The Educational Gradient of Low Fertility in Latin America

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INTRODUCTION

The Latin American region has experienced significant demographic changes since the 1960s alongside with a great educational expansion. These changes enable a discussion of the likelihood of the beginning of a second demographic transition in several countries in the region. In this vein, there are several issues associated with recent and future changes. For example, there is the debate regarding a possible cohabitation boom with components different from the traditional cohabitation in Latin America (Esteve, Lesthaeghe, and López-Gay 2012). The pattern of early sexual initiation, childbearing, and union formation, along with the chances of a possible break up, is discussed by Bozon, Gayet, and Barrientos (2009). Esteve, López-Ruiz, and Spijker (2013) discuss the paradox of stable union formation as a consequence of education expansion in the region. Regarding fertility trends in the region, Cavenaghi and Alves (2009) discuss the most recent fertility patterns based on DHS surveys applied in several countries in the region. Focusing on fertility and the postponement of first childbearing, Rosero-Bixby, Castro-Martin, and Martín-García (2009) emphasize the role of college education in the retreat of early and universal childbearing. The focus of this paper will deviate from the discussion of the likelihood of a second demographic transition in the region in order to concentrate in the future chances of below replacement fertility in some countries, with special attention to educational expansion.

Some Latin American countries are clearly below replacement level already in the beginning of the first decade of this century, such as Cuba, Chile, Costa Rica, and Puerto Rico. Others are about to enter or have just entered below replacement level status (depending on the source of data collection and measurement technique chosen) such as Uruguay, Brazil, Argentina, Colombia, and Mexico (Rosero-Bixby, Castro-Martin, and Martín-García 2009). This paper will focus on the countries mentioned in the latter group.

Bozon, Gayet, and Barrientos (2009) access modern Latin American sexual behavior in a life course perspective. They show the operation of a gender specific teenage sexual socialization in the region, where young men are encouraged to sexual initiation as early as possible, while social control is focused on young females. For them, postponement of sexual debut is valued. The valuation of virginity would imply sexual debut in the timing of first union. This sexual double standard is a cultural characteristic prevalent in Latin American and Mediterranean countries. The authors state clearly the connection (path) first intercourse, union formation, and birth of the first child. Social differences in the timing of female sexual debut are connected with the same differences in first union. A separation between sexual debut and first union is growing in some Latin American

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countries analyzed by the authors. The authors mention a Teenage Latin American paradox: fertility has declined historically in the region, moving towards replacement level in several countries, but without clear delayed childbearing. Age at first child is persistently low and stable among age cohorts. The authors indicate that the more educated group of women is starting to show some postponement behavior with an increasing rate of childless women. This paper will explore the role of this group of more educated women (college educated or with tertiary education) in the promotion of crucial changes in the fertility curve.

To the extent that age at union formation affects total fertility rate (TFR), Esteve, López-Ruiz, and Spijker (2013) also focus on the role of educational expansion in the postponement of union formation. The paradox is that union formation has not historically declined with the expansion of educational attainment in the region. Other trends, such as the increasing share of cohabitation would help to explain this lack of composition effect in the explanation of the postponement of union formation in the region. The authors discuss a compensating effect in cohabitation that would explain the absence of a strong postponement trend. The existence of such a compensating effect points to the operation of an expansion in the share of college educated women and a subsequent decline in fertility. This link between the expansion of college educated women and fertility decline was also stressed by Rosero-Bixby, Castro-Martin, and Martín-García (2009). In this paper, the authors will adopt the proposition that this link between fertility and tertiary education is the driving force behind the operation of a new low fertility pattern in the region.

Six countries are included in the analysis: Brazil, Chile, Mexico, Colombia, Argentina, and Uruguay. Brazil, Mexico, and Colombia are Latin American countries with a more recent completion of the demographic transition, whereas Argentina, Chile and Uruguay are South Cone countries that have presented an early decline of fertility. The comparison of these six countries using the lenses of fertility and educational attainment may be enlightening with respect to the perspective of below replacement fertility in the region.

The paper starts with a presentation of the stylized facts regarding total and age specific fertility rates (TFR and ASFR) by educational level in the five countries. Results are still being produced for Chile. The education composition of women in reproductive age by age in the selected countries complements the picture.

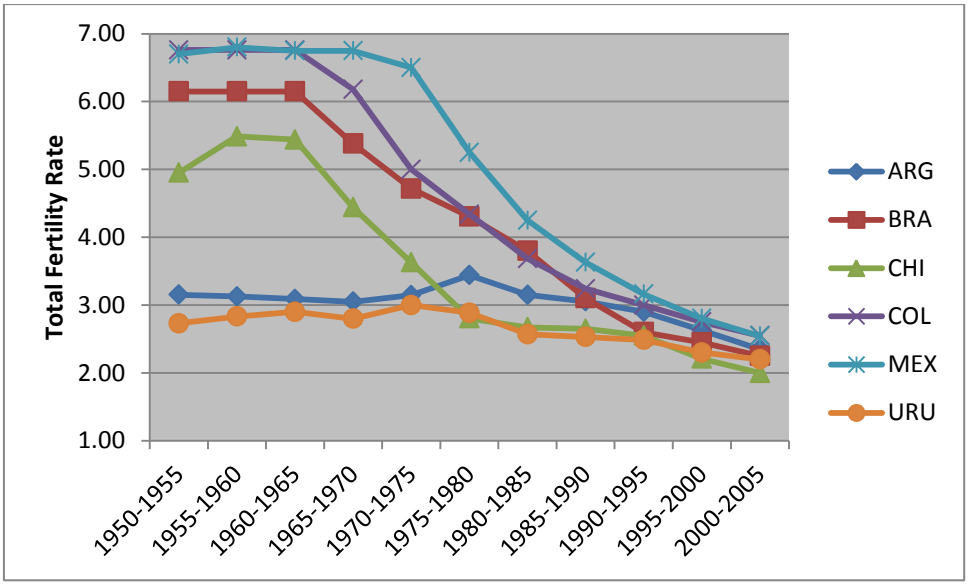
Given the trends in fertility by education and the education composition of women in the selected countries, we perform a decomposition to explain the most recent fertility variation. We ask the following questions: Is the variation in fertility due to a change in the fertility profile by education or due to improvements in education? Or is it case that both vectors play an important role in fertility decline? These questions are answered with the performance of a decomposition exercise.

Finally, the perspective of below replacement fertility in the region in the near future is evaluated by the projection of a future pure composition effect, using the projection of women's educational attainment in these countries.

STYLIZED FACTS OF FERTILITY AND EDUCATION

The most recent historical trend in total fertility rates of the six countries studied is presented in Figure 1 and Table A1[1]. The picture shows that the South Cone's Argentina and Uruguay were the most advanced countries in the region's demographic transition. They already presented a pattern of low fertility in the 1950s, while the other three countries still presented a pattern of high fertility.

