

Latin America
and the Caribbean



WORKING PAPER

© UNFPA/DEBORAH ELENTER



Authors:
Wanda Cabella
Mathias Nathan

Editors:
Esteban Caballero
Pablo Salazar
Lorna Jenkins
Daniel Macadar

Challenges Posed by Low Fertility in Latin America and the Caribbean

Challenges Posed by Low Fertility in Latin America and the Caribbean

© UNFPA, 2018

Disclaimer:

The views and opinions expressed in this document do not necessarily reflect those of the United Nations Population Fund.

This document presents a brief overview of the characteristics of low and very low fertility regimes. In it we identify the demographic challenges faced by the countries leading these changes, together with the main public policies implemented to provide solutions to the ensuing consequences. It likewise seeks to draw lessons from the experience obtained in these countries that could be useful for Latin America and the Caribbean.

Contents

Introduction.....	3
What are low fertility regimes and how are they measured?	8
In what regions of the world do low fertility regimes prevail?	9
What are the main demographic mechanisms that account for low fertility regimes?	11
What are the main social, economic and cultural forces that explain the low fertility regimes?	13
Is low fertility a problem?	14
Is it possible to reverse very low fertility?	15
What is the current situation in Latin America regarding replacement regimes? ...	16
What is the impact of the sustained drop in adolescent fertility in Latin America and the Caribbean on the total fertility rate?	18
Is it necessary to implement policies to prevent the decrease in fertility to extreme levels?	23
What policies have been implemented in countries that have experienced long years of low fertility regimes? Which have been successful?	23
What policies could be more adequate and more feasibly applied in LAC?	25
References.....	27

Introduction

According to a recent United Nations estimate -published in World Population Prospects (2017) - nearly half of the global population resides in countries affected by low fertility, with 18 of these countries found in Latin America and the Caribbean. The falling birth rate is the main factor that explains these decreasing demographic trends, the changes in population age structure, aging and the subsequent pressure on social security systems.

The aim of this document is to facilitate a dialogue regarding the fall of fertility levels and its implications for our region. At the same time, it recognizes that low fertility represents a challenge to societies' development, but should not be addressed as a threat. It is UNFPA's intention to highlight this issue and encourage countries to adopt strategies allowing them to adequately manage these realities and their possible impacts, among them the nourishing of the creative and productive potential of a society for all ages- empowering those of working age while simultaneously creating more inclusive communities which will allow those of a more advanced age to better lend their experience and energy in ways which will bring benefit across the board.

Detailed in this document are the common characteristics of countries faced with low and very-low fertility, including analysis of the history of those at the forefront of these changes, the challenges they have faced and the initiatives they have put into place to confront them. Also presented are lessons learned which may be of relevant use in dealing with the extreme fall of fertility in our region.

While acknowledging that the information presented may not be suitable for general application, since local particularities may require answers tailored specifically to them, it is to be stressed that very low fertility can only be avoided through promotion of certain incentives including, but not necessarily limited to, childcare services, achieving a work-life balance conducive to family planning, legislation pertaining to maternity and paternity leave and a sharing of domestic responsibilities between parents regardless of gender which, in turn, is linked with the recognition of women's sexual and reproductive rights, and greater participation of women in the labor market.





Challenges Posed by Low Fertility in Latin America and the Caribbean

In the last two centuries humanity has witnessed the longest periods of population growth in history. Societies and governments, therefore, have some experience in how to face the consequences and eventual problems posed by demographic growth. Current generations have not known stages of deceleration of population growth of the magnitude and stability recorded at present in much of the developed world (Teitelbaum 2018). The birth reduction is the main factor that accounts for the scant or lack of population growth in more developed societies. The reduction of fertility to low levels during extended periods, slightly over thirty years in several European countries and around two decades in some countries of East Asia, has given rise to the concept of “low fertility regimes”. The installation of these regimes has raised a certain level of concern among some specialists and among the political teams of countries where fertility has reached low and very low levels. The effects of this trend on the age structure, basically aging, together with the pressure exerted on the social security system, the slowdown in population growth, and even the possibility of its decline in absolute terms, are

among the most frequently used reasons mentioned when drawing attention to the potential social and economic harm caused by low fertility contexts. Reasons of nationalist (related to the social identity of the populations) and even military (related to the decline of potential military personnel) nature have also been indicated, although as a side-issue (Rindfuss and Kim Choe 2015).

The controversy surrounding the effects of falling fertility has become increasingly sophisticated as more countries, more or less developed, have entered into low fertility regimes. With the increasing availability of information and knowledge about the demographic mechanisms involved in the recent decline, it is possible to reassess the magnitude of the drop and its consequences, and even observe how the different institutional and cultural contexts react differently to the fertility drop.

At the turn of the century, the countries of Latin America and the Caribbean have begun to reach total fertility rates in line with low fertility regimes, three or four decades later

than the countries that led this change. Although levels are still heterogeneous, the truth is that in the past years a significant group of countries in the region converged towards fertility levels at or below the level of generational replacement (Cabella and Pardo 2014; ECLAC 2011). At present, and according to recent United Nations estimates, 18 Latin American countries have Total Fertility Rates (TFR) below the replacement level (United Nations 2017). So far none of the Latin American countries has crossed the limit of 1.5 children per woman (very low fertility), so the region is in time to evaluate the possibility of fertility drops below this level and advance solutions to the potential problematic consequences associated with the extreme fertility reduction. As will be seen later in this document, there are relevant nuances among the demographic, social and economic effects of the **low fertility** regimes and those with **very low** or **ultra-low fertility rates**. For the time being, suffice it to say that there is a certain consensus that the challenges posed by very low fertility regimes are much more difficult to overcome, and that avoiding fertility reductions that imply the installation of this type of regimes is a first lesson we can draw from the recent experience in European and Asian countries (Morgan 2003). A second lesson that emerges from the analysis of low fertility regimes is that their arrival is inevitable and even desirable as they usually are the result of greater gender equity, almost perfect contraceptive control, more educational and employment opportunities for women. A third lesson, particularly relevant in developing countries, is that so far low fertility regimes have become installed in countries that count with the necessary resources to implement adequate institutional measures to make parenting compatible with the life-style of these societies (Morgan 2003).

With these two ideas in mind (acceptance of low fertility and acknowledgment that it is possible to avoid extremely low fertility) this document aims to: a) highlight the characteristics of the low and very low fertility regimes, b) review their evolution in countries leading these changes together with the main demographic challenges faced, c) review the policies implemented to meet the challenges

of low fertility and d) draw lessons from the experience in these countries that could be useful in Latin America and the Caribbean.

In order to organize information and facilitate its reading, the document is structured as a set of questions related to the evolution and characteristics of low fertility regimes, the situation in Latin America and the Caribbean vis a vis the recent decline in fertility close to or lower than the replacement level, and finally in relation to the policies adopted in the pioneer countries that could serve as a reference for ours.

1. What are low fertility regimes and how are they measured?

Low fertility regimes are those in which the total fertility rate is below replacement fertility levels. **Replacement fertility** is equal to the level of fertility which, if maintained over time, will produce a zero-population growth under the assumption of constant mortality and absence of migration. The replacement level corresponds to a total fertility rate of 2.1 children per woman, the rate that ensures the replacement of the number of women of reproductive age.¹ Thus, the long-term persistence of a fertility rate below the replacement level would produce a population decrease.

Countries with **very low** or **extremely low fertility** are those that are below the threshold of 1.5 children per woman (McDonald 2006, Rindfuss and Kim Choe 2016). The threshold of a TFR of 1.3 children per woman has also been used to describe the experience of several European and East Asian countries that during the 1990s achieved the **lowest fertility levels** known to date (Kohler et al., 2002; Goldstein et al., 2009). Although arbitrary, the definition

1. It is greater than 2.0 because some girls do not manage to survive until the reproductive ages and due to the imbalance in the relationship between newborn boys and girls, in favor of boys.

of these thresholds is useful to predict the rate of growth and the long-term change in the population age structure. A stable population (and with constant mortality rates) with a TFR of 1.5, for example, would be reduced by half in 64 years; with a TGF of 1.9, this would take 230 years (Toulemon 2011).

The **total fertility rate (TFR)** is a synthetic period measure, which expresses the number of children a woman would have if she were subject throughout her life to the fertility rates according to age observed during that moment or period (usually a year). It is the most widely used indicator to analyze the evolution of the fertility level of a population given its availability for a broad set of countries and years, and due to the relative simplicity to estimate it and communicate results. As will be seen later, this measure is not free from interpretation difficulties, particularly during periods of change in fertility.

