Fertility transitions in Brazil:

an analysis in the light of educational levels[1]

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1 Introduction and objectives

In the first decade of this century, Brazil entered into the group of countries that had below replacement fertility. This occurred about 40 years after the onset of fertility transition in the country. The transition process began in the late 1960s, when the total fertility rate (TFR) was 5.8 children per woman. This transition accelerated during the 1980s, reaching an average of 2.4 children per woman by the end of the century. Data from the National Household Sample Survey (PNAD) of 2006 showed that the TFR in the country had reached two children per woman. The following PNAD confirmed this trend and, according to the 2010 Demographic Census, the TFR in Brazil was 1.9. The fertility decline in Brazil was accompanied by a fall in the mean age of childbearing (MAC), suggesting a rejuvenation of the fertility schedule. The PNAD of the second half of the 2000s and the 2010 Demographic Census both indicated that there was a reversal occurring and that the recent trend in the country is towards a rising MAC.

The country's average does not reflect the differences in the reproductive behavior of Brazilian women. Considering the example of the extremes in educational levels (women with less than eight years of schooling versus women with 12 or more years of study), one can observe that although the differentials decrease over time, they are still considerable. In 1980, the TFR for women with 12 or more years of schooling was 2.94 children, while the TFR for those with less than eight years of schooling was 4.46. In 2010, the TFR for the more educated women was 1.26 and 2.47 for the less

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educated women. In terms of the MAC, there was a decrease among the less educated women between 1980 and 2010 from 29 to 25.3 years, while the MAC for more educated women increased from 28.5 to 30.9 during the same period.

These results show that reproductive behavior in Brazil is differentiated according to educational level. The downward trend in fertility is common among all groups, but there are differences in the level, the pace of decline and in the MAC behavior. In 2010, women with the lowest educational levels still present a TFR above the replacement level and a decrease in the MAC, while women with highest educational levels present very low fertility levels and a rising MAC.

According to this evidence, is it possible to say that Brazil is a country experiencing fertility transitions? We analyzed fertility through the lens of the educational level of women to investigate whether it is possible to identify more than one movement among Brazilian women. The main objective of this paper is to analyze fertility differentials by educational level in order to seek characteristics that determine the particular stage of the demographic transition of each educational group.

2 Demographic transitions: the role of fertility

The term "demographic transition" is widely used, although there is no consensus as to whether it consists of a single and continuous movement or several shifts. Whether the demographic transition affects all components or can be confused with the fertility transition is also debated. Even without a specific consensus, one could traditionally identify two movements and, more recently, a third movement attempts to explain the demographic changes that the world population is facing. Fertility played—and still plays—a very important role on demographic changes.

In the classical model of the demographic transition, also known as the First Demographic Transition (FDT), the initial balance in population growth is caused by high rates of mortality and fertility. After the drop in mortality, fertility decline leads population growth towards a new level of equilibrium. Although the real trigger for the FDT stemmed from a decrease in mortality, the developed theories about the phenomenon tried to understand the motivations and differences in the process of fertility decline. These issues have been extensively discussed by the so-called

"classical theories" that address macro and micro-economic, social, ideological and behavioral aspects.

When mortality reached low levels, it was expected that fertility would stabilize close to the replacement level, thus maintaining population growth near zero, in the worst scenario. If this case had occurred, no new theory would probably exist, and discussions about fertility levels would be of little interest. However, in industrialized countries, the fertility decline has not ceased and instead of balance, what we saw—and continue to see—is a new imbalance caused by extremely low fertility levels, which have been active for over four decades. Regardless of the name given to this set of characteristics, the discussions brought to light a new set of ideas and revelations.

An article by Ron J. Lesthaeghe and Dirk J. Van de Kaa published in 1986, and cited by Van de Kaa (2002), marks the beginning of the studies on the Second Demographic Transition (SDT). According to Van de Kaa (2002), the basic idea behind the concept of the SDT is that industrialized countries have reached a new stage of demographic development, characterized by full fertility control. The absence of incentives for having more than one or two children, combined with the possibility of effective control against pregnancy, led to very low fertility levels. Obviously, the result of a long period following this scheme was the accentuation of the process of population aging and population decrease. In this new scenario, (international) migration works as a compensating factor.

