohabitating couples on the transition to marriage in developed countries (Sobotka and Toulemon 2008). Comparing the fertility patterns of marriages and consensual unions would be relevant to assert whether the latter have become or are on the way to become an alternative to the former in a given society.

In Brazil, where consensual unions have been common for a long time, they are often assimilated with marriage when estimating fertility (e.g. do Valle Silva, Henriques and de Souza 1990). However, Verdugo Lazo (1994) uses the approach developed by Rodriguez and Cleland (1988) and survey data to estimate the fertility of four forms of unions (civil and religious, civil only, religious only, and consensual). He finds that consensual unions have a higher fertility than formal unions as married couples seem more effective in controlling their fertility. The technique he uses relies on exposure time measured from the beginning of the union and requires that women do not change the form of their union after its onset. This was a reasonable assumption in the Brazilian context of the 1980s and early 1990s covered by the data. It does not seem realistic when consensual unions can also be a prelude to marriage.

Dumas and Bélanger (1998) compare the fertility of marriages and cohabiting unions in Canada using data from a retrospective biographical survey. They estimate five-year age group birth rates for each of the two forms of union, for two ten-year periods, 1975-1984 and 1985-1994, and for two regions, Quebec and Canada less Quebec. They compute TFRs for each region and period. They conclude that the fertility of cohabitating women is lower than that of married women in both regions and in both periods, but that the difference between the fertility level of marriage and cohabitation is smaller in Quebec than in the rest of Canada.

Brown and Dittgen (2000) compare the fertility of married and cohabiting couples across European countries using data from the Family and Fertility Surveys. They compare the number of children living within married and cohabiting couples at the time of survey, for women aged 20-29 and 30-39, and

conclude that in all the countries considered the fertility of cohabiting couples is lower than that of married couples.

Raley (2001) uses survey data and a decomposition technique to investigate whether the increasing number of births occurring to women living in cohabiting unions is a consequence of the increasing number of such women or changes in the behaviour of cohabiting women. Her decomposition relies, among other things, on estimates of rates within marriage and cohabiting unions. She concludes that most of the growth in the proportion of births to cohabitors is the result of increases in the proportion of women cohabiting, rather than changes in union formation behaviours surrounding pregnancies.

Using data from a Romanian biographical survey and a piecewise-constant intensity model, Hoem and Muresan (2011) estimate a duration-based TFR within three different types of unions: cohabitation, cohabitation followed by marriage, and marriage from the onset of the union. This strategy allows them to show that the fertility of the three union types is similar and that fertility is related to the time elapsed since the beginning of the union rather than to the type of union.

Comparing the fertility of marriages and consensual unions involves some technical problems. Fertility is commonly estimated using vital statistics. Vital statistics commonly report whether children are born to married parents or an unmarried mother, but do not commonly report whether the unmarried mother is cohabiting with the child's father. Vital statistics are still largely computed following the traditional distinction between marital and non-marital fertility (historically, legitimate and illegitimate fertility), but have not usually incorporated the social phenomenon of cohabitation into the birth statistics. For this reason, it is hard to find fertility estimates by union type based on vital statistics.

To some extent, comparing the fertility of marriage and cohabitation can be challenging. It could be attempted using biographical data and taking into account the time at risk, or exposure time, spent within each of the two states. However, this approach has some problems that we discuss below using a hypothetical example.

Let's imagine two women who have their first child at the same age. Both started living with their partner in a consensual union at the same age, but one got married during her pregnancy. Thus one of the two children is born to unmarried parents, whereas the other is born within marriage. Let's imagine a society made of pairs of such women, with the age at the formation of the consensual union and the age at the first birth being the same within each pair, but varying across pairs and the marriage of the second woman always occurring during her first pregnancy. In this society, half the children are born from married parents and half from parents who live in a consensual union. However, using biographical data and estimating the hazard of the first birth for marriage and for consensual union with a hazard model

would show that the hazard of the first is higher within marriage than within a consensual union. Integrating the estimated hazard functions would produce cumulated hazards higher for marriage than for consensual union. Why is it so?

The rate of the first birth occurring within marriage is estimated by forming the quotient of the number of births occurring within marriage to the total time spent within the state of marriage by all women. Similarly, the rate of the first birth occurring within consensual union is estimated by forming the quotient of the number of births occurring within consensual union to the total time spent within consensual union by all women. The numerators of the two rates are the same. Their denominators are different: the total time spent within consensual union is greater than the total time spent within marriage because all women have lived some time in consensual union, but not all women have been married. The time at risk for consensual union includes the time at risk spent in consensual union by the women who married just before giving birth.

Now let's imagine that someone studies the same society, and estimates the fertility of marriage and of consensual union by computing within conjugal situation period age-specific rates and within conjugal situation period total fertility rates. Given that, in this society, half of the children are born to married mothers and the other half, to mothers who live in consensual union, the period age-specific rates and TFR will be identical.

As soon and as long as, in a society, cohabitation precedes marriage—and even remarriage—for some women and some women have children outside of marriage, the comparison of the fertility of the two forms of union using biographical data and the statistical models typical of event history analysis will almost inevitably lead to conclude that marriage has a higher fertility than consensual union. The comparison made using period age-specific rates and TFR may lead to conclude that both forms of conjugal unions have the same fertility. The difference lies in the fact that the time at risk in the period-based approach is, in theory, the exact instant at which the child is born rather than the whole portion of her life during which the mother was at risk of giving birth. In practice, using the own-children method as we do, the interval is the year that precedes the census and the form of union in which the child is deemed to be born is the one in which the mother was living on the day of the census —which actually systematically underestimates the fertility of consensual union and systematically overestimates that of marriage as cohabiting parents may marry each other in the months that follow the birth, but married parents cannot revert to living in a consensual union.

In societies where some women live in consensual union, some consensual unions become marriages, and some children are born while their parents live together without being married, the

fertility of consensual unions and marriages might be better estimated using a period-based approach, and fictitious cohorts, than using a biographical approach and real cohorts. This is likely to be even more important when norms may be shifting. This is why we use a period-based approach in our estimation of the fertility of the forms of conjugal union in Latin America.

The own-children method of fertility estimation

The own-children method is an indirect technique for the estimation of fertility by age using census data (Cho, Rutherford and Choe 1986). Its original form uses the distribution of the number of children less than five year old in the household conditional on the age of mothers aged between 15 and 49, grouped into five year classes. It was developed for the USA census, mainly to relate fertility measures with characteristics available in the census, but not in the sources of vital statistics. The most obvious difficulties and limitations of this method are establishing the relationship between mother and child from census records, census undercoverage of children and women, infant mortality, and children who do not live with their mother (Grabill and Cho 1965).

Rindfuss (1976) compared estimations of USA fertility based on vital statistics with estimations based on census data and the own-children method. He concluded that the own-children estimations reproduced the *trends* in fertility, despite not reproducing the *levels* of vital statistics. Caron-Malenfant and Bélanger (2006) provide an example of the use of the method in the estimation of the effects of some characteristics available in the census on the probability of giving birth in the year preceding the census through the use of a linear model. Breschi, Kurosu and Oris (2003) give a series of examples of the use of the method in historical demography, where the own-children method has been very often used with historical censuses. Sobek and Kennedy (2009) adapted the techniques developed in historical demography to establish the relation between each member of the household using the relation between each member and the head of the household for the IPUMS international harmonized census microdata files. In our analyses, we use the information provided in IPUMS files on the relation between mother and child.

Age-specific fertility rates and TFR by conjugal situation

Age-specific fertility rates and the Total Fertility Rate are well-known measures of fertility whose meaning and properties are also well-known. They are defined and usually computed for all women in their reproductive years, commonly women aged between 15 and 49. They are sometimes used in the study of differential fertility and computed for subgroups of women defined by some relevant characteristic such as ethnic group or place of residence. Technically, nothing prevents computing them

within groups defined by a time-varying characteristic such as conjugal situation. In our case, the age-specific rates are the rates of giving birth at a given age while being either married, living in a consensual union, or not living in a union. The TFRs are the sum of such rates and provide an estimate of the number of children born to a woman continuously married, continuously living in a consensual union or continuously not living in a union between the ages 15 and 49 in the year for which the rates are computed. The usual fictitious cohort is broken down into three components that are also fictitious cohorts. The operation can also be interpreted as decomposition: the usual age-specific rates are decomposed in three sets of rates. The usual TFR can be interpreted as a weighted sum of the age-specific rates of the three conjugal situations, the weights being the proportions of women living in each of the three conjugal situations. For more clarity, the Annex reports these proportions in each census and each country as figures.

Given that, as a rule, women do not spend all of their reproductive years in a conjugal union, and that most children are born to women who live in a union, the TFRs of marriage and of consensual union are much higher than the TFR for all women. The usual TFR is a measure of period fertility for all women of a given society. The TFR based on some fixed characteristic, such as ethnic group, or some assumed fixed cross-sectional characteristic, such as place of residence, is a measure of period fertility in the groups defined by these characteristics. TFR based on a time-varying characteristic such as conjugal situation provide a measure of period fertility in the groups defined by these characteristics. Given that the characteristic they are based on is time-varying, they do not always fit the notion of an average woman. However, they are sound measures of the intensity of fertility within these groups and are a sound and convenient way to compare fertility across such groups.

Poisson regression

The Poisson distribution is the statistical—i.e. probability—distribution of a random discrete variable that gives the number of occurrences of a phenomenon in a given time interval (see Evans, Hastings, and Peacock 2000). Poisson regression and its derivatives are common tools in epidemiology for estimating rates and the effects of independent variables on rates (cf. Rothman, Greenland and Lash 2008).

In demography, Rodriguez and Cleland (1988) used Poisson regression in their study of fertility according to age and the duration of marriage; they also used this model to estimate the effects of independent variables. Later, Khlat (1992, 1993) used the model in studies on mortality and Winkelmann and Zimmermann (1994) wrote an introduction to the model aimed at demographers. Shoumaker (2004) and Masquelier (2008) used it pretty much as hazard models are typically used in event history analysis.

There is a simple and important relation between the Poisson distribution and the exponential distribution: the exponential distribution gives the value of the continuous random variable which represents the time interval at the end of which occurs one of the events governed by a process that follows a Poisson distribution. As a consequence, estimating an equation for a non-renewable event using a piecewise regression model based on the exponential distribution or based on the Poisson distribution provide identical results. For the same reason, renewable events can be modelled using piecewise Poisson regression, and the results can be interpreted as those from a proportional hazard model.

Poisson regression has several advantages for studying fertility. Using it with a piecewise equation allows estimating age-specific rates. The sum of these rates is the TFR or a related quantity. When using survey or census data, independent variables can be added to the piecewise equation allowing the estimation of the effects of these variables on the rates and also the computation of a "theoretical" TFR net from the effects of these variables.

Preliminary analyses showed that the overall distribution of age-specific rates within marriage and cohabitation are almost proportional one to the other in most countries and most censuses. However, there are small elements of non-proportionality and they are located at meaningful ages, most of them between 30 and 40 year (see Argentina in the Annex for an example). Furthermore, preliminary analyses also showed that one of the independent variables we are interested in, education, defines age-specific rates distributions that are clearly non proportional. The "height" of the distribution decreases as education level increases, but, more importantly, the distributions shift from left to right as education level increases. Especially, the shape of the distribution of age-specific rates of highly educated women is very different from the shape of the age-specific rates of the other levels of education (see Figure 2 for an example). To make things even more complicated, the effect of "employment status"—being active, unemployed or inactive—is related to the level of education: estimating the effects of the two variables as if they were unrelated and additive produces estimates that lead to believe that, in some censuses, the fertility of highly educated women is higher than that of women having secondary education, whereas there is no trace of such a phenomenon when looking at the gross relation between employment status and fertility. Finally, there is no reason to assume that the independent variables have the same effect within marriage and within cohabitation.

Given these, we choose to estimate the TFR independently for each category of our independent variables within marriage and within cohabitation. The estimated TFRs are equal to those that would be computed using a simple arithmetical approach, but estimating them with Poisson regression allows estimating standard-errors and testing equality.