Measures of cohort fertility, which follow the reproductive experience of a generation, allow direct interpretation of its value, and the number of children that a certain generation of women had and at what ages may be unequivocally estimated. The major problem is that it requires waiting for each generation to complete its reproductive life. In this document, we will not refer much to cohort measures, which will be specifically included to underscore the fact that variations in period measures such as the TFR, for example, do not strictly correlate with the final cohort fertility values.

2. In what regions of the world do low fertility regimes prevail?

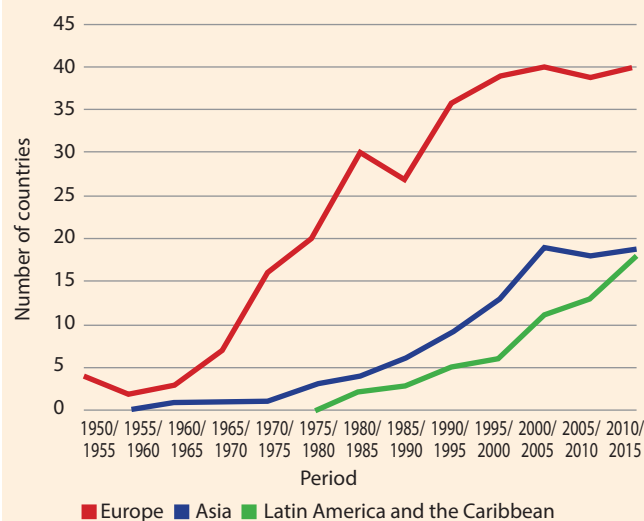
Fertility rates under the replacement level (low fertility, very low or ultra-low fertility) have been a widespread phenomenon in Europe since the 70s and a few years later in several Asian countries. The unprecedented birth rate increase after the end of World War II was followed in most of these countries by a reduced fertility trend which

led to the description of low and very low fertility regimes as demographic scenarios that would characterize the new dynamics of family formation in the most developed countries. This phenomenon is known in the literature as the passage from *baby boom* to *baby bust*.

Fertility has long fallen beyond the replacement level in developed regions, and most of the countries included form part of the **post-transitional or low fertility** group. However, there is considerable variability: while some countries have a TFR just below the replacement level, others present values between 50% and 75% below the replacement value (Rindfuss and Kim Choe 2016).

According to the recent United Nations estimates (United Nations 2017), almost half of the world population lives in low fertility countries. The number of countries with fertility below the replacement level increased sharply in the past four decades, going from less than ten in the early 1970s to more than eighty at present (figure 1). Approximately half of the low fertility countries are in Europe. This increase was also registered, although later, in the Asia and Latin America and the Caribbean regions.

FIGURE 1.
NUMBER OF COUNTRIES WITH FERTILITY BELOW THE REPLACEMENT LEVEL IN 2010-2015 IN SELECTED REGIONS



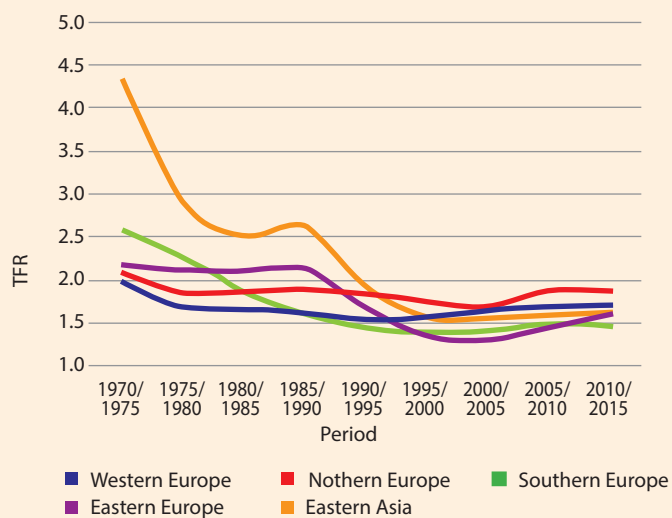
Data source: United Nations, WPP 2017.

The Southern Europe and Eastern Europe regions, as well as East Asia, have the lowest fertility rates in the world, with levels close to 1.5 children per woman on average (figure 2). By manner of example, a TGF of 1.6 was observed in Ukraine, 1.5 in Italy, 1.4 in Spain and 1.3 in Greece, Portugal, and Poland during the 2010-15 period. Among the countries with very low fertility in East Asia, we may mention Japan (1.5) and South Korea (1.3). Fertility levels in the regions of North-Western Europe are usually closer to the replacement level: the TFR varies between 1.8 and 2.0 children per woman in countries such as Denmark, France, Holland, Norway, United Kingdom or Sweden (United Nations 2017). In some of these countries, TFR proximity to the replacement level is linked to the implementation of generous parental leaves, advances in child care coverage and policies that encourage gender equity, among other measures. We will later review the main policies associated with fertility levels close to two children per woman.

Based on the experience observed in the more developed countries, it may be said that until now there is no

FIGURE 2.
EVOLUTION OF THE TOTAL FERTILITY RATE BETWEEN 1970-75 AND 2010-15 IN LOW FERTILITY SUB-REGIONS

Data source: United Nations, WPP 2017.



theoretical or empirical “limit” in which the TFR stabilizes once it is below the replacement level. On the contrary, evidence in low fertility countries indicates that the TFR tends to be unstable, and subject to changes in the labor market and the economic situation, or to policy measures addressed to families among other factors. These changes often operate through the modification of the fertility calendar, causing a rise or fall in births in a population in a given year. On the other hand, the final cohort fertility tends to be more stable than period fertility and close to replacement level (Sobotka 2017). Furthermore, the instability and diversity of the TFR contrast with the relative stability observed in the ideal family size in low fertility countries, that is close to the two children (Sobotka and Beaujouan 2014).

Similarly, the existing diversity in fertility rate among developed countries suggests that there are institutional, political, cultural and historical factors operating at the national level. The effect of these factors varies among countries and allows to explain the observed differences in fertility within the group of post-transitional societies. This is central when considering the possible strategies to reverse future fertility reductions (Rindfuss and Kim Choe 2016). One of the differential aspects when comparing these countries with countries in Latin America and Africa is that adolescent fertility level is low, almost nil in some. Even so, there also is variability in the adolescent fertility rate among high-income countries. According to the data reported in the Di Cesare report (2016) for Western high income countries, in 2013 the Anglo-Saxon countries (United States, United Kingdom and New Zealand) showed the highest values (between 25 and 30 ‰), while the vast majority of countries presented rates close to or below 10 ‰. Within the set of countries below this threshold, there are some that stand out for their extremely low rates. In Slovenia the rate is under 1 ‰, in Switzerland it is 1.7 ‰, and several countries (Germany, France, Italy, Austria, among others) are close to 4 ‰ rates. The report highlights that the low current rates result from a sustained decline process that started in the 1960s. More importantly, they

are the outcome of the implementation of consistent policies over time geared to achieve substantial improvements in adolescent sexual and reproductive health.

3. What are the main demographic mechanisms that account for low fertility regimes?

Three demographic forces leading to the creation of stable regimes of low and very low fertility have been recognized: 1) the choice of a small number of children (quantum) 2) the postponement of the first birth (tempo) and 3) the increased proportion of women who do not have children (childlessness).

As for the **first**, it is important to note that in the most developed countries the number of women or couples who have many children is small; consequently, the proportion of high-order births (3 or more) is very low: between 75 and 90% of births are currently first or second order (Morgan 2003). Most couples choose to have few children, and this standard seems to have installed in low fertility countries at least half a century ago when developed societies reached the last demographic transition phase.

