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FERTILITY AND FEMALE EMPLOYMENT: AN ANALYSIS OF THE ITALIAN REGIONS IN 2000-2023

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INTRODUCTION

Fertility and female employment are two concepts that have always been interconnected; two concepts that nowadays do not exist except about each other; two concepts that should be linked together by a positive dependence, but unfortunately in Italy they have an inverse proportionality: as one increases, the other decreases.

With the economic situation of the Italic peninsula highly unstable and given the cultural changes that society is facing, women are increasingly inclined to devote themselves to work, at the expense of motherhood, causing a serious demographic decline.

Italy has a progressively ageing population and a fertility rate well below the generational replacement level of 2.1 children per woman. The reduction in fertility is a phenomenon that has been most evident since the second half of the 20th century and has involved the whole of Italy, although to varying degrees and strength among regions. In general, however, declining birth rates are becoming an increasingly important problem nowadays, so much so that it has gone so far as to say, for example, that “Italy is disappearing”.

It can be argued that this emergency can be called one of the biggest modern crises the country is facing; and because fertility affects the population growth of a country and the age structure of its population, it is of necessary importance to study the trends of changes in reproductive choices shortly, to limit the damage that denatality can cause to economic development, welfare systems and productivity growth.

The concept of fertility is often associated with that of female labor market participation, as the most complex and urgent challenge facing public institutions is to institute policies that help women reconcile their role as mothers with their professional careers.

The relationship between total fertility rates and women's employment rates is not only an economic and demographic issue but reflects a complex intertwining of cultural, social and political factors. Women's ability to reconcile work and family depends on the socio-cultural and economic context in which they were born and raised and on local pro-motherhood policies.

So, what are the regional trends in first-, second- and third-order total fertility rates over the past two decades? At these TFR levels, what levels of female employment rates correspond? How do motherhood and employment affect each other? Is there a negative or positive correlation between these two variables? What are these economic,

demographic, and sociocultural factors that influence this relationship? What are the main theories on which empirical studies are based? To what extent do these variables affect fertility rates in relation to female employment levels in individual regions?

By analyzing the relationship between TFR and FER in different regions of Italy, over the period from 2000 to 2022, the main objective of this final paper is to answer the above questions and those that will arise during the reading. The study aims to provide a comprehensive view of how these two indicators have evolved over time and space and how their interaction may be affected by women's average income, the female unemployment rate, the number of women employed part-time, the number of women enrolled in college and high school, the annual number of marriages and divorces, and the average age at first childbirth.

To do this, it was decided to structure this paper as follows:

after introducing the methodology and mode of data collection, in the first chapter it was decided to provide a demographic overview of fertility in the broadest and most general sense of the term, and then to analyze at national and regional level the first-, second- and third-order fertility rates and their respective percentage changes from 2000 to 2022.

The second chapter, on the other hand, reports the trend of female employment rates in different Italian territories over the past two decades and then discusses the relationship between work and motherhood in general in Italy in recent years.

In the third and final section of this thesis, after introducing the main theories on the subject, a study at the empirical level will be conducted. *In primis* analyzing the correlation between these two rates and then studying how some explanatory variables of main importance can influence the total fertility rate in the Italian regions, divided by the average levels of the female employment.

METHODOLOGY AND DATA

The quantitative analysis of female employment rates (FER) and total fertility rates (TFT) in various Italian regions forms the basis of this dissertation, which aims to investigate the relationship between these two indicators and the potential influences of demographic, sociocultural, and economic factors.

The National Institute of Statistics (ISTAT), the official source of sociodemographic statistics for Italy, makes public databases available for collection, which is primarily how the data utilized in this thesis were obtained.

The selection of ISTAT can be attributed to its dependability and its function as the primary source of socio-demographic information in this nation.

These data were selected for in-depth study of regional changes in total fertility rates (TFT) and female employment rates (FER) from 2000 to 2023 due to their correctness and comprehensive territorial and temporal coverage.

It should be mentioned that all TFT and FER statistics that were accessible between 2000 and 2023 were included, provided they were comprehensive and reported for every region in Italy. This period of time guarantees a thorough understanding of long-term patterns and changes. Excluded from the analysis were data for years or regions with inconsistent or incomplete time records. For instance, some data regarding the Autonomous Province of Bolzano and Trento were unavailable for all years during the period under consideration.

Other economic, sociocultural, and demographic data were gathered in addition to these core variables. These make it possible to examine factors that could affect female employment and fertility in greater detail. These indicators were chosen based on their accessibility in ISTAT databases and the academic literature's demonstration of their empirical relevance. Indicators that lacked sufficient updates over the entire period under analysis or did not exhibit homogeneous spatial representativeness were also excluded. To enable a comparative and temporal view, the data were arranged into annual datasets for each region of Italy.

Every part of Italy was covered, guaranteeing a comprehensive picture of the nation. With the exception of a few indicators, for which time series were only available from 2003 to 2017 or 2021, all years from 2000 to 2023 were taken into account. Data were gathered

annually for each of the 22 Italian regions and autonomous provinces that make up the sample size.

This time range was chosen in order to fully utilize the time series provided by ISTAT and to capture the long-term dynamics between female employment and fertility.

It was also a strategic choice, as it includes both periods of economic growth and recession (particularly the 2008 financial crisis and the COVID-19 pandemic), which are known to influence fertility and employment trends. The study can evaluate the effect of external economic shocks on the relationship under examination by capturing these oscillations. The data were processed through a meticulous cleaning and normalization step.[1]

For the purpose of evaluating contextual and regional variations in employment and fertility dynamics, the dataset was split into the 22 regions of Italy and then further aggregated into three macro-regions (North, Center, South and Islands). This allowed for the observation of differences at both the national and regional levels, enabling a more thorough examination of regional variations.

The primary statistical technique for analyzing the link between TFR and FER was Pearson's coefficient of correlation. The reason this approach was selected is that it assesses the degree and direction of the linear relationship between two variables -TFR and FER - in various places and years. The range of Pearson's coefficient is -1 to +1. A perfect positive correlation is represented by a value of +1, meaning that as one variable rises, the other rises in proportion. A correlation that is fully negative (-1), meaning that when one variable rises, the other falls proportionately. On the other hand, 0 denotes that there is no linear correlation between the variables.

To capture any fluctuations across time and space, correlation analysis was performed for each year and each region. Consequently, descriptive analyses were performed in addition to correlation to investigate how the variables changed over time and to compare variations amongst northern, central, and southern Italy's regions.

The selection of explanatory variables was guided by a thorough examination of the literature and their capacity to elucidate the potential influences of economic, socio-cultural, and demographic factors on the link between female employment and fertility. Three primary macro-categories were identified from the selected variables:

[1] Economic data, like income, were adjusted for inflation using constant euros with base year 2015, so that comparisons are consistent over time.

1. Economic variables
    - Women's average annual income (in euros) [2]: it is a significant predictor of their financial security and professional prospect. It was selected in order to comprehend how women's capacity to manage work and family is impacted by their financial resources. In fact, greater incomes can both encourage improved access to support services (such as daycare and childcare) and raise the opportunity costs of parenting.
    - The number of unemployed females in thousands[3]: this can directly affect women's capacity to start families or bear children. Unemployment related to financial difficulties frequently dissuade people from choosing to have more children.
    - The number of part-time female workers in thousands[4]: this variable can measure how flexible the female labor market was. Part-time employment might affect professional career prospects and financial stability by giving employees more free time.
2. Socio-cultural variables
    - The number of women enrolled in university[5]: women's life choices are significantly influenced by their educational attainment. Higher education causes women to prioritize completing their professional goals before establishing a family and to delay the age of first childbirth and limit the total number of children.
    - The number of females enrolled in secondary school per 100 enrolled: access to upper secondary education was chosen as an indicator of female empowerment in addition to university education since it affects career choices and the capacity to acquire skills relevant to the labor market.
3. Demographic variables
    - The total number of first marriages both religious and civil and the number of divorces granted: these variables were selected due to their direct impact on

[2] Imputed income will be excluded from earnings, and the total of the main sources of revenue, divided into employment, self-employment, pensions and government transfers, and other, is taken into account.
[3] The number of unemployed is defined as the number of people aged 15 to 74 seeking employment.
[4] The age group "15 years and older" and the total number of professional positions divisible into employee and independent was taken into consideration.
[5] Data are in absolute values and refer to women enrolled in both public and private universities.

decision about fertility and family structure. Specifically, a decline in marriages and an increase in divorces may discourage having children.

- The average age at first childbirth: a woman's total fertility is greatly influenced by the age at first childbirth. The overall number of children a woman can have during her reproductive life tends to decrease with age at first childbirth, and women sometimes put off having children in order to advance their professional careers.

After dividing Italian regions into three groups based on the average of the female employment rate over period (2000-2023) [6], a descriptive analysis was conducted in order to investigate geographical and temporal differences in the variables taken into consideration between 2003 and 2021. Basic descriptive analysis and tables that compare data across areas and years are two examples of the statistical approaches employed. It was possible to identify recurring or divergent trends over time by comparing various macro-groups of locations.

It is of extremely importance to highlight the fact that this analysis is purely descriptive, given the limited availability of the time series of some key indicators.

[6] Higher FER (> 60%): Aosta Valley, Trentino-South Tyrol, Autonomous Province of Bolzano, Emilia-Romagna. Medium FER (> 50% < 60%): Piedmont, Liguria, Lombardy, Autonomous Province of Trento, Veneto, Friuli-Venezia Giulia, Tuscany, Umbria, Marche. Low FER (< 50%): Lazio, Abruzzo, Molise, Campania, Apulia, Basilicata, Calabria, Sicily, Sardinia.

CHAPTER 1 - FERTILITY IN ITALY

1.1 National Trends

1.1.1 Demographic Overview

Figure 1: World Population Estimates and Projections by Major Areas, 1850 to 2050

AREA	1850		1900		1950		2000		2050	
	Millions	%	Millions	%	Millions	%	Millions	%	Millions	%
WORLD	1262	100	1650	100	2521	100	6055	100	9545	100
ASIA	809	64,1	947	57,4	1402	55,6	3683	60,8	5459	57,1
AFRICA	111	8,8	133	8,1	221	8,8	784	13,0	2020	21,8
LATIN AMERICA	38	3,0	74	4,5	167	6,6	519	8,6	729	7,9
EUROPE	276	21,9	408	24,7	547	21,7	729	12,4	757	7,5
NORTH AMERICA (Usa-Canada)	26	2,1	82	5,0	172	6,8	310	5,1	484	4,8
OCEANIA	2	0,2	6	0,4	13	0,5	30	0,5	55	0,5

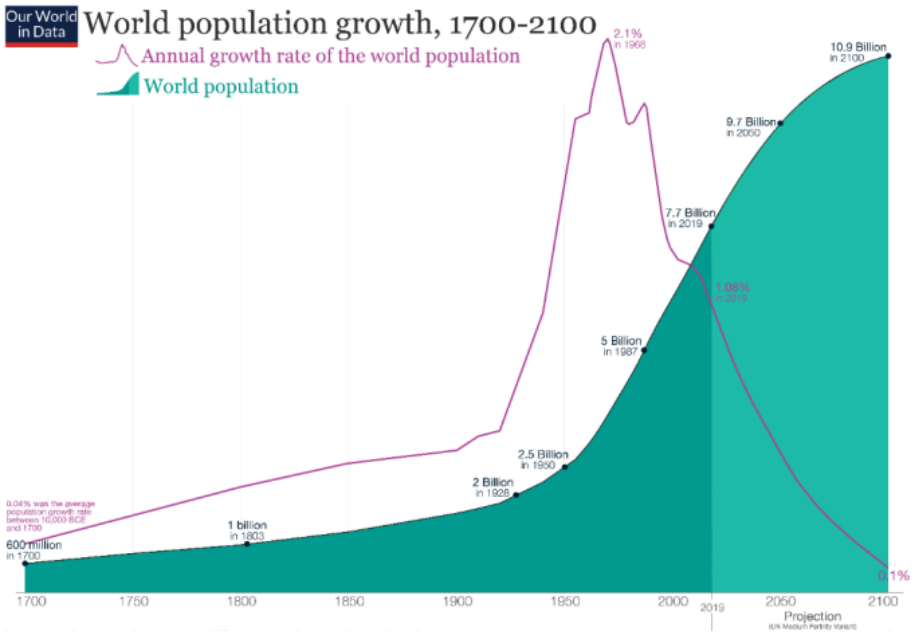
Source: Own Elaboration on United Nations Data (2008), "World Population Prospects: The 2008 Revision, Volume II: Sex and Age Distribution of the World Population," United Nations Department of Economic and Social Affairs/Division of Population.

During the twentieth century, the world population increased from 1.6 to 6 billion, and to 7,9 in 2023. So, the human species, which had taken nearly 200,000 years of its history to reach 1 billion individuals by the early 1800s (around 1820), quadrupled in size during the twentieth century alone.

Until around 1700, the global population grew very slowly, averaging an annual increase of just 0,04%. High child mortality offset high fertility rates, preventing significant population growth. However, as health conditions improved and child mortality declined, this dynamic changed rapidly. Over the past century, the global population has more than

quadrupled at an increasing rate, peaking at a growth rate of 2.1% in 1968. Today the population is growing at an average of 1% per year with 140 million people being born and 60 million die each year, resulting in an annual net increase of about 80 million people.[7]

Figure 2: Relationship Between Global Population Growth and World Fertility Rate from 1700 to 2100



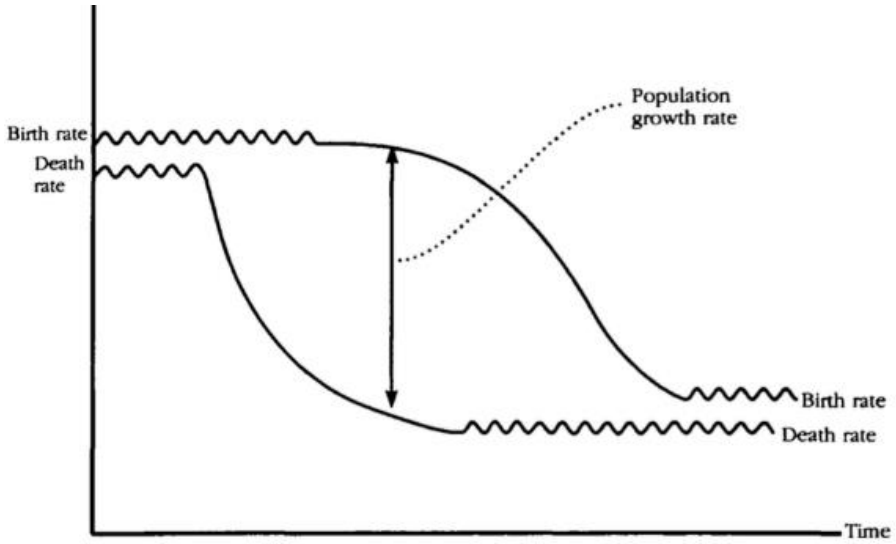
Source: Ritchie H., Rodés-Guirao L., Mathieu E., Gerber M., Ortiz-Ospina E., Hasell J., Roser M. (2023), "Population Growth". Published online at OurWorldInData.org

Population growth is explained by the demographic transition, which has been a central concept in demography for the past fifty years. This theory examines how population in developed countries shifted from high birth and death rates to low birth and death rates by a sudden increase in growth rates. As a result, these populations ended up larger at the end of the transition than at the beginning.[8] While there are significant variations in how demographic transition unfolded in different countries, certain common characteristics

[7] Ritchie H., Rodés-Guirao L., Mathieu E., Gerber M., Ortiz-Ospina E., Hasell J., Roser M. (2023), "Population Growth". Published online at OurWorldInData.org
[8] Weeks R. John (2008), “The Fertility Transition. Population: An Introduction to Concepts and Issues”. Chapter 6

can be observed across the various stages of this process.[9]

Figure 3: The Demographic Transition



Source: Bloom E. David, & Williamson G. Jeffrey (1997), "Demographic Transitions and Economic Miracles in Emerging Asia", The World Bank Economic Review, Vol. 12: 419-55

It is important to note that the demographic transition is not strictly a theory, but an interpretation of historical demographic changes based on empirical evidence.

In the late 1920s[10], scholars began analyzing the demographic transformations, particularly the gradual decline in mortality and fertility, occurring in the United States and Western European countries. This led to recognition of a "demographic revolution" and eventually to the formulation of the demographic transition model. According to this model, a premodern "anti-economic" demographic regime – characterized by high birth and death rates – was replaced by a modern "economic" regime, characterized by low birth and death rates.[11]

Demeny (1986)[12] succinctly summarized this shift: "In traditional societies, fecundity and

[9] Loraine Donaldson (1991), "Fertility Transition: the social dynamics of population change"
[10] Notestein F.W. (1945), "Population: the long view", in Schultz, T.W. (eds.), Food for the world. Chicago, University of Chicago Press: 36-57
[11] Di Comite L. (1980), "Teorie e prassi della transizione demografica", in AA.VV., Studi in Onore di Paolo Fortunati, vol.I, CLUEB, Bologna
[12] Demeny P. (1986), "Population and the invisible hand", Demography (1986) 23 (4): 473–487, November 01, 1986

mortality are high. In modern societies, fecundity and mortality are low. In between, there is the demographic transition". Bogue (1965)[13] provided a more detailed breakdown of the process, dividing it into three to five stages, with the intermediate stage further subdivided into three phases:

1. Pre-transitional stage: characterized by uncontrolled and very high crude birth and death rates, alongside low overall development;

2. Transitional phase: characterized by the decline of both quotients and in turn articulated into the following three stages:

    A) Initial stage, during which the crude birth rate quotient remains high, while the crude death rate quotient gradually contracts over time, thus resulting in the so-called "demographic explosion". An explosion that is all the more significant the faster the contraction of the crude death rate quotients;

    B) Intermediate stage, with both quotients being contracted, with the gap between them peaking, thus maximizing population growth;

    C) Final stage, with low and almost constant death quotients and birth quotients undergoing further moderate contraction.

3. Post-transitional stage: both quotients are low - and this is so even though, due to the less favorable age structure of the population, the crude mortality quotient touches higher levels than those observed in the final stage of the transitional stage - and almost constant, with little more than a zero rate of development.

The universal character of the itinerary of contemporary populations in demographic transition is indisputable, as it is observed in all continents including those that some had discarded from the possibilities of conformity with such a pattern, such as Latin America, Asia, North Africa or Sub-Saharan Africa. However, while the overall framework is consistent, there are notable divergences in the timing and progression of demographic transitions across various countries and historical periods

The demographic transition is driven by several factors – including agricultural

[13] Bougue D.J. (1965), “Principles of Demography”, J. Wiley & S., New York

advancements, urbanization, industrialization, education, and other processes related to these, foremost among them women's emancipation) collectively referred to as modernization. The transition first occurred in economically advanced countries of the Global (Europe, North America, Japan, Australia), while it reached the Global South (Asia, Africa, Latin America) later and at varied speeds.

In economically advanced countries, the process began around the second half of the eighteenth century.

In the more industrialized countries, the second phase of the demographic transition, characterized by slower population growth, began in the early twentieth century with the advent of industrialization and urbanization. After World War II, there was a brief period of rising birth rates, known as the "baby boom". However, since the 1970s, birth and death rates have stabilized, signaling the completion of the transition and the establishment of a modern demographic regime.