Philip Ariès (1980) explained the fertility decline from the 1960s as a result of a behavior change towards the idea of children that suggests offspring were no longer the only alternative for personal fulfillment, but one option. In this sense, the significance of personal relationships has become the most important thing in people's lives. This behavior and the desire for goods and status gave a special meaning to the rapid fertility decline. Henri Leridon (1987), quoted by Van de Kaa (2002), emphasized the importance of the "second contraceptives revolution," created by the availability of new and more efficient contraceptive methods. This revolution, combined with the ability to obtain abortions in some societies, would have a catalytic effect on fertility decline (and the number of unwanted pregnancies). This catalytic effect is contested by Ariès for whom, despite the existence of other factors, the most important change occurred internally, when each individual started to act according to the new paradigm. The studies conducted by Ariès were important to highlight that, behind the fertility decline,

there was a fundamental factor: the changing patterns of family formation. His ideas were instrumental to the development of the theory of the SDT.

Some criticisms have arisen in regards to the term SDT. R. L. Cliquet (1991) argued that there is no apparent discontinuity between the FDT and the SDT and that the demographic changes can be seen as an acceleration of family formation reproductive patterns and can be related to modernization. David Coleman (2004) asserted the sharpest criticism. According to Coleman, a transition implies a permanent move and must be shared by most individuals in a population. In this sense, the SDT cannot be called a "transition." Secondly, Coleman believes that some aspects listed as drivers of the SDT, including ideological change and individualization for example, are nothing more than a continuation of values established in the FTD. In this sense, the SDT cannot be called "second," but secondary. Finally, Coleman thinks the term "demographic" is incorrect, since changes are more behavioral than demographical.

The most recent criticism, described by Tomáš Sobotka (2008), states that the SDT theory was developed from the point of view of European societies, which leaves much to the imagination in terms of whether it will spread to other countries and regions worldwide. Some studies indicate that advanced societies outside of Europe experienced a continuation of fertility decline and changing family formation patterns, with very different behaviors from those observed in Europe. In this regard, critics contend that the standard family, as opposed to what the SDT theory contemplates, is not unique. Rather, there is a plurality of patterns. Thus, a single model transition is unable to describe different types of change. Sobotka (2008) argues that the fluidity and breadth of the SDT narrative prevented studies that could cast doubt on the validity of the theory. Before this could happen, SDT was already an established concept.

Although (international) migration appears in the formulation of the SDT theory and in the integrated model proposed by Van de Kaa, it is not explicitly considered in an effective manner. In fact, the SDT's emphasis is on changes in values and attitudes and the influence of these factors on continued fertility decline and the maintenance of this decline at levels below replacement. Migration is not considered in the way it was originally proposed, i.e., as an attempt to restore the population growth equilibrium. Coleman (2006) proposes that international migration flows observed in low and very low fertility countries, and the consequences of this migration, in terms of size and the ethnic composition of the population, are seen as a new transitional movement, or a

"Third Demographic Transition" (TDT). According to Coleman (2006), the prerequisites for the TDT are the low and persistent fertility levels, associated with high international migration rates.

This combination results in a progressive increase of migrants and their descendants and the relative decline of the native population. The speed of the compositional change depends on the growth rates (i.e., fertility) of natives and migrants and the net migration in the country or region. According to Sobotka (2008), some studies show that in the case of European countries, although the fertility rates of immigrants are usually higher, the differential varies according to the origin and the effect on the local total fertility is relatively small.

3 Data and Methods

In this work, we will solely investigate fertility related aspects, without going into details on family formation patterns or migration analysis. The study will focus on the fertility level, parity composition and mean age of childbearing trends.

We used microdata from the 1980, 1991, 2000 and 2010 demographic censuses. The selected variables were age, parity, births in the previous year, women and years of schooling. These variables allowed the calculation of: total fertility rates (TFR), specific fertility rates (ASFR) and mean age of childbearing (MAC), according to the women's educational level. We divided women into four educational categories: 0-7 years of schooling (0-7 yrsch), 8-10 years of schooling (8-10 yrsch), 11 years of study (11 yrsch) and 12 years of schooling or more (12+ yrsch). For a more detailed analysis, these measures were also calculated according to birth order (last birth).