The recent fall in fertility to low and very low levels in these countries was mainly driven by the **second** factor mentioned above: the **delay in the fertility onset to a more advanced age** (Figure 3) which has meant that an increasing number of women begin their reproductive life over 30 years of age (Kohler et al., 2002). This process is known as the *Postponement Transition* and explains the importance of the changing fertility calendar in the fertility drop to low and very low levels. The postponement of fertility, fundamentally the rhythm at which it was processed, caused periods of sharp fall of the TFR. The TFR is affected by changes in the fertility calendar and the female population distribution according to their parity, which

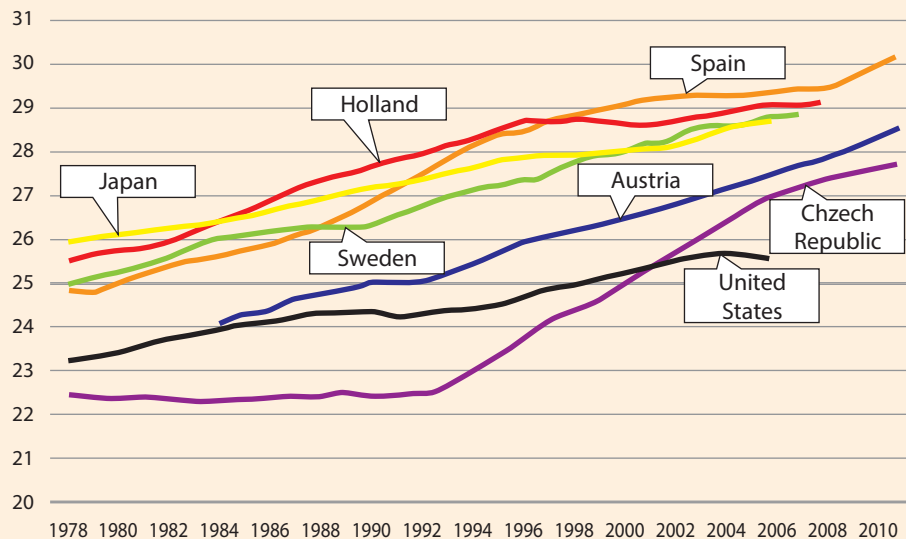
sometimes causes an equivocal interpretation of these values (Bongaarts and Sobotka 2012). The postponement of entry to motherhood among young cohorts, for example, causes a decrease in births observed over a period and correspondingly a lower TFR than that observed in the absence of such a calendar change. In other words, the delay in the fertility age produces a reduction in the TFR during the period even if the final cohort fertility remains unchanged. This change in the period indicator caused by variations in the fertility calendar is known as **tempo effect or distortion**.

The so-called *tempo* effect has been a central element accounting for the decline of the TFR to extremely low levels in European countries during the 1990s; although these countries have characteristics that explain having reached low fertility, none of them would have reached such extreme levels without the decisive pressure exerted by the calendar effect (Goldstein et al., 2009).

The variability in the current TFR values between the low and very low fertility countries is partly due to the “rebound effect” registered in the great majority of the European countries that pioneered the fertility decrease to low and very low levels (Bongaarts and Sobotka, 2012, Bongaarts and Feeney 2010). The process started in these countries between the late ‘60s and early ‘70s, and the rate reached very low values in some. However, in the 1990s period fertility began to rise, and now the TFR tends to approach the replacement threshold in several countries. The demographic explanation for the recovery of the period fertility level is attributed to the gradual disappearance of the *tempo* effect, once the postponement of births ceased to exert a lowering effect on the GFR.

Postponement to advanced reproductive ages can have undesirable effects among women who start late (or reach advanced ages of the reproductive cycle without having children, but with the desire to have them) since their time of exposure to the probability of being mothers is shortened, and this in turn conditions these women’s

FIGURE 3.
MEAN AGE AT FIRST BIRTH IN SELECTED COUNTRIES. 1978 - 2011



Source: Our own, with data from the Human Fertility Database. www.humanfertility.org.

possibility of having the expected number of children. Additionally, postponement to older ages increases the likelihood that people will choose a life without children or eventually lose interest in that option (Sobotka 2017). The postponement of fertility has also resulted in couples that decide to have children when women's fertility is in decline (Velde & Pearson 2002), with an increased risk of prolongation of time to pregnancy, infertility, and miscarriages, among other aspects related to maternal and newborn health (Schmidt et al., 2012).

The **third** factor impacting on the consolidation of low fertility regimes is the growing number of women who, for various reasons, reach the end of their reproductive life without having children. Although in all societies there is a portion of the population that does not participate in the process of biological reproduction, in recent years the growth of nulliparity has been studied as a social and demographic phenomenon characteristic of societies undergoing Second Demographic Transition. In European

countries, even though nulliparity figures vary, there is a convergence towards increased childlessness. At present this value is approximately 20% among women who have completed their reproductive cycle in Austria, Germany, and Switzerland. Without reaching such high values, a series of other European countries have likewise increased the proportion of women who remain childless, with an average value of 15% (Sobotka 2017). In very low fertility Asian countries (Japan, South Korea, Singapore) this indicator reaches figures close to 30%. It should be noted that the registered values of childless women at the end of their reproductive life oscillate between 5 and 10% for most of the 20th century. The reasons for this phenomenon are diverse, but there is some consensus that nulliparity is partly an unintended consequence of postponement, and largely the result of a deliberate choice of a child-free lifestyle, or the outcome of having opted for personal development and work and having to face the difficulties of combining work with upbringing (Kreyenfeld and Konietzka 2017).

4. What are the main social, economic and cultural forces that explain the low fertility regimes?

Numerous transformations unfolded simultaneously between the last decades of the 20th century and the beginning of the 21st century and contributed to modify reproductive behavior in Europe, especially the postponement of the first birth. Sobotka (2017) summarized the factors indicated in several studies, stressing the key role played by four factors in delayed parenthood: 1) the expansion of education, 2) the increasing economic uncertainty, particularly among young people, 3) the gender revolution, which has mainly resulted in the almost complete incorporation of women into the

labor market, and 4) the transformations that have taken place in the sphere of couple relationships.

Underlying these changes we may recognize an ideological-cultural change component, ultimately expressed in the Second Demographic Transition concept. Its main promoters, the Belgian demographers Lesthaeghe and Van de Kaa (1986), argued that during last decades of the 20th century a series of changes converged and radically modified the role of individuals about both family and society. According to these authors, the forces of modernization led to an exacerbation of individualism which, transferred to fertility decisions, meant that individuals increasingly evaluated the cost of having children in relation to the loss of their autonomy that hindered their personal development and decreased their



time for leisure. Individual autonomy and self-realization are at the center of life course decisions, freedom of choice and equal opportunities become highly valued life goals; at social level laws are adopted to guarantee the respect for personal decisions such as divorce, abortion and reproductive decision making in general (Lesthaeghe 2014; Giddens 1993). In turn, the structural changes accompanying the consolidation of the industrial and post-industrial economy made working in the labor market increasingly incompatible with child-rearing tasks.

None of these changes would have been possible without three revolutions that began in the 1960s: the contraceptive revolution, the sexual revolution and the gender revolution (Giddens, 1993). The invention of highly efficient contraceptive methods enabled a radical change regarding reproductive decisions: “... during the First Demographic Transition, the issue was to adopt contraception in order to avoid pregnancies; during the Second Demographic Transition the basic decision is to stop contraception in order to start a pregnancy” (Lesthaeghe and Surkyn 2004). The invention the pill methods made it possible to postpone the beginning of reproductive life until the desired time without abstaining from sexual life and thus allowed societies where contraception is the “default option” to flourish (Balbo, Billari & Mills 2013). On the other hand, the sexual revolution questioned the idea that sexual life was only legitimate within marriage, together with the notion that its sole purpose was procreation. According to Van de Kaa (2004), fertility becomes “derivative”, and results from a long reflection process where the central question in this deliberation regarding reproduction is: “will the arrival of a child contribute to my self-realization?”. Finally, the gender revolution, with its hallmark questioning of patriarchal power and connections with the expansion of women’s education and employment, has resulted in an unprecedented drive towards greater autonomy of women when taking conjugal and reproductive decisions. All these changes contributed in general terms to delay the formation of couples and the arrival of the children.

5. Is low fertility a problem?

There is consensus according to which reduced fertility results from the capacity of populations to meet their reproductive objectives both regarding the number of children and the time to have them. It would thus be inappropriate to consider that low fertility is a problem *per se*. Even so, its consolidation poses challenges for contemporary societies that must tailor their institutions to adapt to the new demographic reality. A low fertility sustained over time leads to an aging population and an eventual negative population growth. The lower the fertility rates, the faster these changes will be processed. What are then the concerns associated with aging and population decline?

With regard to the **aging population**, the main challenge is associated with the financial sustainability of social security, public health, and elderly care systems. As older people increase in number and the working-age population decreases governments are faced with the problem of financing the cost of social protection systems and must review the benefits granted to people of retirement age and the tax burden on the active population. Both options are unpopular with the electorate and can generate political costs for governments (Rindfuss and Min Choe 2015).

As for **negative growth**, concerns range from aspects related to nationalism, the need to have a relatively large domestic consumer market to place domestic economic production and the challenge of sustaining the necessary size of the country’s armed forces with young people (Rindfuss and Min Choe 2015).

