Fertility Changes in Latin America in the Context of Economic and Political Uncertainty

Alicia Adsera
Department of Economic, University of Illinois at Chicago
Population Research Center, University of Chicago and IZA

Alicia Menendez
The Irving B. Harris Graduate School of Public Policy Studies, University of Chicago

Introduction

During the last three decades fertility rates have declined sharply across Latin-American countries and fertility has been delayed in some countries – see the appendix for data on the evolution of total fertility rates. These decades have also witnessed, in some countries, a high degree of economic and political uncertainty in the form of high inflation, persistent unemployment and political regime changes. Those factors are likely have influenced key household decisions such as childbearing.

Hypothesis

1. Economic Conditions.

In this paper we explore whether cross-country differences in the environment where childbearing decisions are made explain in part cross-country changes in fertility. As we show elsewhere for the case of Europe (Adsera 2004), even if temporary spells of unemployment may be good periods to give birth (Butz and Ward 1979, Galor and Weil 1996), when unemployment is both persistent and particularly intense for both young female and male workers, it may be accompanied by reductions in family size. A negative unemployment shock in the context of structural unemployment leads to a sharp adjustment of expected income and to increased uncertainty. Given the recent increase of unemployment in countries such Argentina, we explore whether the Latin American trends in fertility resemble those in Europe.

2. Political Regime and Stability

In the same way economic uncertainty can affect household investment and childbearing decisions, changes in the political landscape of a nation are likely to affect those decisions. The direction of the effect of a political change can go in either direction. Some literature (Przeworski et al. 2000) has shown birth rates to be higher under authoritarian regimes than under democracies even after controlling for income and other obvious covariates. On the other hand, it would be easy to imagine that the period of unrest or uncertainty that accompanies regime changes should affect family decisions. Given the diversity of such transitions that Latin American countries have undergone during the last three decades we want to analyze their effect on fertility changes.

Empirical Analysis

In this paper we explore these hypotheses taking advantage of the existing cross-country differences in both fertility and country conditions. We do that by using both aggregate and micro-level data.

1. Panel Analysis

First, we use a panel of 18 Latin American nations for over 25 years to study how different labor market and political institutions have shaped the fertility trends of different age groups.

To proxy for economic uncertainty we use information on unemployment rates as well as the variance of gross domestic product (and/or household consumption) growth in the immediate past. We use a series on changes in consumer prices to proxy expectations of growth and market stability. These data are available from the IFS published by IMF.

To account for changes in government performance and political instability we use measures of the extent of democracy, corruption, and civil war (Boix and Rosatto, World Bank).

Control variables include urbanization levels, the education level or literacy of the population and female labor force participation (from ILO and/or country national

offices) as well as measures of contraceptive use and infant mortality (both from United Nations) among others.

2. Micro-Level Analysis

Second, we use Demographic and Health Surveys (DHS) for several countries to analyze the effect of those aggregate conditions in the individual spacing of children. DHS surveys are available for Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Peru, Paraguay.

The timing of the first three births is estimated using Cox proportional hazard models. We draw individual fertility histories from several household panel surveys for each country. The sample includes only women who were 40 years old or under at the time of each interview and tracks those monthly from either age 14 when analyzing transition to motherhood or from the date of the previous birth.

We control for the woman's education and the place of residence (urban/rural) as well as information on previous fertility history such as age at first birth and gender of the previous children. All the other covariates are the same as those used in the panel analysis.

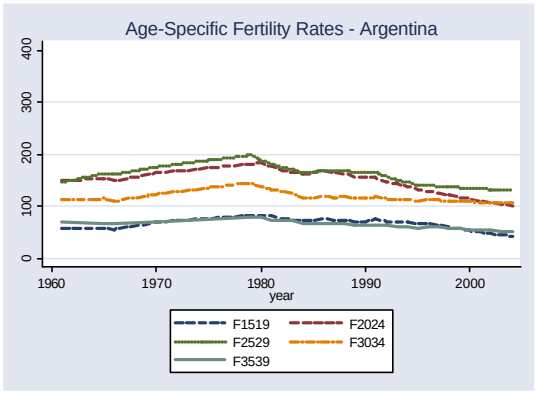
Appendix 1

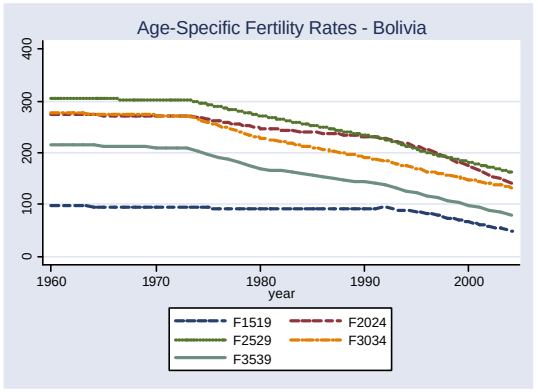
Total Fertility Rates across Latin America

