COMPLETING THE FERTILITY TRANSITION: THE CASE OF ARGENTINA

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A. INTRODUCTION

The fertility decline in Argentina has several original features. Regarding the timing of its onset, it was early compared to other Latin-American countries (except Uruguay) and was almost contemporary with many European countries. Regarding its relation with mortality, the descent of both variables –as measured by the crude rates- has been practically simultaneous, contrasting with the predictions of the demographic transition theory (Lattes, 1975; Pantelides, 1983). Regarding the rhythm of descent, it has shown two (small) "baby booms" that interrupted the decline of the birth rate, and several periods of quasi stability or very slow decline of that rate. After this heterodoxical behaviour, will the future of fertility in Argentina follow a predictable path? These will be the themes of our paper. We will not go into a sophisticated analysis -which would anyway be hindered by the quality and availability of data- but will try to show the general picture of the past, and try to speculate about the future.

B. THE PATH OF THE FERTILITY TRANSITION

1. The onset of the fertility decline

It is generally accepted that when talking about the onset of the fertility decline in general, it is referred to an irreversible decline in fertility that follows a period of relatively constant high fertility. There can be fluctuations but there is no going back to the pre-decline level (Knodel, 1974, p. 9). The threshold that defines the precise point of no-return is somewhat arbitrary.

In the case of Argentina, if the crude birth rate (CBR) is used as a measure of fertility, the series calculated by different authors (Collver, 1965; Lattes, 1975; Rothman, 1973; Torrado, 1970) show values of CBRs ranging from 45 to 50 live births per thousand population before the 1890s. All of the series show very small declines starting in the period 1885-1889, with oscillations in some cases. But by the 1900s, all the series show declines of 10-15 per cent in the CBRs, that bring them down to a range from 41 to 42 per thousand. After that, the decline becomes faster, and by the mid 1940s all estimates show CBR values around 25 per thousand, a decline of unusual speed for the time.

We adopt Lesthaeghe's (1977, p. 4) criterion to define when the fertility transition definitively started, namely, the date at which the CBR falls below 30 live births per 1000 population, never to regain its former level, we can show the first of the unusual features of the fertility decline in Argentina: its early onset compared to almost all other Latin American countries and the closeness in time with many European countries (table 1).

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Other measures, calculated for the census dates[1], show that fertility started to decline sometime between the 1895 and 1914 population censuses, when the total fertility rate (TFR) dropped from 7.0 (Arretx, Mellafe and Somoza, 1977) to 5.3 (Rothman, 1973[2]). The same is indicated by the index of overall fertility (I_f) that shows a very small drop from 0.58 in 1869 to 0.55 in 1895 and a very steep decline to 0.42 by 1914 (Pantelides, 1996). The long time that elapses between the first three censuses makes it impossible to pinpoint more exact dates for the phenomenon we are trying to measure.

In previous work (Pantelides 1984b, 1996) we have discussed the reason for the discrepancy among the various measures: it mainly lies in the different impact on them of the population size and structure which, from the 1860s up to the 1930s was "distorted" by massive European immigration in childbearing ages, which immediately contributed to the denominator of the rates but only after a time lag to the numerator, since it was heavily male and made up, in a large part, of single individuals that did not procreate until they settled and formed a family, or of married men that left their spouses and children behind until they found themselves established.

An analysis of the parity structure of non-single women[3] in the censuses of 1895 and 1914 (Pantelides, 1996) shows no indication of fertility declining: there is no reduction in the proportion of women of highest parities (35 per cent have 6 or more children in both censuses) and only a very small increase (less than 1 percentage point) in that of women with 0-3 children. Parity progression ratios calculated for the cohorts of women that were 45-49 years old in 1885 and 1895 also show no change.