Low fertility is not a problem, and for some sectors may even be positive as it lowers the burden for families, and allows the possibility of achieving more equitable societies from the gender standpoint if we consider that, at least until now, it is basically women who are primarily responsible child care. The fact that it is not a problem in and on itself does not exempt societies with low fertility demographic regimes from reflecting upon its multiple

impact on social life, intergenerational and generational relationships (the family network, for example, and with it the supply for family care) and, fundamentally, to anticipate its consequences when planning in relation to the negative effects, particularly those derived from the labor market.²¹

6. Is it possible to reverse very low fertility?

The experience in European countries is a good example of the role that the postponement of fertility can play in the temporary decline of the TFR. A relevant part of the explanation of the fall of the TFR to very low levels responds to the “distortion” of the *tempo* effect that generated the postponement of the first birth in these countries between 1980 and 2000, and its subsequent recovery once the rate of increase of the deferment began to slow down, that is, when the *tempo* effect ceased to have significant downward effects at period level. In sum, from a purely demographic perspective, it is possible to respond that very low fertility can be reversed insofar as it is the outcome of a particular combination of intensity and calendar, which, when diluted, causes the recovery of period fertility. This first explanation, of a mechanical nature, is undoubtedly a relevant factor when weighing the existence of a transient component in the fall to very low fertility levels. As shown above in this document, this drop to very low levels and its subsequent rebound has been observed in several European countries. However, there still is significant heterogeneity in the TFR levels of European countries and, generally speaking, of developed countries that experienced drops to very low levels. Although it is possible to interpret these differences as differences in the rhythm of development of the *Postponement Transition*, recent research has analyzed another set of factors, both

institutional and social, that help to explain why within the set of countries that experienced drastic falls in fertility, some returned to levels close to two children per woman and others are still far from recovering a level close to the replacement threshold.

As indicated by Morgan (2003), it is reasonable to consider that “*even large families will be small in the 21st century*” as a fact; this is consistent with two as the ideal number of children in most of the low-income and very low fertility countries (Testa 2006). However, in some countries the TFR is currently very close to two children per woman (France, Holland and Sweden) while in others it is much less than two (Italy, Spain and Hungary, for example, have TGF levels between 1.2 and 1.4). What factors explain these differences? What factors impacted in some countries to make fertility recover while in others this recovery cannot be even envisaged?

The more widely accepted theories on the decline of post-transitional fertility agree that the expansion of female education and the rise in women’s wages are powerful drivers of the fertility reduction, as in the case of the Second Transitional Demographic Theory (SDT) and the *New Home Economics* (Aasve et al., 2015). However, recent trends are showing that this relationship is not proven in several countries of the developed world where the relationship between development and fertility shows the opposite sign to that expected according to the mentioned theories: in several of the countries with a very advanced SDT and with greater development fertility is increasing rather than decreasing (Aasve et al 2015, Myrskylä et al 2009, Luci and Thévenon 2011).

Part of the explanation refers to the mechanics of the TFR. But there a considerable debate is also starting in relation to the role played by the emergence of increasingly egalitarian societies in relation to gender roles. Between the end of the 1990s and 2000s, Mc Donald (2000) and Esping Andersen (2009) placed this issue at the center of the discussion: the theory of the incomplete revolution

2. For a good analysis of the consequences of aging and the central dimensions that must be addressed to avoid the difficulties that societies face due to the fall in fertility, see Rofman, Amarante and Apella (2016)

posed by Esping Andersen and the theory of gender equality mismatch in the public and the domestic spheres are currently form the backdrop of the research that seeks to unravel the reasons why some developed countries increased their fertility and others did not.

Esping Andersen (2009) highlights the differences in fertility regarding the capacity of societies and institutions to adapt to the new role of women in all areas of daily life, and especially highlights the importance of the role played by the state to make family and working life compatible together with its effect on fertility. Mc Donald (2000) interprets the differences in post-transitional fertility in relation to the specificities of the gender system in countries with low fertility. A comparison between the countries of Southern Europe (very low fertility) with the Nordic countries (fertility close to replacement level) shows that in the former there is a significant gap between gender equality in the institutions oriented to individuals (education system, labor market) and gender relations in the domestic sphere. In other words, gender equality encourages fertility, if and only if there is a correspondence between women's opportunities in the public sphere and an equal division of domestic roles. On the other hand, the more the state ensures that family-oriented institutions (e.g. childcare, parental and care leave, etc.) are based on a foundation that promotes gender equality in the family, domestic life, the fewer barriers couples will find when they decide to start or increase their fertility.

In summary, while the low fertility model is rooted in developed societies where contributes towards gender equality in all spheres of life, very low or ultra low fertility regimes are associated with the existence of a gap in gender equality when comparing the public and the family spheres. In this sense, and to answer the question that opens this section, there is consensus among experts indicating that it is possible to reverse very low fertility and that the key to avoid or reverse very low fertility regimes lies in the construction of increasingly egalitarian societies at the level of gender relations.

A varied set of measures was implemented in European countries where the decline in fertility was significant and occurred since the mid-'70s, some explicitly aimed at promoting births, others seeking to promote gender equality and increasingly reconcile family life and work. Spain, Sweden, and France (Pardo and Varela, 2013) are three paradigmatic cases. There is a consensus that countries, including Spain, that implemented policies geared to boost the birth rate were hardly successful, particularly those that did this through monetary incentives (Thévenon 2011). France is an exception to this rule since it is one of the countries that has managed to sustain a TFR of 1.9 children per woman through comprehensive family policies aimed to reconcile family and work, with a significant component of child care provision and a strong dose of state co-responsibility. Sweden also has one of the highest fertility rates in Europe, close to 1.9, but in this country family policies never aimed to raise fertility but rather to promote gender equality and especially involve males in parenting tasks. A set of devices aimed to facilitate the reconciliation between family life and work life was implemented in both countries and included the public provision of child care, parental leave, money transfers to households, flexible working hours and the promotion of shared child care by men and women.

7. What is the current situation in Latin America regarding low-fertility regimes?

The Latin America and Caribbean region experienced a rapid decline in fertility in the past decades. Several countries, most of the from the Caribbean region (Table 1) present a total rate below the replacement level, 18 countries in the subcontinent reached a TFR under 2.1 children in the 2010-2015 five-year period. In fact, the first countries to cross the replacement threshold in the 1980s were Antigua and Barbuda, Barbados and Cuba. Later, some countries of South America joined in together with Costa Rica.

TABLE 1.**TOTAL FERTILITY RATE IN LATIN AMERICAN AND CARIBBEAN COUNTRIES ACCORDING TO SUB-REGION, 2010-2015**

Caribbean		Central America		South America	
St. Vincent and the Gren.	1.51	Costa Rica	1.85	Brazil	1.78
Puerto Rico	1.52	El Salvador	2.17	Chile	1.82
Cuba	1.71	Mexico	2.29	Colombia	1.93
Barbados	1.79	Nicaragua	2.32	Uruguay	2.04
U.S. Virgin Islands	1.80	Panama	2.60	Argentina	2.35
Aruba	1.80	Belize	2.64	Venezuela	2.40
Bahamas	1.81	Honduras	2.65	Surinam	2.46
Martinique	1.95	Guatemala	3.19	Peru	2.50
Guadeloupe	2.00			Ecuador	2.59
Trinidad and Tobago	2.01			Guyana	2.60
Curaçao	2.07			Paraguay	2.60
Jamaica	2.08			Bolivia	3.04
Antigua and Barbuda	2.10			French Guiana	3.45
Granada	2.18				
Dominican Republic	2.53				
Haiti	3.13				

Data source: United Nations, WPP 2017.

Increased access to contraceptive methods is considered a key factor accounting for the fertility drop in the region (Guzmán et al., 2006). Nevertheless, the prevalence of contraceptive methods in the region shows differences both among countries and social groups. The socially most vulnerable sectors of the population have difficulties in accessing efficient methods and present a large gap between their desired and effective fertility (Cavenaghi and Alves 2009).

The fall in fertility to low levels in Latin America and the Caribbean was not accompanied by the delay in the fertility calendar as in the case of most European and East Asian countries (Cavenaghi and Alves 2009; Sobotka 2017). Indeed, its uniqueness is due to the persistence of a pattern of reproduction at early ages, particularly during adolescence (ECLAC 2012, Cabella and Pardo 2014, Rodríguez and Cavenaghi 2014).

The persistence of high adolescent fertility rates in Latin America and the Caribbean responds, according to Rodríguez (2013), to a combination of early sexual debut, poor access to contraceptive methods since the beginning of sexual life and limited access to abortion. Likewise, fertility at early ages in the region occurs in a context of strong inequalities in reproductive behavior associated with the position occupied by individuals in the social structure: people from low socioeconomic strata usually have higher and earlier fertility than those in the upper strata, as well as a higher proportion of unwanted pregnancies (Cavenaghi and Alves 2009; ECLAC 2012; Nathan, Pardo and Cabella 2016).

