DIVERSITY OF CHILDBEARING BEHAVIOUR WITHIN POPULATION IN THE CONTEXT OF BELOW REPLACEMENT FERTILITY IN BRAZIL

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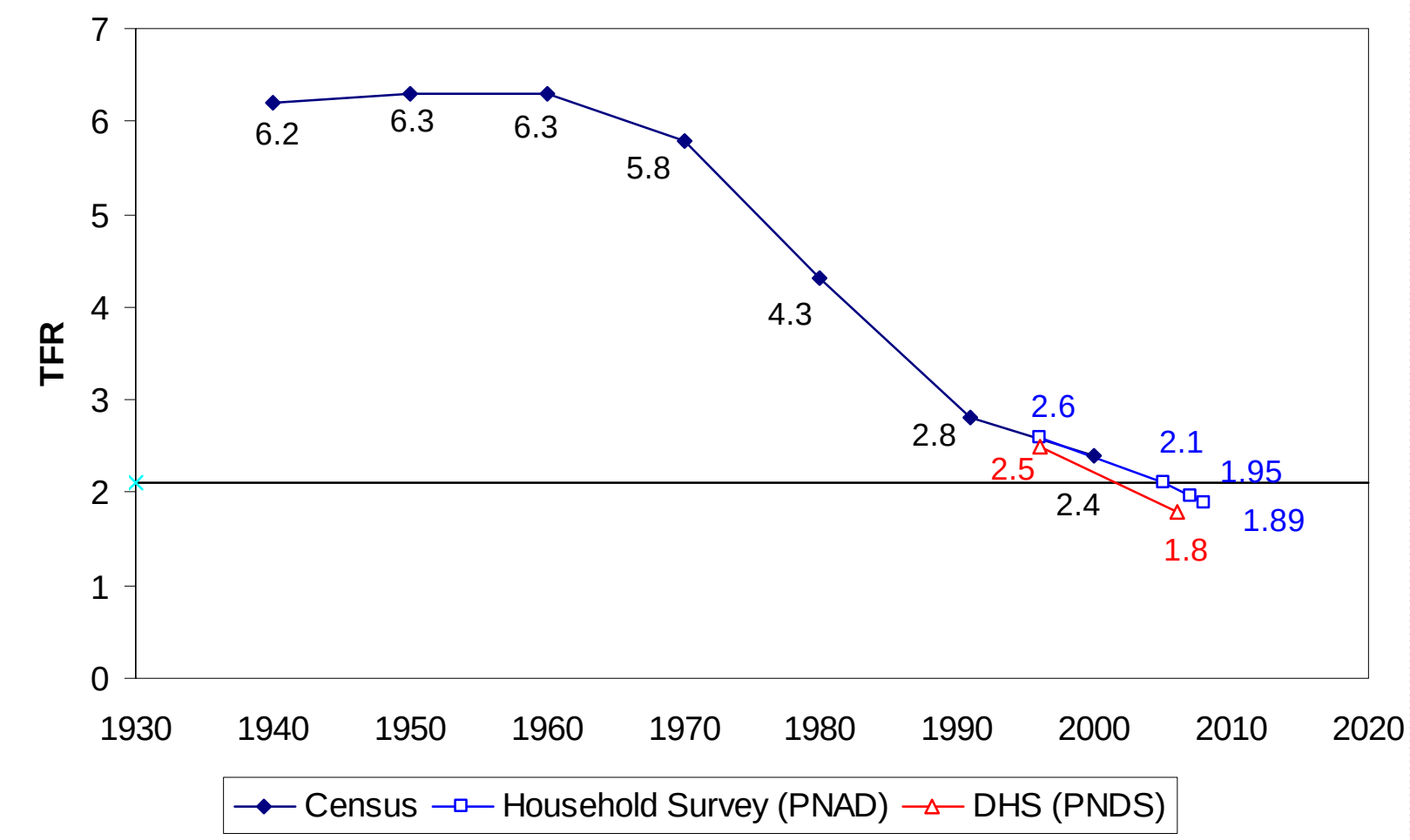
Overview

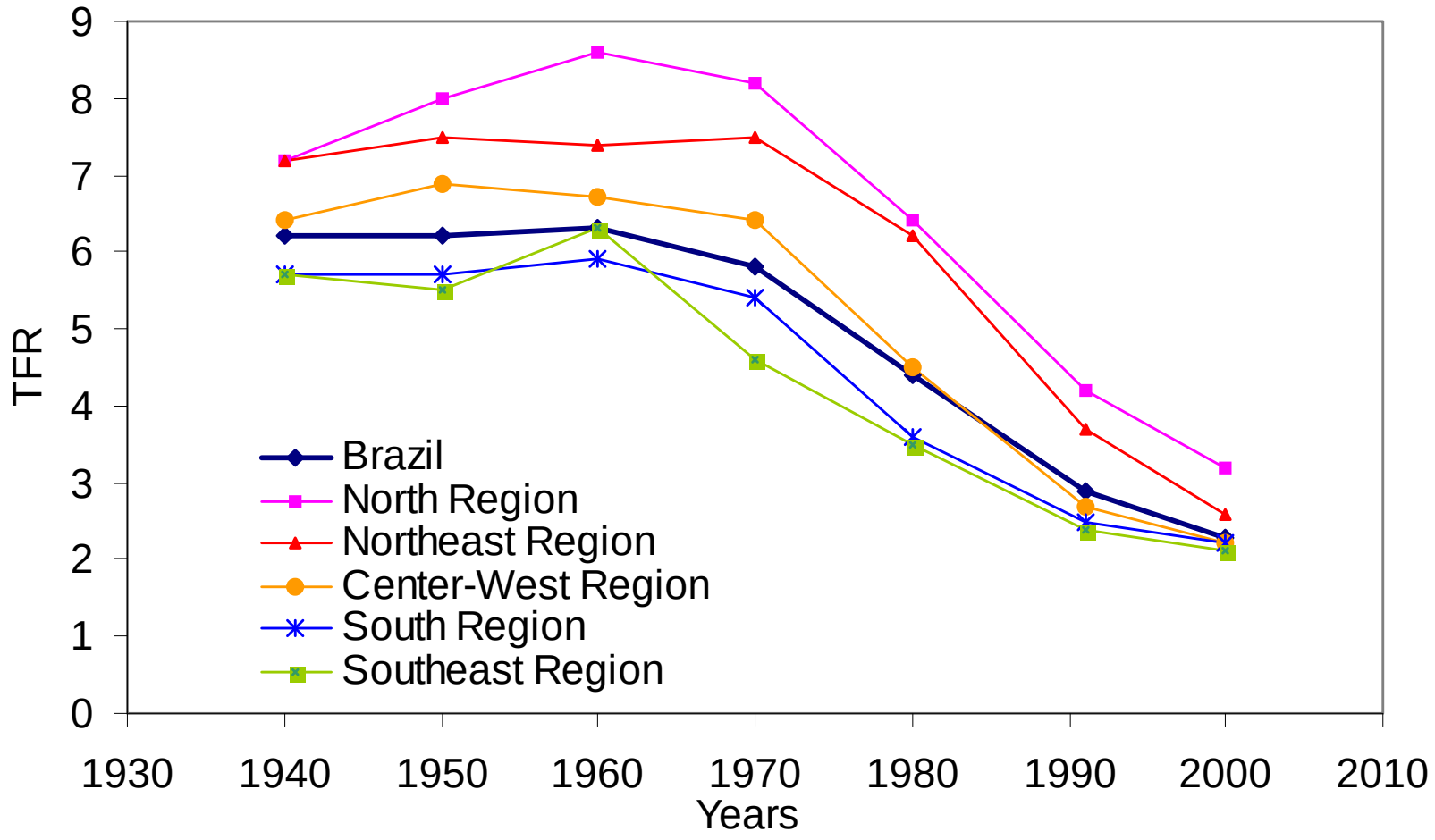
- Pre-background on Fertility in Brazil
- The current panorama of fertility in Brazil
- Theoretical approaches
- Data and methods
- Results
- Discussion

Total Fertility Rates, Brazil, 1940 to 2008.