We use the births that occurred in the twelve month period that preceded the census, i.e. the children less than 1 year old at the time of census. Piecewise equations do not include a coefficient for the intercept; the degree of freedom usually associated with the intercept is used so as to allow estimating the exact value associated with each piece.

RESULTS

We present the results in three tables and a series of figures. Figures depict the distribution of age-specific rates for all women and by conjugal situation for each census and each country. Tables report estimates of TFR and related statistics.

Table 3 reports TFR for all women and by conjugal situation for each census and each country, estimated using Poisson regression. The statistical test compares the estimate for consensual union with the corresponding estimate for marriage.

Table 4 reports three series of ratios that allows comparing the elements of the first series of estimates of TFR from Table 3. The first series presents ratios of the TFR of married women in the second or third census to the TFR of married women in the first census, i.e. it allows comparing the fertility within marriage across censuses. The second series is similar, but within consensual union. The third series is made of the ratio of the TFR of consensual union to the TFR of marriage for each census: it allows comparing the fertility of the two forms of conjugal union within each census.

Table 5 reports the estimates of the TFR according to selected socioeconomic characteristics by conjugal situation. Again, each estimate for consensual union is compared with the corresponding estimate for marriage using a statistical test.

Age-specific rates

The main result that stems from the distribution of age-specific rates, as they are presented in the figures, is that, in general, there is little difference between the age-specific rates of married women and those of women who live in consensual union. The most important differences, when there are differences, are located among the women aged between 15 and 20. There are also notable differences, but not as important, between 30 and 45. Thus, the differences are located mainly among young women, but they are not the same in all countries and, when they are found in a country, they are not always constant across censuses.

Total Fertility Rate

The main result from the estimates of TFR according to conjugal situation reported in Table 3 is that, with very few exceptions, the TFR of women who live in consensual union is higher than the TFR of married women and that, in many cases, the difference is statistically significant. There are three exceptions: the Ecuador census of 1982, in which both TFRs are almost perfectly equal, and the Mexico census of 2000 and the Uruguay census of 2006, where the TFR of married women is higher than that of women living in consensual union, although the difference is not statistically significant.

In Table 4, excluding the two exceptions, the ratio of the TFR of women living in consensual union to the TFR of married women varies from 1.01 in the 1982 Chile census, to 1.26 in the 1991 Argentina census.

In most countries, the TFR of married women decreases faster than the TFR of women living in consensual union, but there are four countries in which the reverse is true: Argentina, Peru, Uruguay, and Venezuela. The difference is small in Peru and Venezuela, but larger in Argentina and Uruguay: in the last Argentina census, the TFR of married women is 0.87 of their TFR in the first census, whereas the ratio is 0.80 for women living in consensual union; in Uruguay, the corresponding ratios are 0.80 and 0.71.

The evolution across censuses of the ratio of the TFR of women living in consensual union to the TFR of married women varies across countries. Among the countries for which we have data from all three censuses, there are four in which the ratio varies little: Colombia, from 1.13 to 1.16, Ecuador, from 1.00 to 1.04, Panama, from 1.18 to 1.20, and Venezuela, from 1.22 to 1.19. It increases in two countries: Brazil, from 1.04 to 1.22, and Chile, from 1.01 to 1.10. The evolution is non-monotonous in two countries: Argentina and Uruguay. In these countries, the ratio increases and then decreases, from 1.10 to 1.26 and 1.02 in Argentina and from 1.05 to 1.21 and 0.94 in Uruguay.

TFR and socioeconomic characteristics

Table 5 reports the estimates of the TFR according to selected socioeconomic characteristics by conjugal situation and across time. We look into the variation in fertility according to education level, labour force status, area of residence and ownership of the dwelling. For each category of these variables, we focus on the difference in TFR between marriage and consensual union.

By far and large, the most revealing results are related with the evolution of fertility within consensual union for highly educated women. Given the relevance and importance of these results, we examine them thoroughly.

In the 1980 Argentina census, the TFR is significantly higher for consensual union in the lower level of education. The point estimates are lower for consensual union in all other education levels. In 1991, the TFR is significantly higher for consensual union in the two lower levels of education and significantly lower in the third. The point estimate is higher for consensual union in the "university" level. The pattern is similar in 2001, except that for the "university" level, the TFR for consensual union, at 2.20, is significantly lower than the TFR for marriage, at 3.48.

In the 2001 Bolivia census, the TFR is significantly higher for consensual union for the three lower levels of education. It is significantly lower for the university level; however, the point estimates are not very different: 2.74 for marriage and 2.44 for consensual union.

In the 1980 Brazil census, the TFR is significantly higher for consensual union in the "less than primary" level, but significantly lower in the "secondary" and "university" levels; the point estimate for consensual union in the highest level of education is 2.93. In 1991, the TFR is significantly higher for consensual union for the two lower levels of education, and the point estimate for university is higher for consensual union than for marriage. In 2000, the TFR is significantly higher for all the levels of education, but the highest; the point estimates for university are almost equal for marriage and consensual union.

In the 1985 Colombia census, the point estimate of TFR is higher for consensual union than for marriage in all education levels; it is significantly higher for all levels but university. The pattern is similar in 1993, except that the difference is not significant for secondary education and that the point estimates are almost equal for university. In 2005, the pattern is the same as in 1993, except that the point estimate for university is greater for consensual union than for marriage.

In the 1982 Chile census, there is only one significant difference: the TFR for consensual union is significantly lower for the highest education level. Point estimates suggest that overall, fertility is higher within consensual union among the lower education levels. In 1992, the TFR for consensual union is significantly higher for the two lower education levels. In 2002, there is only one significant difference: the TFR is higher for consensual union for the "secondary" level.

In the 1984 Costa Rica census, the point estimate of TFR is higher for consensual union than for marriage in all education levels but university. The difference, for university, is significant and striking: 4.59 for marriage, but 0.33 for consensual union. Things are different in the 2000 census. The TFR for consensual union is significantly higher for the "less than primary" and "primary" levels, but significantly lower for the "secondary" level. It is still lower for consensual union for the "university" level, but the point estimate is now 1.41

There are no significant differences in the 2002 Cuba census. Point estimates suggest that overall, TFR could be slightly higher in consensual union.

In the 1982 Ecuador census, there are no significant differences in the TFR for the three lower levels of education; point estimates suggest that overall, fertility is lower within consensual union. The difference, for university, is significant and striking and similar to that encountered in the 1984 Costa Rica census: 3.80 for marriage, but 0.45 for consensual union. There is only one significant difference in 1990: the TFR is higher for consensual union in the "secondary" level. The point estimate for consensual union at the "university" level is 2.20. There are no significant differences in 2001. The point estimate for consensual union at the "university" level is 1.93.

There is only one significant difference in the 2000 Mexico census: the TFR for consensual union in the "university" level, 2.22, is lower than for marriage, 2.61. There is only one significant difference in 2010: the TFR is higher for consensual union in the lowest education level. The point estimates for marriage and consensual union in the "university" level are almost equal.

There is only one significant difference in the 1980 Panama census: the TFR is higher for consensual union in the "secondary" level. There is only one significant difference in the 1990 census: the TFR is higher for consensual union in the "university" level, at 3.78; it is 2.06 for marriage. In 2000, the TFR is significantly higher for consensual union in the three higher levels of education. The point estimate is 3.87 for university within consensual union, but only 2.00 within marriage.

The pattern is the same in the two Peru censuses. The TFR is significantly higher for consensual union in the two lower levels of education. There are no significant differences for the two higher levels.

In the 1985 Uruguay census, the TFR for consensual union is significantly higher in the lowest level of education and lower in the two higher levels. In 1996, the TFR is significantly higher for consensual union in the two lower levels of education and significantly lower in the two higher levels. The TFR for university within consensual union is low in 1985, 1.00, and very low in 1996, 0.75. For a reason that still escapes of understanding, we cannot get consistent estimates of the TFR by education levels for marriage in the 2006 Uruguay data, that comes from a survey rather than form the census.

In the 1981 Venezuela census, the TFR is significantly higher for consensual union in the two lower levels of education and significantly lower in the "university" level. The point estimate for university within consensual union is very low: 0.86. The pattern is similar in 1990, except that the TFR for the highest level is not significantly different in the "university" level. In 2001, the TFR for consensual union is higher for all levels of education but the highest: the estimated TFR for consensual union in the "university" level is 0.00. The estimate for university within consensual union in 1990 is hard to reconcile

with the corresponding estimates in 1981 and 2001. The very low estimate of the TFR for the highest level of education in 2001 is also quite difficult to reconcile with the high proportion of women living in consensual union in that year—47.9%—and even more with the proportion of children born from unmarried mothers in 2010 according to vital statistics—83.5%.

The other socioeconomic characteristics do not provide as a rich pattern of results as does education. Results are in line with what would be expected: inactivity and rural residence are associated with a higher fertility, but the pattern of association does not diverge for consensual unions and marriages.

DISCUSSION AND CONCLUSION

In the figures, we report age-specific fertility rates for all women and according to conjugal situation. The distribution of these rates for marriage and for consensual union bears little resemblance with the distribution of age-specific rates computed for all women, which commonly peaks around 25. The difference stems from that most women are neither married nor in a consensual union before their 20s, but those who live with a partner being so young are likely to have a child soon after they start their conjugal relation. The age-specific rates for marriage and consensual union reflect this. The age-specific rate for all women can be thought as a sum of the age-specific rate for each modality of conjugal union weighted by the proportion of women in the corresponding modality, age by age. The age-specific rate for married women of age 16 is high, but the proportion of women married by age 16 is very low, so the contribution of the age-specific rate of married women aged 16 to the age-specific rate of all women aged 16 is very low. On the contrary, the age-specific rate for women of age 16 who live alone is very low, but their proportion is very high, so the contribution of the age-specific rate of women aged 16 who live alone to the age-specific rate of all women aged 16 brings the total down.

Several conclusions may be drawn from the examination of the age-specific rates and TFR by conjugal situations. The first is that with few exceptions, the TFR of consensual unions is not only close, but slightly higher than the TFR of marriages. The second is that the distribution of age-specific fertility rates for marriage and consensual unions are very similar despite small differences. There are two differences that are worth being noted: in most countries and censuses, the ages-specific rates of marriage and consensual union are different before age 20, but with no clear pattern, and the age-specific rates of consensual union are slightly higher than those of marriage between age 30 and 45. The first difference could be mainly noise, as the number of women either married or living in consensual union

below age 20 is relatively low. The second difference might reflect the outcome of partnering after the breakdown of a previous union.

The most general conclusion we may draw is that in Latin America, at least since the 1980s, women's fertility patterns depend on their age and on their living in a conjugal relationship, but not on the legal nature of this relationship. Also, our results show that the decrease of fertility in Latin America is not likely to be caused by the demise of marriage and its being replaced by consensual union. The rise of consensual union and decreasing fertility could both be signs of the progress of the Second Demographic Transition in Latin America, but the latter is not caused by the former.

Given the results we get for the relation between socioeconomic characteristic, looking at the evolution over time of TFR by education level within consensual union and marriage is the best way to get closer to our objective whether the recent change in the socioeconomic profile of the people who live in a consensual union is reflected in a change in the patterns of non-marital childbearing and childrearing. Two very general features emerge almost naturally: fertility decreases over time; fertility decreases as education increases, within marriage as well as within consensual union. Second, fertility tends to be higher within consensual union than within marriage among the less educated, but lower within consensual union than within marriage among the more educated. These notions are not new.