Figure 1: Total Fertility Rate by year for selected Latin American countries, 1950-2005



Source: United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2012 Revision, New York, 2013.

Now we present stylized facts on fertility levels by education for selected Latin American countries using data of the last two censuses available at IPUMS (Minnesota Population Center 2013). Data for Brazilian fertility between 2000 and 2010, by education, are presented in Figure 2 (a) and (b) below and in Table A2.[2] The profile of age specific fertility rates (fertility shape) differs between women with at least some tertiary education and women in other education groups. As total fertility rate declined in all age groups, there was a convergence in level and shape among the three lower education groups, while the group of women with tertiary education maintained a different fertility shape. Total fertility rate did not decline across all education groups: there was a decline in the two lower education groups (0 to 3, and 4 to 8) and an increase in the higher educational groups (9 to 11, and 12 or more). As a consequence of this temporal process, there is a convergence trend in the fertility level, with a maintained difference in the shape.

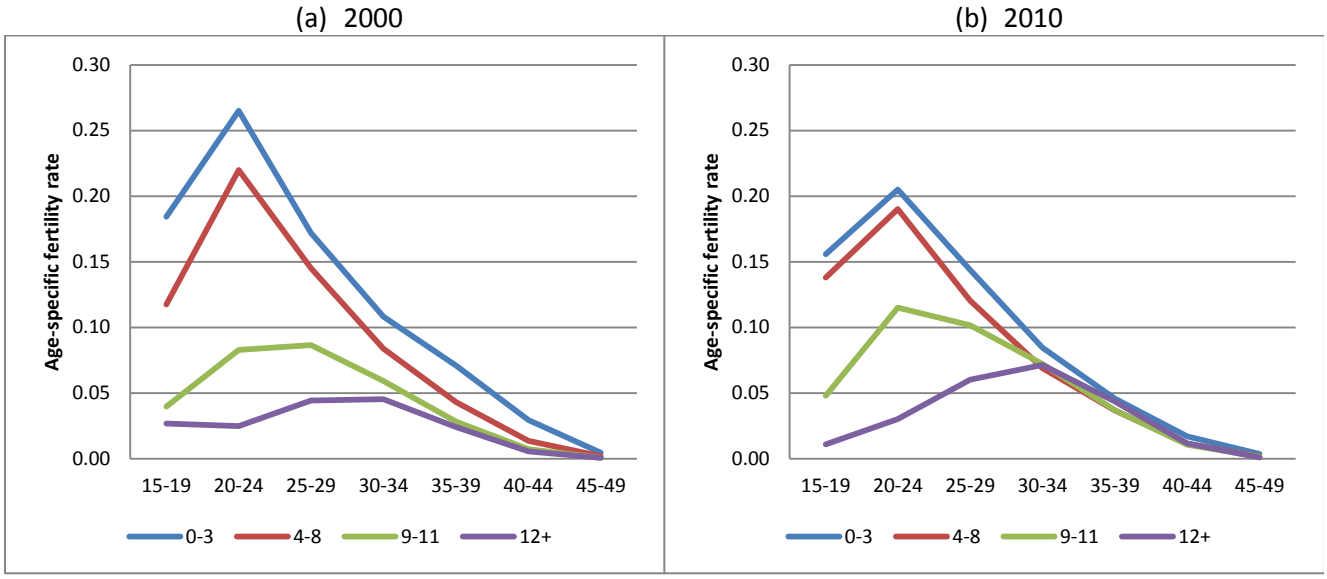
The shape of the fertility curves in the Mexican case by year, presented in Figure 3 (a) and (b) and Table A3, confirms the division of the profiles in two groups: women in all lower education groups and women in tertiary education. We also observed convergence in levels of fertility among all education groups, as in the Brazilian case previously analyzed. Despite the fertility decline in TFR,

[1] All tables in the paper are presented in the appendix.

[2] All Age Specific Fertility Rates and Total Fertility Rates were calculated based on the demographic censuses, using the correction factors derived from Brass' P/F correction techniques. Only the Mexican calculations were made without these corrections because the numbers differed from the estimated ones presented by CELADE and by the UN-Population Division.

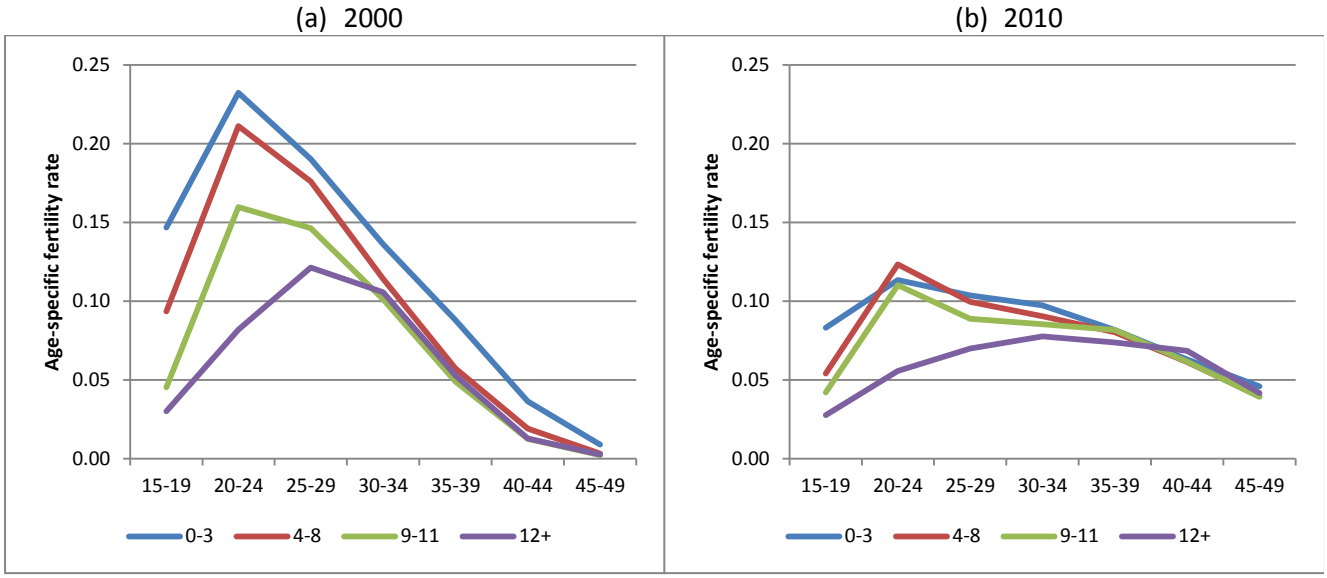
Mexican fertility did not approach the replacement level as it is presented in Table 3, unlike in the Brazilian case.