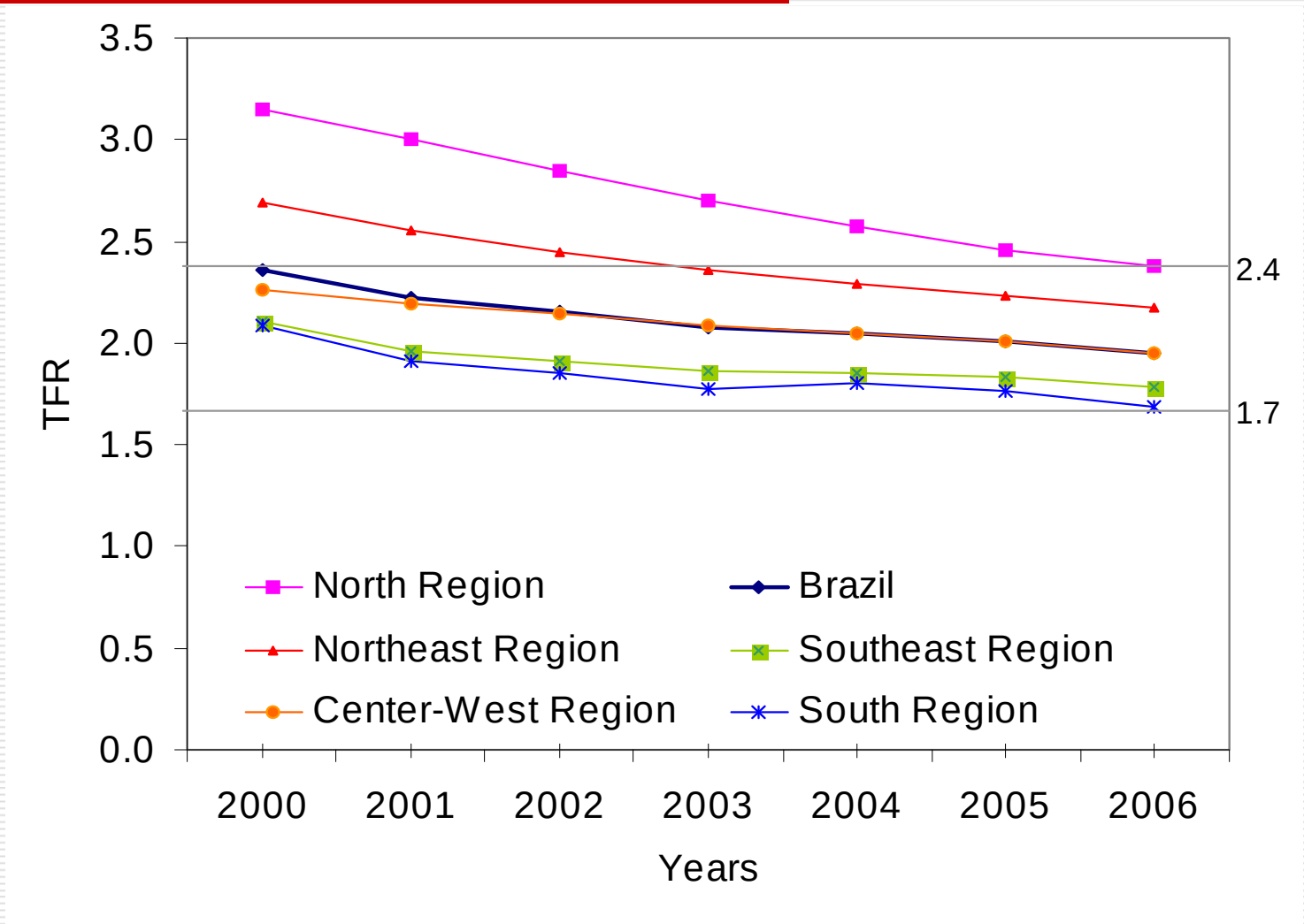
Sources: Brazilian Demographic Censuses from 1940 to 2000; National Annual Household Surveys (PNAD) of 1996, 2006, 2007, and 2008; Brazilian Demographic Health Surveys of 1996 and 2006.

Total Fertility Rates by regions. Brazil, 1940 to 2000.



Sources: Brazilian Demographic Censuses of 1940 to 2000.

Total Fertility Rates by regions. Brazil, 2000 to 2006.



Sources: DATASUS, IDB 2008. Brazilian Demographic Census 2000; National Annual Household Surveys (PNAD) of 2001 & 2006.

Current panorama of Brazilian fertility: what we know?

1. TFR is below replacement level for the country (1.8 to 1.9 children per women)
2. There are large differentials by socioeconomic groups in TFR (ranging from about 4 to 1 children)
3. There are smaller differentials at regional levels in TFR (2.4 to 1.7 children)
4. Fertility is concentrated at ages below 29
5. High ASFR for women aged 15-19 (high adolescent and young motherhood – average about 80 children per thousand women)
6. Large socioeconomic differentials for adolescent motherhood (28 per thousand for wealthier to 220 for the poorest)
7. High prevalence of contraception (80% of current use and 72% is modern contraception – hormonal + female sterilization)
8. High incidence of birth interruption (figures are not certain but it ranges from (1 abortion to each 4 births to 1 to each 3 births)

(600,000 to 1,000,000 yearly to 3,000,000 births)

What is (and will be) the future path of low and lowest-low fertility in Brazil? - Brief approaches.

- Bongaarts → the lowest-low fertility is due the momentum (quantum vs timing of fertility) – there is a postponement of birth → cohort fertility will be at replacement level or around it at the end of reproductive life.
- Lesthaeghe and others → the postponement will cause a shorten in time and women will not have as many children as they would have if started childbearing earlier.
- Preston and others → the level of fertility around replacement (or even around an ideal number of children) will depend on adaptations of the state, family or private sector to accommodate the free exercise of motherhood (mainly conciliation of work and family) – example of USA with private sector adaptation