However there is more. In most countries, the difference in fertility between marriage and consensual union among the highly educated diminishes over time. Within this general pattern, countries seem to fall into four types. We list the countries by type, with their relative rank in GDP per capita based on purchasing power parity in 2011 (World Bank, 2013):

- Countries where having a child within consensual union was very rare for a highly educated woman, but became increasingly common over time: Costa Rica (7), Ecuador (11).
- Countries where having a child within consensual union was not rare for a highly educated woman although not as commonplace as having it within marriage, and where the difference remains important: Peru (9), Uruguay (4).
- Countries where having a child within consensual union was not rare for a highly educated woman, although not as commonplace as having it within marriage, and where the difference has decreased greatly over time without vanishing: Argentina (1), Chile (2), Mexico (5). Bolivia (12) could fit in this type given the pattern of the only census we have.
- Countries where having a child within consensual union was frequent for a highly educated woman and almost as commonplace as having it within marriage already in the 1980s: Brazil (8), Colombia (10). Cuba could fit in this type given the pattern of the only census we have.

We place Panama (3) in this category, although TFR is higher within consensual union than within marriage for highly educated women in the two most recent censuses, which should not come as a surprise since 70.9% of births were already occurring outside marriage in 1970.

Venezuela is obviously a problem. The results we get are inconsistent and hard to reconcile with the fact that according to vital statistics, 83.5% of children were born to unmarried mothers in 2010. Cuba is not in the World Bank database we use.

As we stress in the introduction, there is no broad consensus on whether the recent changes in the patterns of union formation in Latin America should be attributed to modernity and the advance of the Second Demographic Transition in the region, or to the increasing uncertainty that lower and middle classes are now confronted with. In theory, the fact that childbearing within consensual union is becoming acceptable to highly educated women could be interpreted both ways. Examining the evolution over time of the relation between childbearing and income within countries would not provide additional insights. However, looking at the relationship between wealth and the transformation over time of the relation women's education and childbearing at country level does provide additional insight. If the transformation occurs mainly in relatively poor countries, the transformation as a consequence of the woes of the middle class could be a likely interpretation. However, if the transformation occurs mainly in relatively affluent countries, such an interpretation would less likely, but interpreting it as an advance of the Second Demographic Transition would be more likely: the more affluent countries would be undergoing a normative transformation similar to that of affluent European societies.

The grouping is not unrelated with wealth, but the relation is not linear. The two wealthiest countries—Argentina and Chile— as well as the fifth—Mexico—cluster in the third type; the third wealthiest country—Panama—is in the fourth type and the fourth wealthiest country —Uruguay—is in the second type. The poorest country by this criteria—Bolivia—would belong to the third type. The second poorest—Ecuador—is in the first type and the fourth poorest—Peru—in the second. In the wealthiest countries, with the exception of Uruguay, bearing a child while living in a consensual union has become more common for highly educated women over the last decades, and in Panama, the fertility of highly educated women is higher in consensual union than in marriage, as it is for women of all other education levels. Maintaining the notion that, for women with higher education, living in consensual union and bearing a child while in a consensual union is somehow related to the rising insecurity of the middle classes would require explaining why this would be more common in relatively more affluent societies. A less convoluted explanation is that the relatively affluent societies of Latin America may be

undergoing the normative transformations which are thought to be typical of the Second Demographic Transition, including among the well educated women.

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Table 3 **Estimates of the total fertility rate of women living in selected Latin American countries according to their conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method. Women aged 15-49. Census data from IPUMS. Weighted estimation.**

	Argentina			Bolivia	Brazil			Chile		
	1980	1991	2001	2001	1980	1991	2000	1982	1992	2002
TFR										
All women	2.90	2.71	2.30	2.84	3.67	2.40	2.02	2.36	2.21	1.58
Married	5.34	4.56	4.65	4.33	6.27	4.38	3.52	4.69	3.79	2.93
In consensual union	5.90***	5.73***	4.74	5.15***	6.54***	4.93***	4.28***	4.72	4.22***	3.22**
Alone	0.59	0.72	0.77	1.01	0.64	0.68	0.78	0.80	0.87	0.79
Unknown situation	—	—	—	—	2.19	3.52	—	—	—	—

	Colombia			Costa Rica		Cuba	Ecuador			Mexico	
	1985	1993	2005	1984	2000	2002	1982	1990	2001	2000	2010
TFR											
All women	2.27	1.88	1.90	3.02	2.23	1.51	3.72	2.74	2.11	2.30	1.96
Married	3.92	3.09	3.20	4.86	3.80	2.23	5.77	4.51	3.39	4.29	3.74
In consensual union	4.44***	3.55***	3.72***	5.34	4.35**	2.42*	5.71	4.72*	3.53	4.23	3.86
Alone	0.74	0.65	0.88	1.35	1.06	0.58	1.07	0.71	0.67	0.60	0.66
Unknown situation	0.63	0.42	0.67	—	—	—	1.18	0.75	0.80	1.24	0.43

	Panama			Peru		Uruguay			Venezuela		
	1980	1990	2000	1993	2007	1985	1996	2006	1981	1990	2001
TFR											
All women	3.05	2.50	2.60	2.89	1.98	2.38	2.24	1.68	3.23	2.77	1.93
Married	4.44	3.99	3.88	4.72	3.24	4.73	3.90	3.79	5.07	4.58	3.27
In consensual union	5.25***	4.53*	4.66*	5.49***	3.69***	4.98	4.70**	3.56	6.17***	5.41***	3.88***
Alone	1.27	1.02	1.15	0.79	0.64	0.56	0.76	0.64	1.30	1.21	0.78
Unknown situation	—	—	—	0.98	—	—	—	—	1.07	0.32	0.44

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.

Table 4 **Comparison of estimates of the total fertility rate of women form selected Latin American countries according to their conjugal situation in censuses from the three most recent rounds. Ratio of the TFR from the most recent rounds to the TFR of the first round for marriage (T^M_i/T^M_1) and consensual union T^C_i/T^C_1. Ratio of the TFR of consensual union to the TFR of marriage for each round (T^C_i/T^M_i). Own-children method. Women aged 15-49. Census microdata from IPUMS. Weighted estimation.**

	Argentina			Bolivia	Brazil			Chile		
	1980	1991	2001	2001	1980	1991	2000	1982	1992	2002
T^M_i/T^M_1	1	0.85	0.87		1	0.70	0.56	1	0.81	0.62
T^C_i/T^C_1	1	0.97	0.80		1	0.75	0.65	1	0.89	0.68
T^C_i/T^M_i	1.10	1.26	1.02	1.19	1.04	1.13	1.22	1.01	1.11	1.10
	Colombia			Costa Rica	Cuba	Ecuador			Mexico	
	1985	1993	2005	1984	2000	2002	1982	1990	2001	2000	2010
T^M_i/T^M_1	1	0.79	0.82	1	0.78		1	0.78	0.59	1	0.87
T^C_i/T^C_1	1	0.80	0.84	1	0.81		1	0.83	0.62	1	0.91
T^C_i/T^M_i	1.13	1.15	1.16	1.10	1.14	1.09	0.99	1.05	1.04	0.99	1.03
	Panama			Peru		Uruguay			Venezuela	
	1980	1990	2000	1993	2007	1985	1996	2006	1981	1990	2001
T^M_i/T^M_1	1	0.90	0.87	1	0.69	1	0.82	0.80	1	0,90	0,64
T^C_i/T^C_1	1	0.86	0.89	1	0.67	1	0.94	0.71	1	0,88	0,63
T^C_i/T^M_i	1.18	1.14	1.20	1.16	1.14	1.05	1.21	0.94	1.22	1.18	1.19

Table 5 **Estimates of the total fertility rate of women living in selected Latin American countries according to selected socioeconomic characteristics by conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method and Poisson regression. Women aged 15-49. Census data from IPUMS. Weighted estimation.**

	Argentina						Bolivia	
	Marriage			Consensual union			Marriage	Consensual union
	1980	1991	2001	1980	1991	2001	2001	2001
Education level								
Less than primary	5.67	4.64	5.19	6.68***	6.49***	5.92*	5.22	5.77*
Primary	5.20	4.53	4.45	5.12	5.54***	4.73*	4.04	4.68***
Secondary	3.94	4.21	4.04	2.13	3.43**	3.91	3.36	4.05*
University	3.40	3.32	3.48	2.58	3.85	2.20***	2.74	2.44***
Labour force status								
Employed	3.48	3.43	3.23	2.60***	4.01***	3.49	3.67	4.08
Unemployed	1.57	3.45	3.82	2.37***	4.35**	4.13	2.78	4.37***
Inactive	5.79	5.16	5.32	6.73	6.81***	5.70**	4.79	5.93***
Area								
Rural	6.19	5.11	5.00	7.45***	6.81***	5.84***	5.16	5.89**
Urban	5.25	4.53	4.58	5.50	5.60***	4.57	3.88	4.81***
Ownership								
Owner	5.05	4.27	4.51	5.43*	5.60***	4.68	4.34	5.02***
Other	5.96	5.18	4.95	6.48**	5.99***	4.97	4.41	5.41***

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.

Table 5 **Estimates of the total fertility rate of women living in selected Latin American countries according to selected socioeconomic characteristics by conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method and Poisson regression. Women aged 15-49. Census data from IPUMS. Weighted estimation. (Continued).**

	Brazil						Chile					
	Marriage			Consensual union			Marriage			Consensual union		
	1980	1991	2000	1980	1991	2000	1982	1992	2002	1982	1992	2002
Education level												
Less than primary	6.50	4.64	3.83	6.77***	5.19***	4.55***	4.71	3.37	2.65	5.23	4.46***	3.17
Primary	5.33	3.92	3.23	5.14	4.38***	3.97***	4.57	3.70	2.84	4.53	4.23***	3.19**
Secondary	4.75	3.73	3.08	4.01***	3.87	3.54***	3.98	3.59	2.63	3.25	3.83	3.07
University	3.84	2.82	2.37	2.93***	3.13	2.34	3.09	3.26	2.42	1.50***	3.03	1.85
Labour force status												
Employed	4.47	3.19	2.55	4.58	3.29	2.85***	2.97	2.64	1.95	2.25	1.99**	1.76
Unemployed	5.81	3.68	2.56	6.24	4.22*	3.46***	3.38	2.61	1.47	2.87	1.03**	1.91
Inactive	6.66	4.80	4.32	7.12***	5.55***	5.30***	4.93	3.99	3.33	5.17	4.57***	3.79***
Area												
Rural	7.39	5.28	4.12	7.76***	6.02***	5.04***	5.29	4.04	3.00	5.36	5.28***	3.42
Urban	5.78	4.10	3.36	6.12***	4.66***	4.12***	4.59	3.74	2.90	4.59	4.03*	3.19*
Ownership												
Owner	6.30	4.39	3.46	6.80***	4.98***	4.21***	4.53	3.65	2.87	4.47	3.99*	3.15*
Other	6.28	4.41	3.66	6.35	4.90***	4.38***	4.99	4.10	3.09	5.11	4.64*	3.37

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.

Table 5 **Estimates of the total fertility rate of women living in selected Latin American countries according to selected socioeconomic characteristics by conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method and Poisson regression. Women aged 15-49. Census data from IPUMS. Weighted estimation. (Continued).**

	Colombia						Costa Rica			
	Marriage			Consensual union			Marriage		Consensual union	
	1985	1993	2005	1985	1993	2005	1984	2000	1984	2000
Education level										
Less than primary	4.34	3.33	3.57	4.66**	3.88***	4.18**	5.07	3.73	5.75	4.53*
Primary	3.68	2.96	2.96	4.16***	3.34***	3.54***	4.77	3.78	4.80	4.45**
Secondary	3.16	2.95	2.91	3.97**	3.08	3.31	3.50	3.42	3.85	2.27**
University	2.73	1.83	2.40	3.20	1.79	2.64	4.59	2.70	0.33***	1.41**
Labour force status										
Employed	3.36	1.91	2.14	3.69**	2.34***	2.28	2.97	2.12	2.76	1.92
Unemployed	2.49	2.03	2.87	3.07	1.90	2.98	4.86	1.92	3.25**	1.83
Inactive	4.20	3.52	3.65	4.82***	4.01***	4.20***	5.10	4.19	5.59	4.90**
Area										
Rural	4.54	3.81	3.44	4.65	4.35***	4.06***	5.23	3.87	5.60	4.63**
Urban	3.63	2.85	3.11	4.37***	3.22***	3.61**	4.58	3.80	4.76	4.06
Ownership										
Owner	3.69	2.90	3.06	4.22***	3.44***	3.66***	4.85	3.56	5.45	4.22*
Other	4.31	3.33	3.55	4.80***	3.72***	3.91	4.90	4.22	5.36	4.47

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.