In less developed countries, modernization primarily occurred in the twentieth century, and the demographic transition is still ongoing. The first phase began as growth slowed in more advanced countries, with mortality rates declining due to the widespread use of antibiotics and vaccines, while fertility rates remaining high due to traditional cultural patterns. Since the 1980s and 1990s, these countries have entered the second phase of the demographic transition, characterized by declining fertility and population growth. However, the final stage of the transition has yet to be fully realized.[14]

Italy is currently in an advanced stage of demographic transition, with both mortality and fertility rates stabilizing at low levels and a rapidly aging population. Since the early 1990s, however, this country has experienced a particularly sharp decline in birth rates, contributing to one of the most significant demographic crises in its history.

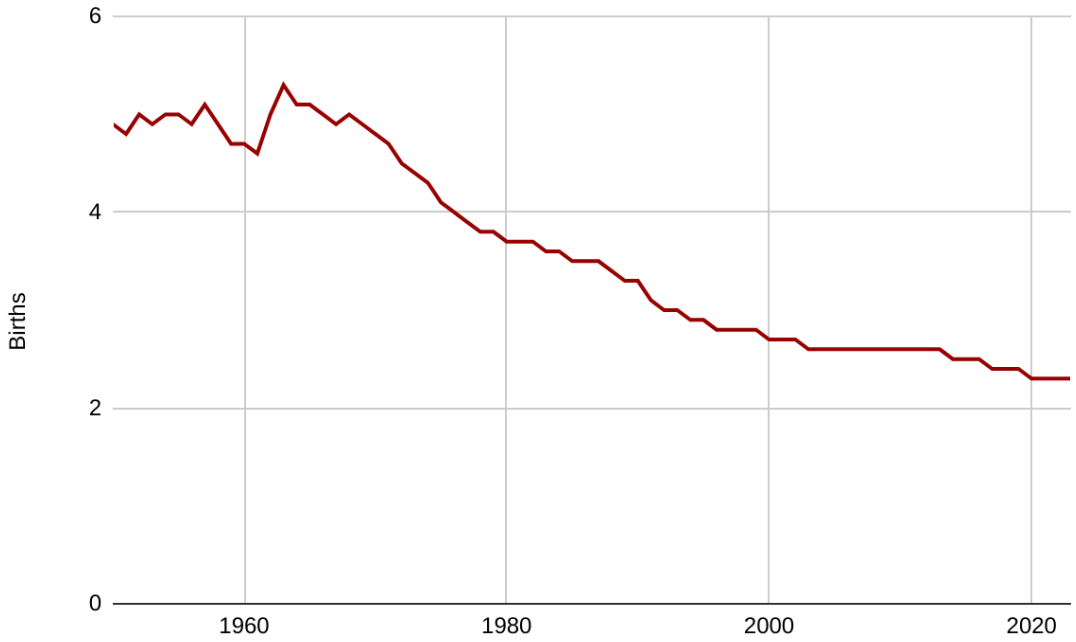
1.1.2 Changing in Women’s Role

The decline in birth rate is closely linked to changes in the role of women in society. In fact, from the 20th century to the 21st century, people's lifestyles, especially those of women and families, have undergone profound transformations. The traditional image of

[14] Loraine Donaldson (1991), *ibidem*

women as primary caregivers, responsible for the household and child-rearing, has gradually faded. Women have increasingly taken on important roles in both society and family life. A new generation of women has emerged, no longer bound by the need to marry at a young age, and often seeking employment to achieve independence and autonomy. As a result, many women now postpone marriage and childbearing until later in life, typically around the ages of 30-40. In some cases, marriage and childbearing are no longer seen as necessary at all.

Figure 4: Fertility Rate - Children per Woman
1952-2021



Source: Own Elaboration based on UN, World Population Prospects (2022) – processed by Our World in Data. "Fertility rate" [dataset]. UN, World Population Prospects (2022) [original data]

These shifting lifestyles have significantly impacted fertility rates, particularly in the first two decades of the 21st century. The number of childless women has risen, while the number of young couples choosing to have children has decreased.

According to ISTAT data, the average number of children per woman continues to decline. If this trend persists over time, it is projected that up to 40% of women may remain childless. This decline in fertility can largely be attributed to women's increasing pursuit of success in the workforce. Unlike in the past, women today have greater access to education, with many completing high school and university degrees. They are free to pursue careers and personal development, a stark contrast to previous generations, where the primary goal was to start and care for a family. Economic constraints also played a role in limiting educational opportunities for women in the past.

Today, women can choose careers thanks to workplace reforms that have brought about greater gender equality. These changes have influenced family dynamics. Many women prioritize personal and professional development, which can have consequences for their private and marital lives. The necessity of having children or starting a family at a young age has diminished, particularly given the high economic costs associated with raising a child. Couples today often achieve social and economic stability later in life, leading them to delay childbearing.

In conclusion, fertility rates have fluctuated throughout the 20th and 21st centuries. The early 1900s saw a decline in fertility, exacerbated by the two World Wars, followed by a post-World War II increase during the baby boom. Since then, fertility rates have steadily decreased, now falling below replacement levels.

1.1.3 The Demographic Emergency Situation

According to ISTAT, in 2021, Italy's the birth rate stood at 6.8 live births per 1,000 inhabitants - compared to the European average of 9.1 – raising significant concerns for the country's future.[15]

The expression "demographic desert" has been coined to describe this alarming situation. Even Pope Francis has used this phrase to emphasize the severity of the population decline that Italy is currently facing. Without timely and adequate interventions, the consequences could be disastrous, both demographically and socio-economically.[16]

[15] ISTAT (2023), "Nascite in calo anche nel 2023: report ISTAT"

[16] Euronews (2023), "Pope Francis and Italian PM Meloni raise concerns over Italy's declining birth rate", May 13, 2023

In fact, ISTAT projections indicate that by 2030, Italy will have decreased by one million people, further exacerbating the issue of general population aging. This country already has one of the oldest populations in the world, and a continued rise in the average age would create unsustainable pressures on both healthcare systems and the available workforce. This would not only impact Italy's international competitiveness and capacity for innovation, but also have serious consequences for the pension systems, which relies on the contributions of the working-age population.[17]

In Italy, the average age at first childbirth is 31.6 years, one of the highest in Europe, largely due to the tendency to delay motherhood and family formation, often in favor of a professional career advancement. This delay is frequently linked to the economic difficulties faced by young couples. Moreover, the precarious nature of women's employment and the lack of affordable childcare services, such as accessible daycare, often lead to postponing or even forgoing parenthood. The economic and social uncertainty has been further aggravated by the Coronavirus health crisis, which significantly impacted family planning decisions.[18]

The decline in birth rates is also closely connected to the lack of coherent long-term policy measures. The most significant criticism directed at the Italian government is the inadequacy of its policy interventions.

Although steps such as extended parental leave, family allowances, and improved childcare networks have been introduced, these measures have proven insufficient to counteract the ongoing population decline. Italy should take note of other European countries, such as France and Sweden, which have successfully implemented policies like direct financial assistance, tax incentives, a more flexible labor market, generous parental leave for both parents, improved career opportunities for women, and greater gender equity. These strategies have helped raise fertility rates and promoted a balance between work and family life.[19]

[17] Euronews (2024), “Birth emergency: one million fewer Italians by 2030”, May 10, 2024
[18] Department of Family Policy (2023), “Secondo Report GDE: Demografia e COVID-19”
[19] Euronews (2024), *ibidem*

1.1.4 Fertility Dynamics

Between 1861 and 2024, Italy's population more than doubled within its current borders and nearly tripled when including the territories annexed later, such as Triveneto, part of the Austro-Hungarian Empire, and *Latium*, which was part of the Papal until 1861. During this period, both the number of inhabitants and societal behaviors changed profoundly.

Increased life expectancy and lower birth rates have resulted in a growing elderly population and a shrinking youth population. For over a century, international migration has counterbalanced the natural increase in population, but in the last two decades, it has merely mitigated the decline. Furthermore, the population's distribution across the country has significantly shifted, with the expansion of cities, particularly in central and northern Italy, and the abandonment of more impoverished interior regions—a trend that has evolved in recent decades with the growth of metropolitan areas.[20]

[20] ISTAT (2023), "Storia demografica dell'Italia dall'Unità a oggi", Istituto Nazionale di Statistica

Figure 5: The Main Indicators of Birth Rate and Fertility

Years 2008, 2010, 2012, 2014 and 2016-2022

	2008	2010	2012	2014	2016	2017	2018	2019	2020	2021	2022
Born	576,659	561,944	534,186	502,596	473,438	458,151	439,747	420.084	404,892	400,249	393,333
Birth rate	9,7	9,4	8,9	8,3	7,9	7,6	7,3	7,0	6,8	6,8	6,7
First-order births %	49,4	49,0	49,3	48,7	48,2	46,9	46,6	47,7	47,5	46,6	48,9
Born to at least one foreign parent (%)	16,8	18,8	20,2	20,8	21,3	21,7	22,0	22,0	21,8	21,5	20,9
Born to both foreign parents (%)	12,6	13,9	15,0	14,9	14,7	14,8	14,9	15,0	14,8	14,2	13,5
Born to parents who are both Italian (%)	83,2	81,2	79,8	79,2	78,7	78,3	78,0	78,0	78,2	78,5	79,1
Born out of wedlock (%)	19,7	22,0	24,8	27,6	29,9	31,0	32,3	33,4	35,8	39,9	41,5
Total fertility rate	1,44	1,44	1,42	1,38	1,36	1,34	1,31	1,27	1,24	1,25	1,24
Fertility rate Italian women	1,33	1,33	1,31	1,29	1,27	1,25	1,22	1,18	1,17	1,18	1,18
Fertility rate foreign women	2,53	2,31	2,18	2,06	2,04	2,06	2,03	1,99	1,89	1,87	1,87
Average age at childbirth mothers	31,0	31,2	31,3	31,5	31,8	31,9	32,0	32,1	32,2	32,4	32,4
Average age at childbirth Italian mothers	31,6	31,8	32,0	32,1	32,2	32,5	32,5	32,6	32,7	32,8	32,9
Average age at childbirth foreign mothers	27,5	28,0	28,3	28,6	28,8	28,9	29,0	29,1	29,3	29,7	29,6

Source: ISTAT (2023), “Natalità e Fecondità della Popolazione Residente - Anno 2022”, Istat report, October 26, 2023

According to ISTAT’s report published on March 29, 2024, the decline in births, that has characterized Italy in recent years, continued in 2023. Preliminary data show 379,000 resident births in Italy, resulting in a birth rate of 6.4 per thousand (down from 6.7 per

thousand in 2022). The reduction in births compared to 2022 stands at 14 thousand (-3.6%). Since 2008, the last of increased in births in Italy, the country has seen a decrease of 197 thousand births (-34.2%). This reduction in the birth rate affects both Italian and foreign-born citizens. The latter, accounting for 13.3% of the total number of newborns, are 50 thousand, 3 thousand less than in 2022. The overall decline in births in 2023 is driven by both a marked drop in fertility and a decrease in the number of women of childbearing age (15- 49), which fell to 11.5 million as of January 1, 2024, compared to 13.4 million in 2014 and 13.8 million in 2004. The male population of the same age group has also seen a decline, dropping from 13.9 million in 2004 to 13.5 million in 2014, and now standing at 12 million individuals in 2024.

Thus, the average number of children per woman fell from 1.24 in 2022 to 1.20 in 2023, nearing the all-time low of 1.19 children recorded back in 1995. Thie contraction in the average number of children per woman affects the entire country. In the North it decreases from 1.26 children per woman in 2022 to 1.21 in 2023, in the Center from 1.15 to 1.12. The South, with a total fertility rate of 1.24, the highest among the territorial divisions, records a smaller decline from 1.26 in 2022.

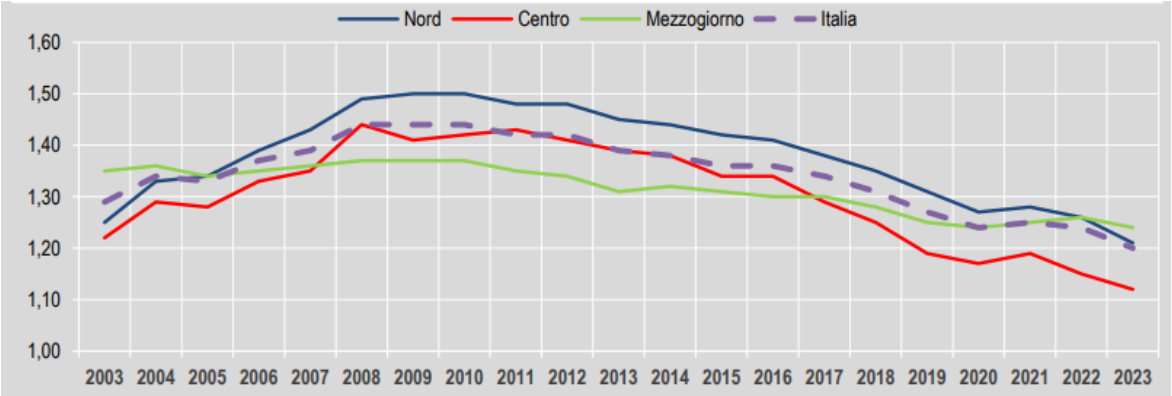
One of the key contributors to the overall decline in fertility is the postponement of births. The more women delay childbirth, the shorter the available time frame for reproduction becomes. After two year of relative stability, the average age of first childbirth rose to 32.5 years in 2023 (+0.1 from 2022). This trend is evident across all regions, with higher averages in the North and Center (32.6 and 32.9 years) compared to the South (32.2 years), where the largest increase occurred (up from 32.0 years in 2022).

Having passed the turbulent pandemic and immediate post-pandemic phase, to which some of the irregular economic variations observed are to be attributed, the decline in fertility seems to resume everywhere, accompanied by a renewed push to postponement. The renewed postponement of childbirth and a declining fertility rate are further reflected in marriage trends. In 2023,183,000 marriages, a decrease of 6,000 from 2022. Among these, those celebrated with a religious rite are in sharp decline (-8 thousand) while those celebrated with a civil rite are increasing (+2 thousand). Overall, in 2023 the nuptiality rate continues to decline slightly to 3.1 per thousand from 3.2 in 2022. The South continues to be the distribution with the highest rate, 3.5 per thousand compared to 2.9 per thousand in the North and Center. At the same time, however, it is the area where the

contraction over 2022 is the largest.[21]

Figure 6: Average number of children per woman by geographic breakdown

Years 2003-2023



Source: Istat, Birth Survey (2003-2022) and Anticipatory Estimates of Demographic and Social Indicators (2023). ISTAT (2024), "Indicatori demografici - Anno 2023", ISTAT Report, March 29, 2024

1.2 Analysis of Total Fertility Rate in the Italian Regions

1.2.1 Definition of TFR

In demography, the total fertility rate (TFR) is a key measure to indicate the average number of children per woman of childbearing age (15-49 years), with fertility conditions observed in a given year remaining constant throughout the reproductive life of a cohort of women. The TFR is highly valuable for understanding demographic trends across time and space, as it provides insight into women's reproductive choices. It is also instrumental in shaping social and economic policies that address the evolving needs of a population.

TFR is calculated by summing the age-specific fertility rates of a given population, which represents the average number of manchildren born to women of a specific age per thousand women of that age group in a year. The result indicates the total number of

[21] ISTAT (2024), "Indicatori demografici - Anno 2023", ISTAT Report, March 29, 2024

children a mother would have at the end of her fertile period if she were exposed to the fertility rates observed in each individual year of age during that period:[22]

$$TFR = \Sigma^{49}_{i=15} \ ASFR_i$$

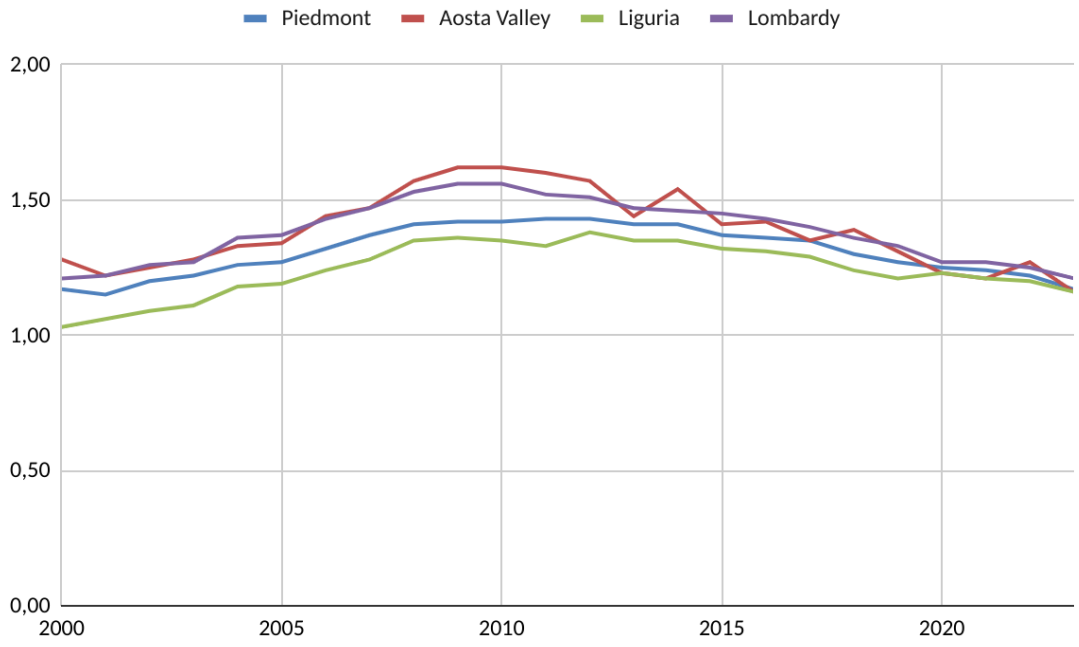
where:

- TFR= total fertility rate;
- $ASFR_i$ = the age-specific fertility rate (i).

This section will analyze the evolution of the first-, second- and third-degree total fertility rate and the respective percentage change in different Italian regions from 2000 to 2022.