Figure 2: Age specific fertility rates by educational level and year. Brazil



Source: IPUMS data, 2013

Figure 3: Age specific fertility rates by educational level and year. Mexico

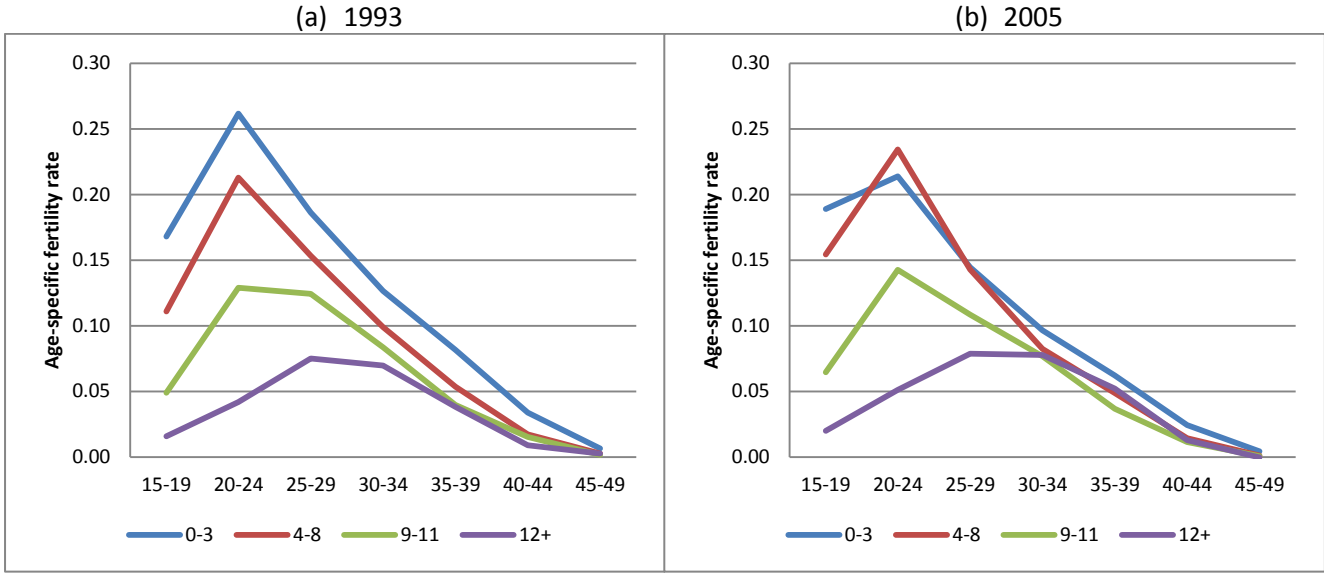


Source: IPUMS data, 2013

Figure 4 (a) and (b) and Table A4 depicts the case of Colombia. The duality in the shape of fertility curves between lower education groups and tertiary education is also observed. Regarding the level of fertility by education groups, the fertility decline between 1993 and 2005 does not lead to a dual differentiation as in the case of Brazil and Mexico. As Table A4 indicates, TFR in 2005 is already below replacement in Colombia.

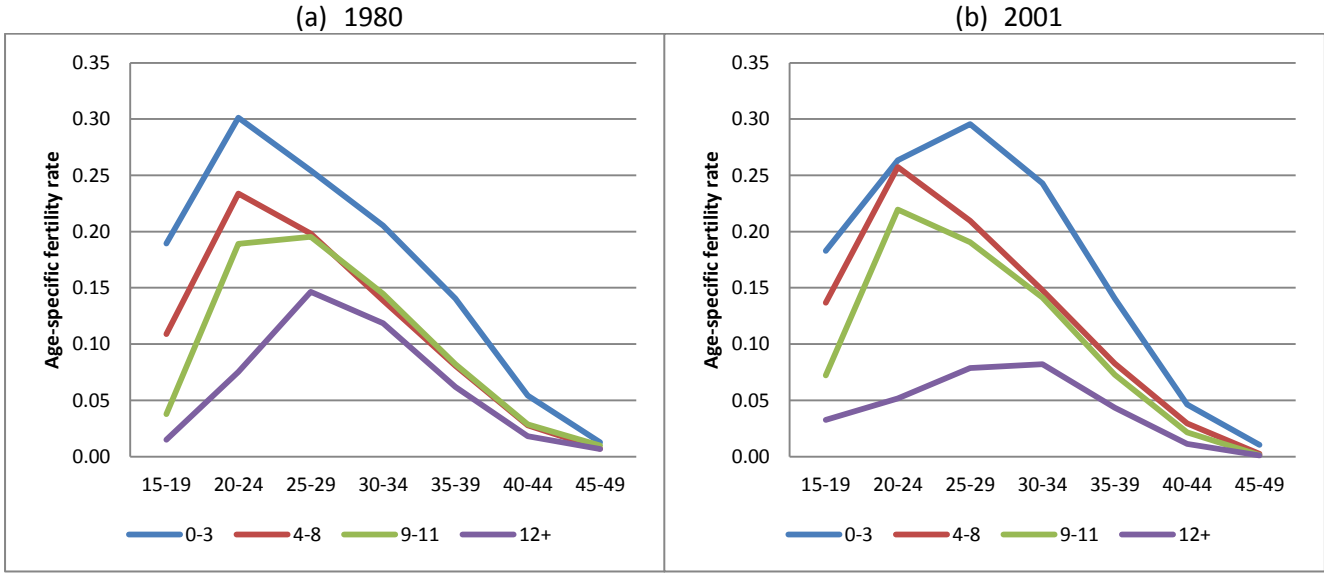
Although the time reference in the Argentine case does not advance in the first decade of the current century, the change in fertility shape between 1980 and 2001 also confirms the duality in shape between the low education groups and tertiary education as displayed in Figure 5 (a) and (b). The decline in level is less pronounced than expected, as the TFR in 2001, well above replacement level, indicates (see Table A5). Different from the other Latin American countries, TFR of women with tertiary education presented a sharp decline.