Table 5 **Estimates of the total fertility rate of women living in selected Latin American countries according to selected socioeconomic characteristics by conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method and Poisson regression. Women aged 15-49. Census data from IPUMS. Weighted estimation. (Continued).**

	Cuba		Ecuador					
	Marriage	Consensual union	Marriage			Consensual union		
	2002	2002	1982	1990	2001	1982	1990	2001
Education level								
Less than primary	2.03	2.47	6.81	5.20	3.75	6.47	5.21	3.91
Primary	2.16	2.34	4.96	4.26	3.30	4.82	4.46	3.45
Secondary	2.00	2.12	3.93	3.76	2.89	3.21	4.61*	2.65
University	1.65	1.82	3.80	2.73	2.15	0.45***	2.20	1.93
Labour force status								
Employed	1.52	1.93	4.25	3.42	2.66	3.63	3.30	2.42
Unemployed	1.47	0.93	2.75	4.60	1.20	6.17***	3.49	2.62**
Inactive	2.52	2.61	6.07	4.91	3.83	5.92	5.01	3.91
Area								
Rural				5.40	3.87		5.23	4.14
Urban				4.13	3.21		4.51**	3.33
Ownership								
Owner			5.74	4.39	3.37	5.67	4.64*	3.39
Other			5.77	4.68	3.43	5.88	4.88	3.79**

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.

Table 5 **Estimates of the total fertility rate of women living in selected Latin American countries according to selected socioeconomic characteristics by conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method and Poisson regression. Women aged 15-49. Census data from IPUMS. Weighted estimation. (Continued).**

	Mexico				Panama					
	Marriage		Consensual union		Marriage			Consensual union		
	2000	2010	2000	2010	1980	1990	2000	1980	1990	2000
Education level										
Less than primary	4.62	3.70	4.44	4.29***	5.98	4.46	6.09	5.29	4.84	5.52
Primary	4.06	3.61	4.05	3.72	3.92	4.07	3.20	5.06***	4.48	4.59***
Secondary	3.66	3.23	3.52	3.49	3.40	3.94	3.19	3.75	3.26	4.50***
University	3.07	2.61	2.22***	2.59	2.38	2.06	2.00	2.20	3.78**	3.87***
Labour force status										
Employed	3.00	2.59	2.83	2.76	2.94	2.66	2.49	3.62	3.36	3.01
Unemployed	2.35	2.40	1.66	1.93	1.96	2.13	3.62	3.08	3.63*	3.98
Inactive	4.67	4.09	4.70	4.28**	4.92	4.18	4.49	5.77**	4.80*	5.22
Area										
Rural	4.81		4.74		5.33		5.44	5.65		5.17
Urban	4.13		4.07		3.76		3.20	4.65**		4.27***
Ownership										
Owner	4.22	3.68	4.14	3.85*	4.59	4.07	4.86	5.88***	4.55	4.63
Other	4.50	3.92	4.43	3.91	4.20	3.95	3.07	4.59	4.53	4.83***

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.

Table 5 **Estimates of the total fertility rate of women living in selected Latin American countries according to selected socioeconomic characteristics by conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method and Poisson regression. Women aged 15-49. Census data from IPUMS. Weighted estimation. (Continued).**

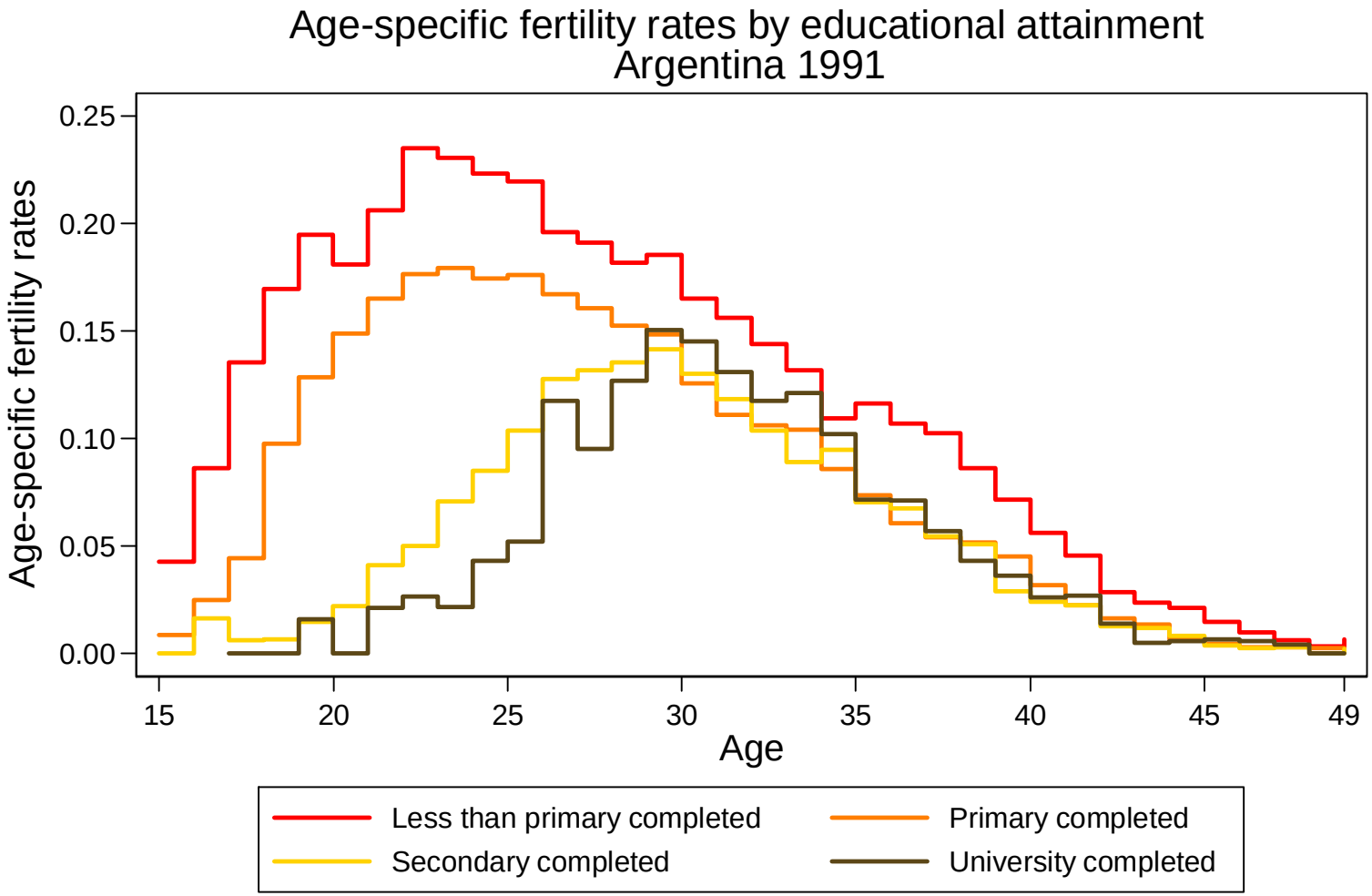
	Peru				Uruguay					
	Marriage		Consensual union		Marriage			Consensual union		
	1993	2007	1993	2007	1985	1996	2006	1985	1996	2006
Education level										
Less than primary	5.41	3.48	5.86***	4.24***	4.24	3.34	4.214.80	5.97**	5.23***	2.84
Primary	4.32	3.12	5.23***	3.68***	4.72	3.90	2.523.02	4.61	4.75**	3.70
Secondary	4.37	2.97	4.60	3.12	5.31	3.92	2.612.57	3.68*	1.84***	3.18
University	3.12	2.54	2.88	2.23	3.09	2.36	2.122.20	1.00***	0.75***	1.31
Labour force status										
Employed	3.66	2.18	4.37***	2.63***	2.97	3.48	1.96	3.55	2.57*	2.22
Unemployed	2.89	2.95	4.39**	2.67	2.32	2.53	2.27	2.83	4.79***	2.54
Inactive	5.12	3.71	5.83***	4.20***	5.33	4.78	4.68	5.92	6.54***	4.96
Area										
Rural	5.96	3.70	6.28*	4.44***	4.60			5.79		
Urban	4.31	3.05	5.11***	3.40***	4.71			4.92		
Ownership										
Owner	4.75	3.17	5.46***	3.70***	4.62	3.95	3.29	5.12	4.64	3.38
Other	4.71	3.46	5.62***	3.72	4.76	3.96	3.66	5.03	4.77*	3.86

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.

Table 5 **Estimates of the total fertility rate of women living in selected Latin American countries according to selected socioeconomic characteristics by conjugal situation using data from censuses of the three most recent censuses round. Estimates from the own-children method and Poisson regression. Women aged 15-49. Census data from IPUMS. Weighted estimation. (Continued).**

	Venezuela					
	Marriage			Consensual union		
	1981	1990	2001	1981	1990	2001
Education level						
Less than primary	5.71	5.10	3.54	6.72***	5.75***	4.29***
Primary	4.76	4.46	3.14	5.42***	5.16***	3.79***
Secondary	4.71	4.55	2.93	3.81	4.73	3.50*
University	3.42	4.27	1.83	0.86***	3.80	0.00***
Labour force status						
Employed	3.87	3.85	2.58	4.39	3.98	2.29
Unemployed	3.53	4.16	3.21	3.74	4.20	3.45
Inactive	5.40	4.88	3.57	6.60***	5.81***	4.30***
Area						
Rural	6.71	5.41	3.60	7.26*	6.14***	4.38***
Urban	4.87	4.47	3.25	5.87***	5.19***	3.80***
Ownership						
Owner	5.14	4.55	3.18	6.32***	5.37***	3.74***
Other	4.90	4.73	3.50	5.90***	5.47***	4.25***

*: $p<0.05$; **: $p<0.01$; ***: $p<0.001$. Each test compares the estimated TFR for consensual union to the corresponding estimate for marriage.



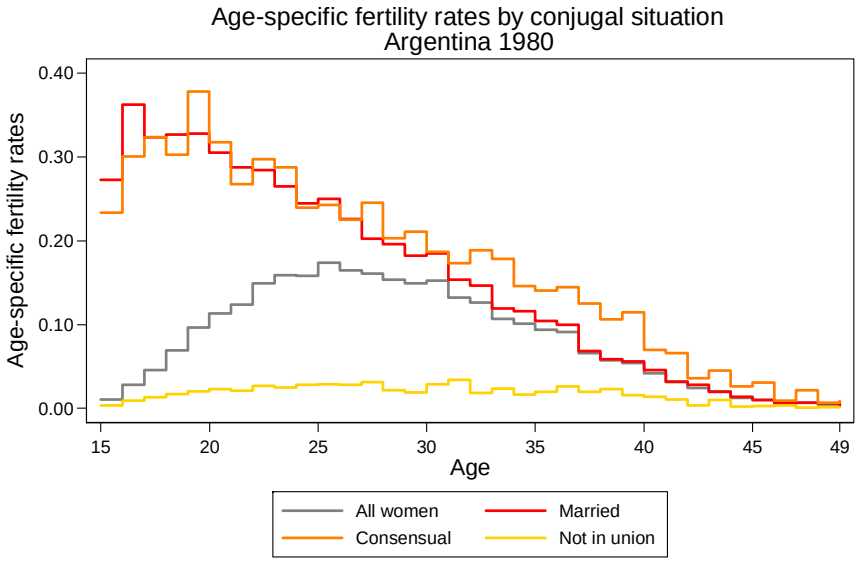
Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

Figure 2

Annex

Age-specific rates by conjugal situation

Argentina



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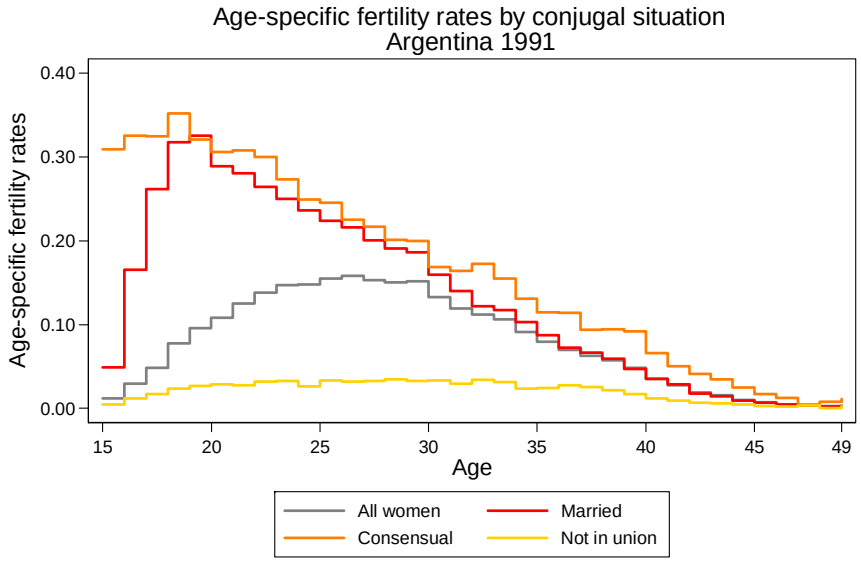
IPUMS census microdata. Weighted estimation.