1.2.2 Northern Italy

Figure 7: Total Fertility Rates in North-West Italy 2000-2022[23]



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

[22] Livi Bacci M. (1984), "Introduzione alla Demografia". Torino: Loescher, 1984.
[23] Time series of TFR for the individual regions are reported in Graphic 1,2,3,4 in Appendix A, pdf version

Figure 8: Percentage Variation Respect the Previous Year in Total Fertility Rates in North-West Italy

2001-2022

Year of Event	Piemonte	Valle d'Aosta	Liguria	Lombardia
2001	-0,02	-0,05	0,03	0,01
2002	0,04	0,02	0,03	0,03
2003	0,02	0,02	0,02	0,01
2004	0,03	0,04	0,06	0,07
2005	0,01	0,01	0,01	0,01
2006	0,04	0,07	0,04	0,04
2007	0,04	0,02	0,03	0,03
2008	0,03	0,07	0,05	0,04
2009	0,01	0,03	0,01	0,02
2010	0,00	0,00	-0,01	0,00
2011	0,01	-0,01	-0,01	-0,03
2012	0,00	-0,02	0,04	-0,01
2013	-0,01	-0,08	-0,02	-0,03
2014	0,00	0,07	0,00	-0,01
2015	-0,03	-0,08	-0,02	-0,01
2016	-0,01	0,01	-0,01	-0,01
2017	-0,01	-0,05	-0,02	-0,02
2018	-0,04	0,03	-0,04	-0,03
2019	-0,02	-0,06	-0,02	-0,02
2020	-0,02	-0,06	0,02	-0,05
2021	-0,01	-0,02	-0,02	0,00
2022	-0,02	0,05	-0,01	-0,02

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

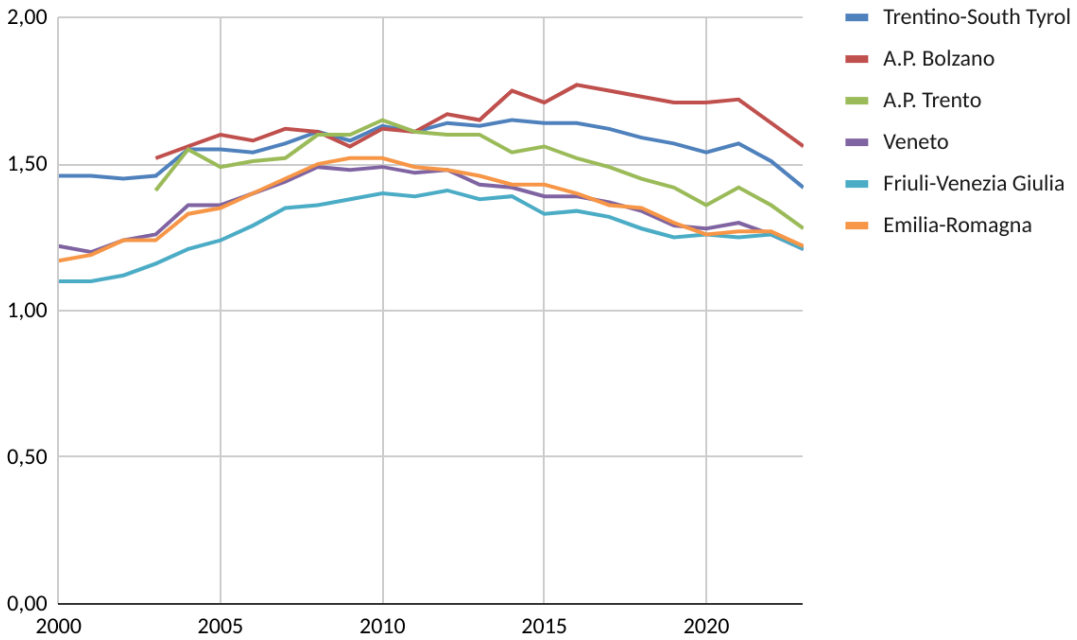
The fertility rate related to the first child in Piedmont has seen a decrease (from 0.69% in 2000 to 0.12% in 2022), with a very modest percentage change of maximum +0.05 in 2004. Second- and third-order ones, on the other hand, have followed a similar trajectory with starting values of 0.39% and 0.09%, peaking in 2011 (0.52%) and 2017 (0.19%), respectively, and then declining slowly and gradually.

Valle d'Aosta follows a general downward trend for all three orders in the periods under analysis, characterized by marked percentage changes, with significant increases and decreases in years such as 2014 and 2015 for TFR 1 (+0.10 and -0.16, respectively), 2012 and 2008 for TFR 2 (-0.08 and +0.16, respectively), and 2003 and 2019 for TFR 3 (+0.30 and -0.20, respectively).

The fertility rate in Liguria has also shown a general trend reflected in a decline in births, following a period of steady growth, with the highest values recorded for the first order in 2008 (0.78 percent) and for the second order in 2012 (0.49). The exception is the third-order total fertility rate, which I showed consistent growth (0.05 in 2000 and 0.17 in 2022), with a percentage change reaching +0.40 in 2002.

In Lombardy, which is one of the most populous regions of Italy, one can observe a more pronounced initial growth than in the other northern regions, although over the years it has seen a general decline in fecundity for all orders of children. Looking at the percentage variation, it can be said that in this region there was sustained growth in the early years, with a subsequent slowdown.

Figure 9: Total Fertility Rates in Nort-East Italy 2000-2022[24]



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

[24] Time series of TFR for the individual regions are reported in Graphic 5,6,7,8,9,10 in Appendix A, pdf version

Figure 10: Percentage Variation Respect the Previous Year in Total Fertility Rates in North-East Italy

2001-2022

Year of Event	Trentino-South Tyrol	A.P. Bolzano	A.P. Trento	Veneto	Friuli-Venezia Giulia	Emilia-Romagna
2001	0,00			-0,02	0,00	0,02
2002	-0,01			0,03	0,02	0,04
2003	0,01			0,02	0,04	0,00
2004	0,06	0,03	0,10	0,08	0,04	0,07
2005	0,00	0,03	-0,04	0,00	0,02	0,02
2006	-0,01	-0,01	0,01	0,03	0,04	0,04
2007	0,02	0,03	0,01	0,03	0,05	0,04
2008	0,03	-0,01	0,05	0,03	0,01	0,03
2009	-0,02	-0,03	0,00	-0,01	0,01	0,01
2010	0,03	0,04	0,03	0,01	0,01	0,00
2011	-0,01	-0,01	-0,02	-0,01	-0,01	-0,02
2012	0,02	0,04	-0,01	0,01	0,01	-0,01
2013	-0,01	-0,01	0,00	-0,03	-0,02	-0,01
2014	0,01	0,06	-0,04	-0,01	0,01	-0,02
2015	-0,01	-0,02	0,01	-0,02	-0,04	0,00
2016	0,00	0,04	-0,03	0,00	0,01	-0,02
2017	-0,01	-0,01	-0,02	-0,01	-0,01	-0,03
2018	-0,02	-0,01	-0,03	-0,02	-0,03	-0,01
2019	-0,01	-0,01	-0,02	-0,04	-0,02	-0,04
2020	-0,02	0,00	-0,04	-0,01	0,01	-0,03
2021	0,02	0,01	0,04	0,02	-0,01	0,01
2022	-0,04	-0,05	-0,04	-0,03	0,01	0,00

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Trentino-South Tyrol, the Autonomous Province of Bolzano and the Autonomous Province of Trento are regions with a storic tradition of higher birth rates than the national average. The data analyzed confirm this trend. For all three orders, the rates have remained stable and regular throughout the period considered, with only small fluctuations of growth or decrease over the years. Interestingly, the third-degree fertility

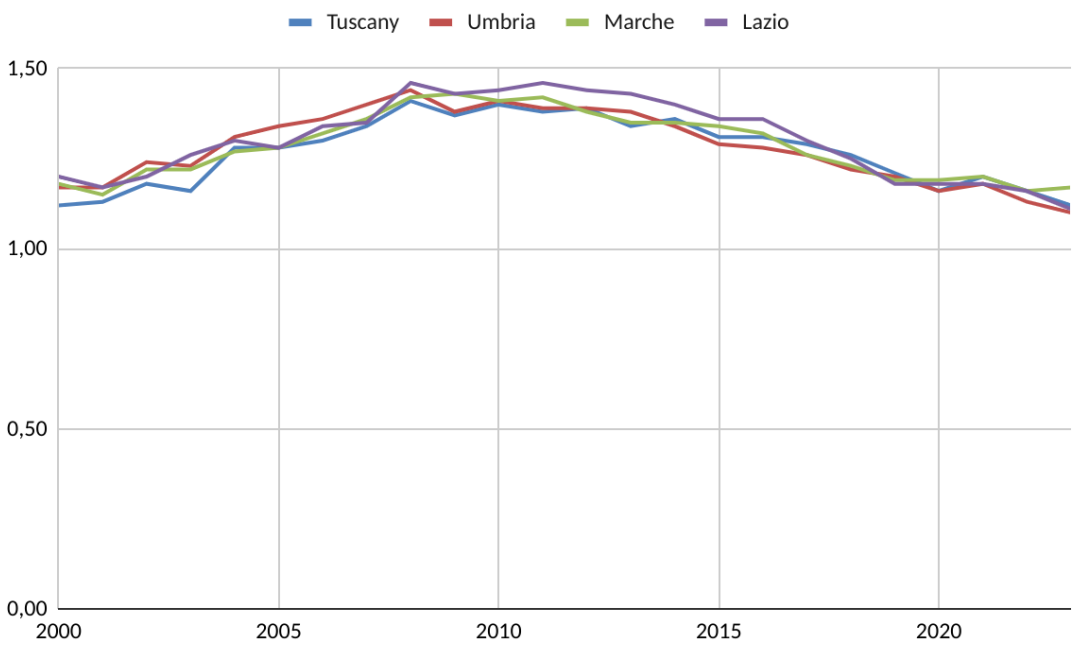
rate in these areas has remained almost unchanged over the years and still with very high values (0.26%, 0.29% and 0.22% in 2022, respectively). These high figures reflect the willingness of local households to still want large families.

Veneto, Friuli-Venezia Giulia and Emilia Romagna show similar trends among them, which show a moderate decrease in first, second and third degree TFR from 2000 to 2022. This decrease, although not excessive, demonstrates the increasing difficulty for young couples to coincide work and family, partly due to the increasing costs of raising children.

1.2.3 Central Italy

Figure 11: Total Fertility Rates in Central Italy[25]

2000-2022



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

[25] Time series of TFR for the individual regions are reported in Graphic 11,12,13,14 in Appendix A, pdf version

Figure 12: Percentage Variation Respect the Previous Year in Total Fertility Rates in Central Italy

2001-2022

Year of Event	Toscana	Umbria	Marche	Lazio
2001	0,01	0,00	-0,03	-0,03
2002	0,04	0,06	0,06	0,03
2003	-0,02	-0,01	0,00	0,05
2004	0,10	0,07	0,04	0,03
2005	0,00	0,02	0,01	-0,02
2006	0,02	0,01	0,03	0,05
2007	0,03	0,03	0,03	0,01
2008	0,05	0,03	0,04	0,08
2009	-0,03	-0,04	0,01	-0,02
2010	0,02	0,02	-0,01	0,01
2011	-0,01	-0,01	0,01	0,01
2012	0,01	0,00	-0,03	-0,01
2013	-0,04	-0,01	-0,02	-0,01
2014	0,01	-0,03	0,00	-0,02
2015	-0,04	-0,04	-0,01	-0,03
2016	0,00	-0,01	-0,01	0,00
2017	-0,02	-0,02	-0,05	-0,04
2018	-0,02	-0,03	-0,02	-0,04
2019	-0,04	-0,02	-0,03	-0,06
2020	-0,04	-0,03	0,00	0,00
2021	0,03	0,02	0,01	0,00
2022	-0,03	-0,04	-0,03	-0,02

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

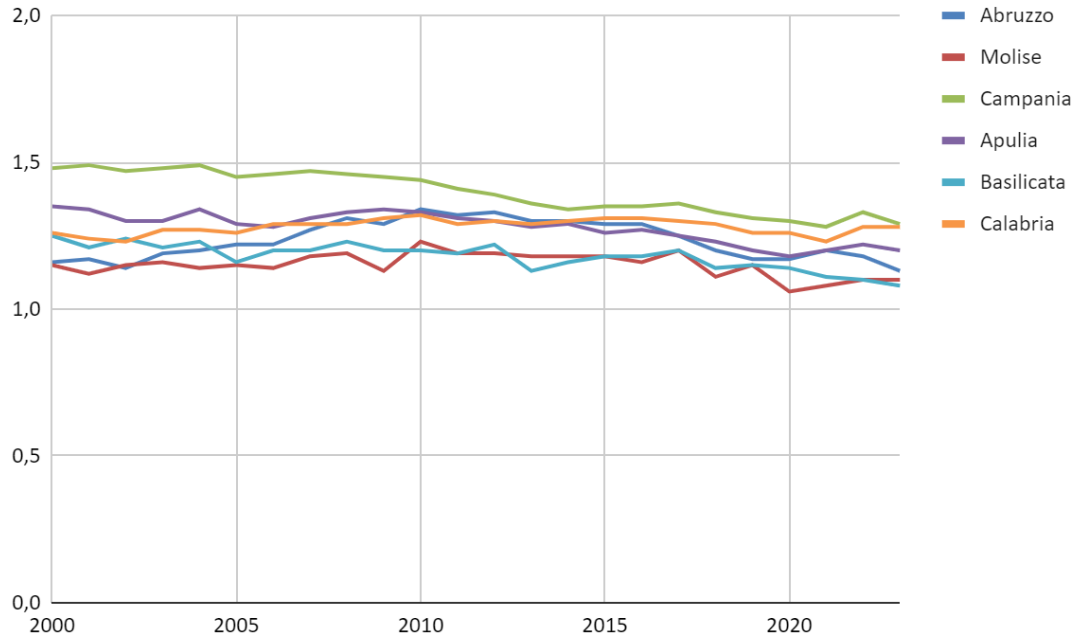
The four regions of central Italy, Tuscany, Umbria, Marche and Lazio, show more or less the same trend over time with some small differences between the percentage changes. As far as first-order fertility rates are concerned, the highest levels are observed between 2008 and 2009 (0.78 percent in Tuscany, 0.79 percent in Umbria and Lazio in 2008 and 0.75 percent in Marche in 2009), then decreasing to 0.61 percent, 0.59 percent, 0.60 percent and 0.59 percent in 2022, respectively.

TFR 2, on the other hand, shows fairly stable rates over time, with values hovering around 0.40%, but declining slightly until 2022, except for Tuscany. These values perfectly represent national trends, which see a general reduction in births.

Third-order fertility rate figures also remain stable over time, although with markedly lower values, reflecting the propensity of families to stop at the first or second child.

1.2.4 Southern Italy and Islands

Image 13: Total Fertility Rates in Southern Italy 2000-2022[26]



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Figure 14: Percentage Variation Respect the Previous Year in Total Fertility Rates in Southern Italy

2001-2022

Year of Event	Abruzzo	Molise	Campania	Apulia	Basilicata	Calabria
2001	0,01	-0,03	0,01	-0,01	-0,03	-0,02
2002	-0,03	0,03	-0,01	-0,03	0,02	-0,01
2003	0,04	0,01	0,01	0,00	-0,02	0,03

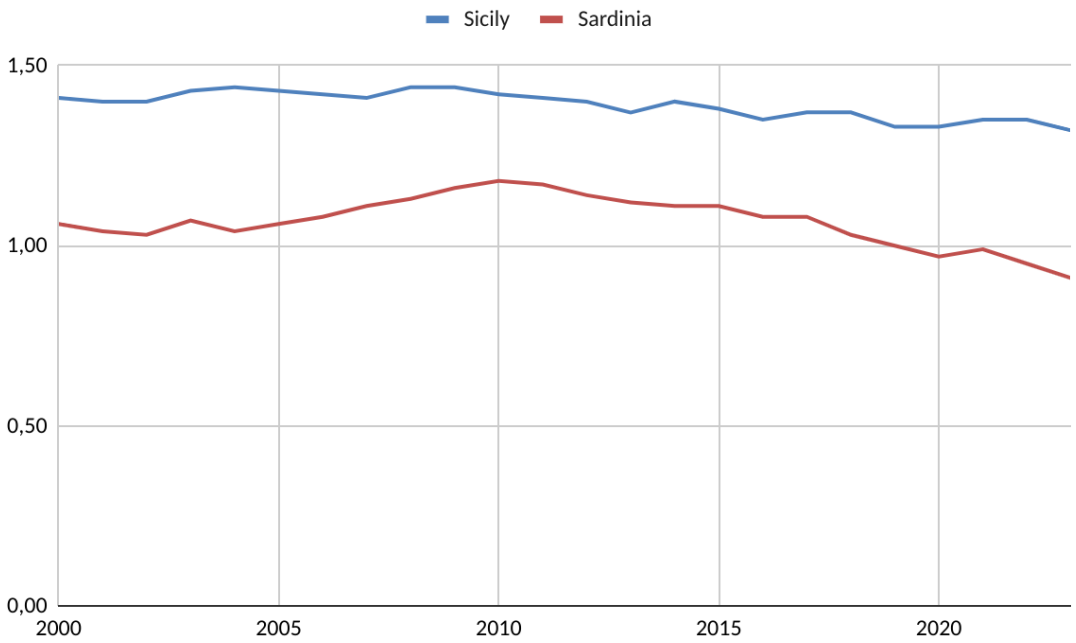
[26] Time series of TFR for the individual regions are reported in Graphic 15,16,17,18,19,20 in Appendix A, pdf version

2004	0,01	-0,02	0,01	0,03	0,02	0,00
2005	0,02	0,01	-0,03	-0,04	-0,06	-0,01
2006	0,00	-0,01	0,01	-0,01	0,03	0,02
2007	0,04	0,04	0,01	0,02	0,00	0,00
2008	0,03	0,01	-0,01	0,02	0,03	0,00
2009	-0,02	-0,05	-0,01	0,01	-0,02	0,02
2010	0,04	0,09	-0,01	-0,01	0,00	0,01
2011	-0,01	-0,03	-0,02	-0,02	-0,01	-0,02
2012	0,01	0,00	-0,01	-0,01	0,03	0,01
2013	-0,02	-0,01	-0,02	-0,02	-0,07	-0,01
2014	0,00	0,00	-0,01	0,01	0,03	0,01
2015	-0,01	0,00	0,01	-0,02	0,02	0,01
2016	0,00	-0,02	0,00	0,01	0,00	0,00
2017	-0,03	0,03	0,01	-0,02	0,02	-0,01
2018	-0,04	-0,07	-0,02	-0,02	-0,05	-0,01
2019	-0,03	0,04	-0,02	-0,02	0,01	-0,02
2020	0,00	-0,08	-0,01	-0,02	-0,01	0,00
2021	0,03	0,02	-0,02	0,02	-0,03	-0,02
2022	-0,02	0,02	0,04	0,02	-0,01	0,04

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Analysis of data on the first-order fertility rate shows stability in all regions of southern Italy, with small increases or decreases ranging from 0.55 percent to 0.68 percent. Percentage changes have been modest around+/- 0.10, with slight spikes as occurred in Campania and Calabria in 2022 where there was a 15 percentage point increase. Rates on women who had their second child, on the other hand, declined steadily but slowly, with some occasional fluctuations, as visible in Abruzzo in 2019 and 2022 with -0.07 and a rate of 0.43%, Campania in 2012 (0.49%, -0.06), and Basilicata in 2013 (0.42%, -0.13). TFR 3 in Abruzzo, Puglia, Basilicata, and Calabria has been constant over time, although it has generally declined in the years under review, with minimal percentage changes. In Molise and Campania, on the other hand, there has been some of the most pronounced variation (for Molise especially in 2020 with +0.17) and a more oscillating downward trend that has seen the rate vary from 0.14% and 0.23 in 2000 to 0.13% and 0.20% in 2022, respectively, with peaks in 2004 (0.18%) and 2003 (0, 28%).

Figure 15: Total Fertility Rates in the Islands 2000-2022[27]



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Figure 16: Percentage Variation Respect the Previous Year in Fertility Rates in the Islands

2001-2022

Year of Event	Sicily	Sardinia
2001	-0,01	-0,02
2002	0,00	-0,01
2003	0,02	0,04
2004	0,01	-0,03
2005	-0,01	0,02
2006	-0,01	0,02
2007	-0,01	0,03
2008	0,02	0,02
2009	0,00	0,03
2010	-0,01	0,02
2011	-0,01	-0,01
2012	-0,01	-0,03

[27] Time series of TFR for the individual regions are reported in Graphic 21,22 in Appendix A, pdf version

2013	-0,02	-0,02
2014	0,02	-0,01
2015	-0,01	0,00
2016	-0,02	-0,03
2017	0,01	0,00
2018	0,00	-0,05
2019	-0,03	-0,03
2020	0,00	-0,03
2021	0,02	0,02
2022	0,00	-0,04

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

The Sicilian TFR 1 saw a gradual decrease from 2000 (0.70%) to 2021 (0.59%); in 2022 a change in trend can be seen with +0.07 percentage points compared to the previous year. it is possible to note a certain balance for the second-child indicator (0.50% in both 2000 and 2022), with marginal annual variations. The trend of TFR 3 in this island is similar to that for second children, but with lower values (0.22% in 2000 and 2022) and with greater fluctuations between years: between 2003 and 2009 there was growth, followed by a decline in the following decade.