Figure 4: Age specific fertility rates by educational level and year. Colombia



Source: IPUMS data, 2013

Figure 5: Age specific fertility rates by educational level and year. Argentina

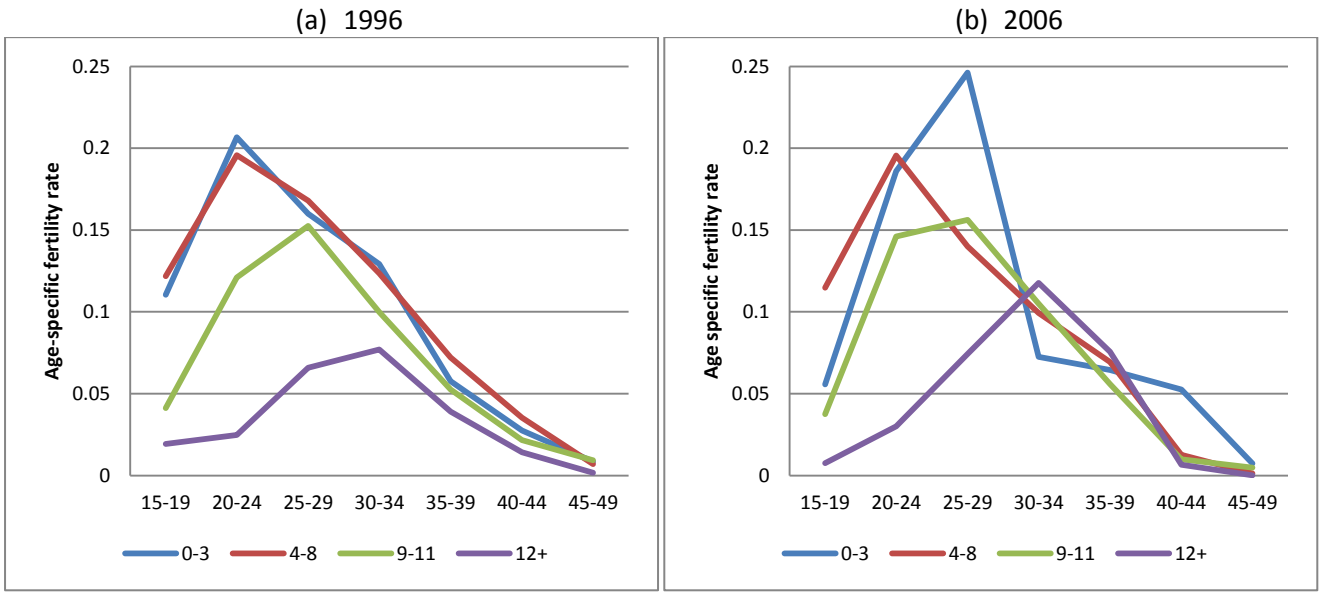


Source: IPUMS data, 2013

The case of Uruguay also conforms to the patterns observed in the previous countries, not only indicating a decline in the fertility level (not yet below replacement in 2006 as shown in Table A6)

but also demonstrating a shape division between the low education groups and women with tertiary education. The 2006 data available in IPUMS is derived from a survey, rather from the demographic census (IPUMS), which may explain some of the observed fluctuation among the age specific fertility rates.

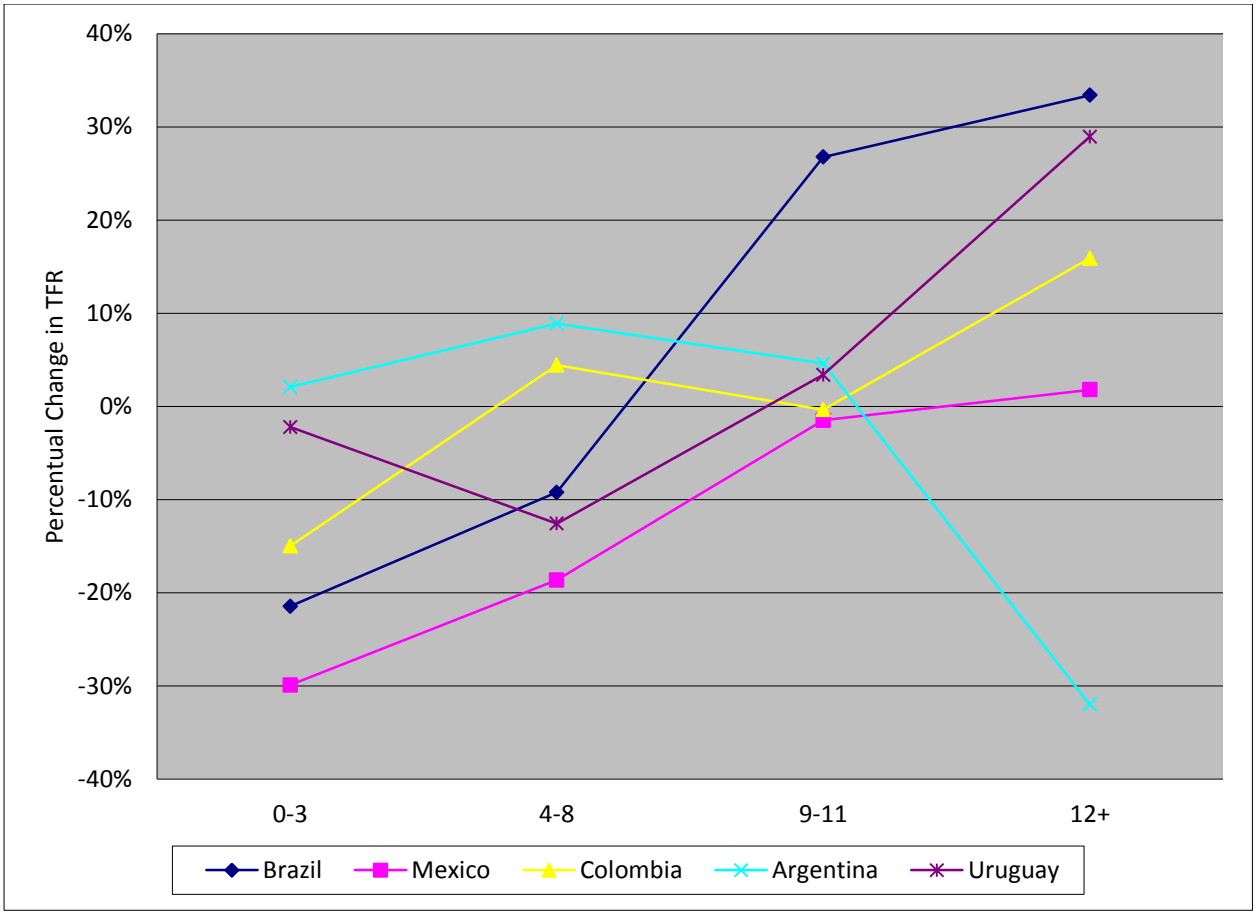
Figure 6: Age specific fertility rates by educational level and year. Uruguay



Source: IPUMS data, 2013

In summary, the stylized facts presented so far point to a difference of level and shape in ASFRs by education groups and countries. Invariably, women with tertiary education present a lower fertility level and a late age peak in the profile of the ASFR curve (mainly in the age group from 30 to 34 years). TFR among women with tertiary education is increasing among several countries, but it is still the lowest level of fertility among all education groups. Figure 7 illustrates the growth in TFR for all education groups between two censuses in selected countries. In almost all countries analyzed, fertility TFR declines in the low education groups and increases in the high school level and tertiary education groups.