Based on all the previous evidence, plus estimates for specific geographical areas (Celton, 1987; Ferreyra, 1989; Mychaszula, Pantelides and Foschiatti, 1989) we suggest that, by the end of the 1800s fertility was o the level of a TFR of 7 and did not change noticeably before 1895. However, as indicated by a value of I_f of 0.58 in 1869, which is below that of populations with no voluntary fertility control, and by the presence of rural-urban and native-migrant differences in fertility levels[4] (Pantelides, 1984b, 1986, 1997), we can conclude that there was some degree of fertility control in some sub-populations. The fact that marital fertility started to decline later than overall fertility (Pantelides, 1984b) indicates that such – probably involuntary- control may have been "exercised" through postponement of marriage.[5]

2. The decline of fertility and mortality

Let us now proceed to look at another of the interesting features of the fertility transition in Argentina: its simultaneity with that of mortality. We have called this feature the unorthodox demographic transition (Pantelides, 1983), unorthodox, of course, in relation to the classic theory of demographic transition that stated that mortality declines earlier than fertility[6]. In the case of Argentina, there has never been a period of high natural growth, characteristic of the transition; crude birth rates and crude death rates (CDR) followed a parallel path (table 2) and the highest natural growth rates are never larger than 20 per thousand, with the highest values occurring from the onset of the decline until the 1920s.

Declines in CDR registered in the late 1870s, have probably been due to epidemics in the previous period (there was, in fact, an epidemic of yellow fever in 1871), that made the rate for the period 1870-75 higher and produced the impression of a decline in the following period.

3. The shape of fertility decline

Another characteristic of the decline of fertility in Argentina is the presence of two upward trends in the CBR (table 2) that took place in the late 1940s and in the late 1970s. Since births by the age of the mother are only available from 1954, there is no way to determine if the first upward trend was just a

result of a compositional change or of changes in the spacing of births (Ryder, 1983; Bongaarts and Feeney, 1998), or of a real increase in fertility levels.

The increase registered in the late 1970s (and in some areas in the early 1980s) happened in all the provinces of Argentina (except Río Negro), but was more marked –also in absolute terms- in those areas which previously had the lowest fertility levels. Calculations made with incomplete data[7] (Pantelides, 1989) showed that completed fertility for the cohorts of women that would end their childbearing period between 1990 and 1995 would be somewhat higher than that of previous cohorts. Calculations made for this paper with more complete data, now available, show very similar results: women who completed their childbearing period from 1980-85 to 1990-95 have an average of 3.06 children, whereas those who completed their fertility between 1995 and 2000 have 3.12, and the following 5-year cohort will still have an above average 3.09 children. Admittedly, the differences are small, and the population data used are still projections based on the 1991 population census, that may change.

As pointed out earlier, the upward change was larger in the areas with previous lower fertility. An estimate for the city of Buenos Aires (Pantelides, 1989), made under the assumption that the fertility of the older cohorts who had not yet completed their fertility at the time would be equal to the lowest historically registered value for each age (a probable underestimation of the true level), yielded a completed fertility of 1.75 children for 1980, 1.82 for 1985; 2.01 for 1990 and 2.14 for 1995. So we can tentatively conclude that the increase of the CBR reflected, at least in part, an increase in fertility.

The last of the characteristics of fertility trends in Argentina that we have mentioned, namely, the suspension of the decline for an extended period of time, is also shown in table 2. Between the first half of the 1940s and the first half of the 1970s there was no change in the TFR, which afterwards resumed its slow downwards trend. The small oscillations observed are probably due to variations in mortality, as suggested by the five quinquennia of an unchanged net reproduction rate (NRR).

C. WHAT LIES AHEAD

According to the United Nations estimates and medium hypothesis projections (CEPAL/CELADE, 2001) shown in table 2, Argentina has practically completed its fertility transition, with a NRR of 1.2 for the period 2000-2005, and will reach the level of exact cohort replacement in the period 2010-2015 (NRR 1.0). However, given the levels of its CBR and CDR, the population will continue to grow beyond mid century. Low and high hypothesis projections do not make a great difference in the case of Argentina, given the already low fertility level.

Are these projections adequate? It is difficult to say, but let us examine some of the factors that could modify the expected trend.