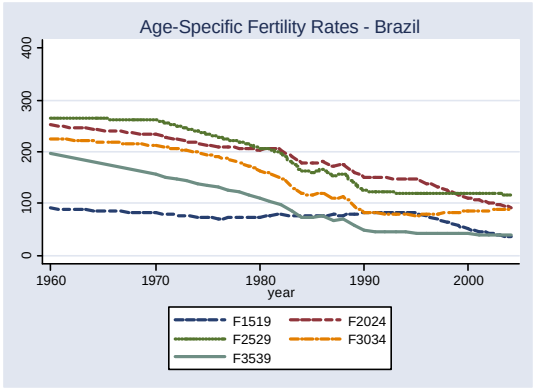
Country	1970	1980	1990	1995
Argentina	3.10	3.50	2.97	2.62
Bolivia	6.54	5.53	4.89	4.36
Brazil	5.33	4.09	2.56	2.46
Chile	3.28	2.47	2.55	2.24
Colombia	4.65	3.60	2.92	2.87
Costa Rica	4.94	3.63	3.17	2.83
Dominican Republic	6.67	4.33	3.33	3.16
Ecuador	6.30	.	3.76	3.36
El Salvador	6.62	5.34	3.84	3.62
Guatemala	6.53	6.04	5.30	5.12
Honduras	5.98	6.44	5.28	4.84
Mexico	6.73	4.57	3.33	2.95
Nicaragua	7.21	6.14	5.17	4.15
Panama	4.99	3.63	2.88	2.72
Paraguay	5.83	5.06	4.61	4.37
Peru	.	4.70	3.76	3.39
Uruguay	3.00	2.66	2.53	2.37
Venezuela	5.68	4.13	3.62	2.94

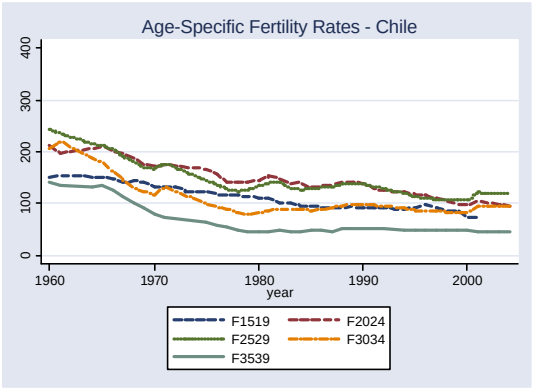
Note: year is 1973 for Colombia, 1971 for Nicaragua and 1972 for Paraguay.

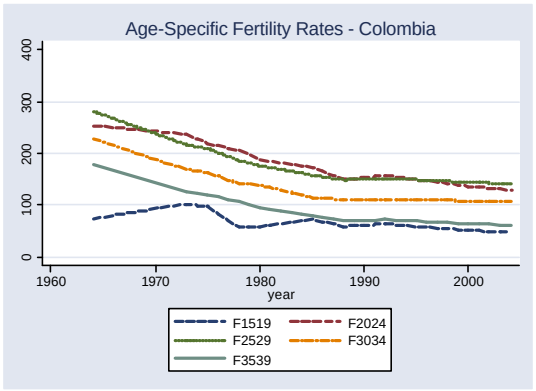
Age Specific Fertility Rates across Latin America