Figure 7: Variation in TFR by Education between two censuses for selected Latin American Countries



Source: IPUMS data, 2013

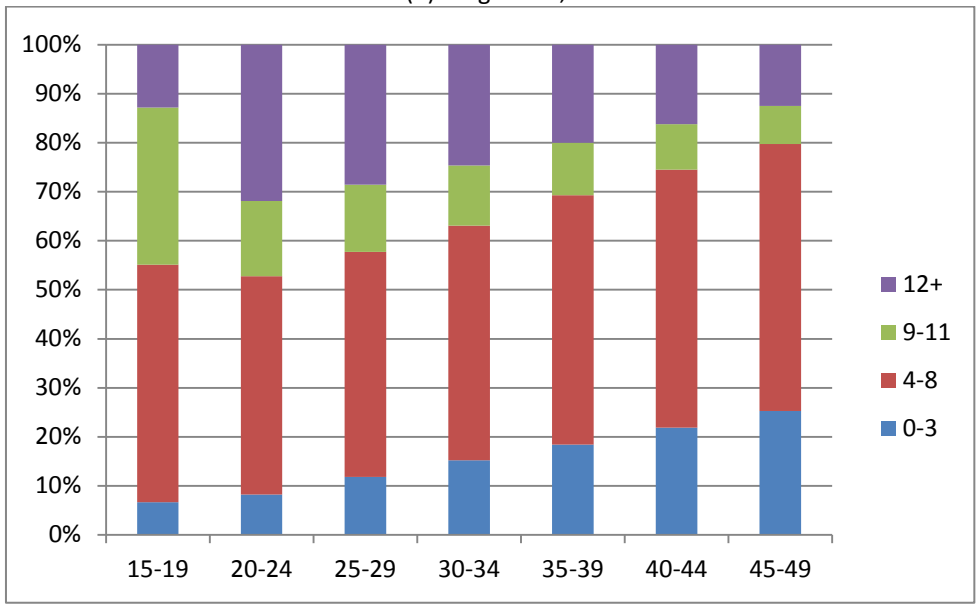
Figures 8 and 9 present the composition of women by education and age group in selected Latin American Countries. We show that all countries analyzed have experienced a fundamental change in the education composition, with a major decline in the share of the two lower groups of education and an increase in the share of high school and tertiary education groups. In Brazil, Colombia, and Uruguay, the observed growth is divided between high school and tertiary education which are both important segments. Mexico and Argentina present a growth more concentrated in tertiary education, with a smaller segment of women in high school.

Figure 8: Educational composition by year and age-group for selected Latin American countries. Females

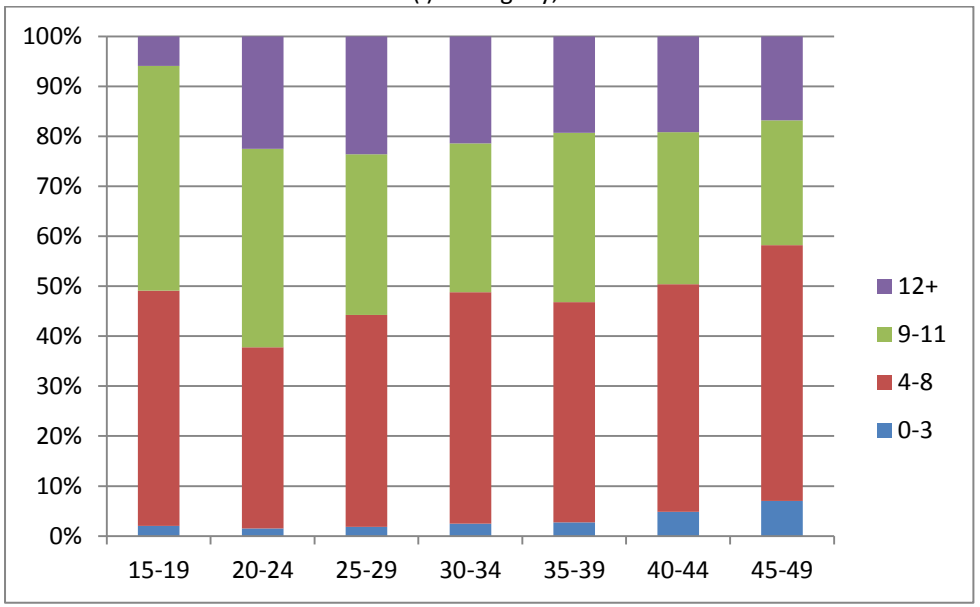
Source: IPUMS data, 2013

Figure 9: Educational composition by year and age-group for selected Latin American countries. Females (continued)