In Sardinia, however, it followed a slightly different trend. The first-order fertility rate followed a downward trend (from 0.54 percent in 2000 to 0.51 percent in 2022), without the growth that occurred in Sicily in the last year under analysis. These values suggest a downward trend in births, reflecting a more pronounced aging of the population and a lower propensity to have children.

Similar to Sicily, however, is the trend in TFR 2, with minimal percentage changes (0.13 percent in 2000 and 0.11 percent in 2022).

TFR 3 in Sardinia shows smaller declining values (0.11% in 2022) than the other large Italian island, with higher percentage changes, such as -0.21 in 2005. Despite the general decline in births, these values reflect the lower propensity of Sardinian families compared to Sicilian families to have larger families.

In general, it can be said that in all Italian regions there is a trend of decreasing total fertility rates for all three birth orders. This trend toward lower birth rates reflects a

common national, except for a few regions, and European propensity toward smaller families.

CHAPTER 2 - FEMALE EMPLOYMENT IN THE ITALIAN REGIONS

2.1 Women and Labor Market Participation

According to Lesthaeghe and Van de Kaa Second Demographic Transition[28] (1986), industrialized countries in the 20th century experienced a decline in fertility from slightly above the replacement level of 2,1 births per woman to well below this threshold. The main driver of this transition has been the change in values and attitudes from altruistic to individualistic.[29]

At the core of this theory is the "Maslowian Drift": once basic needs are satisfied, individuals seek to fulfill higher-order needs, such as self-realization and individual autonomy. This shift provides context for the significant rise in female labor market participation seen in recent decades in all economically advanced countries, including Italy.[30]

2.1.1 National Patterns

A report recently published by ISTAT for January 2024 marks yet another record for female employment. The number of employed women has reached 10.095 million, with the employment rate rising to 53%, and the unemployment rate drops to 8,2%.

The post-pandemic recovery has positively influenced women's employment, although to a lesser extent than men's. In fact, men have struggled more to return to pre-Covid employment levels, with their recovery mainly concentrated in 2023. Compared to 2019 (considering the average of the first three quarters), women's employment in 2023 grew by 1,6%, slightly below the 1,8% growth for men. However, female employment showed the most significant positive trend in the past year, with a 2,4% increase compared to a 1,7% increase for men.

[28] Lesthaeghe R, van de Kaa DJ. (1986), "Twee demografische transities? *Bevolking: groei en krimp"*. 1986:9–24
[29] van de Kaa DJ. (2002), "The idea of a second demographic transition in industrialized countries". *Birth*. 2002;35:45
[30] Lesthaeghe R. (1995), "The second demographic transition in Western countries: an interpretation". *Gender and family change in industrialized countries* 1995

Figure 22: Employment Trends by Gender, Ages 15-64 Years, Average first 3 quarters 2019-2023 (Absolute Value and Percentage Variation), in thousands

	2019	2022	2023	2019-2023 (var. %)	2022-2023 (var. %)
Female	9.779	9.702	9.937	1,6	2,4
Male	13.324	13.338	13.567	1,8	1,7
Total	23.103	23.040	23.503	1,7	2,0

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

As in Figure 23, employment growth has been particularly strong among women older age groups, particularly those aged 55-64, which have seen an increase of 284 thousand employed (+15,1%) between 2019 and 2023. The effects of the ageing workforce, together with the gradual rise in retirement age, underlie this dynamic.

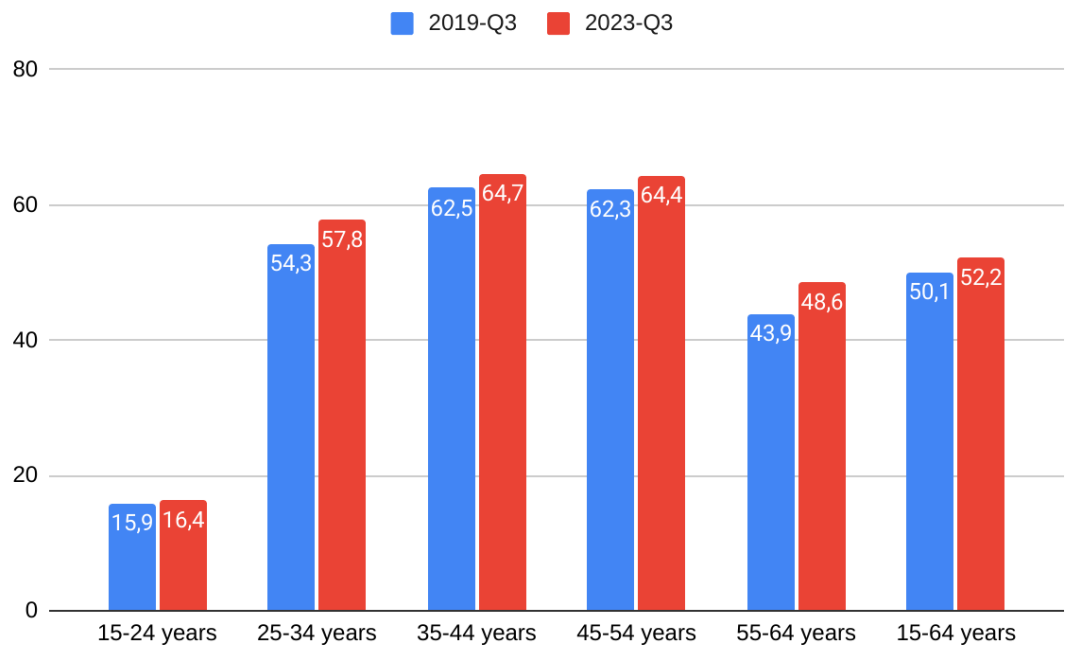
Figure 23: Female Employment Trends by Age Group, Average first 3 quarters 2019-2023 (Absolute Value and Percentage Variation), in thousands

	2019	2022	2023	2019-2023	2022-2023
15-24 years	423	444	451	6,6	1,6
25-34 years	1.732	1.717	1.773	2,4	3,2
35-44 years	2.498	1.306	2.300	-7,9	-0,3
45-54 years	3.040	3.03	3.006	-1,1	0,1
55-64 years	1.874	2.008	2.158	15,1	7,5
65-89 years	210	224	248	18,1	10,8
15-89 years	9.779	9.702	9.937	1,6	2,4

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

This age group saw the largest increase in the employment rate, from 43.9% in Q3 2019 to 48.6% in Q3 2023.

Figure 24: Female Employment Rate by Age Group
Q3 2019-2023 (Percentage Value)



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

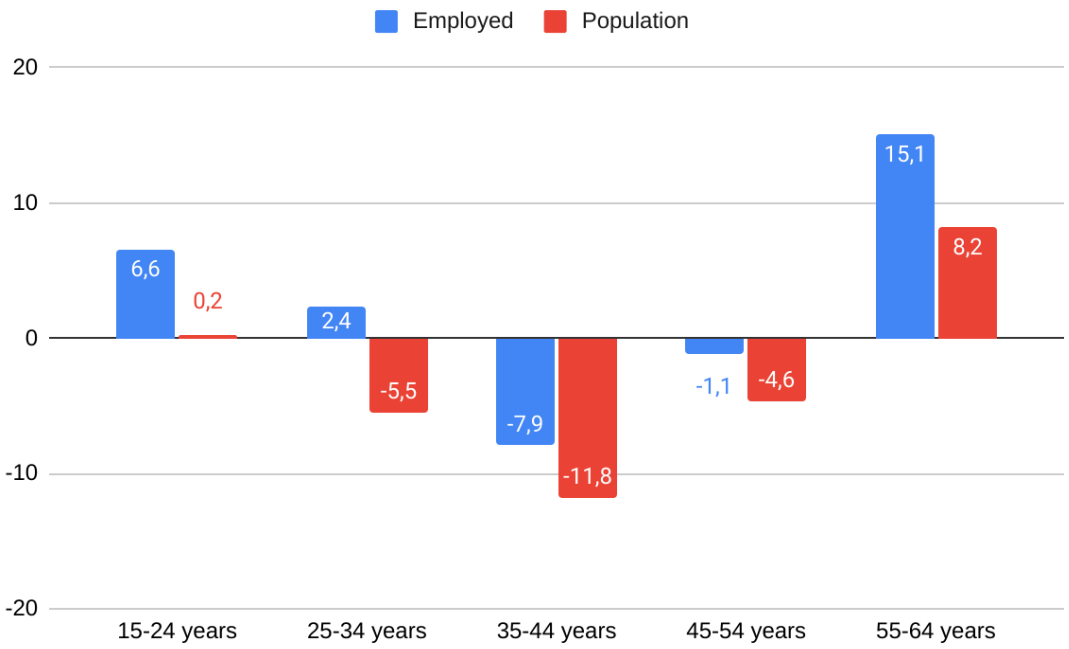
However, there are also positive signs among younger women. Among 25-34-year-olds, employment increases by 2,4% between 2019 and 2023, while among under 25, growth is 6,6%. Among the former, the employment rate increases from 54,3% to 57,8%.

In contrast, there is a major decrease in employment levels in the middle age groups. Among 35-44-year-olds, employment drops by 7,9%, with a balance of about 200,000 fewer employed women between 2019 and 2023. While among 45–54-year-olds, the decline is smaller, but indicative (-1,1%).

These figures can be attributed to the demographic dynamics that are having a profound impact on the labor market and on the female market in particular, leading to an increasingly rapid shift forward in the average age of female workers, even though employment levels are rising in all age groups. With the sole exclusion of the 55-64 age

group, the female population declined in all age groups considered, particularly among 35–44-year-olds, where the decline was 11,8%.

Figure 25: Percentage Variation Employed and Female Population by Age Group
Average first 3 quarters 2019-2023 (Percentage Value)



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

These figures reflect the demographic dynamics that are deeply affecting the labor market, particularly the female labor market. While employment levels are increasing in all age groups, the overall female population has been declining, especially among 35-44-year-olds, where the drop was 11.8%.

This raises important questions about the impact of demographic changes on the labor market: while employment is growing, labor force participation rates are not rising significantly. The most immediate effect is an aging female workforce, which will have significant implications for the broader labor market.

The majority of female employment remains concentrated in the service sector (8.3 million out of nearly 10 million employed women). However, the most substantial growth has occurred in the industrial sector, where the number of female workers increased by 8.1%. Notably, the construction sector has played a central role in the recovery, with a

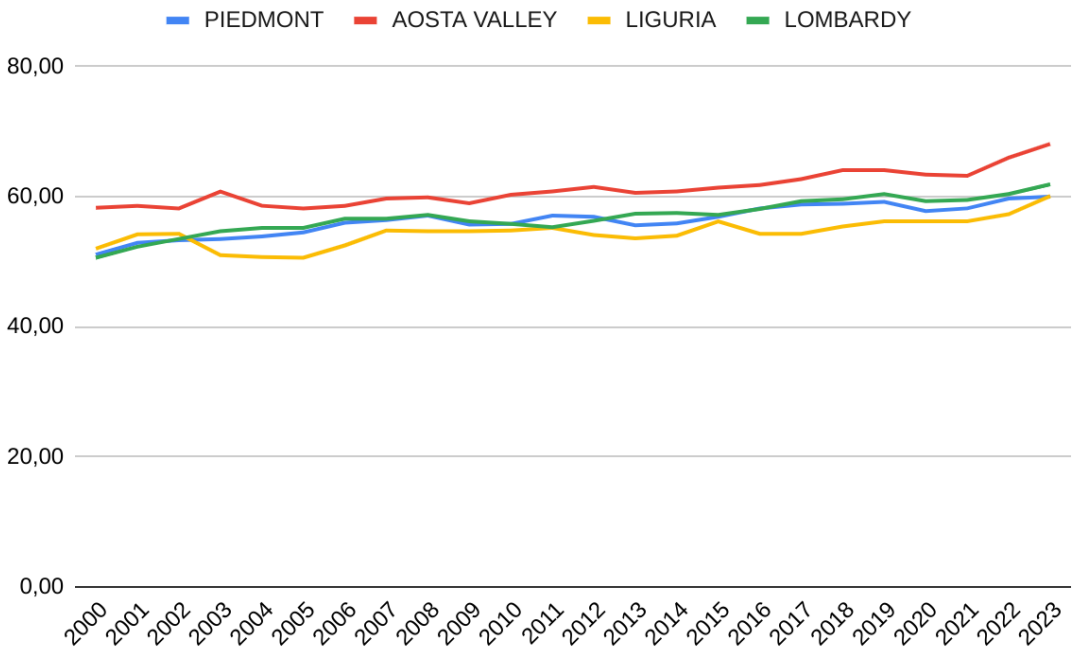
34.7% increase in female workers between 2019 and 2023. Services only regained pre-pandemic employment levels in 2023, with a modest increase of 0.8% compared to 2019. Driving this recovery were information and communication services (+19.4%), the health and education sectors (+4.4%), and the tourism sector, which saw a 2.6% increase compared to 2019 and a 9.7% rise in the past year alone. Trade also experienced growth (+1.4% compared to 2019), while sectors such as finance, insurance, public administration, and arts and recreation-related services continued to show negative balances.

The growth in employment has been accompanied by improvements in women's professional and contractual status. The number of women employed in skilled and technical occupations increased by 1.5% between 2019 and 2023, with a significant jump of 6% from 2022 to 2023. There was notable growth in the number of female executives, managers, and entrepreneurs (+22.9%) as well as in intellectual professions (+1.6%). The white-collar sector, traditionally a major source of employment, also saw positive growth (+2.8% between 2019 and 2023), particularly among white-collar workers (+4.4%). The growth of the industrial sector has also led to a 5.1% increase in the number of blue-collar female workers and artisans, although their overall presence in the female workforce remains small (731,000 out of nearly 10 million employed women). On the other hand, unskilled employment saw a decline, with over 50,000 fewer jobs (-4.8%) between 2019 and 2023.

For women, the post-Covid recovery has been marked by a significant increase in salaried employment (+4.6% between 2019 and 2023) and a decrease in self-employment, which fell by 3.8%. Although self-employment showed a slight recovery in 2023 (+2.8%), it remains far from pre-Covid levels. Most of the growth in salaried employment has come from permanent positions: there were 156,000 more permanent employees (+2.3%) between 2019 and 2023. The number of women in temporary jobs also increased by 65,000 (+4.6%) during this period, although there was a 1.3% decline in temporary employment in the last year. Notably, there has been a sharp rise in permanent contracts among young women, with an 8.3% increase between 2019 and 2023, and a 7.3% increase between 2022 and 2023.

2.1.2 Evolution of Female Employment

Figure 26: Evolution of Female Employment in North-West Italy[31]
2000-2023



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

[31] Time series of FER for the individual regions are reported in Graphic 1,2,3,4 in Appendix B, pdf version

Figure 27: Percentage Variation Respect the Previous Year in the Female Employment Rate in the North-West Italy 2001-2023

YEAR	PIEDMONT	AOSTA VALLEY	LIGURIA	LOMBARDY
2001	0,04	0,01	0,04	0,03
2002	0,01	-0,01	0,00	0,02
2003	0,00	0,04	-0,06	0,02
2004	0,01	-0,04	-0,01	0,01
2005	0,01	-0,01	0,00	0,00
2006	0,03	0,01	0,04	0,03
2007	0,01	0,02	0,04	0,00
2008	0,01	0,00	0,00	0,01
2009	-0,02	-0,02	0,00	-0,02
2010	0,00	0,02	0,00	-0,01
2011	0,02	0,01	0,01	-0,01
2012	0,00	0,01	-0,02	0,02
2013	-0,02	-0,01	-0,01	0,02
2014	0,01	0,00	0,01	0,00
2015	0,02	0,01	0,04	-0,01
2016	0,02	0,01	-0,03	0,02
2017	0,01	0,01	0,00	0,02
2018	0,00	0,02	0,02	0,01
2019	0,01	0,00	0,01	0,01
2020	-0,02	-0,01	0,00	-0,02
2021	0,01	0,00	0,00	0,00
2022	0,03	0,04	0,02	60,40
2023	0,01	0,03	0,05	61,90

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

From the graph above, it can be seen that there has been a gradual increase in women's employment rates in all regions of Northwest Italy over the years examined, despite the presence of some fluctuations over time, driven by policy differences, economic structure and responsiveness to financial shocks in different regions.

Thanks to policies favorable to female employment, expansion of child support services, and improved access to education, in Piedmont and Lombardy, the FER has seen steady growth, from 51.1% in 2000 to 60.0% in 2023 and from 50.6% to 61.9%, respectively, although there was a moment of decompression between 2008 and 2009, which saw these indices fall. Both regions are characterized by a strong industrial and tertiary base, which favored higher rates in times of economic prosperity, but caused greater downturns in the crisis years.

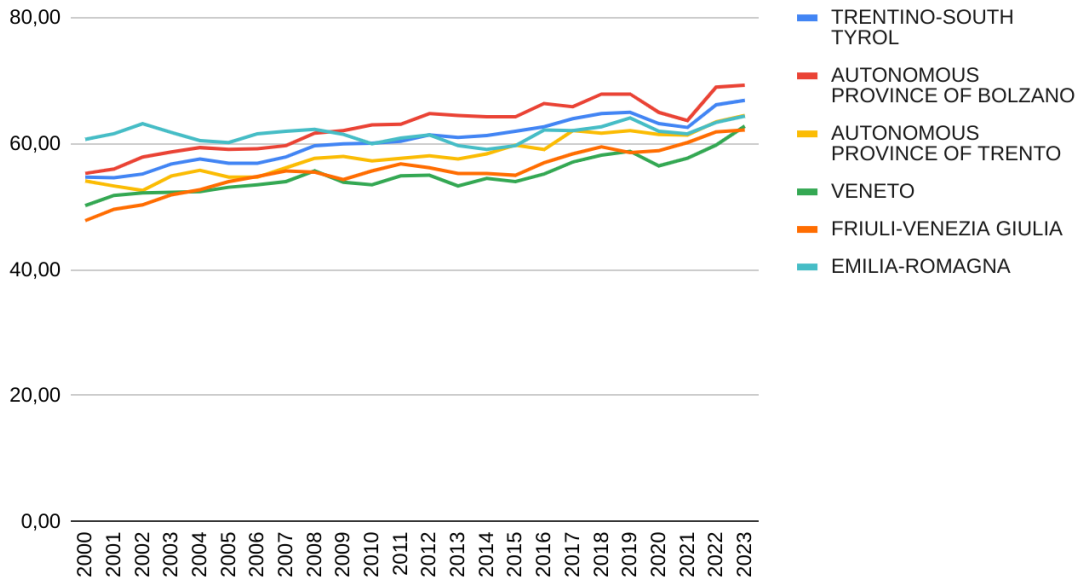
Valle d'Aosta is the Northwest region with the highest female labor force participation rates throughout the period under analysis (68.1% in 2023). These results can be attributed to the effectiveness of gender equality policies, especially in the utilities and tourism sectors, where women are more engaged.