Objective

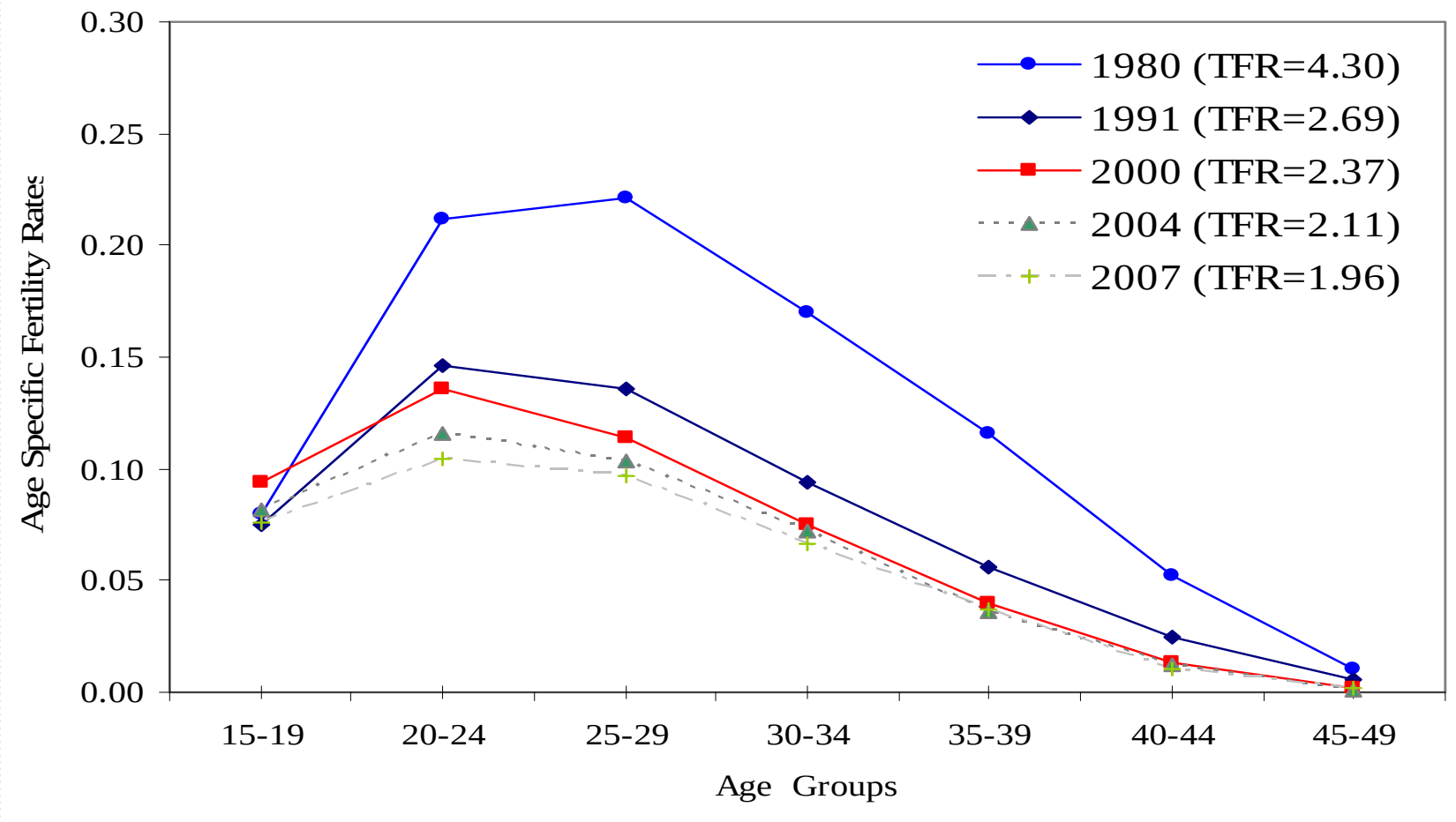
- The objective is to investigate whether the timing of childbearing in Brazil has the same pattern: having fewer children and having them early, for several socioeconomic groups, in order to predict the path of fertility in the future in Brazil, and to understand why and how the fertility schedule is so different from other low fertility experiences.

Data and methods

- Data: for TFR and ASFR calculations from:
  - Demographic Census
  - Population and household annual surveys (PNAD)
  - Demographic and Health Surveys (PNDS=DHS)

- Method
  - For Census and PNAD data: indirect method (P/F Brass)
  - For DHS: direct method as average of previous 5-years

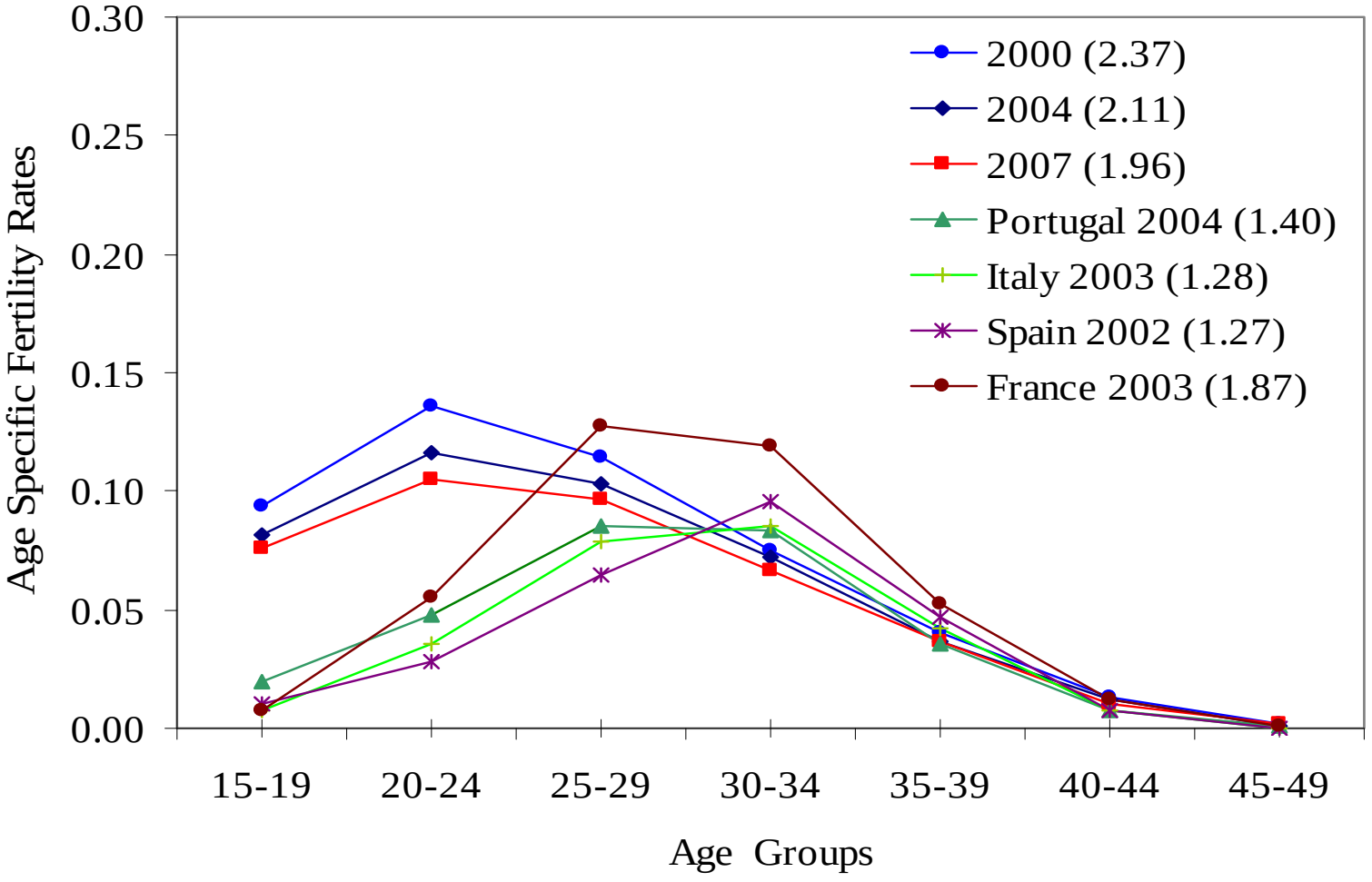
ASFR and TFR, Brazil, 1980, 1991, 2000, 2004, and 2007.



Sources: Brazilian Demographic Censuses of 1980, 1991 & 2000; National Annual Household Surveys (PNAD) of 2004 & 2007.

Note: Comparison on Census and PNAD data must be taken with care.

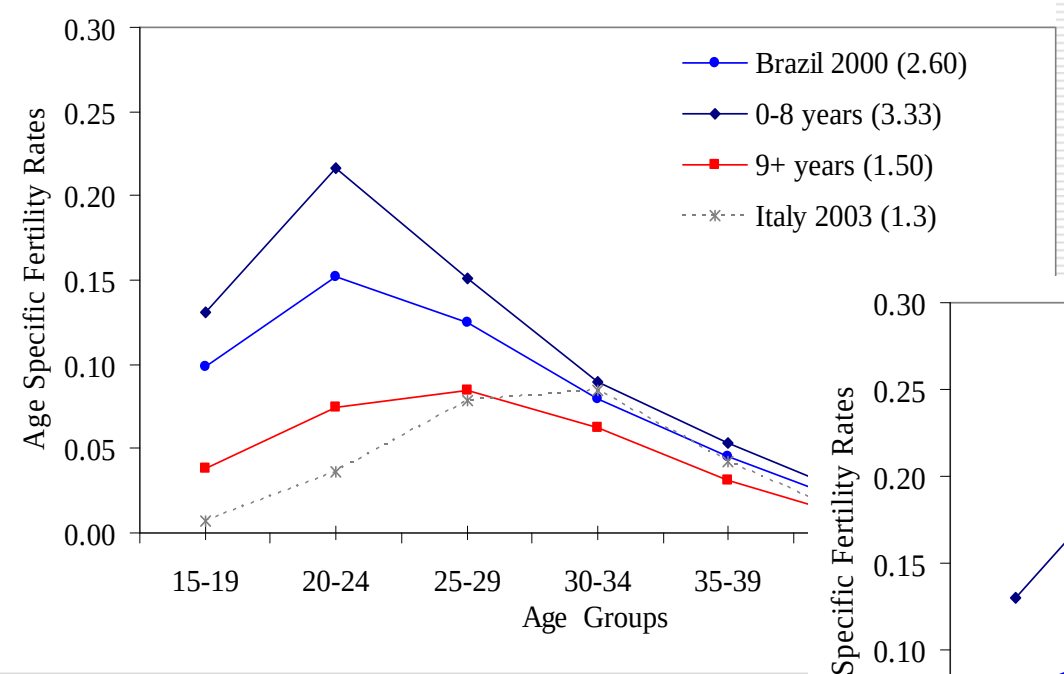
ASFR (and TFR between parenthesis) in selected countries, circa 2000-2007.