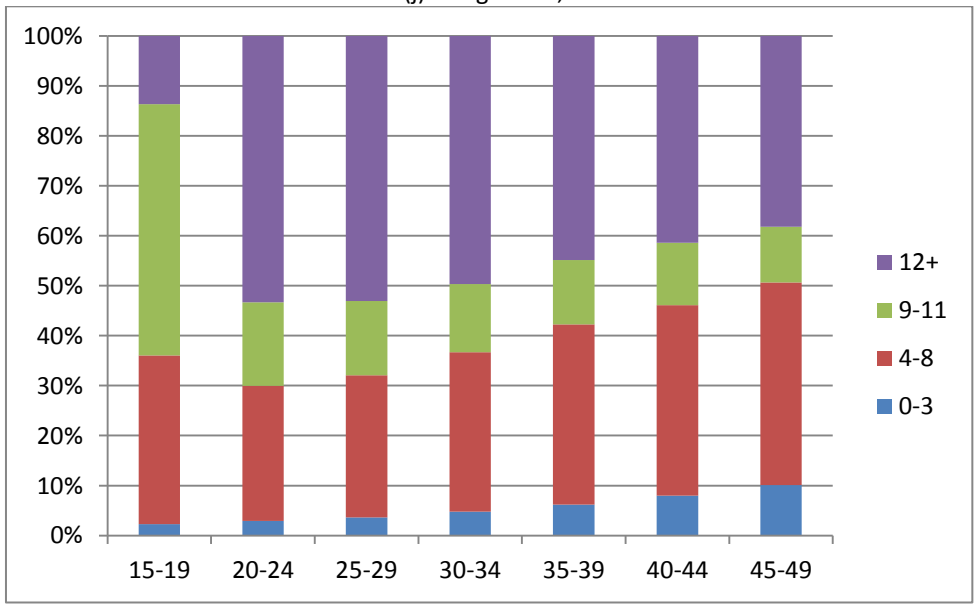
(h) Argentina, 1980



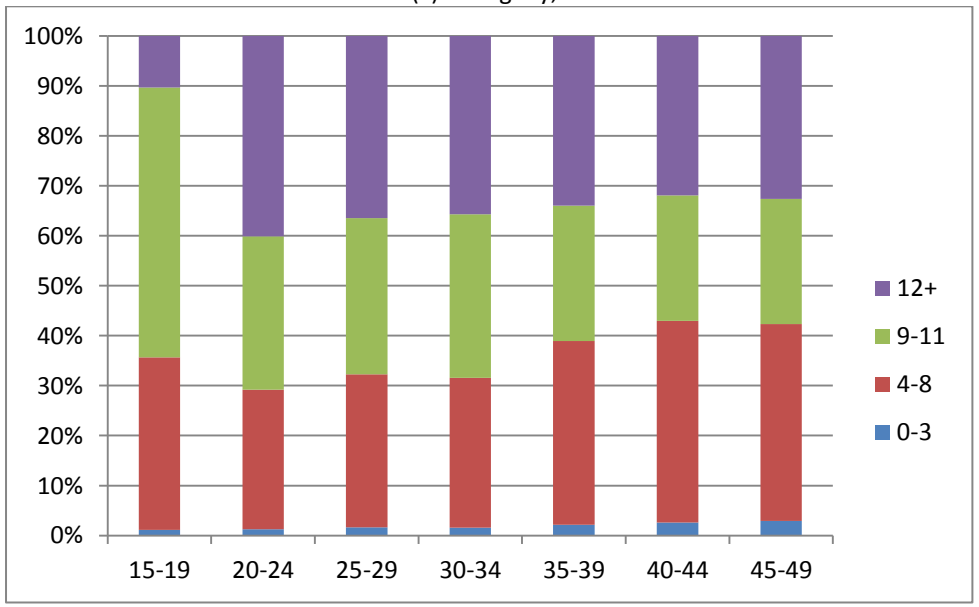
(i) Uruguay, 1996



(j) Argentina, 2001



(k) Uruguay, 2006



Source: IPUMS data, 2013

A RETROSPECTIVE DECOMPOSITION EXERCISE: COMPOSITIONAL VERSUS RATE EFFECTS

This decomposition exercise evaluates the impact of changes in women's educational composition and in the age-specific fertility rates (ASFR) on the observed decline in total fertility rates (TFR). It was implemented as follows:

$$TFR_{it} = 5 \times \sum_{j=1}^{7}\sum_{k=1}^{4} ASFR_{ijkt} \times ASEC_{ijkt\cdot}\text{ , for } t = 1{,}2 \text{ and for all } i$$

$$\Delta TFR_i = TFR_2 - TFR_1$$

Consider TFR_i^* the counterfactual TFR that reflects only the changes in the age-specific educational composition between times 1 and 2, and let TFR_i' denote the counterfactual TFR that reflects only the changes in the age-specific fertility rates by level of education *k* between times 1 and 2:

$$TFR_i^* = 5 \times \sum_{j=1}^{7}\sum_{k=1}^{4} ASFR_{ijk1} \times ASEC_{ijk2} \text{ , for all } i$$

$$TFR_i' = 5 \times \sum_{j=1}^{7}\sum_{k=1}^{4} ASFR_{ijk2} \times ASEC_{ijk1} \text{ , for all } i$$

The compositional effect (CE) expresses the net impact of changes in women's education between times 1 and 2 on fertility changes in the same period and is given by:

$$CE_i = TFR_i^* - TFR_{i1}$$

The rate effect (RE) indicates the net impact of changes in the age fertility schedule between times 1 and 2 on fertility changes in the same period and is given by:

$$RE_i = TFR_i' - TFR_{i1}$$

The comparative analysis of the decomposition in all five countries is presented in Table 1. The data shows that the absolute fertility decline in all countries analyzed was very similar[3] regardless the initial level of fertility (see line 3 of the table), except for Argentina, which presented a larger fertility decline.[4] A comparison of compositional effects and rate effects (lines 6 and 7) shows that, except for the case of Mexico, the largest magnitude of the decline in TFR was due to changes in the education composition, as opposed to changes in the fertility profile for each education group of

[3] The TFRs calculated with the traditional Brass' correction are slightly overestimated, while the uncorrected fertility profiles tend to underestimate TFRs.

[4] The decomposition in the Argentine case is the one that did not include a second period towards the completion of the first decade of the current century.

women. As the table indicates, the share of education composition in the explained fertility decline (line 9) was in average 80% of the observed decline in all five countries, with the highest share observed for Argentina and the smallest share observed for Mexico. Except for the case of Mexico, the role of changes in the fertility profiles (line 7) of age groups is negative, but with smaller magnitude; in the case of Argentina, the effect was even positive.

Table 1: Retrospective decomposition exercise – The effect of changes in educational composition and age-specific fertility rares by education on changes in fertility levels between two censuses. Selected Latin American Countries

	BRAZIL	MEXICO	COLOMBIA	ARGENTINA	URUGUAY
TFR(1)	2.61	2.88	2.95	3.62	3.01
TFR(2)	2.17	2.42	2.52	2.92	2.60
Absolute Change in TFR	-0.44	-0.46	-0.43	-0.70	-0.41
TFR_i^*	2.12	2.63	2.50	3.10	2.61
TFR_i'	2.50	2.52	2.93	3.68	2.92
CE_i	-0.49	-0.25	-0.45	-0.52	-0.40
RE_i	-0.11	-0.36	-0.02	0.05	-0.09
Explained effect ($CE_i + RE_i$)	-0.59	-0.61	-0.47	-0.46	-0.49
Share explained CE_i	0.82	0.41	0.96	1.12	0.81
Share explained RE_i	0.18	0.59	0.04	-0.12	0.19
Residual effect	0.15	0.15	0.04	-0.24	0.08

Source: Computations based on IPUMS data (2013)

Table 2 clarifies which education group was more important in explaining the observed variation in the composition and rate effects. In terms of the education group composition effect, clearly the growth in high education groups is the driving force explaining the fertility decline, but the vector explaining TFRs decline is the decline in the two lower education groups, while the composition of the high education groups favored an increase in TFR. In terms of the rate effect, the driving force explaining the fertility decline due to age specific fertility rates is the decline in the rates of low education groups. In fact, although the level of TFR in tertiary education is quite low (below replacement) in all countries, the observed trend is one of a small temporal increase in TFR for this education group, with the exceptions of Mexico and Argentina.

As a conclusive statement of this decomposition exercise, it is surprising that there is a great deal of similarity in the pattern of fertility decline among these five countries in the region. Although a counterfactual decomposition exercise cannot be regarded as a study of socioeconomic determinants, the results are sufficiently robust to suggest that the dynamics of formal education in the region is sufficient to determine a very strong composition effect in the fertility decline.