In Liguria, the performance of the FER has been more erratic than in other regions, mainly due to little resilience during economic shocks.[32]

[32] Barbieri P., Scherer S. (2009), "Labour Market Flexibilization and its Consequences in Italy". "European Sociological Review

Figure 28: Evolution of Female Employment in North-East Italy[33]

2000-2023



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Figure 29: Percentage Variation Respect the Previous Year in the Female Employment Rate in the North-East Italy

2001-2023

YEAR	TRENTINO - SOUTH TYROL	A.P. OF BOLZANO	A.P. OF TRENTO	VENETO	FRIULI - VENEZIA GIULIA	EMILIA - ROMAGNA
2001	0,00	0,01	-0,01	0,03	0,04	0,01
2002	0,01	0,03	-0,01	0,01	0,01	0,03
2003	0,03	0,01	0,04	0,00	0,03	-0,02
2004	0,01	0,01	0,02	0,00	0,02	-0,02
2005	-0,01	-0,01	-0,02	0,01	0,02	0,00
2006	0,00	0,00	0,00	0,01	0,01	0,02
2007	0,02	0,01	0,03	0,01	0,02	0,01
2008	0,03	0,03	0,03	0,03	0,00	0,00

[33] Time series of FER for the individual regions are reported in Graphic 5,6,7,8,9,10 in Appendix B, pdf version

2009	0,01	0,01	0,01	-0,03	-0,02	-0,01
2010	0,00	0,01	-0,01	-0,01	0,03	-0,02
2011	0,00	0,00	0,01	0,03	0,02	0,02
2012	0,02	0,03	0,01	0,00	-0,01	0,01
2013	-0,01	0,00	-0,01	-0,03	-0,02	-0,03
2014	0,00	0,00	0,01	0,02	0,00	-0,01
2015	0,01	0,00	0,02	-0,01	-0,01	0,01
2016	0,01	0,03	-0,01	0,02	0,04	0,04
2017	0,02	-0,01	0,05	0,03	0,02	0,00
2018	0,01	0,03	-0,01	0,02	0,02	0,01
2019	0,00	0,00	0,01	0,01	-0,02	0,02
2020	-0,03	-0,04	-0,01	-0,04	0,01	-0,03
2021	-0,01	-0,02	0,00	0,02	0,02	-0,01
2022	0,06	0,08	0,03	0,04	0,03	0,03
2023	0,01	0,00	0,02	0,05	0,00	0,02

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

In the six regions of Italy's Northeast, there is also a general upward trend in female employment rates-thanks to the positive influence of public policies-but with minor exceptions during the period under consideration-determined by global economic events. Among all Italian regions, the Autonomous Province of Bolzano stands out for its high female labor market participation rates, peaking at 69.3% in 2023. Accomplices for these values are undoubtedly regional policies that are strongly oriented toward promoting female employment, with a focus on work-life balance.

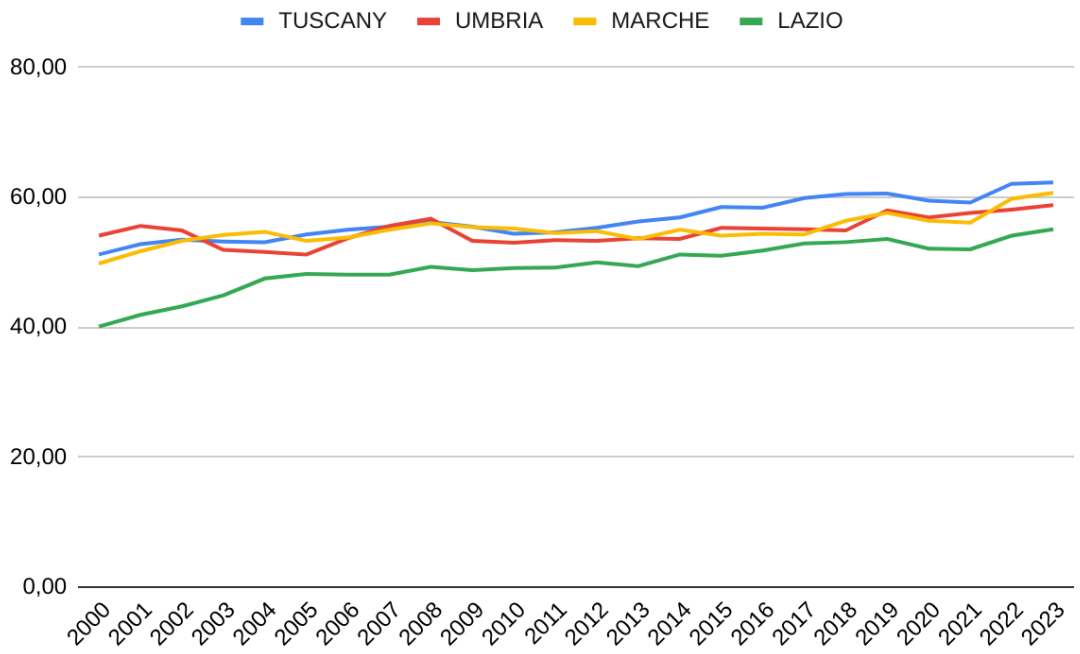
Trentino-South Tyrol and the Autonomous Province of Trento could also record a significant increase in the FER over the years (54.7% in 2000 and 66.9% in 2023 for the first one and 54.1% in 2000 and 64.5% in 2023 for the second one), with a slight decline in 2009 brought about by the contraction of local industry. Despite this downturn, thanks to their robust and diversified economies, these two regions have shown strong resilience, leading to a positive recovery in the rate.

Veneto and Emilia-Romagna, on the other hand, were the two regions most affected by the global recession. The trade and manufacturing sectors, which were particularly hard hit by the crisis, are historically the sectors that drive the economy, and this led to a slower recovery than in the other regions.

Friuli-Venezia Giulia, on the other hand, thanks to its economy being less based on heavy industry and more oriented toward agriculture and services, has been less affected by the crisis and has shown one of the most significant growths in the Northeast: increasing from 47.8% in 2000 to 62.2% in 2023.[34]

Figure 30: Evolution of Female Employment in Central Italy[35]

2000-2023



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

[34] Gauthier A H. (2013), "Family Policies in Industrialized Countries: Is There Convergence?". Population (English Edition 2002-)

[35] Time series of FER for the individual regions are reported in Graphic 11,12,13,14 in Appendix B, pdf version

Figure 31: Percentage Variation Respect the Previous Year in the Female Employment Rate in Central Italy 2001-2023

YEAR	TUSCANY	UMBRIA	MARCHE	LAZIO
2001	0,03	0,03	0,04	0,04
2002	0,01	-0,01	0,03	0,03
2003	-0,01	-0,05	0,02	0,04
2004	0,00	-0,01	0,01	0,06
2005	0,02	-0,01	-0,03	0,01
2006	0,01	0,05	0,01	0,00
2007	0,01	0,04	0,02	0,00
2008	0,01	0,02	0,02	0,02
2009	-0,01	-0,06	-0,01	-0,01
2010	-0,02	-0,01	0,00	0,01
2011	0,00	0,01	-0,01	0,00
2012	0,01	0,00	0,01	0,02
2013	0,02	0,01	-0,02	-0,01
2014	0,01	0,00	0,03	0,04
2015	0,03	0,03	-0,02	0,00
2016	0,00	0,00	0,01	0,02
2017	0,03	0,00	0,00	0,02
2018	0,01	0,00	0,04	0,00
2019	0,00	0,06	0,02	0,01
2020	-0,02	-0,02	-0,02	-0,03
2021	-0,01	0,01	-0,01	0,00
2022	0,05	0,01	0,07	0,04
2023	0,00	0,01	0,02	0,02

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Central Italy as a whole has experienced gradual growth in the female employment rate, with significant regional variations mainly due to the structure of its economies.

The increase--from 51.2% in 2000 to 62.3% in 2023--of female labor market participation in Tuscany is attributable to various socio-economic factors, such as the increase in female education and the increase of local policies in favor of women, especially in small and medium enterprises, which are prevalent in this area. As with other regions, the economic crisis led to a decrease in the FER in the following two years, which was determined by the contraction of the manufacturing and industrial sectors.

Umbria, with its less dynamic economy, has seen a less regular trend, growing at a very slow pace: from 54.1% in 2000 to 58.8% in 2023. This trend is due to Umbria's heavy reliance on the manufacturing sector, which is subject to market fluctuations, and low growth in the service sector.[36]

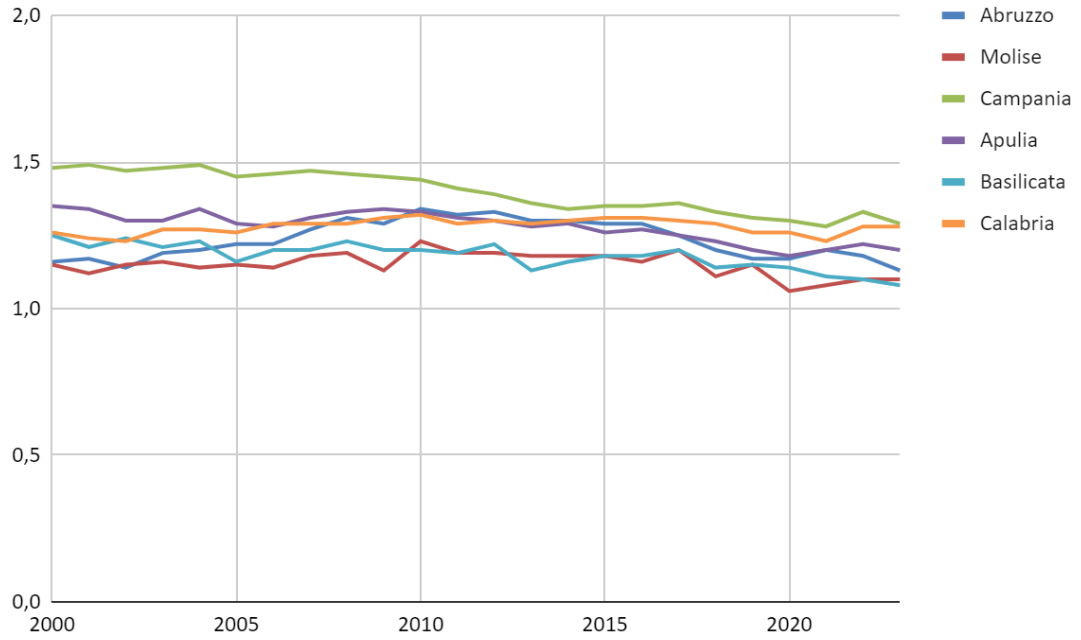
Marche, on the other hand, saw one of the largest increases, despite a slight decline in FERto 55.4% in 2009. However, the recovery has been rapid, returning to pre-crisis levels as early as 2011, and has continued to see a steady increase in female labor market participation, thanks to the economic transformation toward the service sector and thanks to a number of initiatives to coincide family and work.

Among Central Italian regions, Lazio has the lowest female employment rates (40.1% in 2000 and 55.1% in 2023). Despite its highly diversified economy, especially in the service and public sectors, the crises had a significant impact on the FER, which, however, was able to recover with a slow but steady recovery in the following years.

[36] European Central Bank (2012), "Euro Area Labour Markets and the Crisis", Occasional Paper Series, N. 138/October 2012, Eurosystem

Figure 32: Evolution of Female Employment in Southern Italy[37]

2000-2023



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Figure 33: Percentage Variation Respect the Previous Year in the Female Employment Rate in Southern Italy 2001-2023

YEAR	ABRUZZO	MOLISE	CAMPANIA	APULIA	BASILICATA	CALABRIA
2001	0,06	0,04	0,01	0,06	-0,03	0,06
2002	0,04	0,01	0,03	0,04	0,04	0,03
2003	-0,07	-0,02	0,06	-0,06	0,04	0,07
2004	-0,06	0,05	-0,01	-0,02	0,00	0,06
2005	0,01	-0,05	-0,05	-0,07	0,00	-0,04
2006	0,01	0,03	0,02	0,07	-0,01	0,03
2007	-0,02	0,06	-0,02	0,05	-0,01	-0,02
2008	0,05	0,02	-0,02	0,01	0,03	-0,01
2009	-0,07	-0,02	-0,04	-0,03	0,02	-0,02
2010	0,01	-0,03	-0,03	0,00	-0,01	0,00

[37] Time series of FER for the individual regions are reported in Graphic 15,16,17,18,19,20 in Appendix B, pdf version

2011	0,03	0,00	-0,01	0,03	-0,01	0,04
2012	-0,01	0,00	0,08	0,03	0,02	-0,01
2013	-0,01	-0,01	0,03	-0,05	0,01	-0,08
2014	-0,02	0,01	-0,03	0,00	-0,02	0,01
2015	-0,01	0,02	0,00	0,03	0,03	-0,01
2016	0,04	0,06	0,05	0,03	0,07	0,02
2017	0,01	0,02	0,02	0,01	-0,04	0,03
2018	0,01	-0,02	0,00	0,03	-0,01	0,03
2019	0,03	0,03	0,00	0,00	0,02	-0,02
2020	-0,01	0,00	-0,02	0,00	0,00	-0,04
2021	0,01	-0,08	0,01	0,03	0,07	0,05
2022	0,02	0,12	0,05	0,05	-0,01	0,04
2023	0,09	0,04	0,02	0,05	0,06	0,03

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Among southern Italian regions, Abruzzo emerges as the one with the highest FER growth, rising from 46.1% to 52.0% over the period. Abruzzo has differentiated itself by being particularly resilient, with a steady recovery since after the global recession, driven by the strengthening of local small and medium-sized enterprises and the introduction of regional policies to promote female entrepreneurship. This region has, in addition, benefited from improved infrastructure and connections, making it easier for women to enter the labor market.

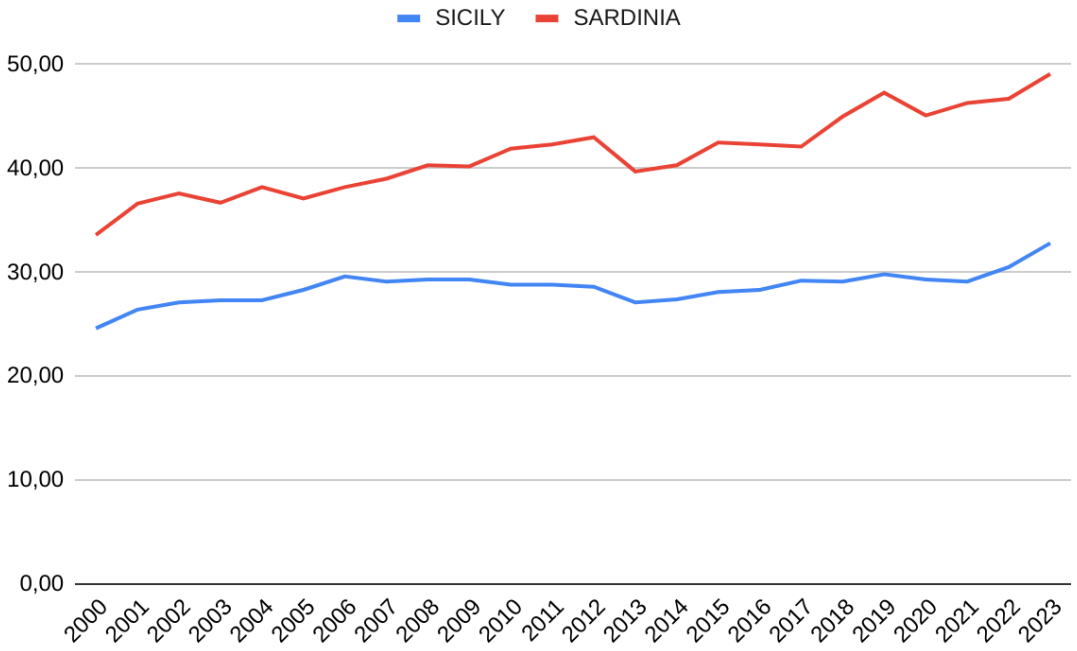
Molise and Basilicata, despite their smaller size and a less diversified and predominantly agricultural economic structure, have experienced significant growth in female employment rates (35.9% to 46.4% and 33.1% to 42.3% from 2000 to 2023, respectively), at a fairly sustained pace, Accomplice to this development, for Basilicata, have been the EU-funded rural development programs from which this region has benefited, which have helped create employment opportunities for women in rural areas. Puglia has followed the same trend as Molise and Basilicata, with a steady increase, despite a period of stagnation in 2008, but with lower values (28.3% in 2000 and 37.1% in 2023). The growth was possible thanks to the development of the tourism and agribusiness sectors and local

policies that promoted the hiring of women and the support of female entrepreneurship with cash incentives.

Campania and Calabria are two of the lowest female employment rates regions (26.9% 31.1%, 26.1% and 32.6%, respectively, in the years under analysis), although they have experienced slow and uneven growth. Such low values result from an overall high unemployment rate, the prevalence of an informal and fragile economy, and the heavy reliance on the public sector, which has failed to expand sufficiently to absorb the female labor force.

Figure 34: Evolution of Female Employment in the Islands[38]

2000-2023



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

[38] Time series of FER for the individual regions are reported in Graphic 21,22 in Appendix B, pdf version

Figure 35: Percentage Variation Respect the Previous Year in the Female Employment Rate in the Islands 2001-2023

YEAR	SICILY	SARDINIA
2001	0,07	0,09
2002	0,03	0,03
2003	0,01	-0,02
2004	0,00	0,04
2005	0,04	-0,03
2006	0,05	0,03
2007	-0,02	0,02
2008	0,01	0,03
2009	0,00	0,00
2010	-0,02	0,04
2011	0,00	0,01
2012	-0,01	0,02
2013	-0,05	-0,08
2014	0,01	0,02
2015	0,03	0,05
2016	0,01	0,00
2017	0,03	0,00
2018	0,00	0,07
2019	0,02	0,05
2020	-0,02	-0,05
2021	-0,01	0,03
2022	0,05	0,01
2023	0,08	0,05

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

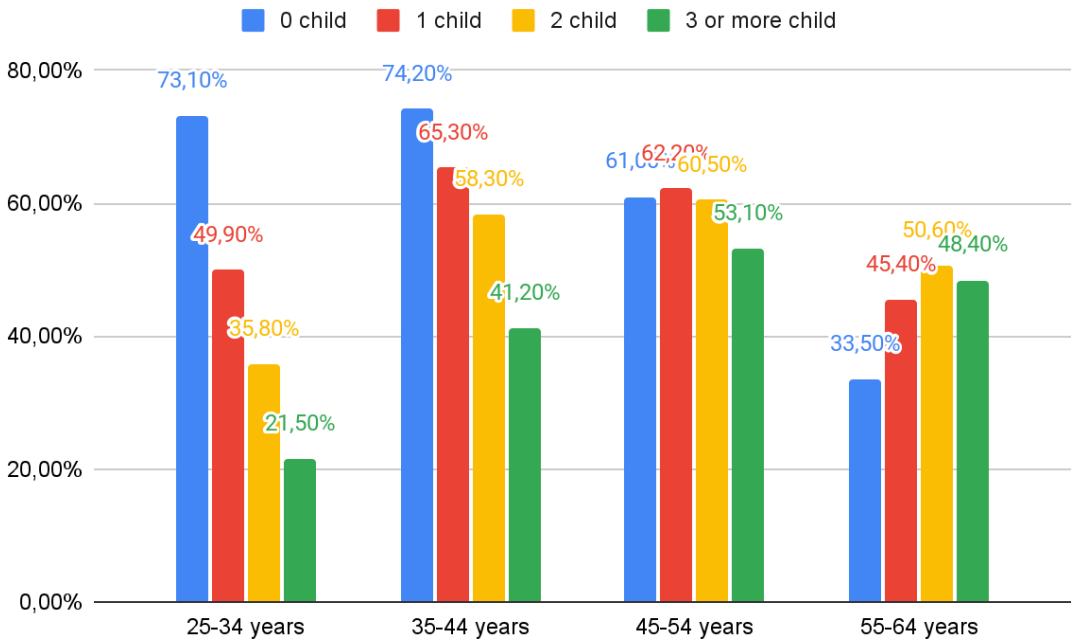
Sicily and Sardinia, despite sharing the main socio-economic characteristics related to their insular status, show a different evolution from 2000 to 2023 in terms of speed and intensity of progress.