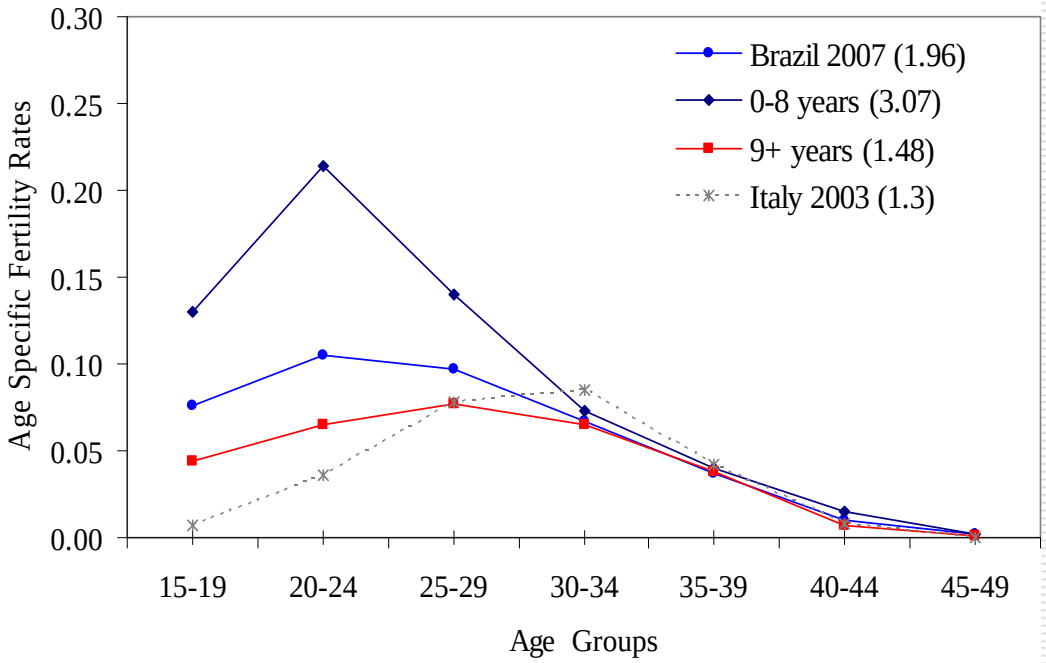
Source: Demographic Census of 2000; PNAD 2004 & 2007; PRB World Fertility Patterns 2007.

ASFR by women's education, Brazil, 2000 and 2007.

2000



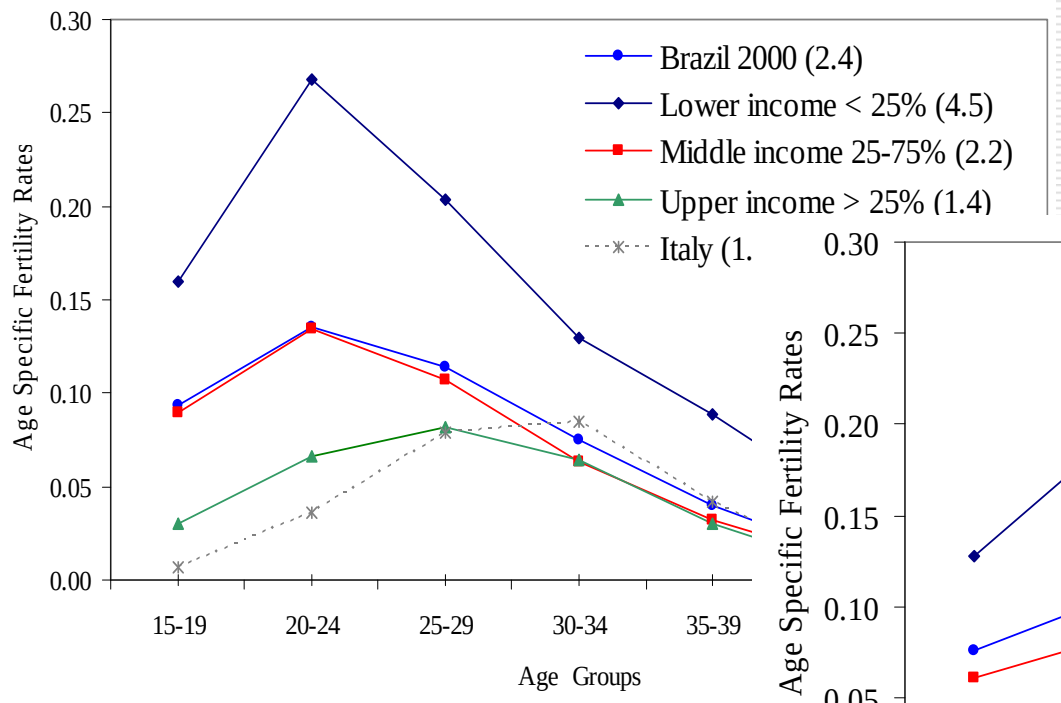
2007



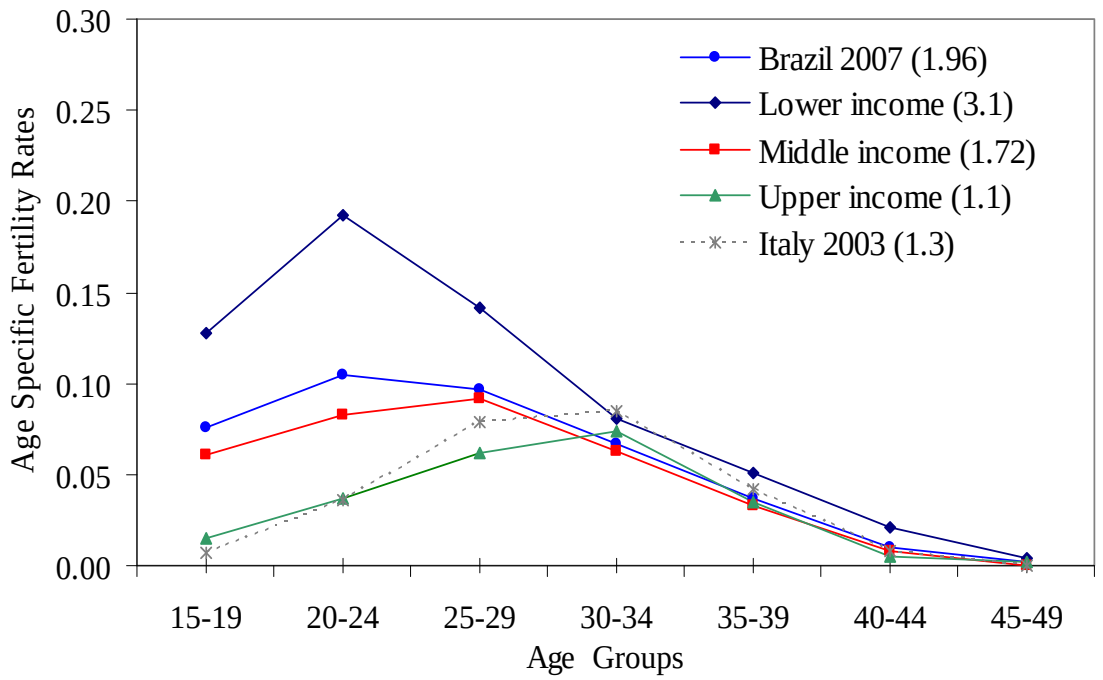
Source: Demographic Census of 2000; PNAD 2007; PRB World Fertility Patterns 2007.