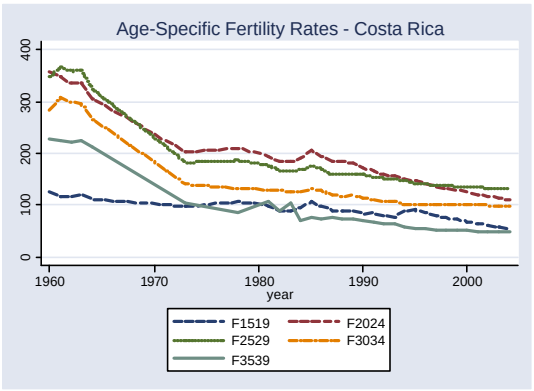


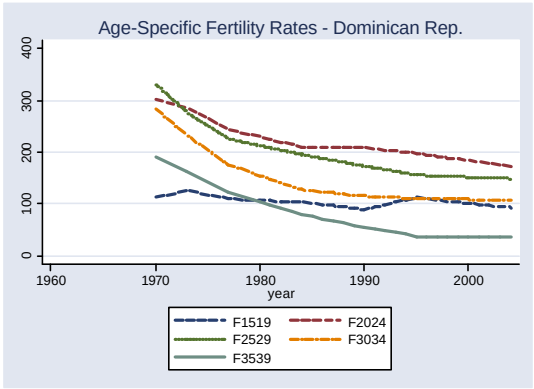


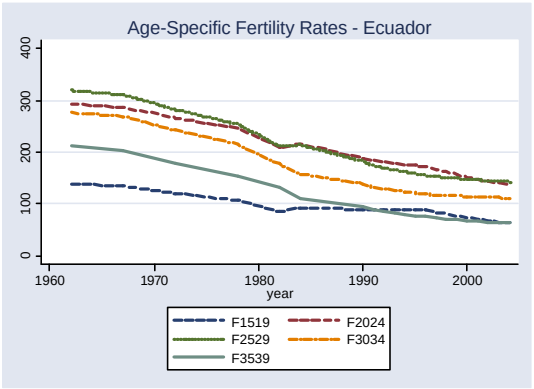


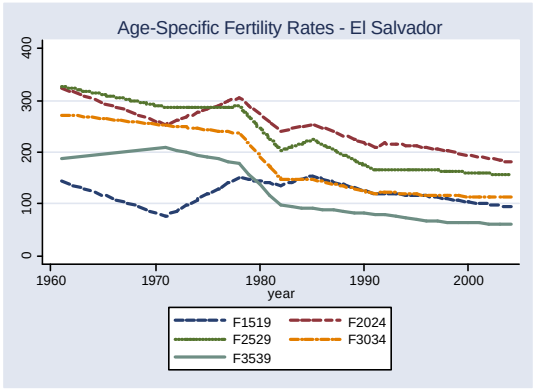


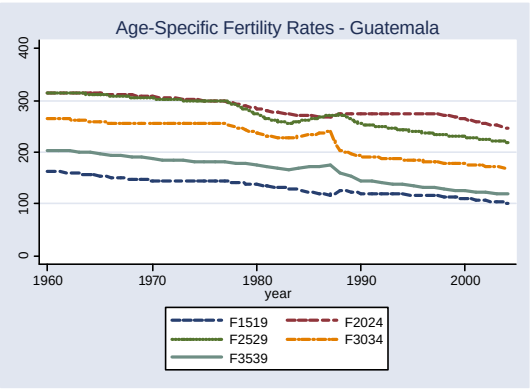


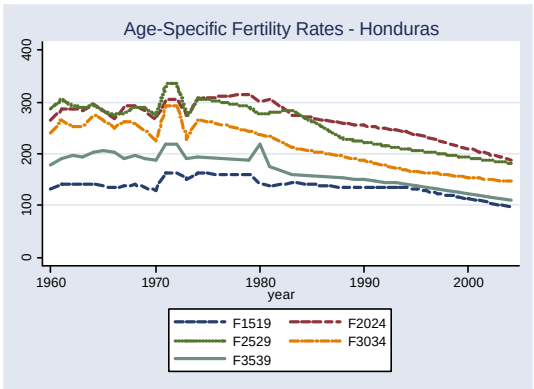


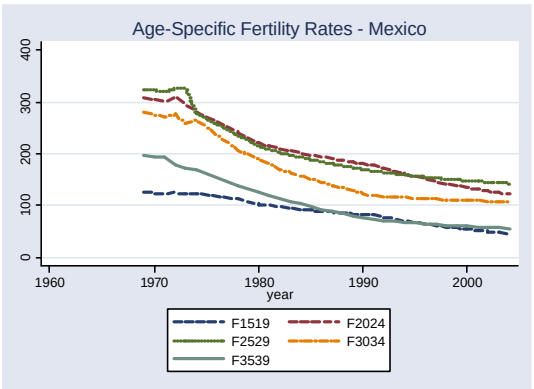

Age-Specific Fertility Rates - Dominican Rep.
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539

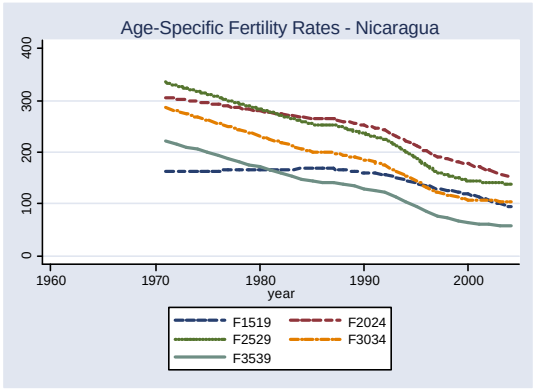

Age-Specific Fertility Rates - Ecuador
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539