Among all Italian regions, Sicily has the lowest values (24.6% in 2000 and 32.8% in 2023). Until 2013 there was stagnation in the labor market, due to the 2008 crisis; in the following years there was slow but steady growth, mainly due to the development of the tourism sector, where women are predominantly employed, and greater access to education for females.

Sardinia, on the other hand, started with a female employment rate in 2000 of 33.6% until it reached 49.1% in 2023. Particularly significant growth of 0.17% age points was witnessed between 2015 and 2019: in these four years there was significant expansion in the tourism and service sectors. Although the pandemic from COVID-19 led to a slight decline in rates, Sardinia was able to show strong economic resilience, returning to grow the female labor force.[39]

2.2 Employment and Motherhood

Figure 31: Female Employment Rate by Age Group and Number of Children, 2023

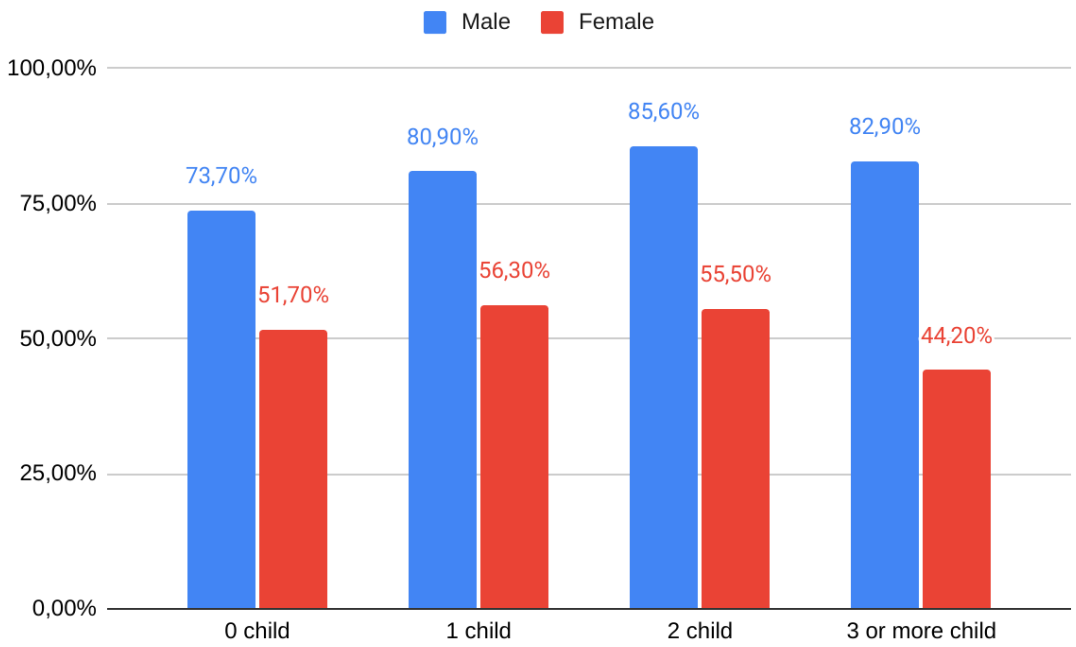


Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

[39] Giubboni S. (2020), "The Social Partners and the Welfare State in Italy: Challenges and Opportunities". WP C.S.D.L.E. "Massimo D'Antona".IT -388/2019

In analyzing women's participation in the paid labor market, it is essential to consider the role of domestic and caregiving responsibilities, which remain disproportionately borne by women in households. In particular, examining female employment rates by age group and number of children (figure 32) shows a clear pattern: as the number of children increases, employment rates decline significantly in every age group. The 25-34 age group demonstrates the sharpest decline, especially in the presence of two or more children. Women aged 25-34 with one child have an employment rate of 49,9%, which falls to 35,8% with two children, and further drops to 21,5% with three or more children. By contrast, for women aged 45-54 with three or more children, the employment rate is notably higher at 53,1%.

Figure 32: Employment Rate 25-64 Years by Sex and by Number of Children, 2023

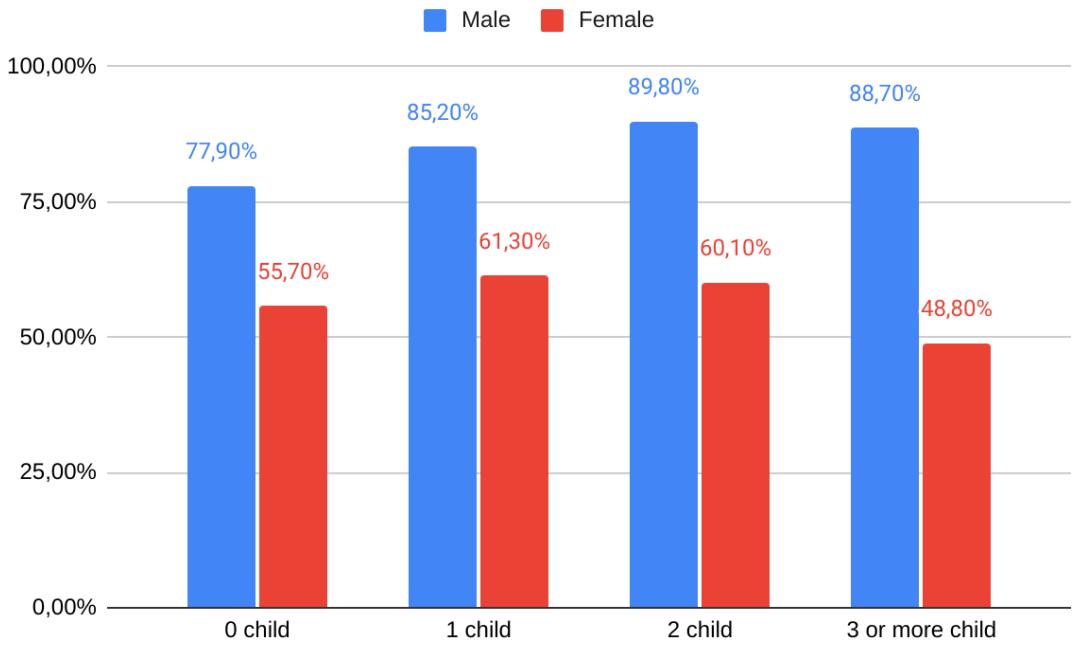


Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

While for women the presence of children is directly associated with a lower employment rate, this dynamic is not observed for men. As shown in the graph above, an increase in the number of children does not lead to a reduction in the male employment rate. On the contrary, men with two children have a higher employment

rate (85,6%) than those with one child (82,9%), and men with three or more children maintain an employment rate of 82,9%.

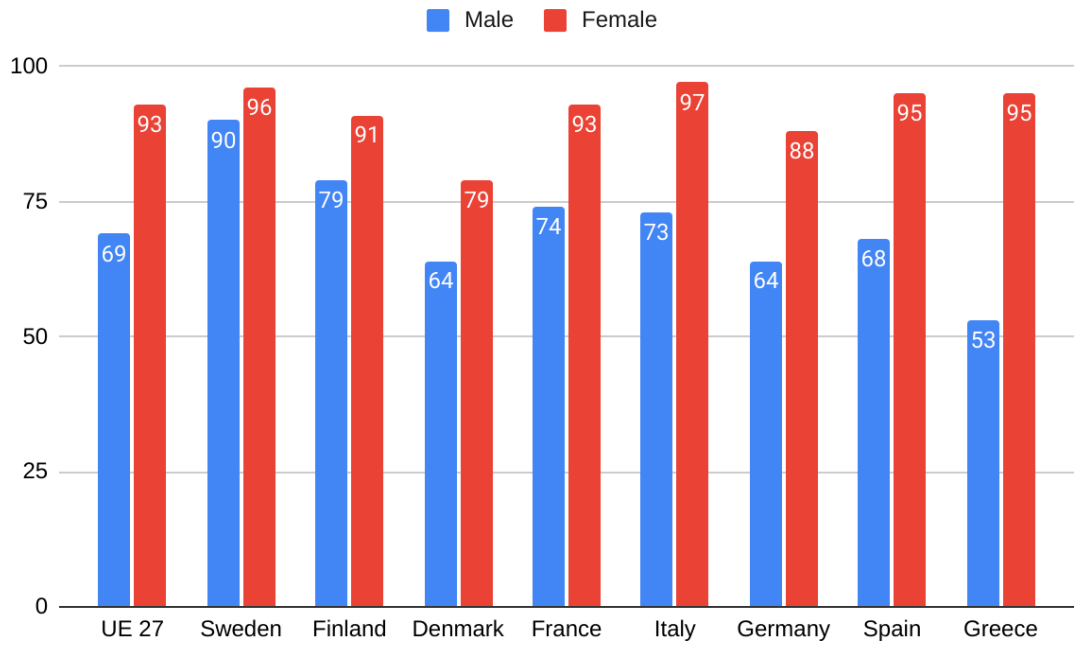
Figure 33: Activity Rate 25-64 Years by Sex and by Number of Children, 2023



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

A similar trend can be observed in male and female activity rates. For women, having more children correlates with a lower activity rate. Women with one child have an activity rate of 61,3%, which decreases to 60,1% with two children and further to 48,8% with three or more children. In contrast, men exhibit the opposite trend: their activity rate increases from 85,2% with one child to 89,8% with two children, before slightly declining to 88,7% with three or more children.

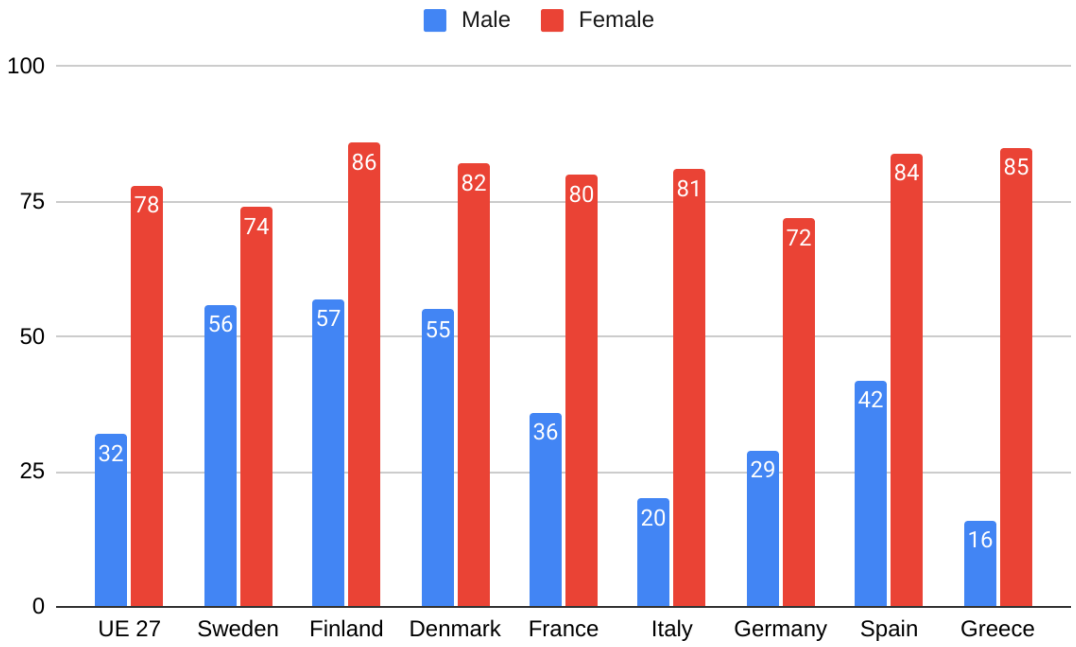
Figure 34: Education and Child Care, 2016. Participation of Women and Men (% of Adults Aged 25-49 Who Care for Their Children on a Daily Basis)



Source: Own Elaboration Based on the Report "La Vita delle Donne e degli Uomini in Europa," Istat and Eurostat 2020, p. 24

The graph highlights a persistent pattern across countries: a greater proportion of women, compared to men, are responsible for daily childcare. In 2016, 93% of women in the European Union with children under 18 took care of their children daily, while only 69% of men did so. The gap is particularly pronounced in countries like Greece, where 95% of women and only 53% of men engage in daily childcare, and Spain, where the rates are 95% for women and 68% for men. In Italy, this disparity is also significant, with 97% of women versus 73% of men providing daily care for their children.

Figure 35: Cooking and Household Activities, 2016. Participation of Women and Men (% of Adults Aged 25-49 Who Care for Their Children on a Daily Basis)

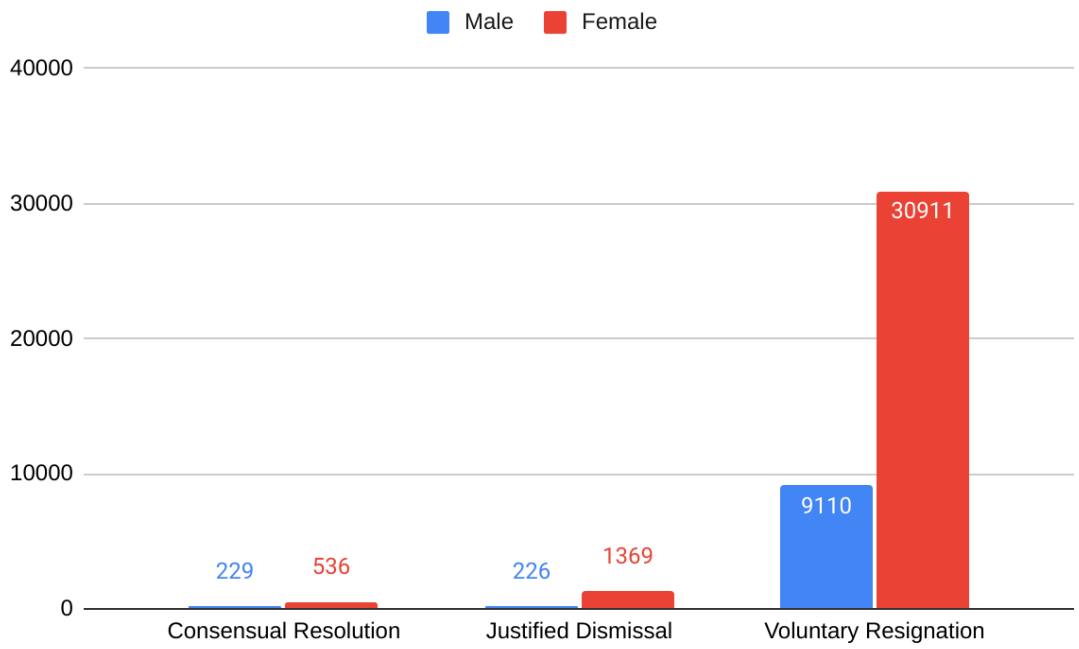


Source: Own Elaboration Based on the Report "La Vita delle Donne e degli Uomini in Europa," Istat and Eurostat 2020, p. 24

The same observations made for the previous graph can also be extended with regard to the gender gap that exists in household care-related activities. It can be seen here that the differences between men and women are amplified. In all the countries considered, men devote less time to these activities than to childcare. The largest gap is observed in Greece, where 85% of women and only 16% of men engage in household chores. Italy follows closely, with a 61-percentage point difference (81% of women versus 20% of men).[40]

[40] Istat and Eurostat (2020), "La Vita delle Donne e degli Uomini in Europa. Un Ritratto Statistico", Istat and Eurostat

Figure 36: Number of Validations of Worker Resignations and Workers with Children by Type and Gender. 2020



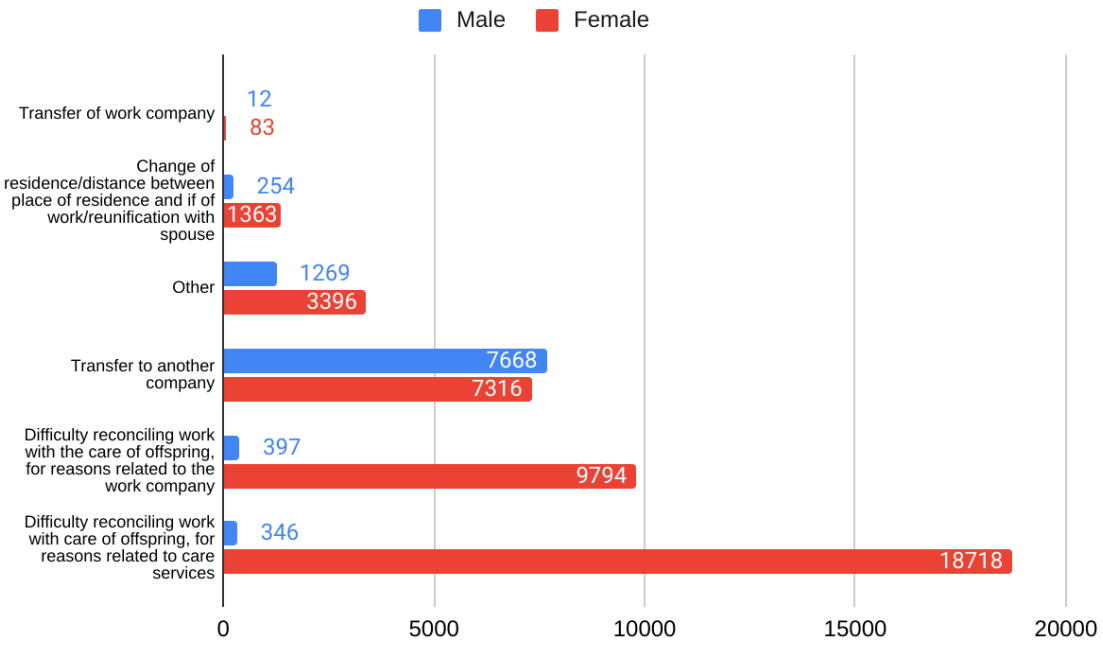
Source: Own Elaboration Based on the Report "Le equilibriste. La maternità in Italia 2022", Save The Children. p. 25

Data from the Save the Children report, based on statistics released by the National Labor Inspectorate (published in 2020), sheds further light on this issue. The report highlights that 77,4% of resignations and terminations of employment for parents with children aged 0-3 years involved women, compared to 22,6% for men. The majority of voluntary resignations, accounting for 30,911 cases, came from mothers, while 9,110 fathers resigned.

These graphs should be interpreted in light of the challenges parents face in balancing work and childcare. As the accompanying figure 37 illustrates, of the 18,718 mothers who resigned, most cited difficulties related to accessing childcare services as the primary reason for leaving the workforce, compared to just 346 fathers. An additional 9,794 mothers reported challenges in reconciling work and childcare due to workplace-related factors.[41]

[41] Save The Children (2023), "Le equilibriste. La maternità in Italia 2022", Save The Children p.25

Figure 37: Reasons for Request for Withdrawal (Absolute Value) - Validations by Gender. 2020



Source: Own Elaboration Based on the Report “Le equilibriste. La maternità in Italia 2022”, Save The Children. p. 25

2.3 The Reversal of the TFR and FER Relationship

Historically, the relationship between total fertility rate and female employment rate was negative: an increase in the latter was associated with a decrease in fertility, as assumed by Becker's classical economic model and the first and second demographic transitions. The opportunity costs of having children, investing in the quality rather than quantity of children or, in the case of the second demographic transition, the increase in higher-order desires competing with the desire to have children were some of the potential factors suggested.

These theories were consistent with data available for most of the 20th century, showing that less developed areas generally had higher fertility rates than more developed areas. However, recent theoretical developments indicate that the link between fertility and female employment is becoming positive at high levels of socioeconomic development.