The TFR and ASFR were corrected by the P/F Brass method (BRASS, 1974), which adjusts the fertility level by a "correction factor," calculated as the ratio between parity and cumulative fertility for age group representing 20-24 years-of-age. In this paper, we applied the same correction factor to all educational levels (Brazil's factor). Although it is likely that the percentage of correctness is smaller for the more educated women, the application of the same factor ensures that the number of births is equal, considering the total number of women or disaggregating by educational level.

To analyze the MAC, we applied the Bongaarts and Feeney (BF) model (Bongaarts and Feeney, 1998). Despite criticism, the model generates a measure that

provides information on the reproductive behavior of women in terms of advance births or postponement. We are not interested in the adjusted TFR *per se*, but in its comparison with the observed TFR. We want to know if there is a movement towards delaying or anticipating births.

3.1 BF Model

In the BF model, the *tempo* effect is related to the distortions that the MAC cause in the observed TFR. The BF model aims at establishing a new TFR, free of distortions caused by the *tempo* effect. This "adjusted" measure represents the TFR that would be observed in the absence of changes in the MAC, i.e., in the absence of the *tempo* effect. The adjusted measure, $TFR_{adjusted}$, is what Bongaarts and Feeney (1998) define as the pure *quantum*.

The authors assume that fertility may be influenced by age, parity, period and duration since last birth, but not by cohort. One argument for developing the BF model is that fertility changes in a certain period can occur at any age or birth order and as a consequence of *quantum* or *tempo* effects. Thus, the disaggregated model works according to birth order, *i*, and uses an adaptation of the equation developed by N.B. Ryder (1956), to determine the Equation 1, that calculates the adjusted TFR.

$$TFT_{i,adjusted} = \frac{TFT_{i,observed}}{(1 - r_i)} \qquad \text{(Equation 1)}$$

in which $TFR_{observed}$ is the observed TFR for order *i*, and r_i is the annual change in the MAC at order *i*.

One can easily apply the BF model by using data from cross-sectional household surveys that allow the estimation of the TFR and ASFR according to birth order. To estimate r_i it is necessary to use two editions of the survey, and the annual change in the MAC is calculated by dividing the total change by the time elapsed between the editions. The ease of this application led to a series of studies in different countries and regions. However, the validity of $TFR_{adjusted}$ as a measure of pure quantum, free from the *tempo* effect, is questionable.

The two main criticisms of the BF model refer to the fact that the authors disregard cohort differentials in the change of the MAC and that they propose

inadequate measures in the model (Van Imhoff and Keilman, 2000). The first criticism relates to the value of r_i, which assumes that the annual change in MAC for a particular birth order is the same for all age groups, i.e., that the fertility schedule was constant during the period. Evert Van Imhoff and Nico Keilman (2000), along with Hans-Peter Köhler and Dimiter Philipov (2001), showed empirically that this assumption is violated. The second criticism is related to the use of ASFR that have a denominator containing all women at a particular age, regardless of their parity. Thus, fertility rates do not represent exposure or risk measures, but frequencies. When period frequencies are summed for all ages, the result cannot be interpreted as an appropriate quantum indicator (Van Imhoff and Keilman, 2000).

4 Some sociodemographic characteristics of the Brazilian population

4.1 Brazilian population: size, growth rates and age structure

In 2010, the Brazilian population was 190.7 million people. Although Brazilian fertility has been below the replacement level since the mid-2000s, the large percentage of reproductive age women and the fact that high fertility regimes occurred recently, ensure a positive growth rate. Table 1 shows that the Brazilian population grew at an average annual rate of 1.9 percent between 1980 and 1991 and in the following years the rate fell to 1.6 percent per year. In the first decade of the 2000s, the Brazilian population grew at an average rate of 1.2 percent per year. Some studies indicate that by 2030, Brazil will reach its maximum population of around 206 million people.