ASFR by income classes, Brazil, 2000 and 2007.

2000



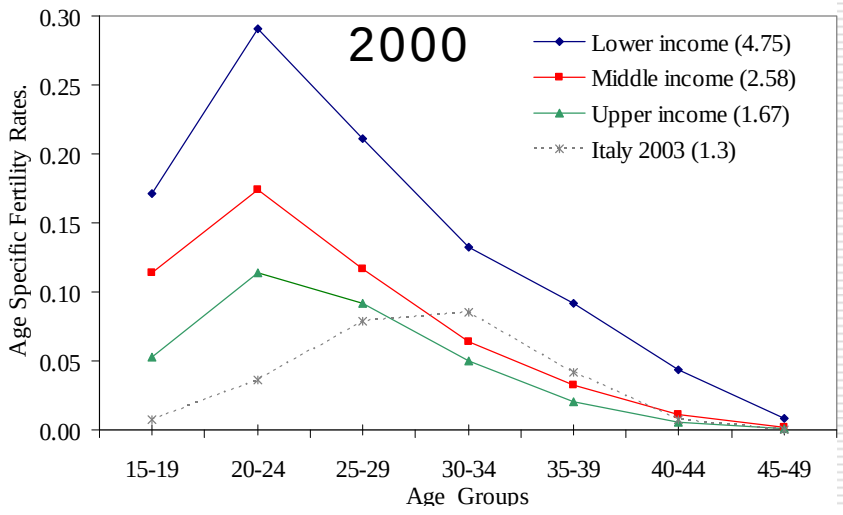
2007

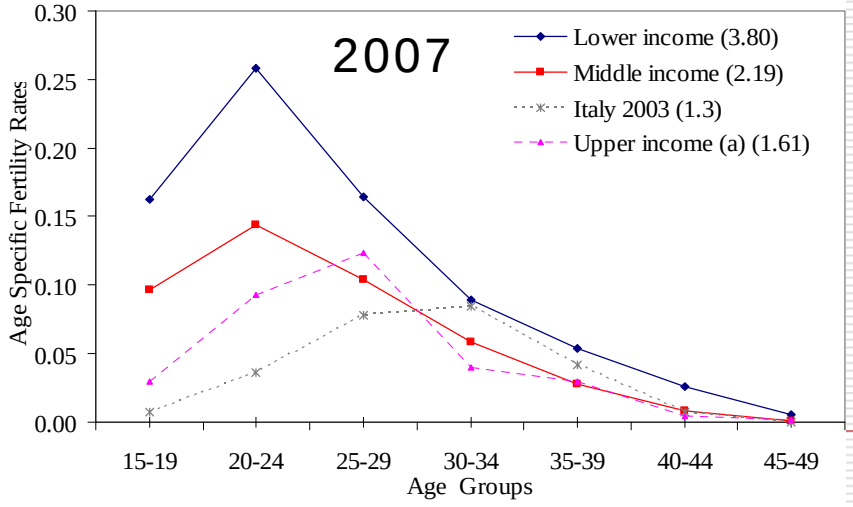


Source: Demographic Census of 2000; PNAD 2007; PRB World Fertility Patterns 2007.

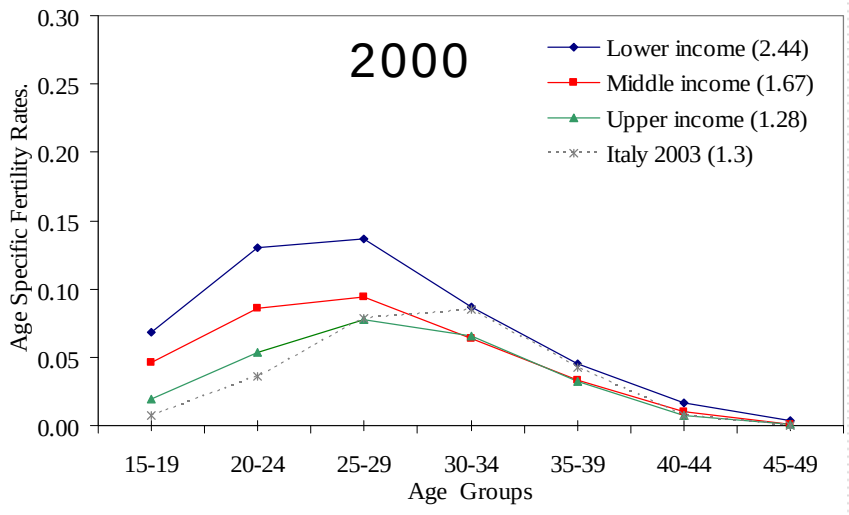
ASFR by women's education and income classes, Brazil, 2000 and 2007.