And in fact, in many economically developed countries since the early 1990s, there has been a change in trajectory that sees a positive association between TFR and FER. [42]

Underlying this reversal is the women's revolution and egalitarianism. Indeed, the rise of extremely low fertility rates can be linked to the lack of gender equality in a society, particularly gender inequality and the unequal roles that men and women play within households in contrast to the increasing levels of gender equality in the workplace and other spheres of society outside the home.[43]

According to Esping-Andersen (2009)[44], extremely low fertility results from an incomplete shift from the "old" system of gender inequality based on the male breadwinner to the more equal distribution of housework, child-rearing tasks, and labor market participation (or earnings) in the "new" system of gender equality. It is logical to consider gender equality as a possible requirement for reversing the link between female labor market participation and fertility, based on these theoretical predictions. Indeed, it is rare for nations to reach highly developed socioeconomic levels without having a sizable rate of female labor force participation. Fertility declines, at least briefly, when female labor force participation increases in an environment where institutional infrastructure and cultural norms are not ready to support working women with families. Subsequent adjustment and simultaneous mobilization of women's labor supply are highly dependent on gender equality, and best-practice policy goals include promoting gender equality in both paid and unpaid work.[45]

Numerous studies seem to link equality to the ability to manage work and family obligations. As a result, priority is given to policies promulgated in an attempt to reduce the trade-offs that come with being a mother and a professional.

In contexts where public policies are in tandem with the women's revolution, it can be argued that more births should be positively linked with more opportunities for women to enter the labor market, and that higher fertility becomes contingent on gender equality for working women.

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[42] Ahn N., Mira P. (2000), "A note on the changing relationship between fertility and female employment rates in developed countries", Journal of Population Economics 2002 15:667-682

[43] McDonald P. (2000), "Gender Equity in Theories of Fertility Transition." Population and Development Review 26(3):427-439

[44] Esping-Andersen G. (2009) "The Incomplete Revolution: Adapting Welfare States to Women's New Roles". Cambridge, UK: Polity Press

[45] OECD (2011), "Doing Better for Families". Paris: OECD Publishing

As has been amply reiterated over the years, the role of women has changed, moving toward gender equity that has empowered women to gain new control over their lives, particularly over choices regarding fertility and entry into the workforce. Supporting this thesis is the Preference Theory, proposed by Catherine Hakim. This argues that in economically developed contexts, women's life choices are guided by three main orientations:

Work-Centered: these women are more oriented to work and professional careers than to care and child rearing, and therefore tend to have few or no children.

Home-Centered: they prefer to devote themselves to family life and motherhood. They generally favor having large families and usually leave their jobs after marriage or childbirth.

Adaptive: women who try to balance work and family and adjust their choices according to the socioeconomic context in which they live, influenced, for example, by available work and public policies implemented.

As highlighted by Hakim, work- and family-related policies often tend to favor one group of women over another, often favoring “home-centered” women at the expense of birth rates.[46]

In Italy, positive reversal between TFR and FER, occurred only in the early 2000s, lagging behind other European countries, clearly reflecting how there are still big gaps in welfare policies that try to help “adaptive” women - most Italian women are part of this group - to find a balance between work and family, although there is great heterogeneity among different Italian regions.

[46] Hakim C. (2004), “A New Approach to Explaining Fertility Patterns: Preference Theory”, Population and Development Review 2983):349-374. Doi:10.1111/j.1728-4457.2003.00349.x

CHAPTER 3 – EXPLANATION OF THE LINK BETWEEN FERTILITY AND FEMALE EMPLOYMENT

3.1 Theoretical Considerations

3.1.1 Economic Theories

The New Home Economy model and the Easterlin model are the two main economic theories that explain the relationship of changes over time between the total fertility rate and the female employment rate. These two theories both try to explain why these two rates are negatively correlated with each other, but they differ in the central mechanism on which they are based: the former on time value and the latter on relative income.[47]

The time-value model, first proposed by Gary Becker in 1961, later represented by economist Willis in 1973 and applied by Ward and Butz in '79 states that fertility decisions by a couple are influenced by individual preferences and costs associated with childbearing, constrained by disposable income. The main costs of caring for and raising a child are divided into opportunity costs-the loss of income caused by reduced labor supply-the time costs-the time spent on child rearing-which vary relative to the division between partners of housework and care costs, such as childcare.[48] This theory argues that changes in the economic value of women's time significantly affects women's decision to have children and participate in the labor market. In fact, their time becomes increasingly expensive as their job opportunities improve, because devoting time to caring for and raising children implies an "opportunity cost" to be deducted from the income they would have earned had they worked. Therefore, women find themselves investing more time in their own careers rather than in their children, thus causing a decrease in fertility.

This negative correlation is evident in different regions of Italy. In fact, in northern regions that have always offered more opportunities for career women, women's employment rates are higher and fertility rates lower than in Italy's southern regions,

[47] Sanderson W. C. (1976), "On two schools of economics of fertility". Population and Development Review 2: 469–477

[48] Becker G. S. (1991), "A Treaties on the Family". Harvard University Press

where access to the labor market for women is more limited, as are public services for child care and education, exacerbating the domestic burden on mothers.

In contrast, Easterlin's model, also known as the relative income model, states a family's procreative choices is determined by comparing expected income with perceived income necessary to maintain a given standard of living.[49] Just as with Easterlin, in the New Home Economics model, wages are also perceived as an influential factor in motherhood because they represent the opportunity cost of motherhood. According to this theory, an increase in women's wages have a twofold effect on fertility rates: on the one hand they lead to a consequent increase in the demand for children (income effect), but on the other hand they make offspring more costly from the point of view of lost job opportunities (substitution effect).[50]

Butz e Ward[51] also studied at the macro level the causal relationship between female employment and fertility, attributing fluctuations in fertility rates to the substitution effect, which leads females to prefer paid work to childcare.

Empirically, it has been observed that female remuneration tends to have a negative relationship with fertility: higher income not only delays the age at first childbirth, but leads to a reduction in the total number of children a couple will have. These effects are particularly pronounced in more urbanized areas, where there are greater career opportunities and education levels for women, leading to postponement of motherhood and a lower overall number of children.[52]

Another important indicator for analyzing the relationship between female fertility and employment at the macro level is the level of female education. In fact, the theory of value over time argues that high female human capital, such as training and education, which can be translated into higher earning capacity, has a negative impact on the choice to have children.[53] In addition, the increase in education and training of young women reflects a change in cultural values, in which women are increasingly integrated into the labor

[49] Easterlin R. A. (1987), "Easterlin hypothesis", in J. Eatwell, M. Milgate and P. Newman (eds), The New Palgrave: A Dictionary to Economics 2. New York: The Stockton Press. pp. 1–4

[50] Willis R. J. (1973), "A new approach to the economic theory of fertility behavior". Journal of Political Economy 81: S14–S64

[51] Butz W. P., Ward M. P. (1979), "The emergence of countercyclical US fertility". American Economic Review 69: 318–328

[52] Hotz,V. J, Klerman J. A., Willis R. J. (1997), "The economics of fertility in developed countries", in M. R. Rosenzweig and O. Stark (eds), Handbook of Population and Family Economics. Amsterdam: Elsevier. pp. 275–347

[53] Ermisch J. (1979), "The relevance of the "Easterlin hypothesis" and the "New Home Economics" to fertility movements in Great Britain". Population Studies 33: 39–58

market-with a consequent delay in pregnancy-and shed traditional beliefs about motherhood, which often leads to the decision not to have children.[54]

Although not explicitly analyzed in New Home Economics, another important indicator concerns unemployment, which can have mixed effects, depending on the cultural and economic context referred to. Female unemployment is perceived as a "zero wage," generating both income effects and substitution effects, as the increased availability of time by the unemployed mother reduces the opportunity cost, but on the other hand, economic uncertainty may discourage families from having children.

3.1.2 Ideational and Cultural Factors

A fourth increasingly relevant hypothesis concerns ideational factors and social norms about the family, especially in countries such as Italy where family structure tends to be more traditional and women's role is still predominantly domestic.

Ideational (or cultural) factors influence men's and women's perceptions of working mothers and alternatives to childcare. These cultural attitudes not only discourage women from seeking employment, but also create an environment in which working mothers may feel judged and unsupported, especially if they are mothers with young children.

Indeed, in many countries, there is still a strong presence of social norms regulating the division of domestic labor, the mother's role in child rearing, and the length of supervision required for child rearing. In addition, it has been found that in families where there is a clear division of roles, the female partner has more difficulty reconciling work and private life, influencing her choices to have children.

Therefore, these cultural norms combined with unfavorable economic conditions hinder the chances of combining motherhood with employment, leading to a decrease in either fertility rates or female employment rates, depending on the socioeconomic context being referred to.[55]

Marriages and divorces are also important variables in this framework to study at the macro level the relationship between fertility and female employment.

[54] Castles F. G. (2003), "The World Turned Upside Down: Below Replacement Fertility, Changing Preferences and Family-friendly Public Policy in 21 OECD Countries". University of Edinburgh: Unpublished Manuscript

[55] Di Tommaso M. L. (1999), "A trivariate model of participation, fertility and wages: the Italian case". Cambridge Journal of Economics 23: 623–640

It has often been found that there is a negative correlation between marriage and female labor force participation: women who choose not to marry or have children focus more on their careers and are freer to actively participate in the labor market. This dynamic is evident in more economically advanced regions, where women have more opportunities for career advancement and greater work flexibility. In addition, in large cities, where living costs and economic uncertainty are higher, young people prefer to delay or forgo family formation in favor of careers. Inversely, marriage rate is positively correlated with fertility. In fact, nowadays there is a progressive disengagement from traditional marriage and a preference for unofficial cohabitation or short-term relationships. This instability in couple relationships lead to postponing childbearing or deciding not to have children altogether.

Easterlin's study suggests that there is a correlation between low fertility rates and high divorce rates. According to this hypothesis, the increase in divorces could create a vicious cycle in which females, anticipating marital instability, invest less in relationships, which is reflected in an increase in separations and a decrease in fertility rates.[56]

3.1.3 Role Incompatibility

A third hypothesis, known as "role incompatibility," emerged from the theories analyzed above. This approach focuses on social and economic institutions rather than a couple's wage structure. For this model, the main cause of declining fertility rates among employed women is due to the increasing difficulties in coinciding work and family. In recent decades, many Scandinavian and Northern European countries have introduced social policies, such as the promotion of family-compatible work schedules, the implementation of low-cost childcare and the inclusion of more flexible and paid parental leave, in order to reduce this incompatibility.[57]In this context, public policies play a key role in shaping fertility rates, going to change the cost of parenthood. This new theory takes into account both loss of income and career breaks and the difficulties of re-entering the labor market due to childbirth.[58] This is of particular importance in Italy, as there are deep regional

[56] Easterlin R. A. (1980), "Birth and Fortune: The Impact of Numbers on Personal Welfare". New York: Basic Books
[57] Engelhardt H., Prskawetz A. (2002), "On the Changing Correlation between Fertility and Female Employment over Space and Time". MPIDR Working Paper WP 2002-052. Rostock: Max Planck Institute for Demographic Research
[58] Gauthier A. H. (1996), "The State and the Family: A Comparative Analysis of Family Policies in Industrialized Countries". Oxford: Clarendon Press

disparities in access to family-work reconciliation policies and in the availability of family support services, and this significantly affects both fertility rates and female labor market participation rates.

According to this analysis, the opportunity cost of having children is determined by the support policies offered by social institutions and companies. France, for example, can be taken as a model for the recently developed welfare policies that have allowed fertility rates and female employment rates to remain relatively high, unlike Italy where, despite improvements in recent years, these policies remain deficient, negatively impacting both rates.[59]

In this regard, the introduction of the indicator of women employed part-time is important. Indeed, thanks to the growth in recent decades of part-time work, which has changed the employment structure, women have seen their employment opportunities increase. However, although this form of work allows women to coincide more closely with work and family it often involves lower wages and reduces long-term career opportunities, limiting the economic contribution by the mother to the family. Despite this, part-time has had a positive effect on both fertility and female employment, as it reduces the costs associated with parenthood, giving women the opportunity to remain in the labor market even with children.[60]

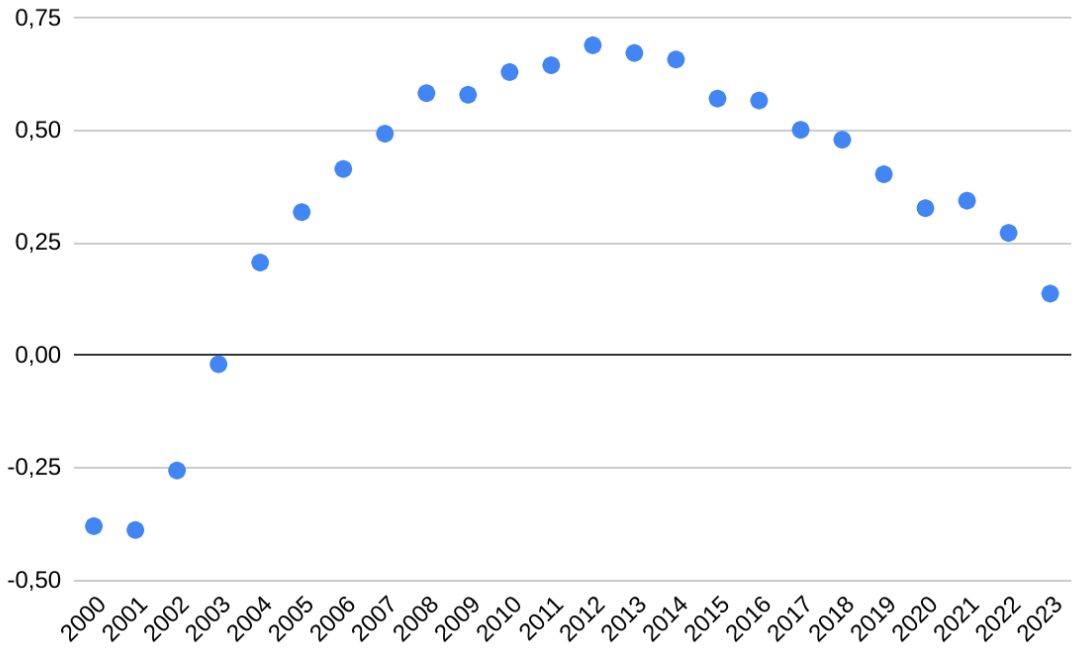
[59] DiPrete T. A., Morgan S. P., Engelhardt H., Pacalova H. (2003), "Do cross-national differences in the costs of children influence fertility behavior?". Population Research and Policy Review, forthcoming

[60] O'Reilly J., Fagan C. (eds), (1998), "Part-time Prospects. An International Comparison of Parttime Work in Europe, North America and the Pacific Rim". London, New York: Routledge

3.2 Empirical Analysis[61]

3.2.1 Temporal Trend of Correlational

Figure 38: Correlation Between Total Fertility Rate and Female Employment Rate in Italy. Years 2000-2023 [62]



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

To best understand Italy's demographic and socioeconomic dynamics, it is useful to proceed with a correlation analysis between the total fertility rate (TFR) and the female employment rate.

This type of analysis makes it possible to study the evolution of the relationship between these two rates over time and space, thus enabling institutions to understand the country's needs and formulate effective public policies to meet future challenges.

In this context, it is critically important to look at the changes in these two ratios from the perspective of second demographic transition theory. This states that fertility is often related to cultural values, especially in developed countries where these values are

[61] Time series of the main indices for the TFR and FER link are reported in Appendix E, pdf version
[62] Time series of the correlation between TFR and FER by Year are reported in Appendix C.1, pdf version

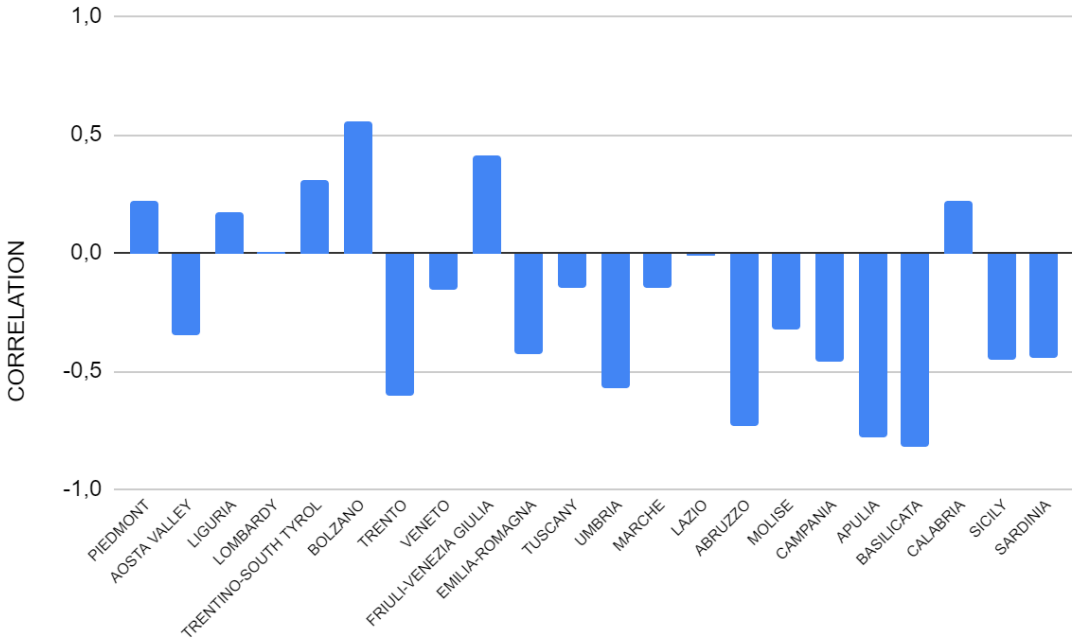
shifting more toward individualism, resulting in increased female labor market participation. In the absence of adequate public policies to reconcile family and work, these social changes have led to a decrease in fertility rates.[63]

As evident from Figure 38, in Italy from 2000 to 2003 the sign of the correlation between TFR and female employment rate was negative, with values ranging from -0.379 to -0.019. This was indicative of a socio-cultural context in which life as a mother was hardly reconcilable with a professional career. In 2004 (0.206) there was a reversal to a positive sign that gradually increased until 2012 (0.689), probably due in part to policies, such as parental leave, maternity incentives and childcare services, that promoted the figure of the working mother.

Since 2014 (0.657), a decrease in the correlation between the total fertility rate and the female employment rate can be seen. Probably the determining factor for this change is due to the economic crisis of 2008, which had long-term repercussions in family choices. In fact, although policies to support women and the family remained in place and, indeed, increased in certain contexts, growing economic and financial insecurity changed the priorities of young people, who often preferred to devote themselves to their careers and delay motherhood. COVID's health crisis in 2020 has exacerbated this trend, further complicating the relationship between fertility and female labor market participation due to increased economic and social uncertainties.

[63] Lesthaeghe R. (1995), *ibidem*

Figure 39: Correlation Between Total Fertility Rate and Female Employment Rate by Italian Regions. Years 2000-2023[64]



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Looking at Figure 39, it is possible to get an overview of the correlation between total fertility rate and employment rate in individual Italian regions from 2000 to 2023.

In the northern regions, advanced economic dynamics and a more flexible and inclusive labor market has enabled the shaping of an environment that allows for balancing family and work.

In fact, only Valle d'Aosta, the Autonomous Province of Trento and Veneto, with a correlation of -0.345, -0.600, -0.15, respectively, show a negative correlation between the two indices. Interestingly, despite the geographic and cultural proximity, there are significant regional differences, suffice it to say that some of the regions bordering those mentioned earlier are the Autonomous Province of Bolzano (0.556) and Friuli-Venezia Giulia (0.415), which, on the other hand, have the highest correlation values. These positive figures are the result, especially in Bolzano, of advanced family policies and an

[64] Value of the correlation between TFR and FER by regions are reported in Appendix C.2, pdf version

effective welfare system that actively promote women's participation in the labor market without hindering motherhood.