1. Nuptiality patterns

Changes in nuptiality patterns could affect fertility through changes in the age of entry into stable unions and/or in the proportion of definitive celibacy, with the ensuing change in time of exposure to the risk of pregnancy. They could also affect fertility if there are changes in the proportion of unions that are consensual, if legal and consensual unions have differential fertility levels. Some of these changes may have been happening, but they are very difficult to document, as was mentioned earlier, until the data from the 2001 population census are released.

Research on marriage patterns in Argentina is almost non-existent. However, there is some work done with data from vital registration and from household surveys for the city of Buenos Aires. This city's population behaviour has always been in the forefront, showing the way other cities, and eventually the rest of the population of the country seem to be heading, and as such should be interpreted. According to Mazzeo (n.d.) and Pantelides (1984b) in the city of Buenos Aires the age at legal marriage for women has been always high, between 22 and 23 years, from the 1890s to the early 1900s. Then it slowly increased to reach 28.6 years by 1999 (Mazzeo, n.d, table 4). But household surveys taken starting in 1990 show a steady increase in the proportion of consensual unions from 7.6 per cent in 1990 to 13.7 per cent in 1999. The age of entry into consensual unions is most probably lower in average than the age of legal marriage, so the whole picture may be one in which the age of entry into unions has not changed much. However, if many consensual unions are a step previous to marriage and if this means that childbearing is postponed, then the picture could be one of overall delayed childbearing.

2. Age at childbearing

But is childbearing being postponed in consensual unions or at all? Again for the city of Buenos Aires Mazzeo (n.d. figure 3), shows a steady increase in extramarital births (births form single mothers and from mothers in consensual unions). From 1960 to 1999 the proportion of extramarital births more than tripled. However the mean age at childbearing calculated form vital registration data for the whole country has been constant at 27 years since 1980.

3. Compositional changes

Could there be any change in the population composition that would affect fertility levels?

Let us examine first the possible effects of migration trends. The 2001 census will tell us if the immigration –in childbearing ages most of them- from countries with higher fertility than Argentina (Bolivia, Paraguay and Peru) has shown an increasing trend as anecdotal evidence seems to show. Still, we will need to know if their fertility in Argentina will be closer to that of their country of origin or that of their country of arrival. However, the situation has changed due to the profound economic crisis and its effect on the relation of the peso to the dollar. The new, higher rates of exchange has made it unprofitable, for those migrants who needed to send remittances home, to stay in Argentina. Again anecdotal evidence seems to show that a reverse flow is starting. If this were true, the composition of the population could be more conducive to a lower fertility. The emigration of mostly urban educated Argentines that has been increasing in the last two years (again no hard data available, but plenty of evidence of increased demand for passports and visas that would allow emigration), could act in the opposite direction, decreasing the numbers of the population that, although in childbearing ages, has low fertility.

4. Education and labour force participation of women

Recent work by Wainerman (forthcoming) shows that labour force participation rates of women of all ages except 14-19 in the Metropolitan Area of Buenos Aires (which concentrates 1/3 of the country's population) have been growing consistently since at least 1980. For women in the childbearing ages (20-44) those rates were around 62 per cent in the year 2000. Moreover, Wainerman's data show that there has been a consistent increase in the proportion of households where the wife is working and of those where the man is unemployed but the wife is working, both trends consistent with an increased labour force participation of married women. If the trend of increased economic activity of women –and especially of married women- continues and if it leads to lower fertility, the expectations are that fertility will continue falling in the future.

The illiteracy level among both men and women was around 4 per cent in the 1991 population census. By then the trend towards higher school enrolment (at all levels) and of higher course completion of women vis-a- vis men was already evident. That situation has not changed, but there are indications of increased dropout due to the economic crisis. It is difficult to say what its impact on fertility may be. However, there is some research showing that risky behaviour conducive to pregnancy is higher among adolescent women that are not enrolled in school (Pantelides, Geldstein and Infesta Dominguez,1995) and since around 14 per cent of births are presently of adolescent mothers, an increase in adolescent fertility may result in an increase in total fertility.