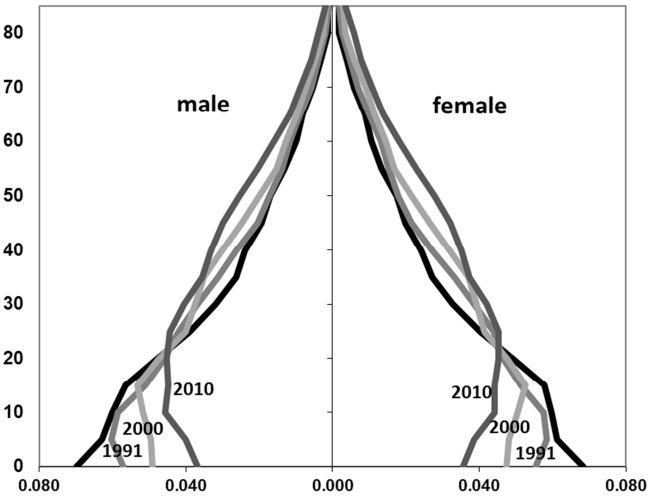
Table 1: Population, growth rate (%) and total dependency ratio – Brazil, 1980 to 2010.

	Population	*Growth Rate per year in the previous decade*	*Total Dependency Ratio (%)*
1980	119,009,854	-	73.3%
1991	146,815,789	1.9%	65.4%
2000	169,872,856	1.6%	55.0%
2010	190,755,800	1.2%	45.9%

SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

Figure 1 shows the Brazilian age structure according to the 1980, 1991, 2000 and 2010 Demographic Censuses. One can observe the drastic changes caused by rapid fertility decline. Despite swift changes in the age structure of Brazil, the situation is demographically favorable (demographic bonus) due to a low overall dependency ratio, which may reach its lowest value between 2020 and 2030.

Figure 1: Age structure – Brazil, 1980 to 2010



SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

4.2 Educational system in Brazil

The Brazilian educational system has undergone many changes throughout the second half of the 20th century. A systematic increase in the schooling population occurred as the number of the locations of public schools increased, compulsory school attendance for the school-age population rose and the initial age of compulsory education was reduced. Despite advances, we are far from an ideal scenario. The average level of schooling of the population above 10 years-of-age in 2011 was 7.2 years. This number is still low when compared to educational attainment in developed countries (12.4 years in the U.S.; 10.6 years in France; 11.6 years in Japan) or even the level of schooling obtained in other Latin American countries such as Chile (9.7 years) and Argentina (9.3 years). [2] This low educational attainment reflects limited access to education in the past—which implies adults with lower education—and unfavorable socioeconomic conditions—that cause high repetition and dropout rates.

[2] Data come from the UNDP and are available at <http://hdrstats.undp.org/en/indicators/103006.html>.

The basic Brazilian educational system is divided into two mandatory levels: fundamental and secondary. Until the early 2000s, the fundamental level was comprised of eight years and the secondary level consisted of three years of schooling. Children entered school at age seven and would reach a total of 11 years of schooling if they completed basic education. Preschool was and is still not mandatory. The more recent difference is that since the mid-2000s, the fundamental level begins at age six and the complete basic system is comprised of 12 years of schooling.

Women who are of reproductive age in 2010 (should have) fulfilled their basic education under the old system, which motivated the definition of the schooling groups used in this paper: 0-7 years of schooling, which aggregates those who have not completed primary education; 8-10 years of schooling, which aggregates those who completed primary, but did not complete the secondary level; 11 years of schooling, which aggregates those who completed the secondary level and are not enrolled in college; 12 or more years of schooling, which aggregates women who at least entered college. Brazil's average years of schooling in 2009 indicates that much of the population has not completed primary education.

Table 2 shows the percentage of reproductive age women by educational level from 1980 to 2010. Results indicate a decrease in the percentage of lower educated women and an increase in the percentage of women with 12 or more years of schooling.