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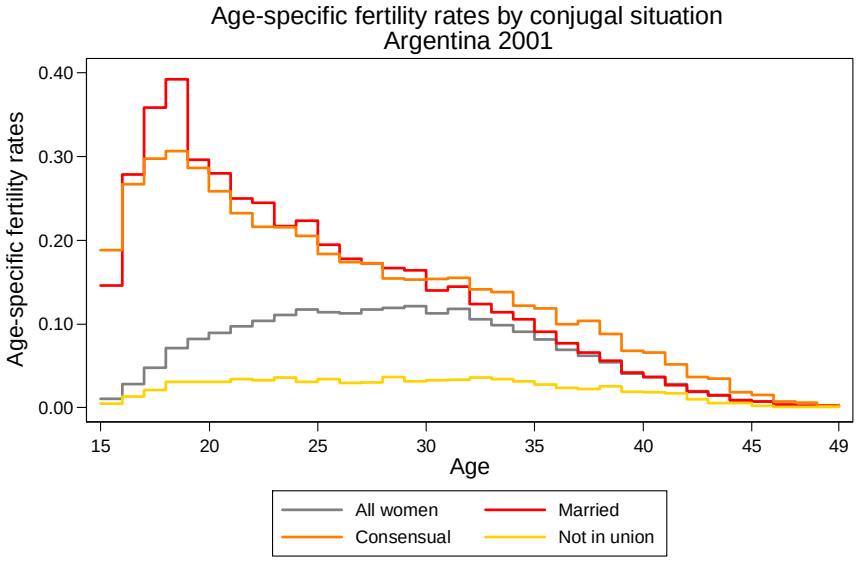

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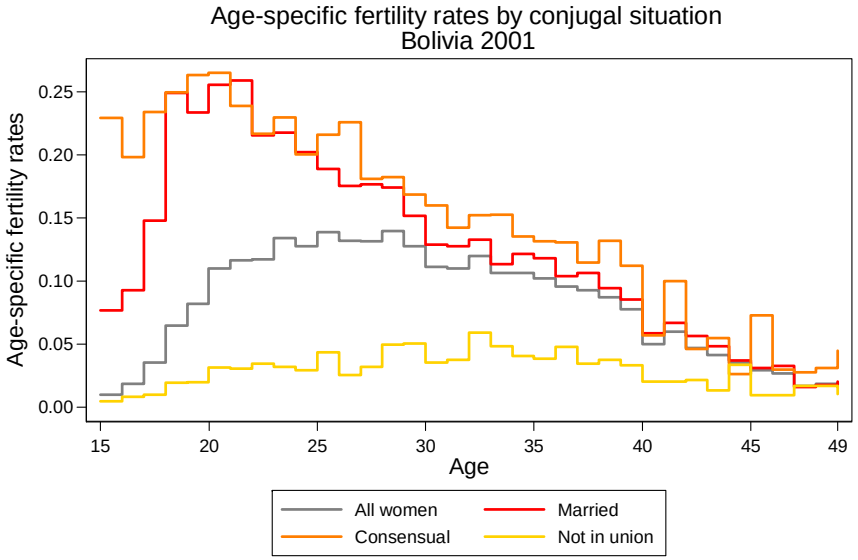
IPUMS census microdata. Weighted estimation.

Bolivia



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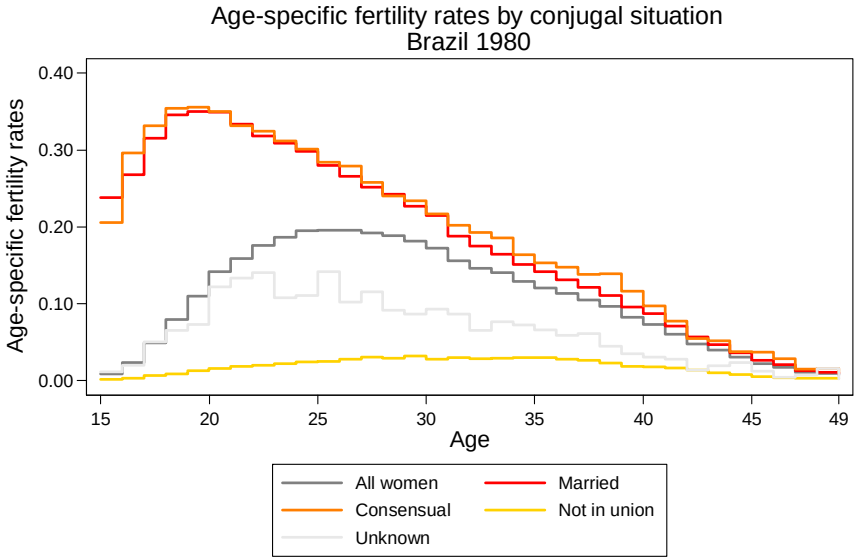
IPUMS census microdata. Weighted estimation.

Brazil



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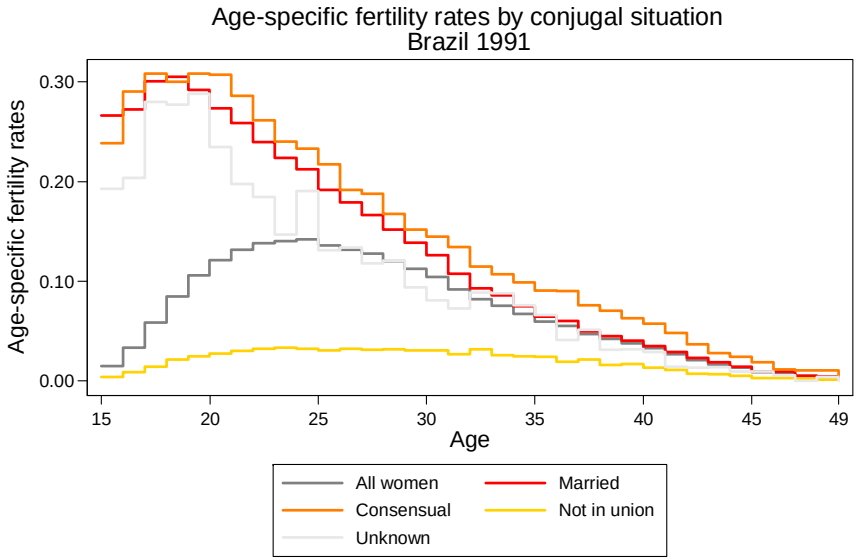

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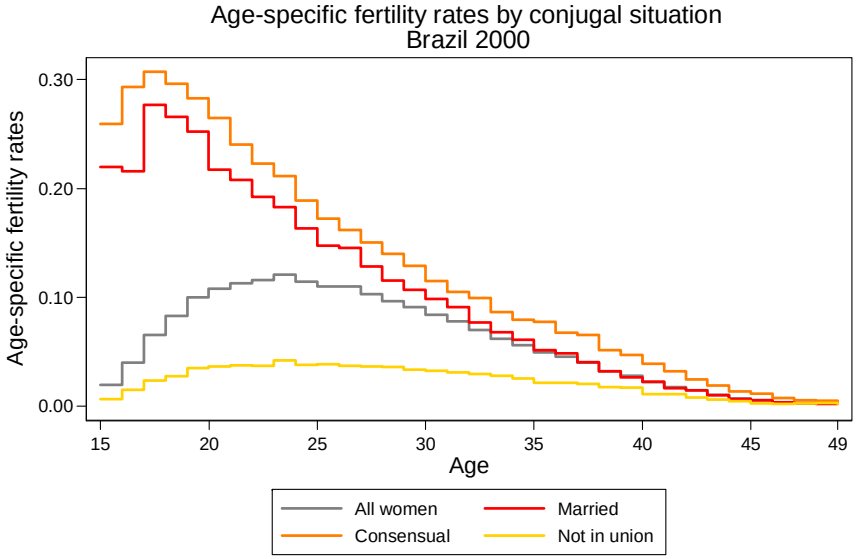
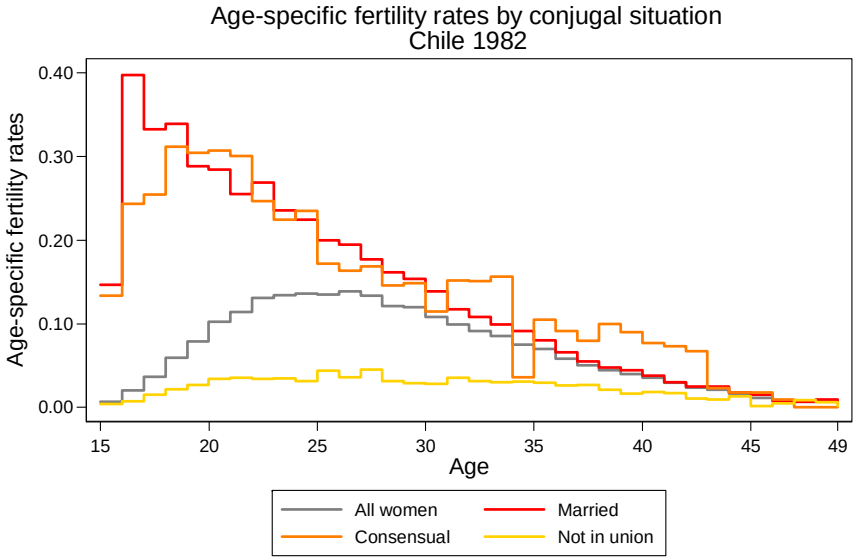
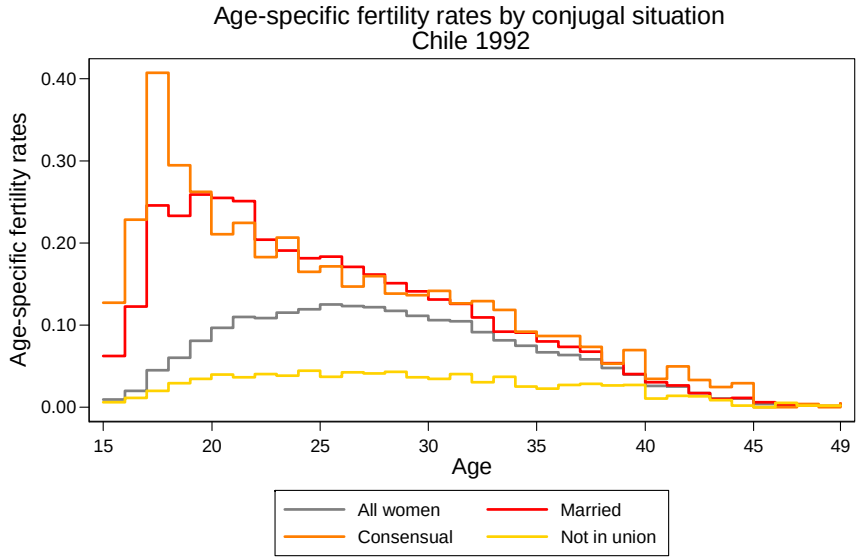


Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

Chile



Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.