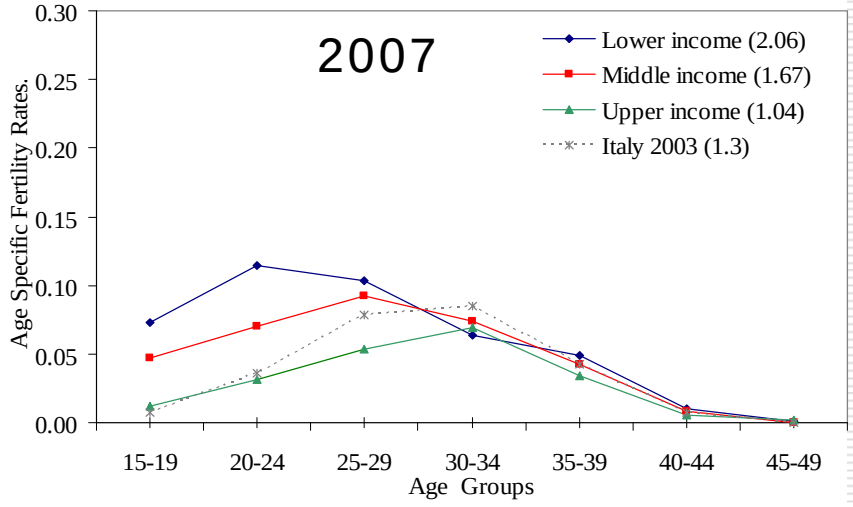
0-8 years of schooling





9 or more years of schooling





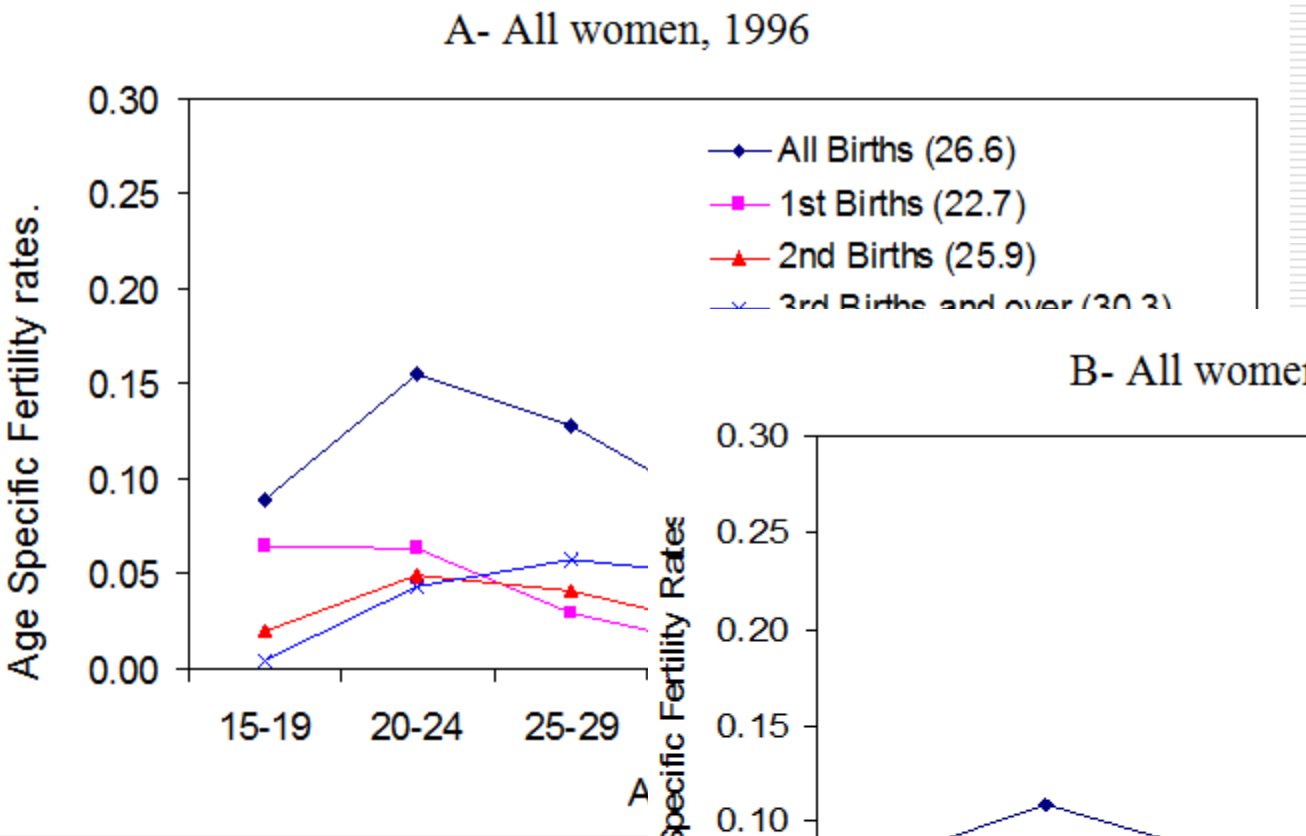
Selected indicators (TFR, Average age of fertility and postponement index), Brazil 2000 and 2007.

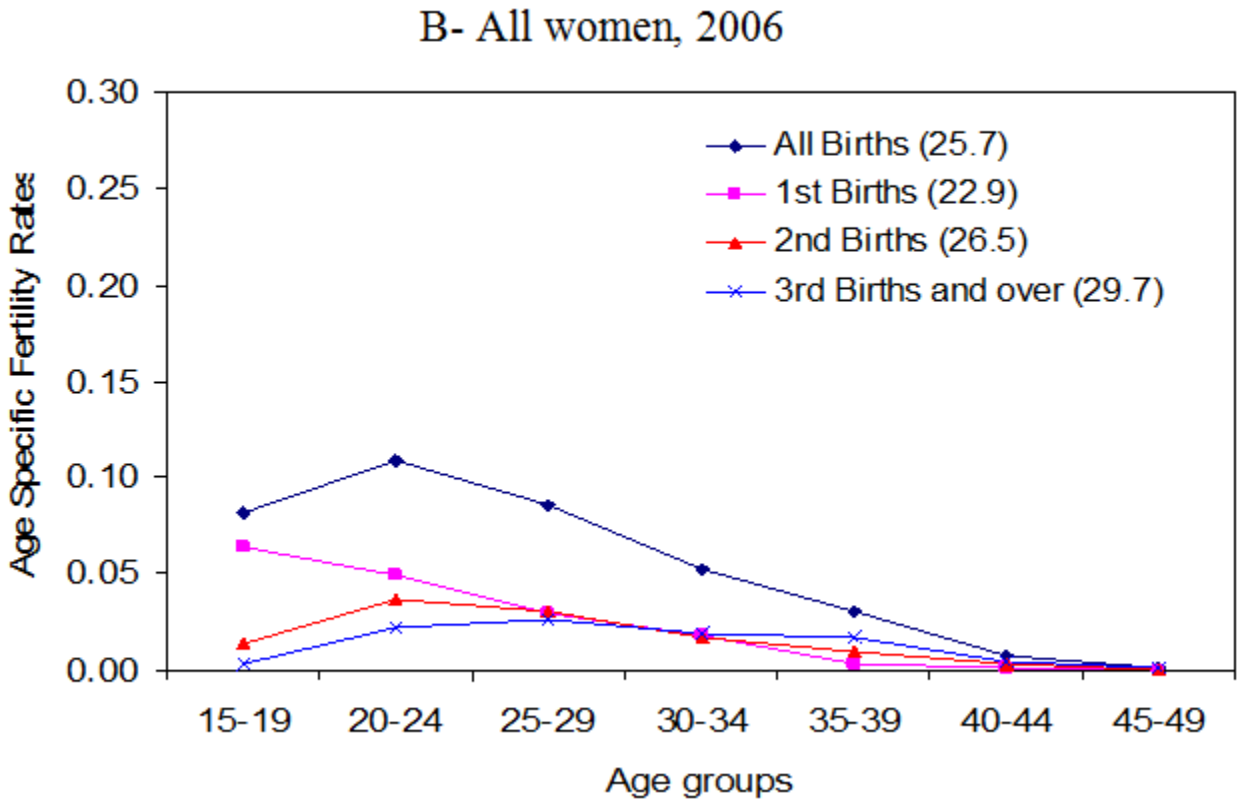
Countries/year and socioeconomic groups	2000					2007				
	TFR	Women 15-49 abs.	Women 15-49 (%)	Fertility average age	Index of Post-pone-ment	TFR	Women 15-49 abs.	Women 15-49 (%)	Fertility average age	Index of Post-pone-ment
Brazil	2.60	46,242,336	(100.0)	26.4	0.52	1.96	52,908,370	(100.0)	26.5	0.57
Lower income group	4.50	12,425,994	(26.9)	26.8	0.57	3.10	17,118,824	(32.4)	26.0	0.47
Middle income group	2.22	23,330,356	(50.5)	25.9	0.45	1.72	25,223,433	(47.7)	26.7	0.59
Upper income group	1.41	10,485,986	(22.7)	27.9	0.69	1.10	10,566,113	(20.0)	29.7	1.18
0-8 years of education	3.33	30,292,406	(65.5)	26.0	0.46	3.07	25,006,852	(47.5)	25.3	0.37
9 or + years of education	1.50	15,475,126	(33.5)	27.5	0.64	1.48	27,585,480	(52.5)	27.7	0.78
0-8 years of education										
Lower income	4.75	11,120,916	(24.3)	26.7	0.55	3.80	11,991,064	(22.8)	25.6	0.41
Middle income	2.58	16,090,980	(35.2)	25.3	0.38	2.19	11,355,500	(21.6)	25.3	0.38
Upper income	1.67	3,080,510	(6.7)	25.9	0.37	1.61	1,660,288	(3.2)	27.0	0.35
9 or + years of education										
Lower income group	2.44	1,112,188	(2.4)	27.2	0.57	2.06	5,012,024	(9.5)	26.7	0.56
Middle income group	1.67	7,012,744	(15.3)	27.3	0.60	1.67	13,695,261	(26.0)	27.8	0.77
Upper income group	1.28	7,350,194	(16.1)	28.7	0.81	1.04	8,878,195	(16.9)	30.0	1.32
Portugal /2004	1.40			29.2	0.96					
Italy / 2003	1.28			30.3	1.18					
Spain / 2002	1.27			30.8	1.63					
France / 2003	1.87			30.0	1.01					

Sources: 2000 Brazilian Demographic Census; 2007 National Annual Household Survey (*PNAD*); and PRB, World Fertility Patterns 2007.