Table 2: Reproductive age women (%) by years of schooling in Brazil, 1980 to 2010

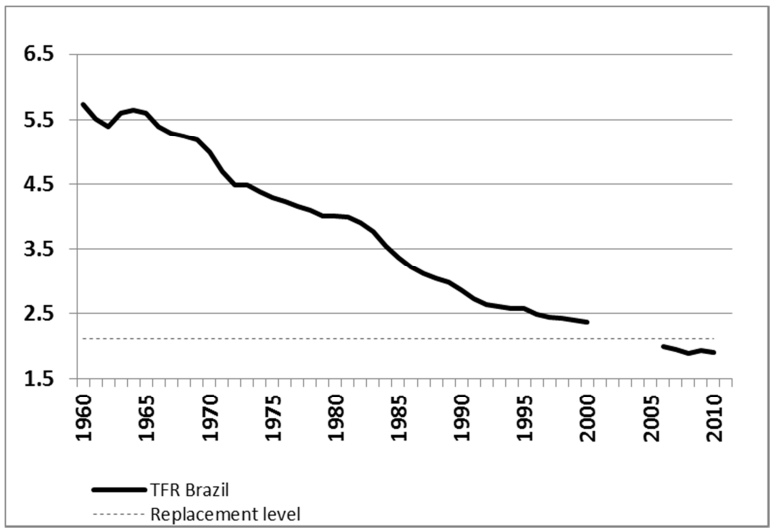
	Years of Schooling				
	0-7	*8-10*	*11*	*12+*	*Total*
1980	84.5%	6.6%	5.9%	2.9%	100.0%
1991	65.2%	15.2%	11.7%	7.9%	100.0%
2000	51.6%	20.8%	18.5%	9.1%	100.0%
2010	33.5%	23.2%	24.5%	18.8%	100.0%

SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

5 Empirical evidences of the fertility transition in Brazil

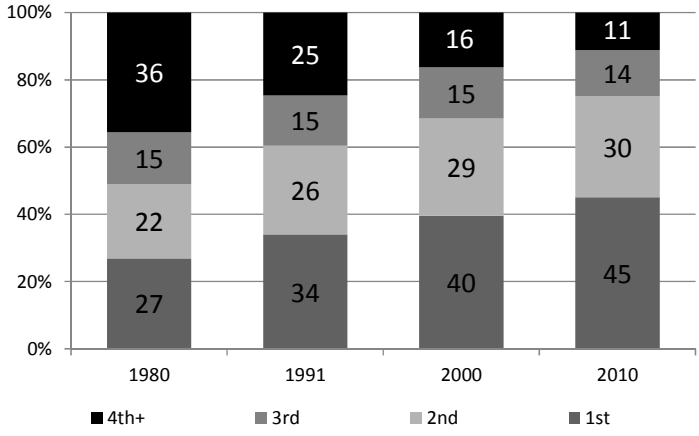
Brazil has experienced a steady fertility decline during the last 50 years, despite a lack of socioeconomic and structural changes or any explicit family planning policies. Figure 2 shows that the decline began in the mid-1960s accelerated during the 1980s and reached the replacement level in the early 2000s. In 2010, the Brazilian TFR was 1.91 children per woman.

Figure 2: Total Fertility Rate – Brazil, 1960 to 2010



SOURCE: Own Children Method (1960-2000); PNAD (2006-2009); Brazilian Demographic Census (2010).

Figure 1: Cumulative parity distribution by order – Brazil, 1980 a 2010.



SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

Figure 3 shows the parity composition. Between 1980 and 2010 there was a considerable increase in the percentage of first and second order births. In 1980, the first two birth orders represented 49 percent of births, while 35.7 percent were births of order four or higher. In 1991, 60 percent of births were first or second order, while live births of order four or higher were reduced to 24.6 percent. In 2000, 16.3 percent of births were of superior orders, while almost 70 percent were of orders one or two. In 2010, one can observe that 45.1 percent were first order births, 30.1 percent were of second order and 11.1 percent were of order four or higher. The percentage of third order births remained constant over the period at approximately 15 percent.