Table 2: The role of educational group for components of the retrospective decomposition exercise

	Education group	CE_i	RE_i
BRAZIL	0-3 years	-0.28	-0.16
	4-8 years	-0.46	-0.11
	9-11 years	0.18	0.12
	12+ years	0.07	0.04
	TOTAL	-0.49	-0.11
MEXICO	0-3 years	-0.24	-0.06
	4-8 years	-0.31	-0.16
	9-11 years	0.11	-0.10
	12+ years	0.20	-0.04
	TOTAL	-0.25	-0.36
COLOMBIA	0-3 years	-0.35	-0.14
	4-8 years	-0.47	0.09
	9-11 years	0.24	0.01
	12+ years	0.13	0.03
	TOTAL	-0.45	-0.02
ARGENTINA	0-3 years	-0.46	0.02
	4-8 years	-0.65	0.16
	9-11 years	0.08	0.06
	12+ years	0.52	-0.20
	TOTAL	-0.52	0.05
URUGUAY	0-3 years	-0.28	0.01
	4-8 years	-0.50	-0.19
	9-11 years	0.26	0.03
	12+ years	0.12	0.06
	TOTAL	-0.40	-0.09

Source: Computations based on IPUMS data (2013)

IS BELOW REPLACEMENT FERTILITY A TREND IN THE REGION?

The second decomposition is prospective. It evaluates the chances of fertility decline between 2010 and 2030 if the fertility schedule (ASFRs) remains the one observed in the last census and the mothers' educational composition changes in accordance with a projection of education. This is calculated in the same way as the composition effect described above, in the previous decomposition, while the projection of mothers' education is performed by the estimation of a multinomial logit model specified in age, period, and cohort (APC) components.

Formally, the second decomposition is prospective and assesses the magnitude of the fertility decline in the coming decades ($t = 2+n$) if the age fertility schedule (ASFR) remains as observed in the last census ($t = 2$) and the women's educational composition changes as predicted by an age-period-

cohort projection model[5] in the time ($t = 2+n$). Hence, this is a compositional effect exercise; it was operationalized as follows:

$$TFR_i^* = 5 \times \sum_{j=1}^{7} \sum_{k=1}^{4} ASFR_{ijk2} \times ASEC_{ijk(2+\mathrm{n})} \text{ , for all } i$$

$$CE_i = TFR_i^* - TFR_{i2}$$

Figure 8 and Table 12 present the projection of mother's education composition by age and country in 2030. The projection is an extrapolation of several demographic censuses of these five countries; it is fit by an APC model and extrapolates the period and cohort trends. In 2030 the two lower education groups will practically disappear from all countries. The differences among these countries are associated with the share of women with high school or college degree. Argentina and Colombia are the two countries with a higher predicted prevalence of women in tertiary education. Brazil is the country with the lowest prevalence of women with tertiary education. Mexico and Uruguay are positioned in an intermediary situation.

[5] The age-period-cohort projection model was operationalized by a multinomial logit model to assess the effects of age, period, and cohort. The identification assumption was to set the effects for the last two cohorts to be equal (Fienberg and Mason 1985). Also, the projection was carried out by extrapolating period and cohort effects using a linear trend.

Figure 10: Projection of mother's education composition by age and country in 2030.

Source: IPUMS data, 2013

Table 3 summarizes the projection exercise. The prospective education expansion will favor a decline in TFR until 2030. Brazil and Colombia will be clearly below replacement in 2030. The result for Brazil is more impressive, given that the projected education expansion in Brazil does not indicate a high prevalence of women with tertiary education. Colombia and Argentina are more favored with the education expansion biased towards women with tertiary education. The fertility decline is predicted to be lower in the case of Mexico and Uruguay.

The last line in Table 3 gives the lower bound of fertility decline in 2030 if all women in reproductive ages reach tertiary education. It uses the fertility schedule of women with tertiary education at the latest observed point (2010 in most countries). This gives the potential fertility decline. Fertility would be very low in the Brazilian case (1.1), and it would be low (around 1.5) in Colombia, Argentina, and Uruguay. Only Mexico would present a fertility level close to the replacement level.

Table 3: The role of educational group for components of the retrospective decomposition exercise

	BRAZIL	MEXICO	COLOMBIA	ARGENTINA	URUGUAY
2010	2.17	2.42	2.37	2.68	2.45
2020	2.02	2.38	2.10	2.31	2.43
2030	1.92	2.34	1.91	2.09	2.34
Lower Bound	**1.14**	**2.07**	**1.46**	**1.50**	**1.56**

Source: Calculations based on IPUMS data, 2013

Although the education projections of the countries until 2030 lead to a smooth fertility decline towards below replacement level, the potential fertility decline caused by a more radical educational expansion in these countries would lead to a fertility decline more in the direction of the lowest-low fertility levels (below 1.5).

FINAL REMARKS

This paper is written in the context of several demographic changes that are taking place in the Latin American region. Some of these changes are associated with the cohabitation boom and the postponement of childbearing, leading to the discussion of the possibility that the region is entering the second demographic transition.

Although the second demographic transition is not the main focus of this paper, the likelihood of total fertility rate below replacement level and of lowest low fertility in the region is a major concern of the paper. The paper performs two decomposition exercises.

The first decomposition separates the effect of education composition of women from the effect of age specific fertility rates by education. Although the paper shows clearly different fertility profiles among the four education groups, with a more pronounced difference in the profile of women with tertiary education, the most recent demographic dynamics indicate fewer temporal changes in the profiles and more temporal changes in the educational composition of women. The share of

education composition in the explained fertility decline in the decomposition was around 80 percent of the total decline, except in the Mexican case the share was around half. Thus, the dynamics of formal education in the region is sufficient to determine a very strong composition effect in the observed fertility decline.

The second decomposition is prospective. Assuming the continuity of compositional effects of women's education, the education composition of women in reproductive age is projected until 2030. The exercise led to a smooth fertility decline until 2030, a little below the replacement level. Part of this smooth decline is due to the fact that the two lower education groups had already declined in the beginning of the exercise. If this is true, in the next decades only large expansions towards tertiary education could accelerate a sharp decline in fertility. Another more radical exercise showed that the potential fertility decline caused by a complete educational expansion in tertiary education among these countries would lead to a fertility decline more in the direction of the lowest low fertility levels (below 1.5).

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APPENDIX

Table A1: Total Fertility Rate by year for selected Latin American countries, 1950-2005

Year	Country					
	ARG	BRA	CHI	COL	MEX	URU
1950-1955	3.15	6.15	4.95	6.76	6.70	2.73
1955-1960	3.13	6.15	5.49	6.76	6.80	2.83
1960-1965	3.09	6.15	5.44	6.76	6.75	2.90
1965-1970	3.05	5.38	4.44	6.18	6.75	2.80
1970-1975	3.15	4.72	3.63	5.00	6.50	3.00
1975-1980	3.44	4.31	2.80	4.34	5.25	2.89
1980-1985	3.15	3.80	2.67	3.68	4.25	2.57
1985-1990	3.05	3.10	2.65	3.24	3.63	2.53
1990-1995	2.90	2.60	2.55	3.00	3.16	2.49
1995-2000	2.63	2.45	2.21	2.75	2.80	2.30
2000-2005	2.35	2.25	2.00	2.55	2.54	2.20

Source: United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2012 Revision, New York, 2013.

Table A2: Total Fertility Rate by year and education. Brazil, 2000 and 2010.