Some studies have shown the emergence of the postponement of the first birth, although basically concentrated among the most educated women (Rosero-bixby et al., 2009, Nathan 2015, Lima et al., 2017). This has

produced a slow increase in the average age of women when giving birth to their first child in some countries such as Chile and Uruguay (Nathan, Pardo and Cabella 2016, Lima et al., 2017), together with an increase in the proportion of women without children at 25-29 years in a broader set of countries in the region (Rosero-Bixby et al., 2009, Esteve et al., 2012). However, the growing contrast between the delay in maternity of women with greater social and economic opportunities and the persistence of an early fertility among the most disadvantaged social sectors has caused a polarization of the reproductive calendar (Rosero-Bixby et al., 2009; ECLAC 2012; Rodríguez and Cavenaghi 2014; Nathan 2015; Lima et al., 2017). For this reason, it may be reasonable to think that progress towards a late fertility context develops slower in the region as compared to the experience observed in developed countries.

Although fertility is expected to decline until it consolidates at low levels close to 1.7 children per woman in 2050 (United Nations 2017), a certain margin of uncertainty persists regarding the future course of reproductive dynamics in Latin America and the Caribbean. In the context of strong reproductive gaps between social sectors, a high number of unplanned pregnancies (Sedgh et al., 2016) and high rates of adolescent fertility, the possible trajectories in terms of declining fertility level could present a diversity of formats and rates of change.

8. What is the impact of the sustained drop in adolescent fertility in Latin America and the Caribbean on the total fertility rate?

The main feature of the recent fertility drop in the region has been the decoupling of the rate of decline in adolescent fertility in relation to fertility at all ages. The behavior of adolescent fertility will therefore play a decisive

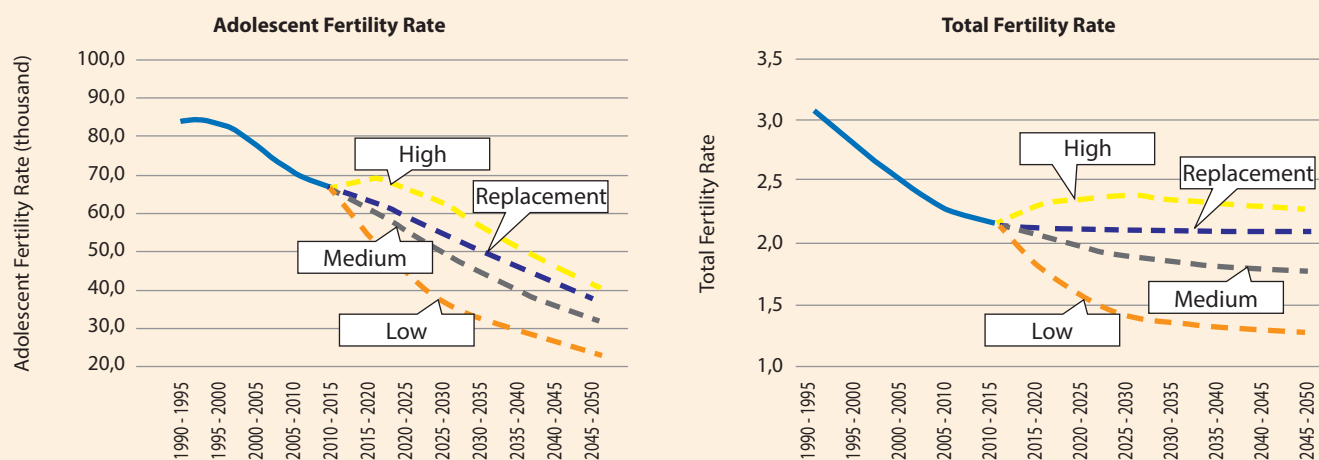
role in the future evolution of the fertility rate in Latin America and the Caribbean.

To what extent is this feature a specificity that may be reversed with adequate reproductive health programs, or is it a structural feature that is more difficult to combat? Evidently the answer is not simple and the trajectories we may envisage are diverse. This document considers the United Nations projections as a standard source for the analysis of prospective fertility scenarios in the region, so in this section we will use them to describe the most plausible future evolution of fertility in each country in Latin America and the Caribbean, and for the region as a whole. In this case we analyze the United Nations estimates and projections (revision 2017, between the 2010-2015 and 2045-2050 five-year periods) of the specific fertility rates according to age together with total fertility figures, with special consideration regarding the evolution of adolescent fertility and its potential impact on the rates of the immediately superior ages.

Figures 4a and 4b show the evolution of adolescent and total fertility for Latin America and the Caribbean up to the 2045-2050 quinquennium. We considered the three projection variants used by the United Nations (high, medium and low) and a fourth variant keeping the total fertility rate constant at replacement level. According to the projection data it is expected that adolescent fertility in the region will continue with the downward trend observed in recent years. A significant reduction in the rate of age group 15-19 observed in 2010-2015 (67 per thousand) is expected in the four variants. According to the medium variant, the adolescent fertility rate would drop more than a half, reaching a value of 32 per thousand. On the other hand, the different variants predict total fertility rate passing from 2.14 children per woman observed in 2010-2015, to 2.26 (high), 1.77 (average) and 1.27 (low) in 2045-2050. Unlike the trend registered in recent years, the graphs show a more pronounced drop in the adolescent fertility than in the total fertility rate. The model adopted by the United

FIGURES 4A Y 4B.

PROJECTED EVOLUTION OF ADOLESCENT AND TOTAL FERTILITY IN LATIN AMERICA AND THE CARIBBEAN, 1990-1995 TO 2045-2050



Data source: United Nations, WPP 2017.

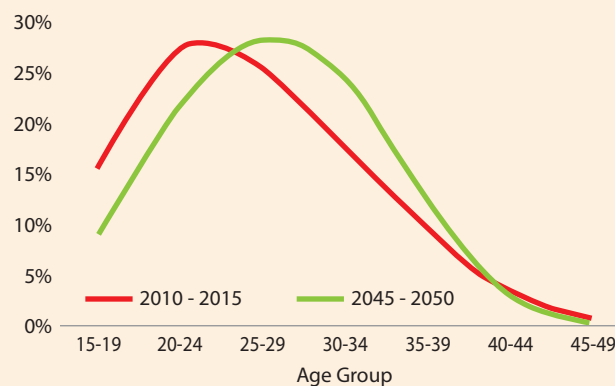
Nations to project fertility thus reverses the main feature of the recent reduction in Latin American fertility, namely, the much faster fall in general fertility than that of adolescent fertility (Rodríguez 2014; Cabella and Pardo 2014, ECLAC 2012). The United Nations projection even anticipates the reduction of adolescent fertility also in a theoretical scenario of constant fertility at replacement level.

The decrease in adolescent fertility is contemplated in the changing pattern of fertility according to age, which indicates that the evolution of total fertility will result from two trends: a) a reduction of births in women at an early age; and b) an increase in births at ages associated with the postponement of motherhood (25-29 and 30-34 years). This low and late fertility model approaches that observed in European countries, and may be seen as the emerging reproductive pattern in Latin America for the coming years. It is worth mentioning that the adolescent fertility rate is below 20 per thousand on average in the most developed regions of the world. In Europe, it is currently at values close to 18 per thousand, and around 26 per thousand in North America (United Nations 2017). Having reached such low

early fertility values in the more developed regions does not necessarily imply that the gaps between the social sectors have been completely overcome. They persist, and in some cases, there has even been an increase in the differences between the probability of having a child at adolescent ages among women with higher and lower

FIGURE 5.