Table 3: Mean age of childbearing, total and by birth order – Brazil, 1980 to 2010

	Birth order						*Total*
	1st	*2nd*	*3rd*	*4th*	*5th*	*6th+*	
1980	23.5	25.9	27.9	29.4	31.1	35.5	28.8
1991	23.1	26.0	28.0	29.5	31.2	34.7	27.3
2000	22.9	26.2	27.9	29.3	31.1	34.8	26.3
2010	24.0	27.7	29.3	30.5	31.8	34.9	26.8

SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

The analysis of the MAC reveals that in the last decade there has been a reversal in the downward trend that was observed previously. Table 3 shows the MAC and the MAC by birth order from 1980 to 2010. The MAC, which fell from 28.8 years-of-age to 26.3 years-of-age between 1980 and 2000, increased to 26.8 years-of-age in 2010. For the first birth order (MAC 1), a similar phenomenon occurred, although the decline between 1980 and 2000 was lower and the increase between 2000 and 2010 was higher than the one observed for the overall MAC. The decline in the MAC in Brazil was mostly due to the decline of the fertility rates of higher order births observed during the period.

5.1 Fertility transition in Brazil according to the educational level

Fertility levels observed in Brazil do not reflect the differentials between educational groups. Table 4 shows the TFR according to level of schooling from 1980 to 2010. In general, one can observe a decrease in the differentials over time. The largest decrease occurred between 1980 and 1991 for all schooling groups. By the end of the period, only the lesser-educated are above replacement level and the higher educated are below 1.3 children per woman.

Table 4: Total fertility rate by years of schooling – Brazil, 1980 to 2010

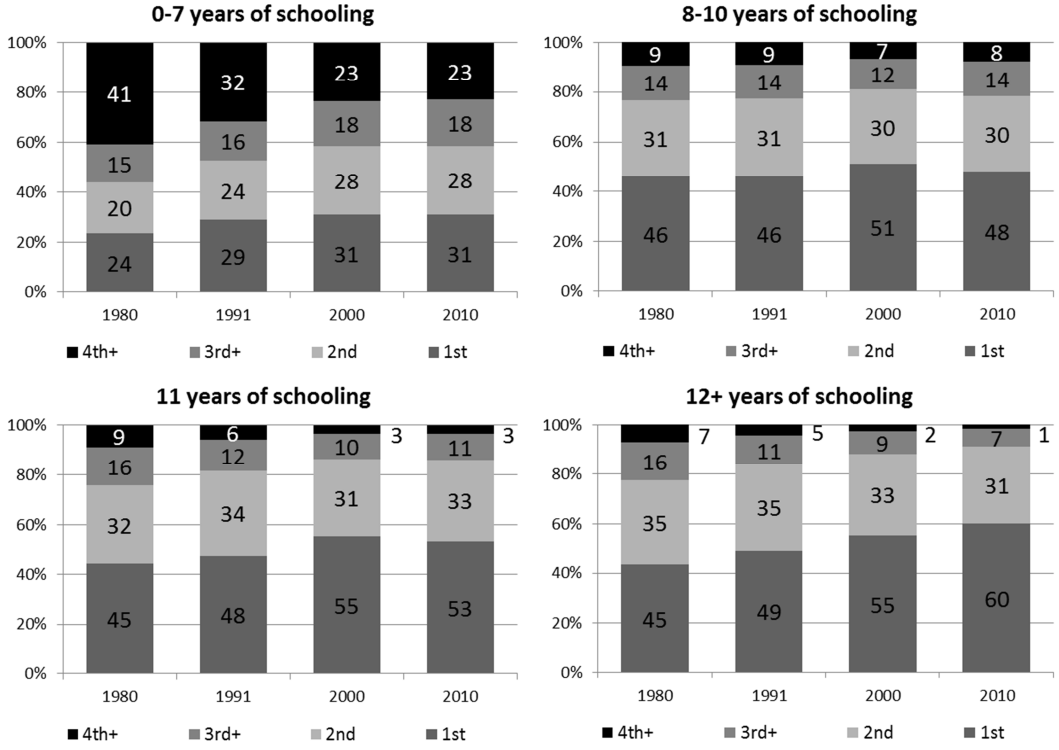
	Years of Schooling			
	0-7	*8-10*	*11*	*12+*
1980	4.46	3.61	3.01	2.94
1991	3.24	2.12	2.10	1.48
2000	3.02	2.05	1.75	1.25
2010	2.47	1.93	1.87	1.26

SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

Figure 4 shows the parity composition according to the level of schooling. In general, one can observe an increase in the proportion of first and second order births although the increase is differentiated for the four educational groups. Furthermore, higher levels of schooling imply higher proportions of first and second order births. Among women with 0-7 yrsch, 23.6 percent of births in 1980 were of the first order and 40.7 percent were of order four or higher, showing that high-order births were quite frequent in this group. In 2010, they are still frequent: 22.8 percent of women with births were of order four or higher, a large proportion when compared to the other schooling groups. In 1980, there was not a significant difference in the parity distribution for women in the 8+ years of schooling groups: more than 75 percent of births were of orders one and two and less than 10 percent were of order four or higher. In 1991, the differences between the three groups indicating years of schooling (8-10, 11 and 12+) started to increase. Births of the first order were 84 percent for the higher educated (12+yrsch), 81.6 percent for the group with 11 yrsch and 77.5 percent for the

8-10 yrsch group. Births of order four or higher were 4.5 percent, six percent and nine percent, respectively. In 2010, 91 percent of births were of the first order for the 12+yrsch group, 88.9 percent for the group with 11 yrsch and 78.5 percent for the group 8-10 yrsch. Considering births of order 4 or higher, the percentages were 1.5 percent, 3.5 percent and 7.6 percent, respectively.

Figure 4: Cumulative parity distribution by birth order and years of schooling – Brazil, 1980 to 2010.



SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

Figure 5 shows the MAC for first and second order births, according to years of schooling. Results show that the MAC1 decreases or remains constant for groups with 0-7, 8-10 and 11 yrsch, even between 2000 and 2010. The only group for which the MAC1 increases is the one representing the more highly educated (12+ yrsch). This provides evidence that these women are delaying first births. Analyzing the MAC2 figure, one can observe that the more highly educated women are also delaying births of the second order.

Figure 5: Mean age of childbearing for first and second order births by years of schooling – Brazil, 1980 to 2010

SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

The BF model estimates an adjusted TFR, which represents the one that would be observed in the absence of changes in the MAC. When the adjusted values are higher than the observed, it means that changes in the MAC are decreasing the observed TFR and women are postponing births. In this case, one can say that there is a positive *tempo* effect. When the observed values are higher than the adjusted, it means that changes in the MAC are inflating the observed TFR and women are anticipating births. In this case, one can note that there is a negative *tempo* effect. It is important to re-emphasize that this work is not concerned with the value of the *tempo* effect itself, but with its sign (positive or negative).

Table 5 shows the results of the application of the BF model to the 1980, 1991, 2000 and 2010 Brazilian Demographic Censuses. The application allows the estimation of the adjusted TFR for 1991, 2000 and 2010. For the 0-7 yrsch group, the results indicate that in 1991 and 2000 the observed TFR was inflated by anticipated births. In 2010, the observed TFR was lower than the adjusted rate, suggesting birth postponement. For the 8-10 and 11 yrsch groups, the results indicate oscillation in the *tempo* effect signals, suggesting that they had not yet entered a sustainable births postponement process. For the higher educated women (12+yrsch), the results suggest that births have been postponed for a long period.

Table 5: TFR (observed) and TFR adjusted by BF Model, by years of schooling – Brazil, 1980 to 2010

		Years of Schooling			
		0-7	*8-10*	*11*	*12+*
1991	TFR	3.24	2.12	2.10	1.48
	$TFR_{ADJUSTED}$	3.06	2.22	2.02	1.67
2000	TFR	3.02	2.05	1.75	1.25
	$TFR_{ADJUSTED}$	2.84	1.97	1.80	1.32
2010	TFR	2.47	1.93	1.87	1.26
	$TFR_{ADJUSTED}$	2.54	1.93	1.85	1.43

SOURCE: Brazilian Demographic Censuses, 1980 to 2010.