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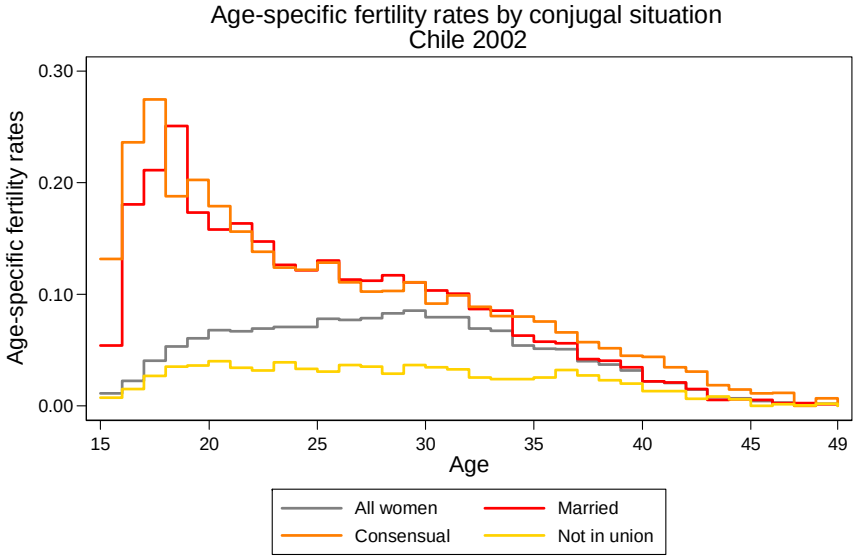
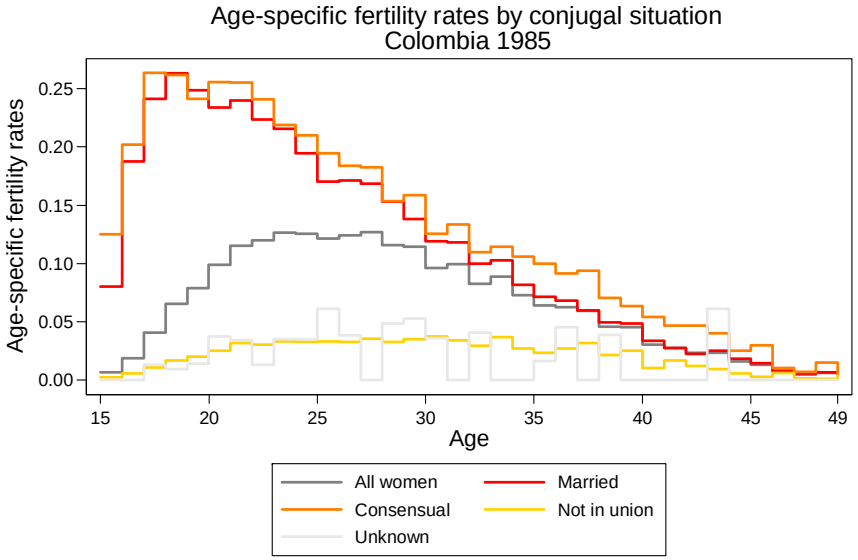
IPUMS census microdata. Weighted estimation.

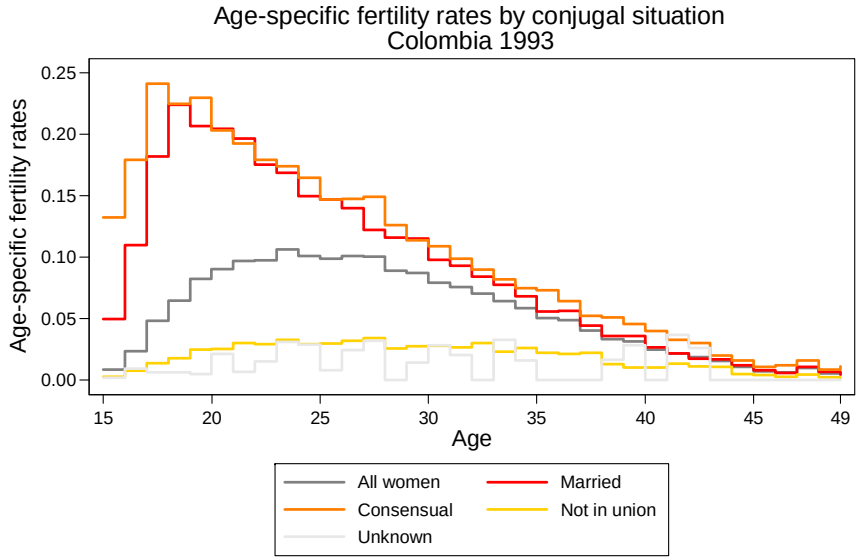


Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

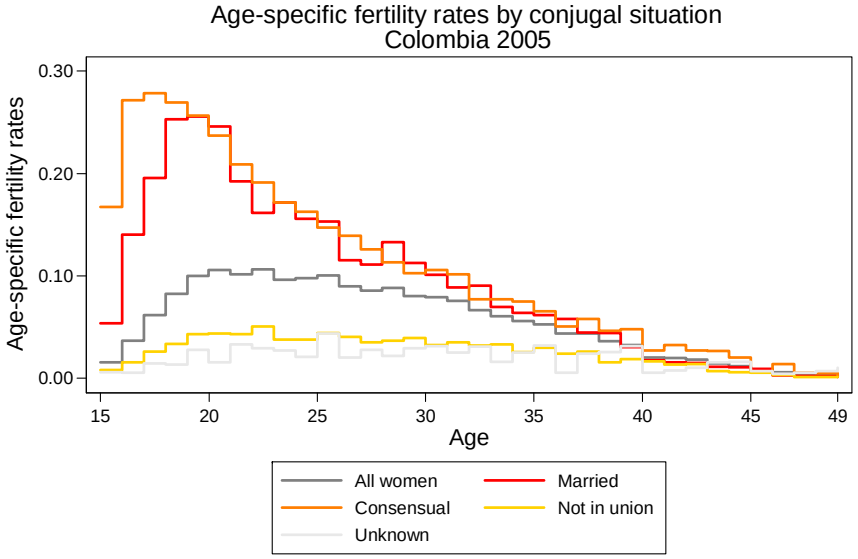
Colombia



Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

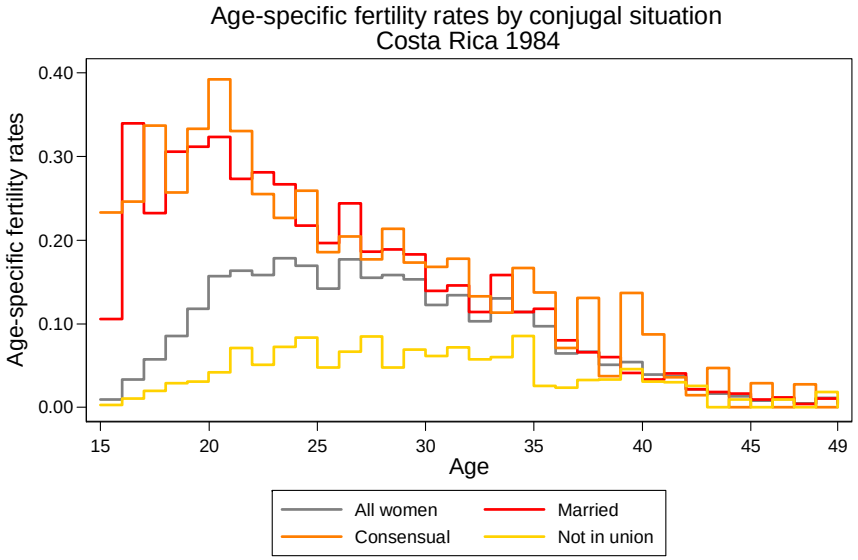


Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

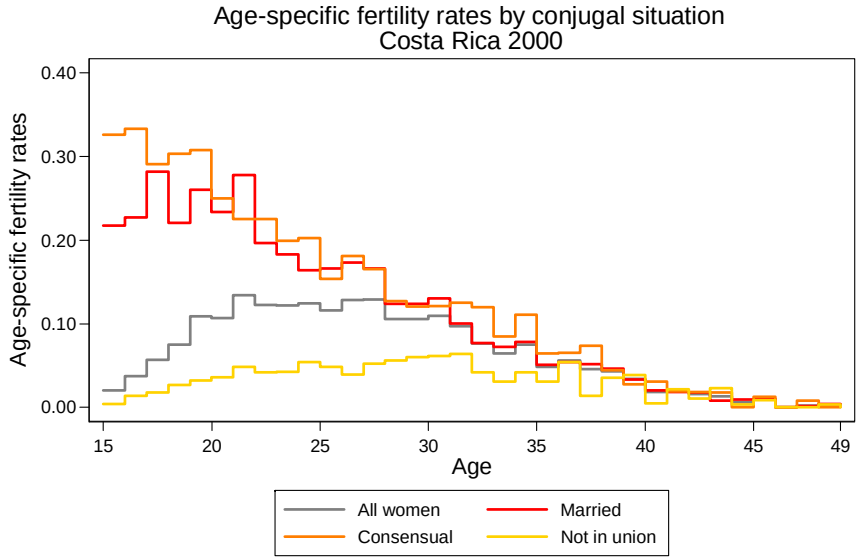


Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

Costa Rica

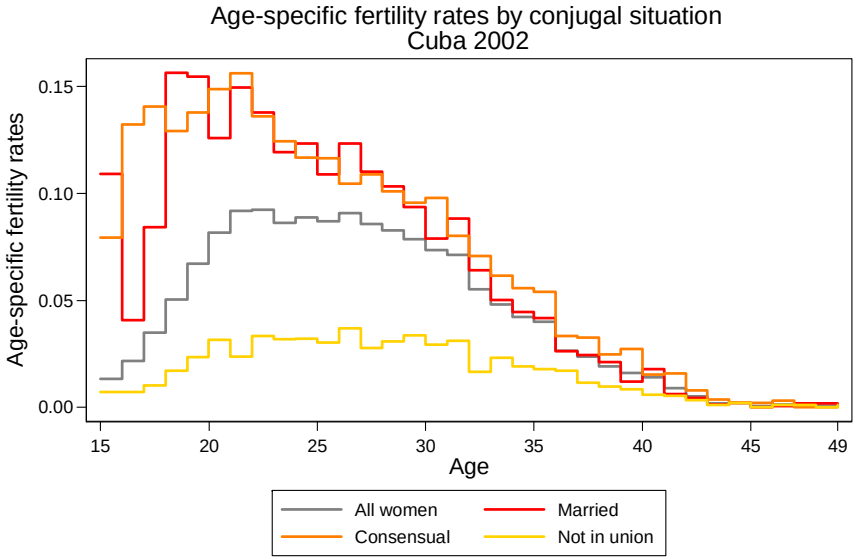


Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.