5. Use of contraception

Although there is no good information about knowledge and use of contraception in Argentina for lack of a nation-wide survey, research covering sub-populations (Geldstein and Schufer, 2001; López, 2000; López and Tamargo, 1995; Pantelides, Geldstein and Infesta Domínguez, 1995) shows that knowledge of contraception is already very high among those surveyed (male and female adolescents and young adult men as well as women in childbearing ages, residing in the Metropolitan Area of Buenos Aires[8],). The use of contraception, although not so widespread, is considerable in those sub-populations. The expectation is that such use will continue to rise unless economic conditions prove so difficult as to impede affording the expense of contraceptives. Since the economic crisis has affected both individual's income and savings as well as the purchase of medication and other supplies for hospitals, the result may be an increase in unwanted births among the poor and the lower middle class served by those hospitals.

6. Population policies and programs

The population policy of Argentina has never been promoting fertility control. It has gone from fierce pro-natalism to benign neglect (Novick, 1996). Reproductive health laws have failed to pass through National Congress. However they were approved in a few provinces and in the city of Buenos Aires and 15 provinces have now either laws or programs on reproductive health. The existence of such laws and programs, however, has not meant the provision of adequate funding and/or organization for the free delivery of contraception to the population that cannot buy it. On the other hand, the contraceptive behaviour of the population does not seem to have been affected either by the Catholic church's opposition to birth control or by public policy, except perhaps for the period (1974-1983) during which there was a prohibition (which impacted mainly on the public and social security services) to provide or recommend contraception. The prohibition affected the poorer people, since the middle and upper classes could buy contraception freely or under the guise of menstrual regulation.

Economic rather population policies may have been the basis for the two temporary increases in CBRs (and of fertility in the most recent episode) we have already analysed. Although their causes are not understood, they coincided with populist governments that redistributed income in favour of the lower strata of society through higher salaries, housing plans, social security and health benefits. This kind of policy did not happen again. On the contrary, in the last 12 years the economic policies resulted in high unemployment (not lower than 16 % in the last 4-5 years) and in an unprecedented proportion of the population (estimated at 40 % for the year 2001[9]) falling below poverty level. If the cause of the temporary increases was the feeling that the future was secure, fertility will not increase but will decrease beyond what is expected in the medium hypothesis projections

7. What can be expected

The previous analysis of different possible determinants of fertility trends has not yielded a clear picture about a future direction of those trends, since the effect of some factors is counterbalanced by the opposite effect of others. The social and economic landscape of Argentina is changing rapidly and in

previously unexplored directions. However, the long history of fertility decline has established norms and behaviours that have –from our point of view- a strong inertia, and fertility will probably continue to decline. The persistence of positive values regarding family and parenthood, and of the belief that having siblings is positive for the children's development, on the one hand, and the enlarged enclaves of poverty (with their higher fertility) on the other, will probably maintain fertility levels above replacement for another 10-15 years, as shown by the medium hypothesis of the United Nations projections.

TABLE 1. SELECTED COUNTRIES. DECADE DURING WHICH THE CRUDE BIRTH RATE FALLS BELOW 30 PER THOUSAND

Decade	*Countries*
1830	France
1840	Ireland
1890	Sweden, Denmark, England and Wales, Scotland, Australia, New Zealand
1900	Netherlands, Norway, Germany
1910	Canada, Finland, Austria, Hungary, Czechoslovakia
1920	Italy, Spain, Portugal, Uruguay
1930	Poland, Bulgaria, Rumania, **Argentina**
1940	Soviet Union, Cuba
1950	Yugoslavia, Japan
1960	Chile

Sources: Pantelides Edith A. (1984). *The Decline of Fertility in Argentina, 1869-1947*. Doctoral dissertation presented to the Faculty of the Graduate School of the University of Texas at Austin. Ann Arbor, Michigan: University Microfilms International, adapted from Lesthaeghe, Ron J. (1977). *The Decline of Belgian Fertility, 1800-1970*. Princeton, New Jersey: Princeton University Press.