6 Discussion

The present study was aimed at investigating whether Brazil is a country of fertility transitions, i.e., if we can clearly identify more than one stage of the fertility transition among Brazilian women. The proposal of this research was to examine various aspects strictly related to fertility and, therefore, did not explore family formation patterns, migration and numerous other factors. The analyses were performed by grouping women into four distinct groups, defined according to their educational level. We analyzed trends in fertility levels, the mean age of childbearing (MAC) and parity composition.

Brazil, as a whole, seems to be completing the (first) demographic transition. Fertility is below the replacement level, the MAC is starting to increase and the percentage of higher order births is still decreasing. The current scenario results from a process that is consistently changing. It is well known that Brazil is a country of great social and economic inequality, which is reflected in the demographic indicators. In this sense, it was almost guaranteed that we would find groups in different stages of fertility transition. It was also quite assured that more highly educated women would be facing the second demographic transition, while those with less education would be in the first stage. However, an issue that was more difficult to determine was how the intermediate schooling groups were being affected.

In order to determine the stage of the demographic transition that each group was in, we defined some specific conditions that needed to be met. To be in the second stage (SDT), a group needed to exhibit the following: fertility below the replacement level, a positive *tempo* effect and a high (and growing) percentage of low order births. Furthermore, the group should be displaying the characteristics in a sustainable way. The opposite conditions place a group in the first stage of the demographic transition (FDT). In this sense, one can say that Brazil is a country of fertility transitions, because it is possible to identify groups experiencing the two "extremes" of the conditions cited above. The more highly educated (12+ yrsch) are facing the SDT, while those with least amount of education (0-7 yrsch) are still facing the FDT. The other two groups (8-10 and 11 yrsch) are in an intermediate stage.

Being in an intermediate stage means that the groups have characteristics of both stages of the demographic transition or that changes are not consolidated. Beginning in 2000, the groups with 8-10 and 11 yrsch present below replacement fertility levels and high percentages of first and second order births. Both of these characteristics could place these two groups in the SDT. At the same time, the MAC for first and second order births is still decreasing, parity composition was almost constant between 2000 and 2010, and the sign (positive or negative) of the *tempo* effect varies during this period. These elements do not place the two groups (8-10 and 11 yrsch) in the SDT. Something that may explain this apparent contradictory behavior is a combination of greater access to education and socioeconomic heterogeneity. This practice places women who have very different socioeconomic statuses and familiar background characteristics in the same group.

These groups may sometimes adopt the reproductive behavior of the more highly educated. This can happen either because of the media paradigm, the labor market participation of women is increasing or because family planning policies tend to make contraceptive methods more accessible. The key fact is that differences are decreasing over time and are continuing to decrease even more. One justification of this tendency is that, according to the 2006 Demographic Health Survey (DHS), 46 percent of births in Brazil were not planned or desired, which shows a lack of efficient contraception. This lack tends to affect women from poorer socioeconomic conditions and any improvement will also have strong consequences. Another possibility is that these groups will remain heterogeneous. This will occur if some individuals in the

groups reach higher educational levels without incorporating new reproductive behaviors. In other words, family background or socioeconomic group reproductive characteristics may play a more important role on a group's overall reproductive behavior.

A fertility analysis by educational attainment suggests that levels may continue to decline. Assuming the scenario that there is no change in the composition of the population by educational level, the fertility should drop because: (i) public policies are making contraceptive methods more affordable; (ii) fertility levels have been declining in all educational groups, regardless of which stage of transition they are experiencing; (iii) although they are at different paces and levels, all educational groups are moving towards the completion of the FDT.

The scenario of maintaining a constant population composition by educational level is very unlikely. In addition to the federal government actions in place to ensure that the population finishes at least basic education, there are also initiatives that are allowing people with lower socioeconomic conditions to have greater access to a university education. A few years ago, the government required public universities to adopt a quota system. This policy reserved a portion of the vacancies for low-income students or for those who had completed their basic education in public schools. The government also created funding programs for students at private universities. Thus, the expectation is that the group with 12+ yrsch will continue to increase. Unlike the groups with 8-10 and 11 yrsch, the more educated group has been quite homogeneous regarding reproductive behavior.

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