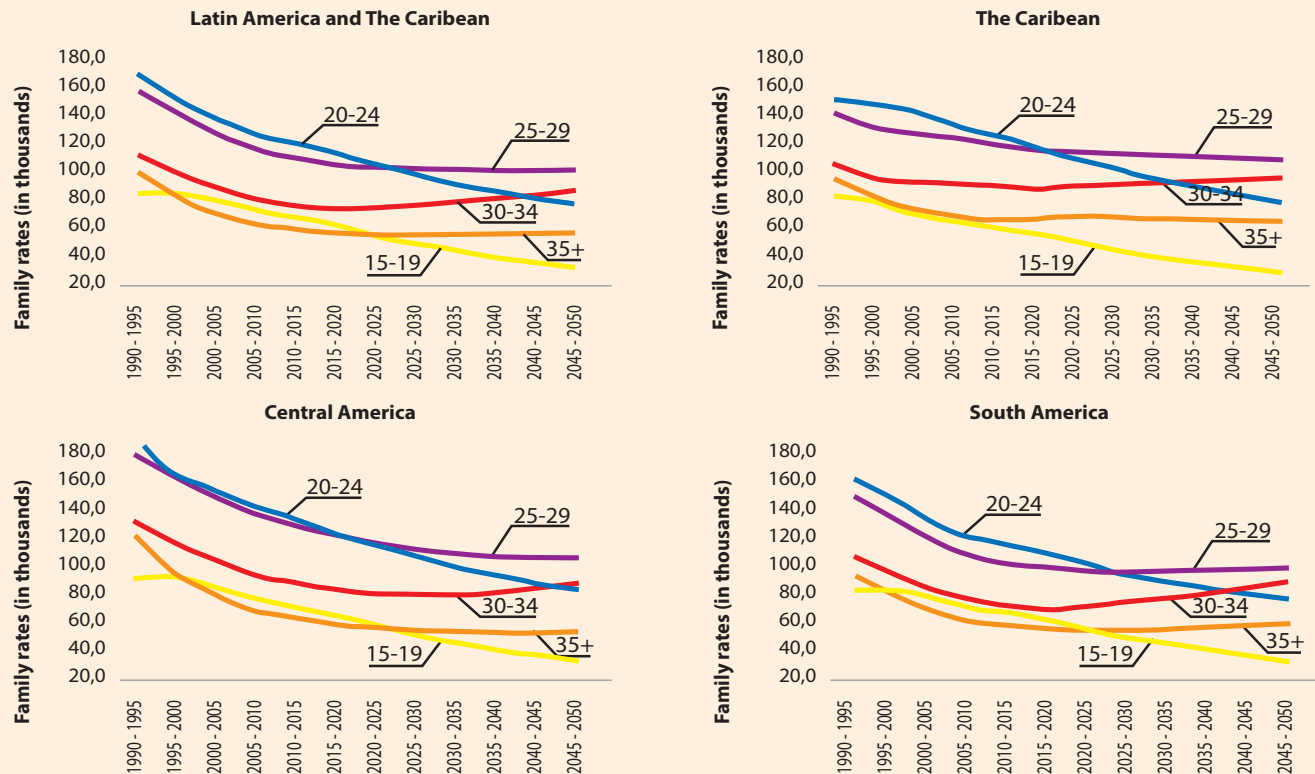
RELATIVE DISTRIBUTION OF THE FERTILITY RATES ACCORDING TO AGE GROUP IN LATIN AMERICA AND THE CARIBBEAN, 2010-2015 AND 2045-2050



Data source: United Nations, WPP 2017.

FIGURES 6A, 6B, 6C, AND 6D.

EVOLUTION OF FERTILITY RATES ACCORDING TO AGE GROUP IN LATIN AMERICA AND THE CARIBBEAN IN THE DIFFERENT SUB-REGIONS, 1990-1995 TO 2045-2050



Data source: United Nations, WPP 2017.

educational levels (Raymo et al., 2015). In any case, these differences are noticeably lower than those observed among different educational levels in Latin America.

In the transition towards a late fertility pattern, the fall in fertility between 15-24 years will be compensated by a less pronounced decrease in the births of mothers between 25 and 39 years of age, and even by a slight increase at some of these ages. The evolution of specific fertility rates by age group according to the United Nations projections (medium variant) suggests a “rebound” in fertility in the 30-34 years group, and a stability of the specific rates in the 25-29 years and 35+ groups in all subregions of the continent (graphs 6a, 6b, 6c and 6d). It is worth mentioning that the specific rates for older women vary both due to

the effect of the age of onset of fertility and the size of the final offspring. Thus, in parallel with the reduction in *quantum* fertility, it is expected that the intensity at late ages will experience a decrease since it is at those ages that high-order births usually occur. But while the decrease in high-order births tends to reduce rates at late ages of the reproductive cycle, the postponement of the onset of maternity acts in the opposite direction, slowing down the rate of decline in fertility intensity at those ages or even reversing it. This particular confluence of tendencies between intensity and calendar is at the basis of the assumptions used by the United Nations in agreement with the trends of projected fertility according to age; it may, therefore, be inferred that its technicians expect Latin America to converge in the medium term towards a pattern

similar to that of the *Postponement Transition* observed in Europe.

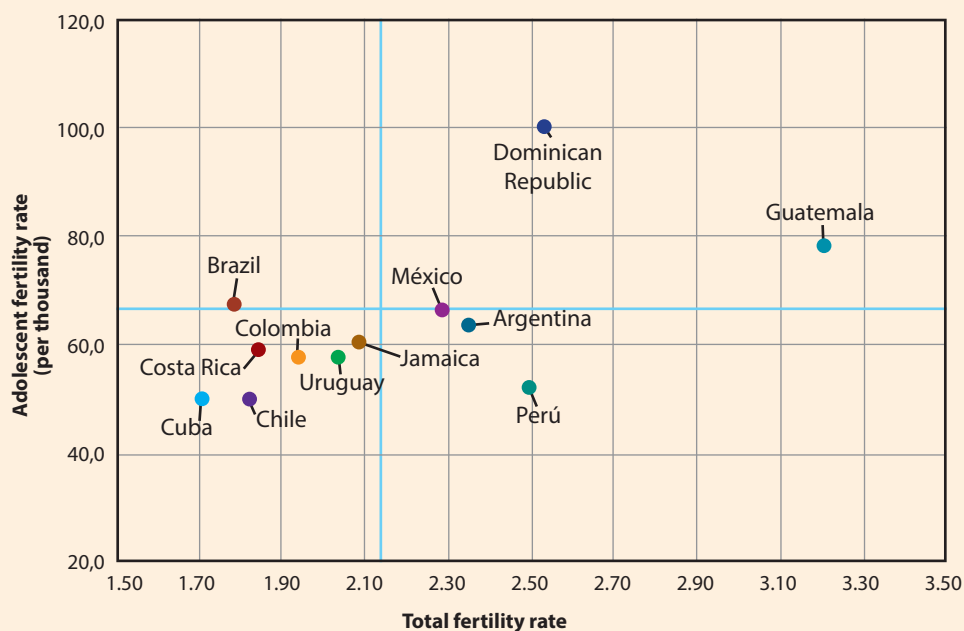
Twelve countries were selected according to the criteria of regional and demographic representation (figure 7) to review in greater detail the future scenario of fertility in the region. These countries show a relative heterogeneity in the evolution of adolescent and total fertility. In any case, we sought to prioritize the analysis of countries with a TFR below the regional average (below the replacement threshold) to focus on the prospective analysis in low fertility contexts. In most of these countries, the adolescent fertility rate ranges between 50 and 70 per thousand, except Guatemala (80 per thousand) and Dominican Republic (100 per thousand).

Table 2 shows the adolescent and total fertility rate in selected countries for the 2010-2015 and 2045-2050 five-year periods, the percentage change of both indicators

between these two periods and the relative weight of adolescent fertility levels in the total fertility rate. A general reading of this table demonstrates that while a significant fall in adolescent fertility is expected, total fertility will show a much less pronounced fall, suggesting that the pattern of change in Latin American fertility rests on the assumption that the fertility decline at early ages will be correlated with a brake on the fall or possible increase in reproductive intensity at older ages. In other words, that adolescents will postpone the beginning of motherhood and that possibly a portion of young women will move forward the first birth. According to this rationale, it is expected that the percentage of TFR corresponding to the 15-19 years group will decrease in all countries. The relative weight loss of adolescent fertility will be much greater for those reaching the lowest total fertility rates.

FIGURE 7.

TOTAL FERTILITY AND ADOLESCENT FERTILITY RATE IN SELECTED LATIN AMERICAN AND CARIBBEAN COUNTRIES, 2010-2015



Data source: United Nations, WPP 2017.

Note: The blue bars correspond to values for Latin America and the Caribbean

TABLE 2.**TOTAL AND ADOLESCENT FERTILITY RATES IN SELECTED LATIN AMERICAN AND CARIBBEAN COUNTRIES, RELATIVE CHANGE AND PERCENTAGE OF ADOLESCENT FERTILITY IN TOTAL FERTILITY, 2010-2015, AND 2045-2050**

	2010-2015		2045-2050		Relative Change		%15-19 over TFR	
	15-19	TFR	15-19	TFR	15-19	TFR	2010-2015	2045-2050
Latin America and the Caribbean	66.6	2.14	32.0	1.77	-52%	-17%	16%	9%
Argentina	64.0	2.35	41.1	1.93	-36%	-18%	14%	11%
Brazil	67.0	1.78	30.0	1.63	-55%	-8%	19%	9%
Chile	50.4	1.82	21.6	1.73	-57%	-5%	14%	6%
Colombia	57.7	1.93	16.5	1.67	-71%	-14%	15%	5%
Costa Rica	59.1	1.85	25.4	1.68	-57%	-9%	16%	8%
Cuba	50.6	1.71	15.6	1.76	-69%	3%	15%	4%
Dominican Republic	100.6	2.53	51.0	1.84	-49%	-27%	20%	14%
Guatemala	78.6	3.19	39.1	2.06	-50%	-35%	12%	9%
Jamaica	60.8	2.08	20.7	1.77	-66%	-15%	15%	6%
Mexico	66.0	2.29	29.2	1.72	-56%	-25%	14%	8%
Peru	52.1	2.50	24.0	1.84	-54%	-27%	10%	7%
Uruguay	58.0	2.04	29.2	1.82	-50%	-11%	14%	8%

Data source: United Nations, WPP 2017.