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TABLE 2. ARGENTINA. CRUDE BIRTH RATE, TOTAL FERTILITY RATENET REPRODUCTION RATE, AND CRUDE DEATH RATE. ESTIMATES AND PROJECTIONS[a]. SELECTED DATES BETWEEN 1870 AND 2050

Dates	*CBR*	*CDR*	*Dates*	*TFR*	*NRR*
1870-1875	49.1	31.9	1869	6.8	
1875-1880	49.0	29.6			
1880-1885	48.9	29.8			
1885-1890	45.8	29.7			
1890-1895	44.0	28.4	1895	7.0	
1895-1900	44.5	28.9			
1900-1905	44.3	26.1			
1905-1910	42.1	22.7			
1910-1915	39.2	19.7	1914	5.3	
1915-1920	36.5	17.7			
1920-1925	34.9	15.1			
1925-1930	32.5	14.1			
1930-1935	29.0	12.5			
1935-1940	25.7	12.5			
1940-1945	25.5	11.3	1947	3.2	
1945-1950	26.3				
1950-1955	25.4	9.2		3.2	1.4
1955-1960	24.3	8.7		3.2	1.4
1960-1965	23.2	8.8		3.1	1.4
1965-1970	22.6	9.1		3.0	1.4
1970-1975	23.4	9.0		3.1	1.4
1975-1980	25.7	8.9		3.4	1.6
1980-1985	23.1	8.5		3.2	1.5
1985-1990	21.8	8.5		3.0	1.4
1990-1995	20.8	8.2		2.8	1.3
1995-2000	19.9	8.0		2.6	1.2
2000-2005	19.1	7.8		2.4	1.2
2005-2010	18.0	7.7		2.3	1.1
2010-2015	16.9	7.6		2.2	1.0
2015-2020	15.9	7.5		2.1	1.0
2020-2025	15.5	7.6		2.1	1.0
2025-2030	15.1	7.8		2.1	1.0
2030-2035	14.6	8.1		2.1	1.0
2035-2040	14.1	8.4		2.1	1.0
2040-2045	13.7	8.7		2.1	1.0
2045-2050	13.4	9.1		2.1	1.0

Sources: Lattes, Alfredo E. (1975). El crecimiento de la población y sus componentes demográficos entre 1870 y 1970. In *La Población de Argentina*, Alfredo E. Lattes and Zulma Recchini de Lattes, comps. Buenos Aires: CICRED Series, pp.29-66.

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[a] Medium hypothesis

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NOTES

[1] National census dates: 1869, 1895, 1914, 1947, 1960, 1970, 1980, 1991,2001.

[2] This value was estimated by Pantelides (1984b) from the gross reproduction rate calculated by Rothman (1973), adopting a ratio of 105/100 male to female births.

[3] Marital status categories in the censuses were "single", "married", and "widow". The persons living in consensual unions were most probably included in the "single" category (see Pantelides, 1984a, 1984b, appendix IV).

[4] Data not shown here. See Pantelides (1984b, 1986, 1996).

[5] Although in the case of Argentina the age at marriage estimated from legal registration overestimates age of entry into unions because consensual unions were usually legalized after some time; and although the singulate mean age at marriage (SMAM) calculated from census data suffers from the fact that persons in consensual unions are enumerated as single (Pantelides, 1984a, 1984b), there are indications that in some areas with lower fertility, age at marriage was higher than in those with higher fertility levels

[6] After the Princeton study we know that this was not always the case.

[7] Some of the data for the calculations were missing and had to be estimated, and the denominators of the rates were projected populations.

[8] The Metropolitan Area of Buenos Aires concentrates 1/3 of the population of Argentina.

[9] This estimate is based on unpublished data from the last household survey (October 2001) by the Instituto Nacional de Estadística y Censos – INDEC, using the "line of poverty" methodology.