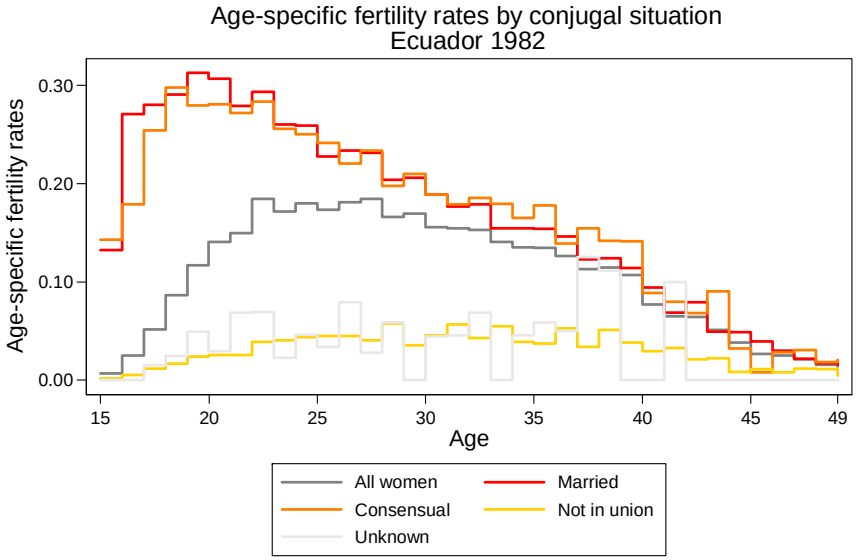
Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

Cuba

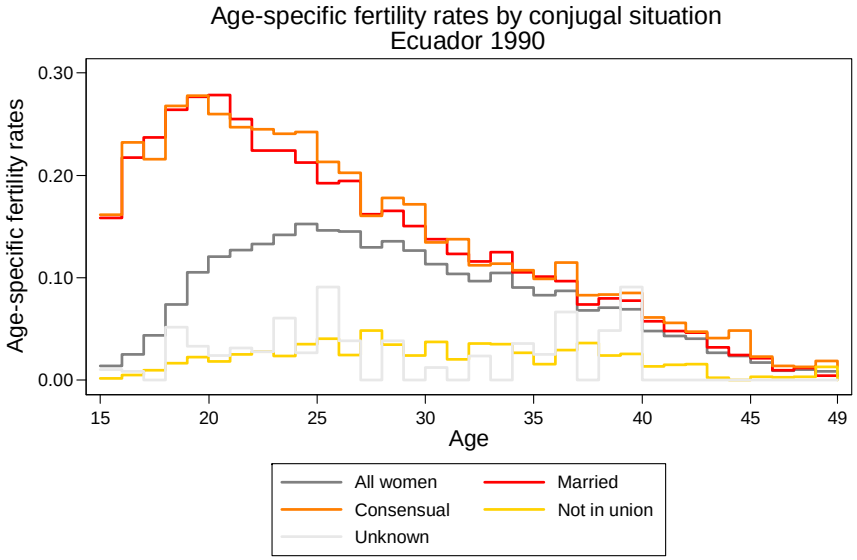


Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.

Ecuador



Age-specific fertility rates for women aged 15-49 in the census year.
IPUMS census microdata. Weighted estimation.



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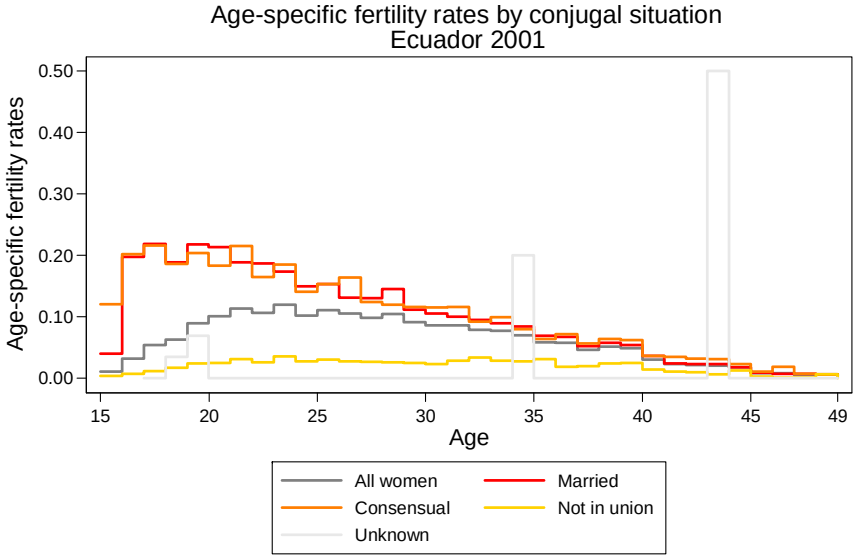

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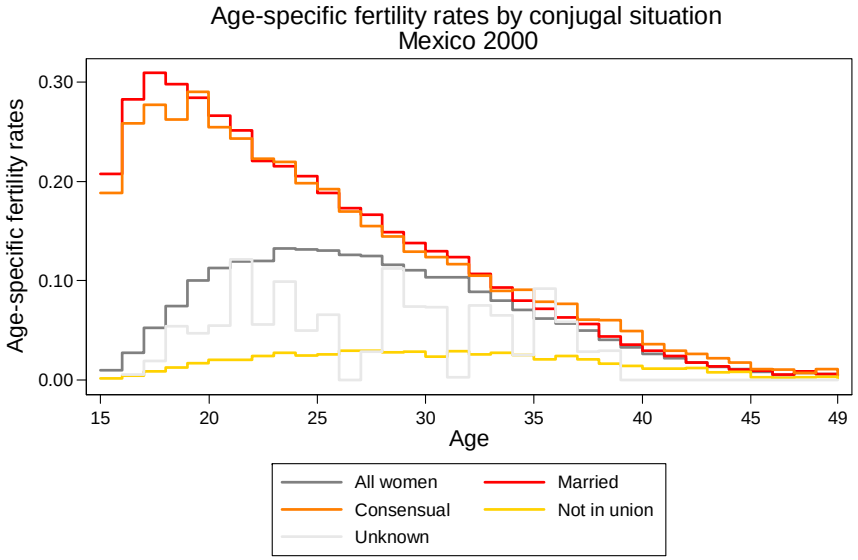
Mexico



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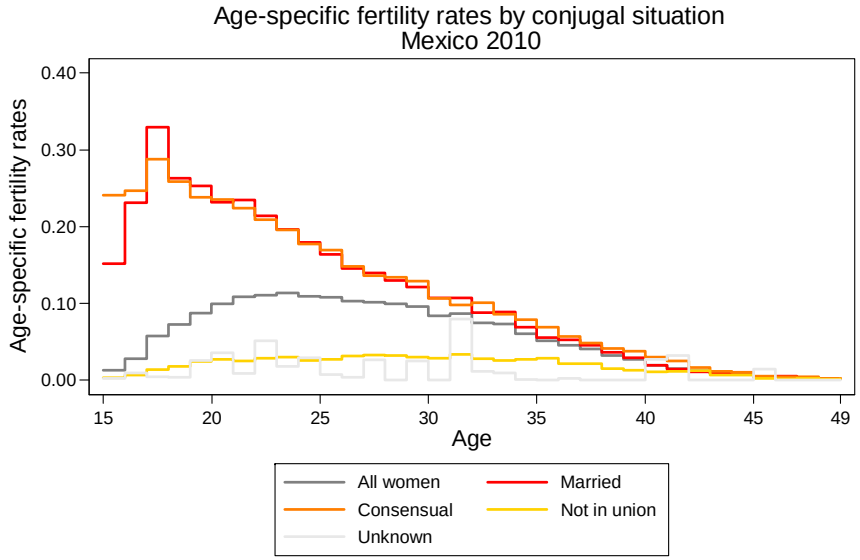

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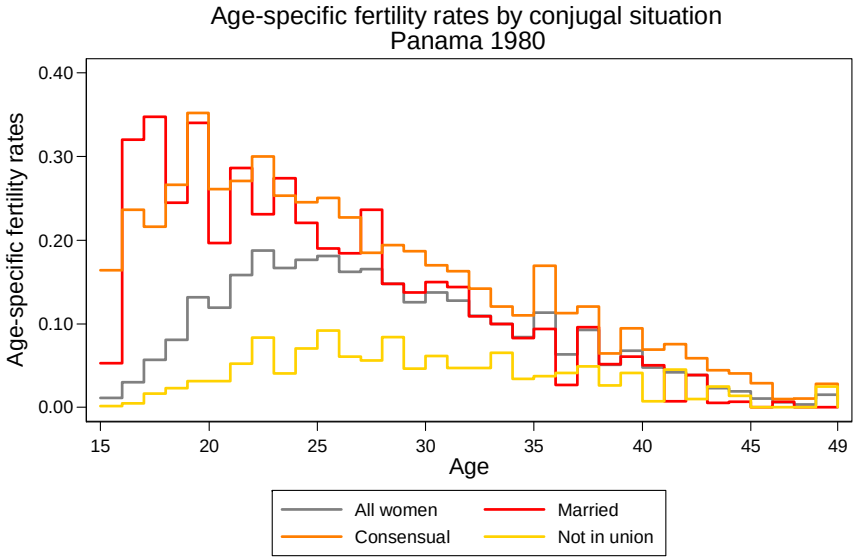
Panama



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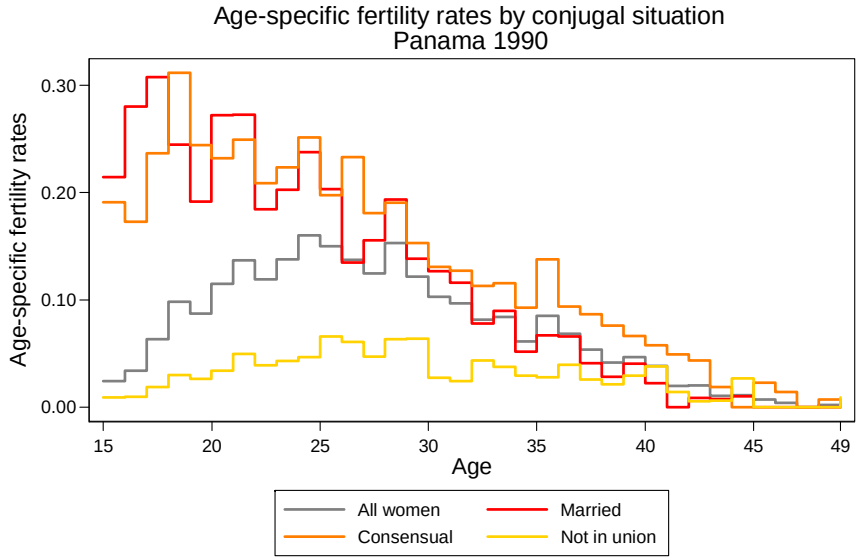

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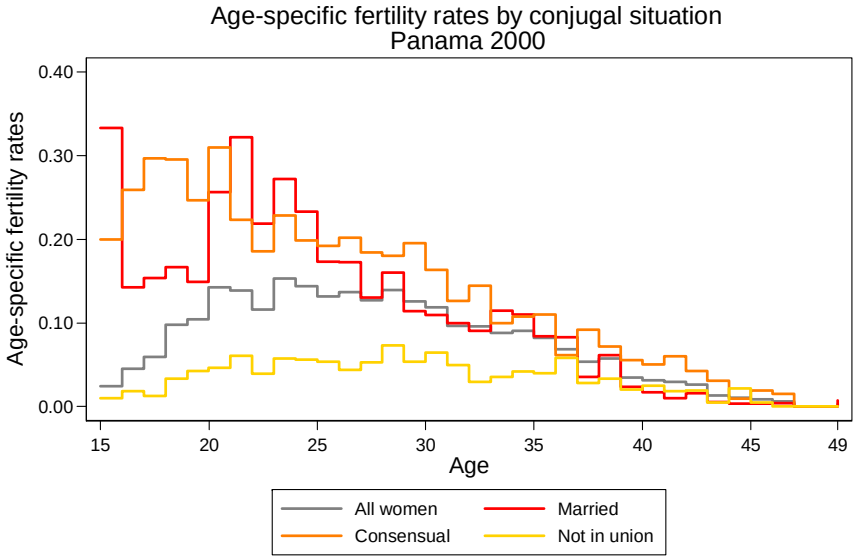

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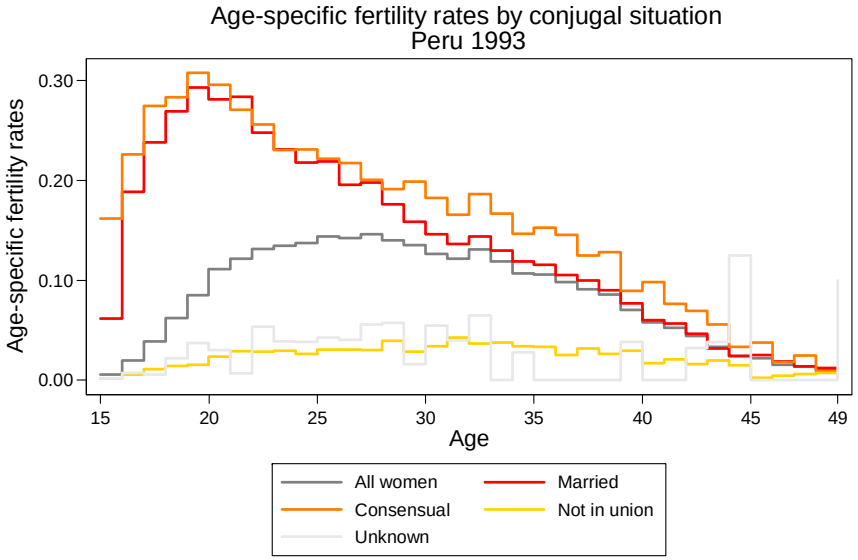
IPUMS census microdata. Weighted estimation.