Note: Index of Postponement is defined as the ratio of age-specific fertility rate of women 30 and over, to the rates for women in the 20-29 age range.

ASFR by birth order and education, Brazil, 1996 and 2006.

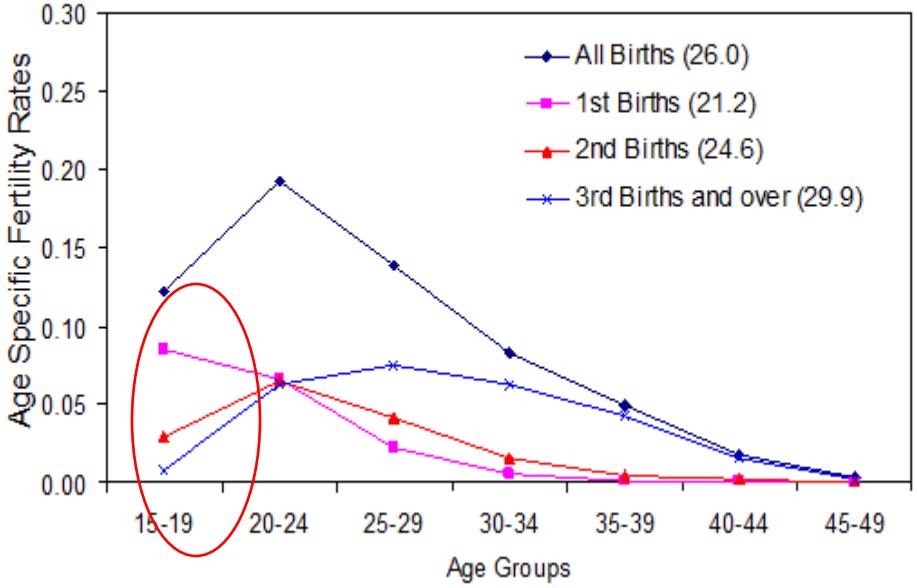




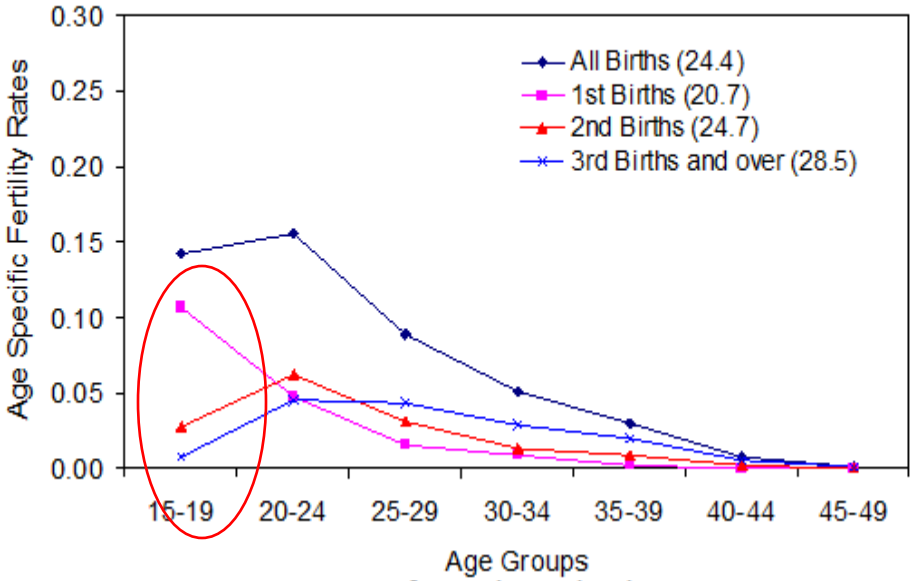
Source: PNDS 1996 & 2006.

ASFR by birth order and education, Brazil, 1996 and 2006.

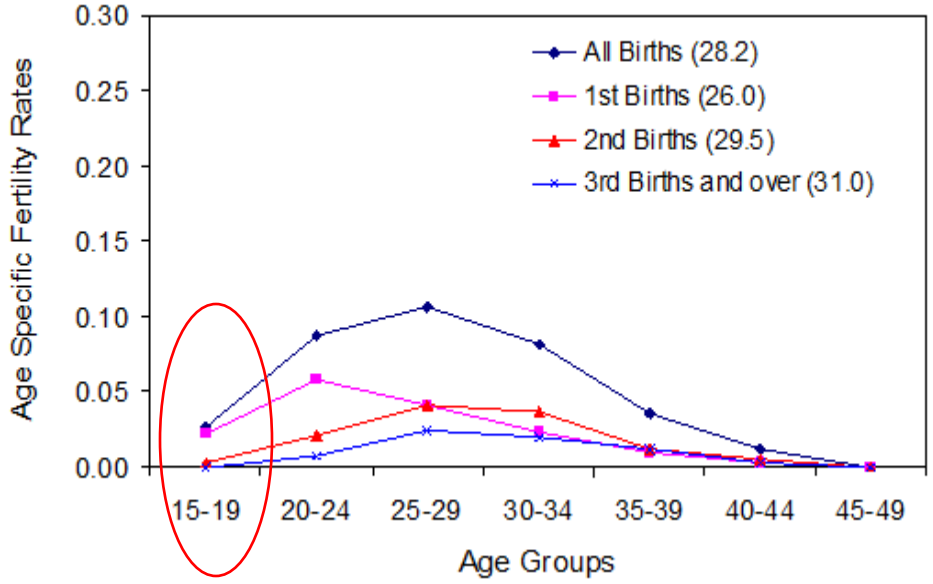
C- 0-8 years of schooling, 1996



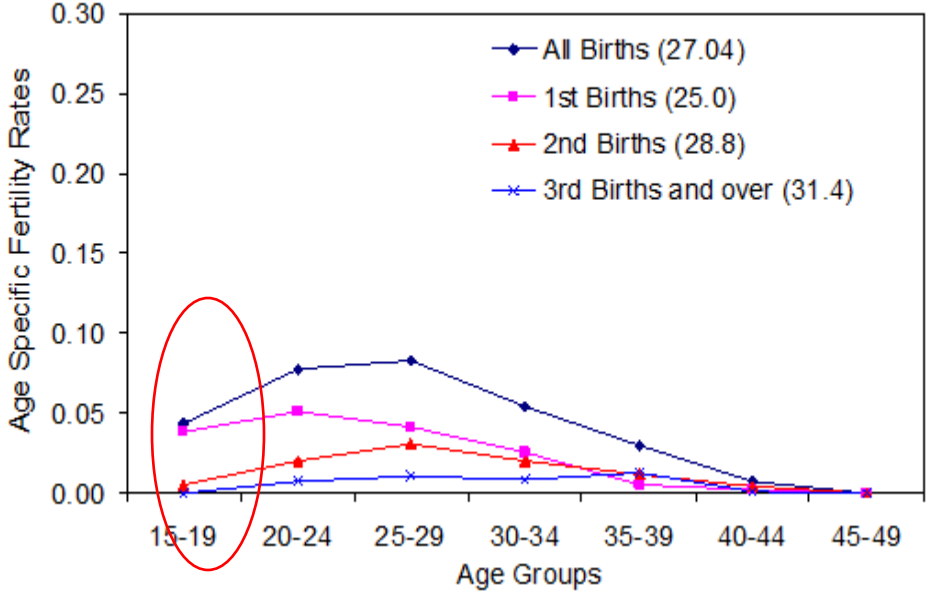
D- 0-8 years of schooling, 2006



A- 9 or more years of complete schooling, 1996



B- 9 or more years of complete schooling, 2006



Summary statistics on ages at sexual intercourse initiation, union, first birth (first contraceptive use and first pregnancy), Brazil, 1996 and 2006.