In a scenario of declining adolescent fertility in Latin America and the Caribbean, it is ultimately plausible that the total fertility rate will be below the replacement level, but without reaching extremely low values. This would occur under the assumption of a progressive consolidation of a late fertility model in a region where women postpone births, an expected transition in a low fertility context. However, the fertility level projection does not include the distortions that might be observed in the TFR due to the rate of change in the average age of fertility (*tempo* effect). If that were so, the TFR could experience periods of sharp fall to very low levels, together with greater fluctuations associated with conjunctural factors. These potential drops should be interpreted with extreme caution if we recall the European experience that allows us to conclude that in these the reductions are generally temporary, and do not translate into drops of similar magnitude in the lifetime fertility of the cohorts.

It is particularly important to consider this effect on the TFR level. When women (or couples) change their

preferences and postpone the start of their reproductive life, the intensity of fertility is affected downwards; nevertheless, the final fertility eventually may not change. Put in demographic jargon, period fertility falls, but cohort fertility remains unchanged. This occurs because a sustained change in the reproductive calendar affects the level of fertility observed each year. Let us use the example of a population in which women have two children on average: the first usually at 19 years of age and the second at 22, and, for whatever reason, there is a change in the reproductive behavior in that population and women postpone the first birth to 25 years and the second at 28. In the long term, cohorts that have children while processing that change will have the same number of children, only that they will have them later; the fertility of these cohorts will not change but while the postponement is being processed there will be a period during which there will be missing births, so that the fertility of that 6 year period will be lower than it would have been in the absence of that postponement of fertility.

9. Is it necessary to implement policies to prevent the decrease in fertility to extreme levels?

The answer to this question is yes if we are speaking of societies unable to provide friendly environments for the realization of the reproductive aspirations of the population, which, as discussed earlier in this document, are related to how widespread is gender equality in these societies. To the extent that the breadwinner system is increasingly less representative of the situation of families – surely in the developed world, although its decline is also undeniable in less developed societies - the dual contributor model creates difficulties when trying to solve conflicts between work and parenting tasks, and specifically overburdens women with the responsibility in the absence of models of shared responsibility between the state, the market and families and between men and women.

If fertility in the region gets to the point of reaching long periods of very low levels, as in European countries, it will bring about an accelerated population aging together with a smaller workforce, and surely demand that governments reconsider social and family policies (or evaluate the consequences of not having them). One of the risks entailed in a poorly informed assessment of the fall in fertility is the implementation of pro-natalist policies.

These policies are linked to the changing role of women in the family. The reproductive aspirations of the population are conditioned by several factors, where the cost of raising children is central. Policies that aim to create more friendly environments for fertility contemplate the trajectory of women in the public sphere and the burden of care that usually befalls them when they have children. In short, they seek to contribute to make the “second shift” (women’s second shift) that refers to the domestic chores that women usually perform after their workday, become a shared

responsibility together with other players, domestic and non-domestic.

Broadly speaking fertility policies may be divided into control, pro-natalist or work-family reconciliation policies (linked to the notion of co-responsibility). The latter does not have a demographic goal proper; however, by attempting to achieve greater harmonization between family tasks and paid work, they may remove pressure from the burden of having children and therefore result in an increased number of children.

Within this last policy package, it is possible to distinguish: 1) direct economic transfers; 2) parental leaves; 3) care support; 4) flexible jobs. None is optimal, and all have their pros and cons. For this reason, it is often said that it is most convenient for governments to develop a set of measures and not implement one single policy. On the other hand, decisions of this nature require a strong public investment, either through the direct execution of services or the economic subsidy to companies or families; the debate also regards the relevance of such investment if the result of these policies is minimal or nil in terms of modifying reproductive behavior (if governments have established future goals in this regard). On the other hand, the combination of a varied menu of policies that remain over time usually shows positive effects. According to recent assessments, a stable supply of programs is one of the most relevant aspects (Gauthier 2015).

10. What policies have been implemented in countries that have experienced long years of low fertility regimes? Which have been successful?

Concern about the undesired effects of the consolidation of low and very low fertility regimes has been at the center of

the debate on the effects of demographic change in several regions of the world for some years now. Many countries have implemented policies to counter them. Low and very low fertility regimes are observed in countries with very different institutional structures and welfare regimes (McDonald, 2006); the variety of measures is also relatively important.

Although several authors point out the difficulty of evaluating the effects of family policies (Gauthier, 2015, Thévenon and Gauthier, 2011) and even show that for the most part, the effects are either ambiguous or marginal, there are indications that some policies are more effective than others.

As shown above, one of the explanations with more consensus in relation to what makes the difference between the countries with very low fertility and those that remain in low fertility regimes, regards the inconsistency between gender equality in the public sphere (especially the labor market) and in the domestic ambit (McDonald, 2000; Esping Andersen, 2013). In countries where domestic gender roles have not changed in line with the changes towards greater gender equality in other spheres, women prefer to give up motherhood to avoid compromising their careers or postpone it to extreme ages of reproductive life. In these countries there is usually also little investment in early childhood care, and the caring tasks fall upon the family and especially women.

European countries have increased efforts to improve family policies in the last two decades. Ireland, the United Kingdom and Iceland, for example, raised their investment in these policies between 2001 and 2009, reaching close to 4% of the GDP in 2009. Most investment in family policies focuses on maternal, paternal and parental leave, together with early childhood care services. Among these measures, we highlight the leave periods strictly reserved for fathers to promote the participation of men in caring tasks, encourage gender equality in child care, as well as achieve greater involvement of men with their children (Thévenon

et al., 2014). Another set of measures seeks to promote the articulation between family public policies and measures that depend on employers; the latter seek to increase awareness in employers so that they contribute with work schedules that help to manage family life and relieve tensions between family and job. One of the challenges of these policies is to achieve flexible hours without exerting a negative impact on working conditions.

In sum, the European experience shows that it is possible to sustain fertility rates close to replacement levels without necessarily aiming at demographic objectives. Although there is controversy as to which mechanisms promoted the increase in fertility (leaving aside the purely demographic *tempo* effects), there seems to be a certain consensus that gender equality in the domestic and public spheres plays a key role to help people meet their reproductive aspirations and that rather than monetary transfers, it is the measures aimed at providing quality care services and enhance time management that facilitate parenting tasks.

Family policies are increasingly a key instrument to ensure that women and men succeed in making work compatible with family, their role is also crucial to limit the negative consequences of fertility on the well-being of people and households (Sobotka 2017). This author concludes that until now pronatalist programs, generally based on financial incentives, fail because they are not able to integrate the new reality of gender relations and the growing aspirations of women in the realization of their working careers in the normative basis of policies. On the other hand, even in countries that have managed to mitigate gender discrimination in the labor market, this aspect continues to be a barrier that must be overcome by a significant number of women. A recent paper by Marianne Bertrand (2018) eloquently shows how women, especially those with better payed jobs, face the so-called glass ceiling, increasingly linked to penalties in the labor market due to demands for flexibility in working hours to manage to harmonize family and work.

11. What policies could be more adequate and more feasibly applied in LAC?

In societies with high levels of inequality and where “contraception by default” is not the norm, as is the case for Latin American countries, it is hard to establish a set of effective measures for the population as a whole. Is it, for example, more convenient to invest in universal policies or in targeted policies capable of addressing the most urgent demands of the population, but positioned at social scale? When thinking about family policies, we find an additional

element: do we want to reduce the fertility of the poorest and increase that of the most educated? Do we want to reduce fertility at an early age but ensure that more educated women do not postpone the first birth to very old ages? Do we want to achieve low adolescent fertility but without a greater drop in total fertility? Is it necessary to think of policies for different social groups? More importantly, should we think that policies must accompany the specificities and social realities of the different sub-regions in Latin America and the Caribbean?