Peru



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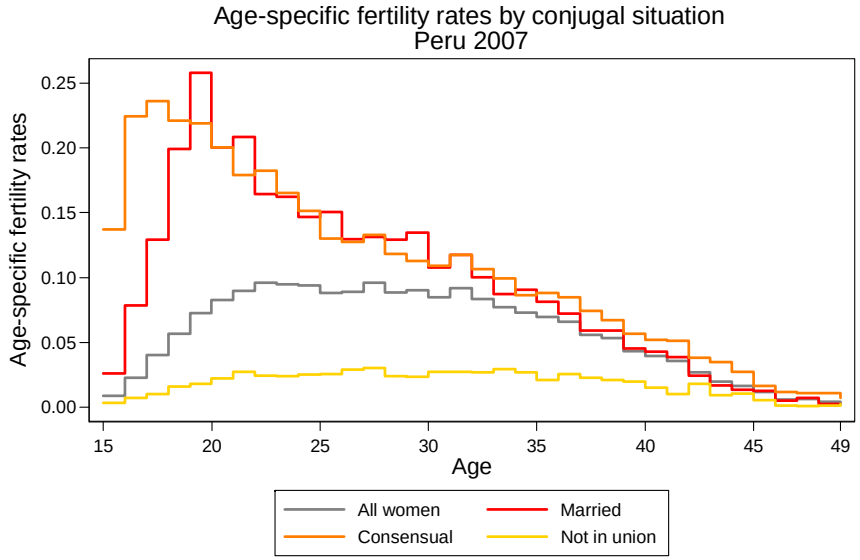

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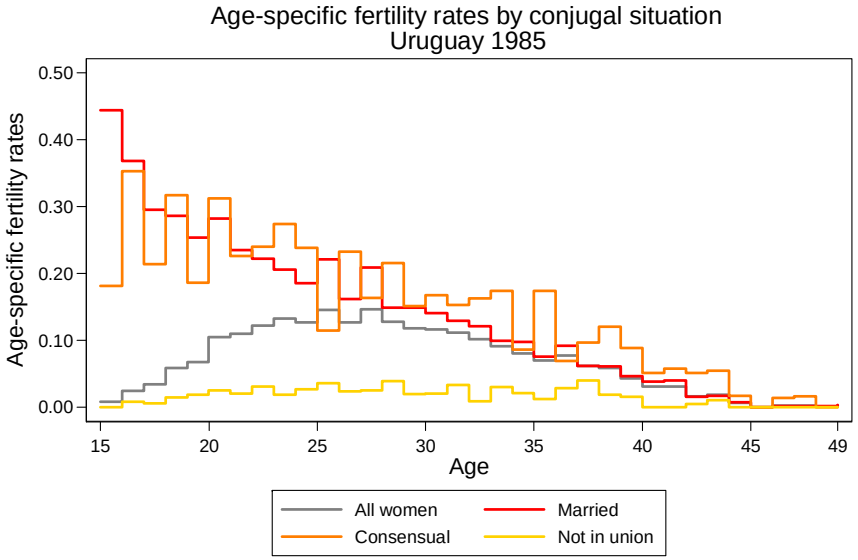
Uruguay



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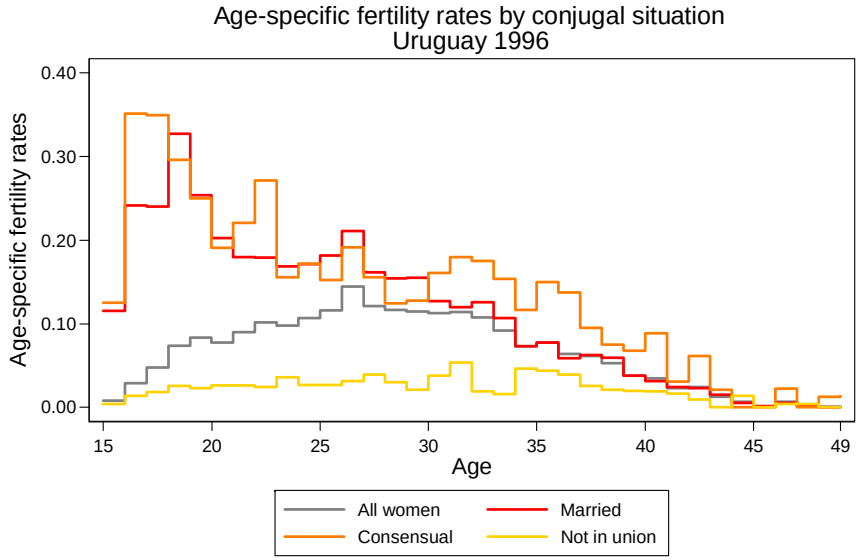

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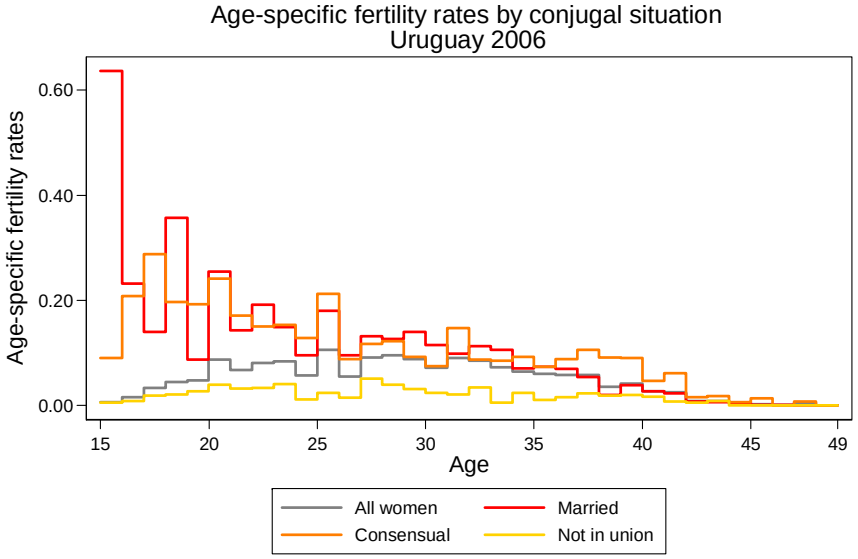

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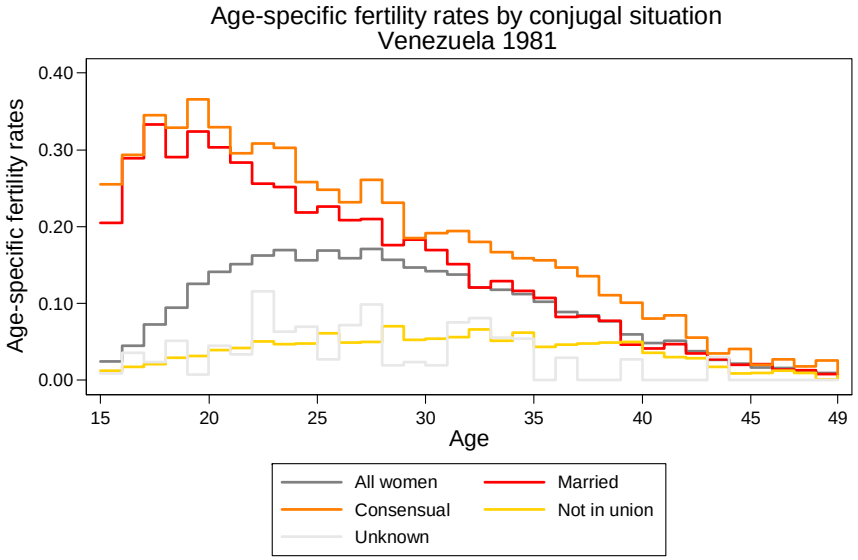
Venezuela



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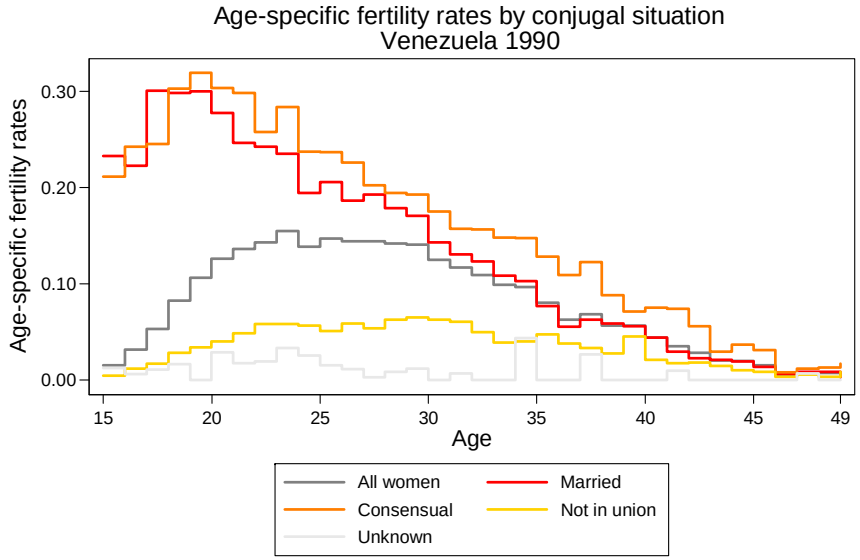

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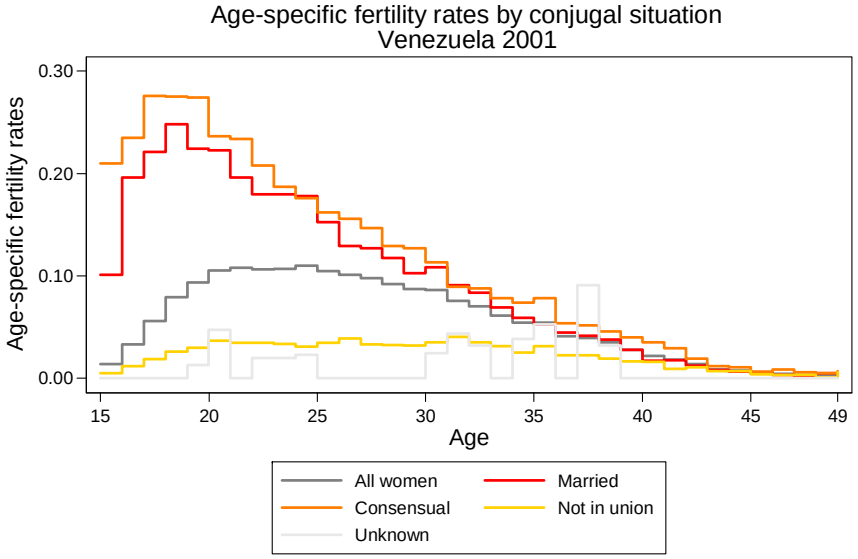

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