1996

All Women 25-49	N	Mean	Std Dev	Min	Max	25th	50th	75th
A- Age at first sexual intercourse	7324	**19.3**	4.2	8	47	16	**19**	21
C- Age at first union	7187	**20.6**	4.6	10	47	17	**20**	23
E- Age at first birth	7007	**21.7**	4.5	10	47	18	**21**	24
Interval between A and E	6684	**2.8**	2.9	0	25	1	**2**	4
Interval between C and E	6825	**1.3**	2.8	-30	23	1	**1**	2

2006

All Women 25-49	N	Mean	Std Dev	Min	Max	25th	50th	75th
A- Age at first sexual intercourse	10150	**18.5**	3.8	7	46	16	**18**	20
B- Age at first contraceptive use	9629	**20.0**	4.4	10	48	17	**19**	22
C- Age at first union	9515	**20.8**	4.9	11	47	17	**20**	23
D- Age at first pregnancy	9250	**21.1**	4.8	10	43	18	**20**	24
E- Age at first birth	9132	**21.9**	4.8	10	43	18	**21**	25
Interval between A and B	9549	**1.5**	3.3	0	35	0	**0**	2
Interval between C and E	8844	**1.5**	3.4	-29	24	0	**1**	3
Interval between A and E	9006	**3.7**	3.4	0	24	1	**3**	5

Source: Brazilian Demographic Health Survey, 1996 and 2006.

Summary statistics on ages at sexual intercourse initiation, union, first birth (first contraceptive use and first pregnancy) for women aged 25-49 with 0-8 years of schooling, Brazil, 1996 and 2006.

1996

0-8 years of schooling	N	Mean	Std Dev	Min	Max	25th	50th	75th
A- Age at first sexual intercourse	5293	**18.7**	4.0	8	47	16	**18**	21
C- Age at first union	5336	**20.0**	4.4	10	47	17	**19**	22
E- Age at first birth	5269	**21.0**	4.2	10	47	18	**20**	23
Interval between A and E	5011	**2.6**	2.7	0	24	1	**2**	3
Interval between C and E	5146	**1.2**	2.8	-30	23	0	**1**	2

2006

0-8 years of schooling	N	Mean	Std Dev	Min	Max	25th	50th	75th
A- Age at first sexual intercourse	5966	**17.7**	3.5	7	46	15	**17**	19
B- Age at first contraceptive use	5555	**19.9**	4.5	10	48	17	**19**	22
C- Age at first union	5860	**19.5**	4.4	11	46	16	**19**	22
D- Age at first pregnancy	5791	**19.8**	4.1	10	39	17	**19**	22
E- Age at first birth	5755	**20.7**	4.2	11	41	18	**20**	23
Interval between A and B	5492	**2.2**	3.7	0	35	0	**1**	3
Interval between C and E	5618	**1.3**	3.5	-29	24	0	**1**	2
Interval between A and E	5651	**3.1**	3.0	0	24	1	**2**	4

Source: Source: Brazilian Demographic Health Survey, 1996 and 2006

Is there still room for fertility decline?

Looking at estimates of unwanted (or wanted) fertility, the answer is YES... it will continue to decline next years.

UNWANTED FERTILITY ESTIMATES FROM DIFFERENT METHODS. BRAZIL, 1996 AND 2006.

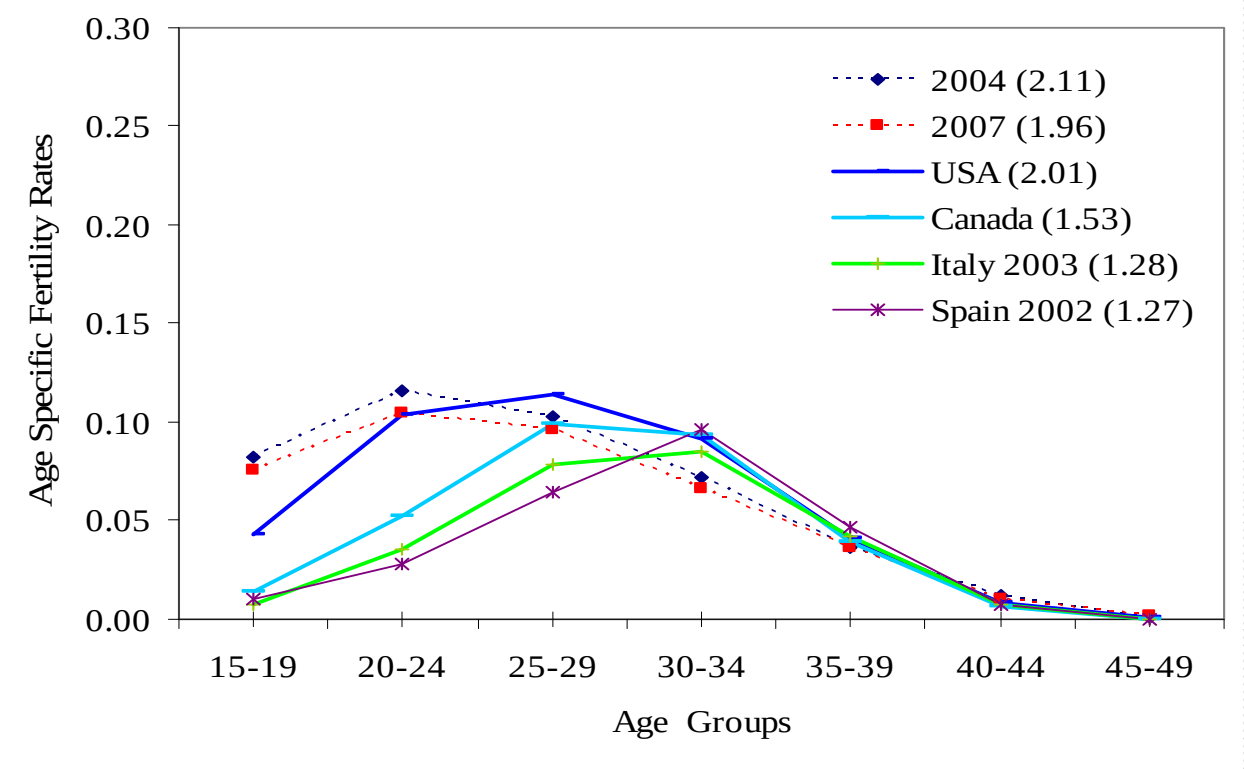
	Percent of Births		Total Fertility Rates				
	Unwanted			Unwanted			Wanted
Year	Ideal vs. Living	Casterline & El-Zeini	Overall TFR	Ideal	Bongaarts	Casterline & El-Zeini	Casterline & El-Zeini
1986	29.2	43.1	3.42	1.15	1.37	1.60	1.82
1996	28.7	44.4	2.54	0.75	1.04	1.16	1.37
2006	21.6	34.1	1.79	0.39	0.43	0.63	1.16

Source: Casterline and Mendonza (2009).

Closing: What is the future of fertility in Brazil in the medium and log run?

Lets see again some of the current patterns of fertility and levels…

ASFR (and TFR between parenthesis) to selected countries, circa 2000-2007.



Source: PNAD 2004, and 2007; PRB World Fertility Patterns 2007.

Closing: TFR and ASFR model for Brazil

- Brazilian future fertility has three more probable path to follow:
  1. Mediterranean country
     - Lowest-low fertility levels
     - Later on timing of childbearing
  2. American Model (and some Northern Europe countries)
     - TFR around replacement level
     - Young timing of childbearing (ages 20-24 and 25-29)
  3. A mixture of both
     - Lowest-low fertility levels
     - Young timing of childbearing (ages 20-24 and 25-29)
- Our take to where Brazilian Fertility will go: Model 3
  - Lowest-low fertility levels
  - Young timing of childbearing, but at **ages15-19 and 20-24** in the short and medium period (next 10 to 15 years) … then some postponement will take place bringing TFR even lower.

The future of population in Brazil will depend on both:

1. The lowest-low levels of TFR
2. Young fertility schedules regimes

Future work: The impacts of lowest-low levels of TFR on a rejuvenated schedule of fertility in the **population growth and age structure**.

Thanks!