	2000				2010			
AGE GROUP	0-3	4-8	9-11	12+	0-3	4-8	9-11	12+
15-19	0.18442	0.11743	0.03975	0.02683	0.15582	0.13787	0.04805	0.01095
20-24	0.26499	0.21981	0.08274	0.02474	0.20493	0.19005	0.11510	0.03018
25-29	0.17178	0.14512	0.08661	0.04418	0.14393	0.12036	0.10160	0.06003
30-34	0.10823	0.08387	0.05910	0.04533	0.08444	0.06903	0.07216	0.07129
35-39	0.07094	0.04298	0.02813	0.02398	0.04582	0.03669	0.03692	0.04348
40-44	0.02935	0.01346	0.00730	0.00563	0.01699	0.01142	0.01055	0.01172
45-49	0.00460	0.00193	0.00065	0.00067	0.00352	0.00164	0.00131	0.00095
TFT	**4.17160**	**3.12295**	**1.52133**	**0.85687**	**3.27726**	**2.83535**	**1.92849**	**1.14300**

Source: IPUMS Data, 2013

Table A3: Total Fertility Rate by year and education. Mexico, 2000 and 2010.

AGE GROUP	2000				2010			
	0-3	4-8	9-11	12+	0-3	4-8	9-11	12+
15-19	0.14661	0.09336	0.04516	0.03002	0.08303	0.054	0.04206	0.02758
20-24	0.23221	0.21102	0.15978	0.08193	0.11328	0.12328	0.11011	0.05565
25-29	0.19007	0.17596	0.14622	0.1212	0.1035	0.09961	0.08879	0.06976
30-34	0.13603	0.11407	0.10121	0.10568	0.09718	0.09046	0.08525	0.07747
35-39	0.08793	0.05718	0.04896	0.0528	0.08171	0.08015	0.08171	0.0738
40-44	0.03637	0.01912	0.01256	0.01282	0.06296	0.06124	0.0615	0.06848
45-49	0.00882	0.00309	0.00225	0.00256	0.04585	0.03957	0.03908	0.04157
TFT	4.19019	3.36902	2.5807	2.03501	**2.93756**	**2.74157**	**2.54251**	**2.0715**

Source: IPUMS Data, 2013

Table A4: Total Fertility Rate by year and education. Mexico, 2000 and 2010.

AGE GROUP	2000				2010			
	0-3	4-8	9-11	12+	0-3	4-8	9-11	12+
15-19	0.14661	0.09336	0.04516	0.03002	0.08303	0.054	0.04206	0.02758
20-24	0.23221	0.21102	0.15978	0.08193	0.11328	0.12328	0.11011	0.05565
25-29	0.19007	0.17596	0.14622	0.1212	0.1035	0.09961	0.08879	0.06976
30-34	0.13603	0.11407	0.10121	0.10568	0.09718	0.09046	0.08525	0.07747
35-39	0.08793	0.05718	0.04896	0.0528	0.08171	0.08015	0.08171	0.0738
40-44	0.03637	0.01912	0.01256	0.01282	0.06296	0.06124	0.0615	0.06848
45-49	0.00882	0.00309	0.00225	0.00256	0.04585	0.03957	0.03908	0.04157
TFT	4.19019	3.36902	2.5807	2.03501	**2.93756**	**2.74157**	**2.54251**	**2.0715**

Source: IPUMS Data, 2013

Table A5: Total Fertility Rate by year and education. Argentina, 1980 and 2001.

AGE GROUP	1980				2001			
	0-3	8-Apr	11-Sep	12+	0-3	8-Apr	11-Sep	12+
15-19	0.1894	0.1089	0.0376	0.0150	0.1829	0.1367	0.0721	0.0326
20-24	0.3011	0.2337	0.1891	0.0754	0.2635	0.2573	0.2197	0.0517
25-29	0.2542	0.1984	0.1953	0.1464	0.2955	0.2096	0.1907	0.0786
30-34	0.2052	0.1389	0.1447	0.1184	0.2428	0.1478	0.1414	0.0820
35-39	0.1405	0.0806	0.0822	0.0620	0.1404	0.0827	0.0726	0.0434
40-44	0.0542	0.0279	0.0287	0.0180	0.0461	0.0295	0.0216	0.0114
45-49	0.0127	0.0070	0.0099	0.0068	0.0104	0.0025	0.0014	0.0009
TFT	**5.7868**	**3.9770**	**3.4380**	**2.2104**	**5.9079**	**4.3306**	**3.5970**	**1.5036**

Source: IPUMS Data, 2013

Table A6: Total Fertility Rate by year and education. Colombia, 1993 and 2005.

AGE GROUP	1993				2005			
	0-3	8-Apr	11-Sep	12+	0-3	8-Apr	11-Sep	12+
15-19	0.1680	0.1108	0.0488	0.0157	0.1890	0.1544	0.0645	0.0199
20-24	0.2616	0.2128	0.1289	0.0418	0.2139	0.2344	0.1426	0.0510
25-29	0.1863	0.1533	0.1243	0.0750	0.1446	0.1429	0.1084	0.0788
30-34	0.1264	0.0990	0.0836	0.0698	0.0964	0.0824	0.0766	0.0778
35-39	0.0815	0.0537	0.0397	0.0382	0.0622	0.0486	0.0368	0.0520
40-44	0.0337	0.0171	0.0153	0.0089	0.0242	0.0144	0.0113	0.0128
45-49	0.0064	0.0027	0.0017	0.0025	0.0043	0.0012	0.0007	0.0004
TFT	**4.3196**	**3.2470**	**2.2121**	**1.2593**	**3.6731**	**3.3913**	**2.2045**	**1.4596**

Source: IPUMS Data, 2013

Table A7: Total Fertility Rate by year and education. Uruguay, 1996 and 2006.

AGE GROUP	1996				2006			
	0-3	8-Apr	11-Sep	12+	0-3	8-Apr	11-Sep	12+
15-19	0.1105	0.1218	0.0412	0.0194	0.0556	0.1148	0.0374	0.0075
20-24	0.2067	0.1958	0.1211	0.0248	0.1859	0.1955	0.1461	0.0299
25-29	0.1599	0.1681	0.1526	0.0658	0.2463	0.1400	0.1562	0.0743
30-34	0.1293	0.1235	0.1000	0.0770	0.0725	0.0993	0.1051	0.1177
35-39	0.0577	0.0721	0.0526	0.0390	0.0644	0.0694	0.0559	0.0756
40-44	0.0275	0.0354	0.0217	0.0142	0.0526	0.0127	0.0099	0.0066
45-49	0.0086	0.0070	0.0094	0.0016	0.0074	0.0012	0.0048	0.0000
TFT	**3.5010**	**3.6187**	**2.4920**	**1.2084**	**3.4235**	**3.1641**	**2.5765**	**1.5581**

Source: IPUMS Data, 2013