This document does not aim to anticipate a possible answer to these questions, its purpose is to present the



main challenges that Latin American societies face vis a vis the demographic changes that have occurred and those that will soon come. The overview of the measures adopted by the countries that have processed changes of a similar nature in the recent past aimed to give a general idea of the more effective possible interventions at public policy level, more in line with respect for reproductive rights and the promotion of gender equality in terms of the biological and social reproduction of populations.

According to a recent report by the International Labor Organization (2009), even though the Latin American region has progressed in the regulation of maternity protection (maternity leave, for example), the beneficiary population is ultimately small, in particular, because

measures are exclusively linked to the formal labor market. The report likewise highlights the fact that the legal framework and policies aimed at reconciling family and work life are still poorly developed and, more especially, the scarce promotion of the involvement of men in domestic and caring responsibilities. In short, the advances are not proportional to the huge changes that have occurred in women's lives, especially in relation to their massive participation in the labor market. The expansion of coverage of educational services and care for young children is underscored in the report as one of the most important advances regarding work-family reconciliation, although again, these policies are only commencing and fragmentary.

References

- Aassve, A., Mencarini, L & Sironi, M. "Institutional Change, Happiness, and Fertility", *European Sociological Review*, Volume 31, 6(1): 749–765.
- Balbo, N. Billari, F. & Mills, M. (2013) "Fertility in Advanced Societies: A Review of Research", *Eur J Population* (2013) 29:1–38.
- Becker, Gary S. 1965. "A Theory of the Allocation of Time." *The Economic Journal* 75:493-517.
— . 1981. *A Treatise on the Family*: National Bureau of Economic Research, Inc.
- Bertrand, M. (2018) – "The Glass Ceiling", Coase Lecture Booth School of Business, University of Chicago, *Economica*, 85: 205–231
- Bongaarts J. and Sobotka T. (2012) "A Demographic Explanation for the Recent Rise in European Fertility", *Population and Development Review*, 38(1): 83–120.
- Bongaarts, J. y Feeney, G., "When is a tempo effect a tempo distortion?", *Genus*, 66,2 1-15, 2010.
- Cabella, W. and Pardo, I. (2014) "Hacia un régimen de baja fecundidad en América Latina y el Caribe, 1990-2015". In Cavenagui, S. and Cabella, W., *Comportamiento reproductivo y fecundidad en América Latina: una agenda inconclusa*, pp. 13-31, Alap Editor, Rio de Janeiro, serie e-investigaciones n°3. Available in: http://www.alapop.org/alap/SerieE-Investigaciones/N3/Capitulo1_SerieE-Investigaciones_N3_ALAP3.pdf, 2014.
- Cepal (2011) *Panorama social de América Latina 2011*, ECLAC, Santiago de Chile.
- Di Cesare, M.C. (2015) *Fecundidad adolescente en los países desarrollados. Niveles, tendencias y políticas*. LC/W.660, Naciones Unidas: Santiago de Chile.
- Esping-Andersen, Gøsta. 2009. *The Incomplete Revolution: Adapting to Women's New Roles*. Cambridge: Polity Press.
- Gauthier (2015)
- Giddens, A. 1993. *La transformación de la intimidad. Sexualidad, amor y erotismo en las sociedades modernas*. Cátedra.
- Goldstein, J., Sobotka, T. and Jasilioniene, A. (2009). The End of "Lowest-Low" Fertility? *Population and Development Review*, Vol. 35, No. 4, pp. 663-699.
- Guzmán, J.M., Rodríguez, J., Martínez, J., Contreras, J.M. and González, D. "The Demography of Latin America and the Caribbean since 1950", *Population-E*, 61(5-6): 519-576.
- Kohler, Hans-Peter, Francesco C. Billari, and José Antonio Ortega. 2002. "The Emergence of Lowest-Low Fertility in Europe During the 1990s." *Population and Development Review* 28:641-680.
- Lesthaeghe, R. and J. Surkyn. 2004. "When History Moves on: The Foundation and Diffusion of a Second Demographic Transition in Western Countries: An Interpretation." in 12th Biennial Conference of the Australian Population Association.
- Lima, E. E. C., Zeman, K., Nathan, M., Castro, R. & Sobotka, T. (2017). *Twin peaks: The emergence of bimodal fertility profiles in Latin America*. Vienna Institute of Demography Working Papers VID WP 10/2017 and Human Fertility Database Research Report HFD RR-2017-004.
- Luci, Angela and Olivier Thévenon. 2011. «La fécondité remonte dans les pays de l'OCDE: est-ce dû au progrès économique?» *Population et sociétés* 481.
- McDonald, Peter. 2000. "Gender equity, social institutions and the future of fertility." *Journal of Population Research* 17:1-16.
- McDonald, P. (2006). "Low fertility and the state: The efficacy of policy." *Population and Development Review*, 32(3): 485-510.

- Morgan, Ph. (2003) "Is Low Fertility a Twenty-First-Century Demographic Crisis?". *Demography*, 40 (4): 589-603
- Nathan, M., Pardo, I. & Cabella, W. (2016). Diverging patterns of fertility decline in Uruguay. *Demographic Research*, vol 34, art 20, pp. 563-586
- Nathan, M. (2015). La lenta transición hacia un régimen de fecundidad tardía en Uruguay: los cambios en la edad al primer hijo entre 1978 y 2011. *Revista Latinoamericana de Población*, (17), 37-60.
- Myrskylä, Mikko, Hans-Peter Kohler, and Francesco C. Billari. 2009. "Advances in development reverse fertility declines." *Nature* 460:741-743.
- International Labor Organization (2009) Trabajo y familia: Hacia nuevas formas de conciliación con corresponsabilidad social International Labor Organization and United Nations Programme for Development. Pardo, I. and Varela, C. (2013)
- Raymo, J. M., Carlson, M. J., VanOrman, A., Lim, S. J., Perelli-Harris, B., and Iwasawa, M. (2015). "Educational differences in early childbearing: A cross-national comparative study". *Demographic Research*, 33(1): 65–92.
- Rodríguez, Jorge and Cavenaghi, Suzana (2014), "Adolescent and youth fertility and social inequality in Latin America and the Caribbean: what role has education played?" Paper presented at the XXVII Conferencia Internacional de Población IUSSP, Busan, 26 - 31 August.
- Rofman, R., Amarante, V. and Apella I. (2016) Cambio demográfico y desafíos económicos y sociales en el Uruguay del siglo XXI, ECLAC, Montevideo Office.
- Rosero-Bixby, L., Castro-Martín, T. and Martín-García, T. (2009) "Is Latin America starting to retreat from early and universal childbearing?" in Cavenagui, S. (org.) *Demographic transformations and inequalities in Latin America*, ALAP, Rio de Janeiro.
- Rindfuss R.R and Kim Choe M. 2016 "Diversity across Low-Fertility Countries: An Overview" in: Rindfuss & Kim Choe (eds.) *Low and Lower Fertility Variations across Developed Countries*, Springer.
- Rindfuss R.R., M. K. Choe and S. Brauner-Otto. 2016. "The emergence of two distinct fertility regimes in economically advanced countries." *Population Research and Policy Review*, 35(3): 287-304.
- Sedgh, Gilda, Singh and Hussain, R. (2014). "Intended and unintended pregnancies worldwide in 2012 and recent trends. *Studies in Family Planning*" 45: 301–314.
- Sobotka T. (2017) "Childlessness in Europe: Reconstructing Long-Term Trends Among Women Born in 1900–1972". In: Kreyenfeld M., Konietzka D. (eds) *Childlessness in Europe: Contexts, Causes, and Consequences*. *Demographic Research Monographs (A series of the Max Planck Institute for Demographic Research)*. Springer, Cham
- Sobotka, T. (2017). *Post-Transitional Fertility: Childbearing Postponement and the Shift to Low and Unstable Fertility Levels*. Vienna Institute of Demography Working Paper 01/2017.
- Sobotka, T. (2017) *Childlessness in Europe: Reconstructing long-term trends among women born in 1900–1972* in: Kreyenfeld, M. & Konietzka, D. (editores) *Childlessness in Europe: Contexts, Causes, and Consequences*, Springer Open, Suiza.
- Teitelbaum 2018 (preprint) in: Dudley L. Poston, Lee, S & Kim, H. (eds), "Political Effects – Real and Imagined – In Low Fertility Societies", *Low Fertility Regimes and Demographic and Societal Change*, Springer International Publishing.
- Toulemon, L. (2011). Should governments in Europe be more aggressive in pushing for gender equality to raise fertility? The first 'yes'. *Demographic Research*, 24, 179–200.
- Van de Kaa, Dirk. 2002. "The idea of a Second Demographic Transition in Industrialized Countries." Pp. 1-32 in *Sixth Welfare Policy Seminar at the National Institute of Population and Social Security*.