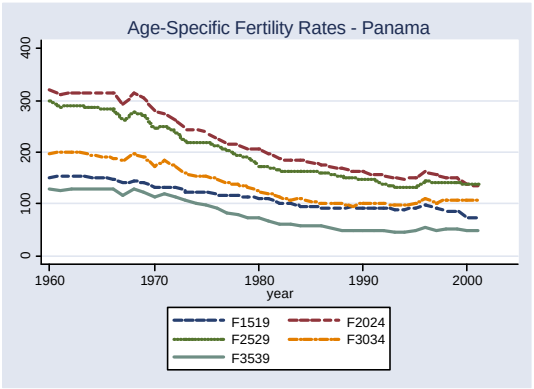

Age-Specific Fertility Rates - El Salvador
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539

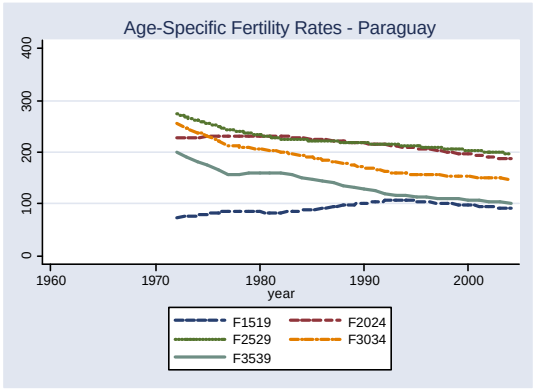

Age-Specific Fertility Rates - Guatemala
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539

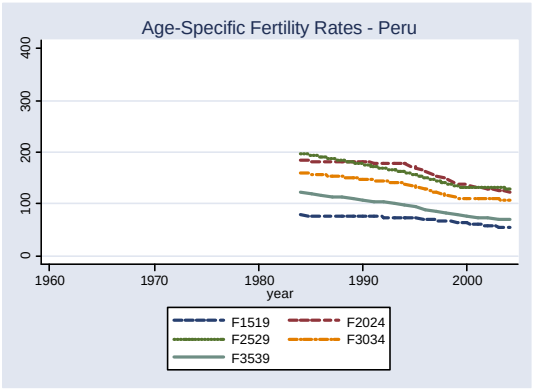

Age-Specific Fertility Rates - Honduras
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539

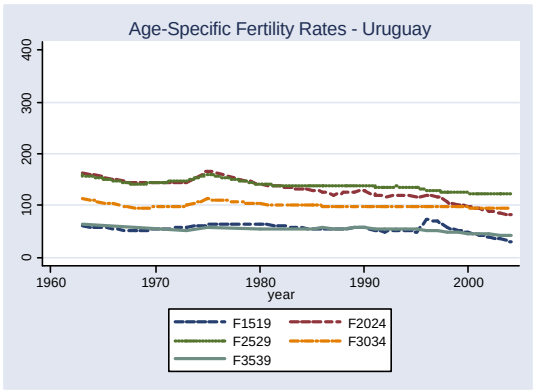

Age-Specific Fertility Rates - Mexico
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539

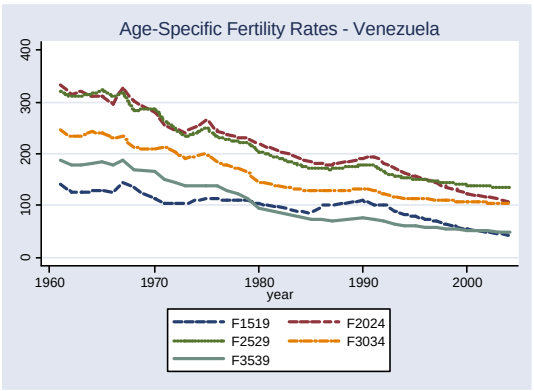

Age-Specific Fertility Rates - Nicaragua
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539


Age-Specific Fertility Rates - Panama
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539


Age-Specific Fertility Rates - Paraguay
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539


Age-Specific Fertility Rates - Peru
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539


Age-Specific Fertility Rates - Uruguay
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539


Age-Specific Fertility Rates - Venezuela
0
100
200
300
400
1960
1970
1980
1990
2000
year
F1519
F2024
F2529
F3034
F3539