In both Southern and Mezzogiorno Italian regions, however, it is possible to see a negative trend: an increase in the FER leads to a decrease in the TFR.

This trend is the result of a rigid labor market, public policies and welfare services that do not promote the figure of the working mother, and a persistence of traditional cultural norms. These results demonstrate the need to develop differentiated regional policies that respond to different and specific local needs, all aimed at improving flexibility from work, enhancing child support services and reducing gender differences.

Two *sui generis* cases are Lombardy and Lazio, where neutral correlation values are observed, 0.003 and 0.011, respectively. In these regions, the two indices move independently of each other, probably due to the great socio-economic diversity of the regions. In fact, the two regional capitals, Milan and Rome, may have a balancing effect on the regional data due to its large labor market and diverse population: women in these cities benefit from better job opportunities and easier access to support services for mothers than in peri-urban and rural areas, allowing for better compatibility between motherhood and work.[65]

3.2.2 Economic Explanatory Factors

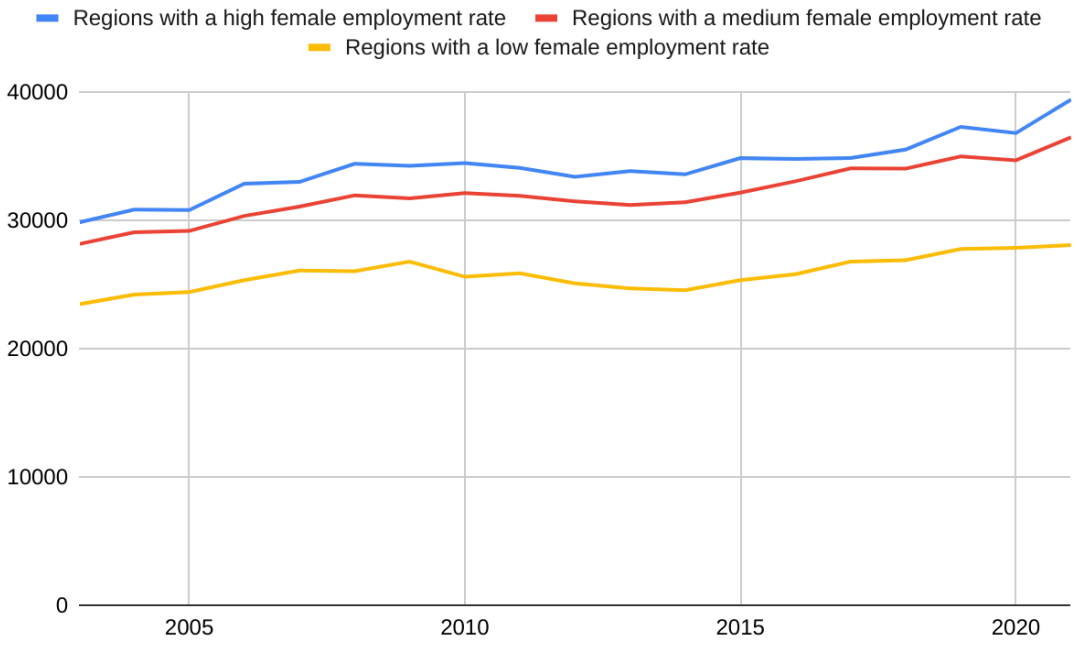
The indicators examined in this section can offer an interesting picture of the socioeconomic dynamics that influence -often negatively- the relationship between the decision to have children and female labor market participation.

In this context, it is interesting to read the empirical results through the lens of Easterlin's theory and New Home Economics.

[65] Ministero del Lavoro e delle Politiche Sociali (2022), "Rapporto annuale sulle politiche familiari"

Figure 40: Average Annual Female Income (in Euros) in Italy

2003-2021



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

As evident from the graph above, in all three macro-groups of regions, the trend in average annual female income is increasing, although to different degrees and at different speeds in individual regions: in the areas with high FER and medium FER, income has risen from €29,899 and €28,210 in 2003 to €39. 472 and €36,528 in 2021, suggesting a steady improvement in wage levels; in regions with low female employment rates, wage trends have fluctuated more, reflected in a less favorable environment for building a family with children (€23,526 in 2003 - €28,124 in 2021).

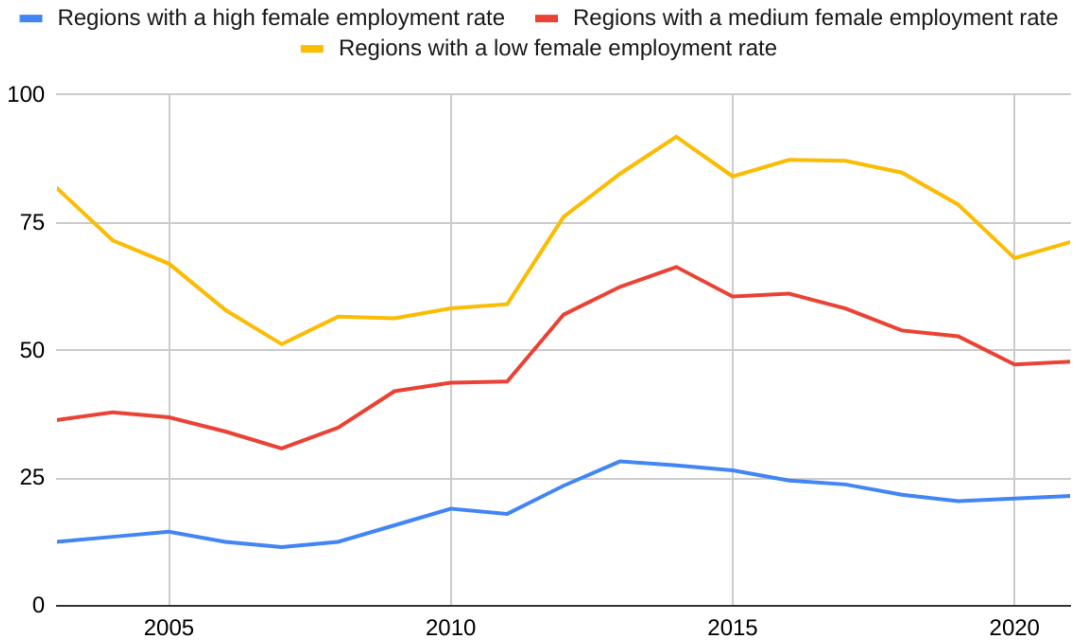
Comparing data on average annual female income and total fertility rates in Italian regions with high, medium and low female employment rates, it can be said that this variable plays a crucial role in couples' decision to have children. In fact, according to New Home Economics, an increase in wages reduces (theoretically) the opportunity cost of having a child, thus giving, in this way, greater economic stability to families, who feel able to raise children with more resources.[66]

[66] Becker G. S. (1991), *ibidem*

However, despite the increase in average annual income in all Italian regions, since 2010 the average of total fertility rates in all three groups has started to fall from 1.60 - 1.45 - 1.32 to 1.44 - 1.25 - 1.18 in 2021, respectively. This suggests that although this indicator has an important influence on family decisions to procreate, by itself it is not a factor that can justify the trend in fertility rates, especially in economic contexts where women's working conditions and unemployment complicate the picture.[67]

Other economic variables come into play here, such as the level of female unemployment and the number of part-time female workers. At the theoretical level, reference can be made to Easterlin's relative income. This model states that perceptions of economic stability and expectations of financial security greatly influence family decisions about offspring.[68] Therefore, in a period of steady income growth, families should be more likely to have children, but job uncertainty may be blocking this trend.

Figure 41: Number of Unemployed Women Aged 15-74 in Italy in Thousands 2003-2021



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

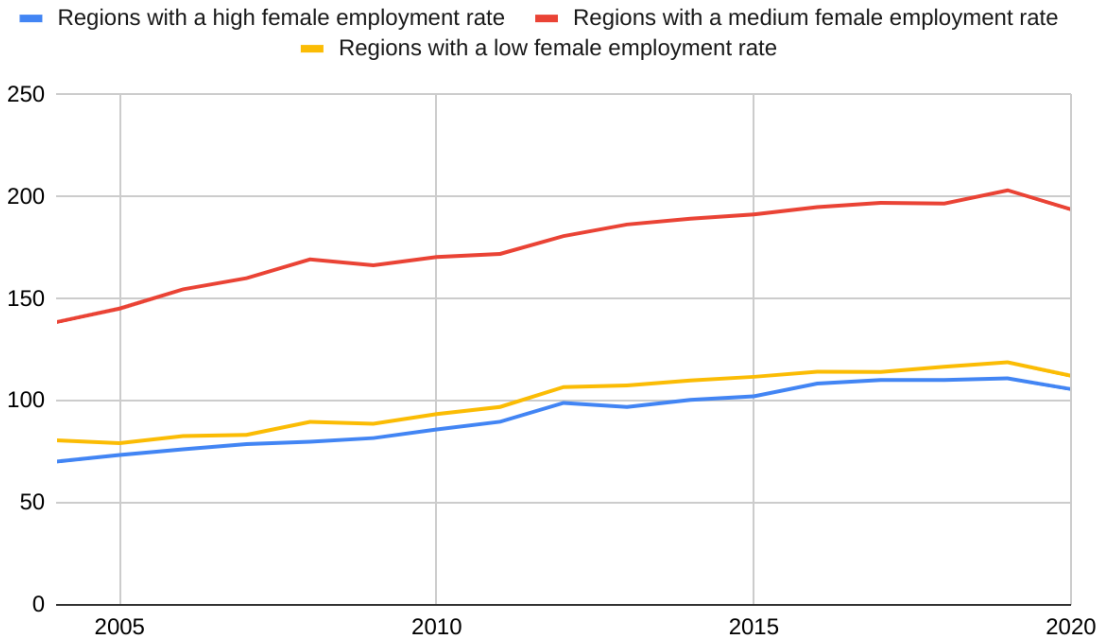
[67] Livi-Bacci M. (2000), "The Population of Europe: A History".American Anthropologist, ResearchGate
[68] Easterlin R. A. (1980), *ibidem*

Looking at the data on female unemployment, a particularly worrying trend can be seen following the great economic crisis of 2008. In fact, in regions with a high FER, unemployment reached significant levels between 2011 and 2014, coinciding with the beginning of the decline of the TFR. In areas with a medium FER, on the other hand, unemployment rose from an average of 36 thousand in 2003 to 48 thousand in 2021, while in Italy's Mezzogiorno the peak was reached in 2012 with an average of 85 thousand women seeking employment with a following decline until 2021 (71 thousand unemployed females).

These trends go hand in hand with negative trends in total fertility rates, which can be seen as a direct response to unemployment dynamics.

Financial uncertainty and job instability are among the main deterrents in couples' choice to procreate. In addition, since women tend to balance careers with child bearing, the combination of high unemployment and relatively low average wages has led as a consequence to many women giving up motherhood or deciding to postpone a possible birth. The economic crisis has had a devastating impact on families' ability to plan for childbearing, especially in couples where the woman is an important source of income.

Figure 42: Number of Part-Time Female Workers Aged 15-74 in Italy in Thousands 2004-2020



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

As a final variable at the economic level, it was decided to analyze the number of part-time female employees and self-employed women.

From 2004 to 2020, data on part-time female employment show a steady increase in all Italian regions. In the regions with high female labor market participation, women employed part-time went from an average of about 70,000 in 2004 to 111,000 in 2020; in the nine Italian regions with a medium FER, on the other hand, the data show that from the first to the last year taken into analysis it went from 139,000 to 203,000; finally, in the last macro group it went from 81,000 in 2004 women to 119,000 in 2020.

Part-time work can be seen as a strategy that allows women to reduce the conflict between work and childcare, thus availing themselves of the theory of the time-value model according to which the increase in flexible work opportunities reduces the opportunity cost and can, in theory, facilitate an increase in fertility.

However, as analyzed above, the positive trend in part-time work is not mirrored by the negative trend in fertility rates, making it clear that flexible working hours are not sufficient to reduce the negative effect on TFR of general economic uncertainty.

In conclusion, it can be argued that although part-time work is a steadily growing mode of employment, women's employment with reduced hours has not been able to provide the necessary support to boost births. Women in this category of workers often face less stable working conditions and lower wages than full-time, which reduces their ability to make long-term family plans. This is especially the case in regions with a low FER, where there are greater gaps regarding economic and social supports for families.

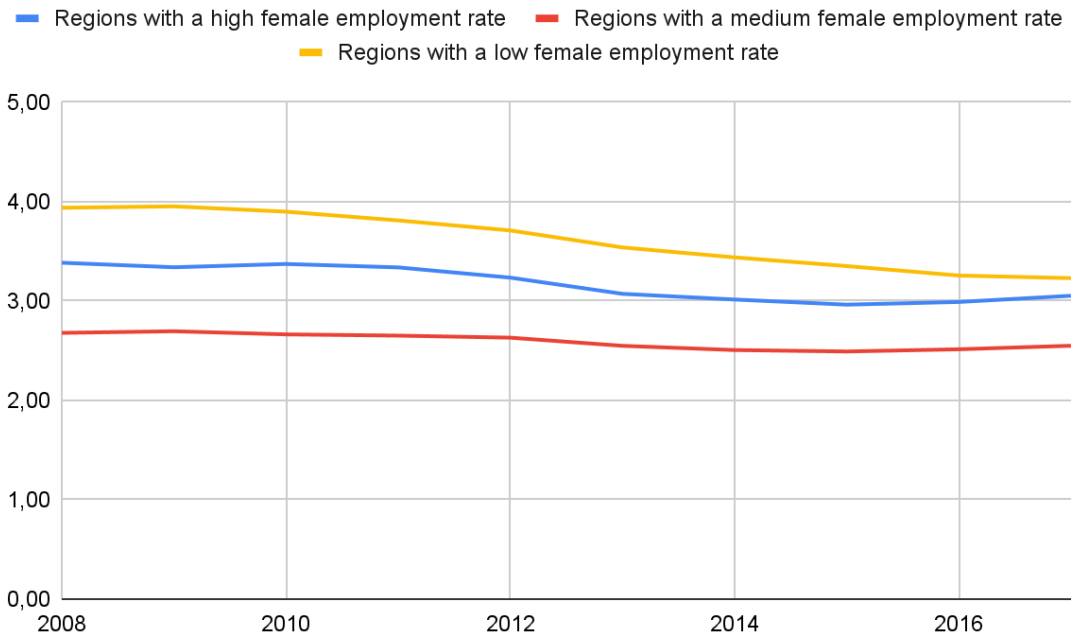
3.2.3 Socio-Cultural Explanatory Factors

Female education in relation to the total fertility rate has been studied extensively, as this indicator has proven to be a key factor in determining women's choices to have children. An increase in women's level of education corresponds to an increase in opportunity costs: more educated women tend to postpone motherhood and have fewer children, because child rearing may compromise career opportunities.[69]

[69] Becker G. S. (1991), *ibidem*

Figure 43: Percentage of Female Enrolled in University in the Total Number of Female Residents as of December 31 in Italy

2008-2017



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

In regions with high female employment rates, education levels are key determinants in the decline in TFR. Women in these regions show high levels of enrollment in college (in the years considered in this study it always hovers at levels above 3 percent) and secondary school, with an average of more than 51 percent of women of school age from 2015 to 2021. These data confirm women's willingness to train academically and then professionally, which translates into increased career opportunities and delayed motherhood. By entering the labor market later and devoting more years to one's professional growth, the result is a declining trend in the total fertility rate and a decrease in the number of years available to have children.

In medium FER regions, on the other hand, the data show a slightly lower average percentage of female enrollment than in the regions analyzed above: between 2.68 percent and 2.55 percent for universities and around 49 percent for secondary schools. These percentages suggest that the opportunity cost of childcare may be slightly lower than in regions with a high FER, partly due to the fact that the labor market in these regions is

expected to be less competitive, allowing women to balance family and work more easily.[70]

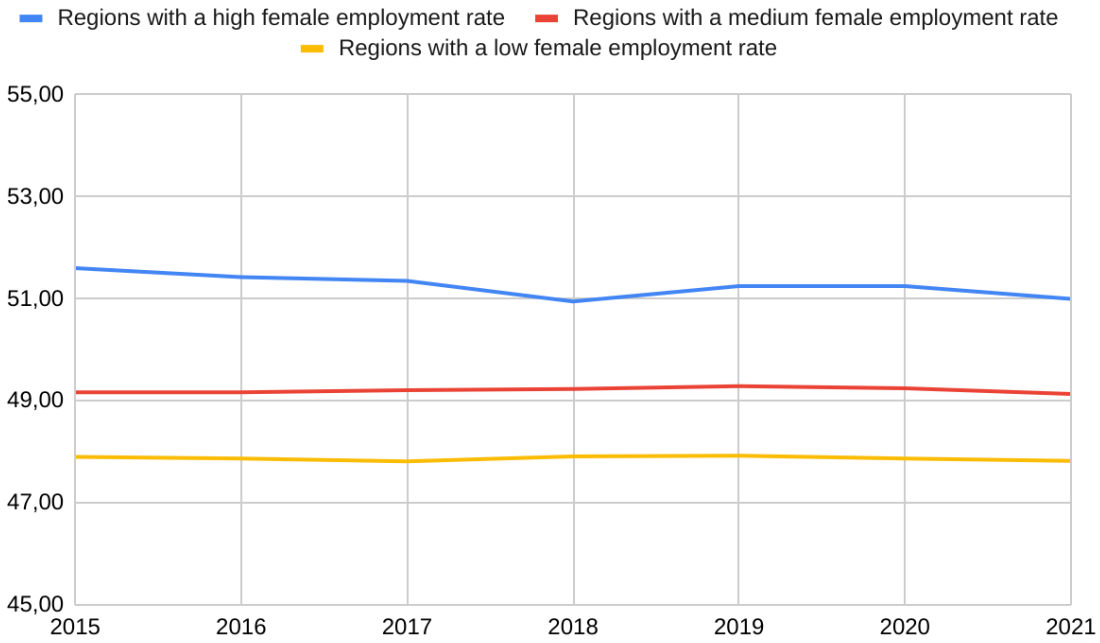
The education/fitness relationship is more complex in low FER regions. In fact, paradoxically these regions have the highest college enrollment rates (3.94 percent in 2008 and 3.23 percent in 2017), but lowest high school enrollment rates (47.90 percent-47.82 percent). This suggests that although access to university education, educational opportunities at earlier stages may be limited contributing to the higher fertility rates in the South and Lazio area.[71]

Thus, it can be said that female education and employment are variables that significantly affect fertility rates throughout Italy. In regions with high female labor market participation, interrupting one's career in favor of motherhood results in higher opportunity costs for women, leading to a reduction in TFR. In contrast, in regions with low female employment, after high school and college graduation, many women cannot easily access stable jobs, thus reducing the opportunity cost of motherhood. This creates a mismatch between actual job opportunities and educational potential, contributing to more stable TFR levels over time.

[70] Billari F., Kohler H.-P. (2002), "Patterns of Lowest-low Fertility in Europe". MPIDR Working Paper WP 2002-040. Rostock: Max Planck Institute for Demographic Research

[71] Del Boca D., Pasqua S., Pronzato C. (2005), "Fertility and employment in Italy, France, and the UK". Labour, Vol. 19, Issue s1, 51-77

Figure 44: Number of Female Enrolled in the High School per 100 Enrolled in Italy 2015-2021



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

3.2.4 Demographic Explanatory Factors

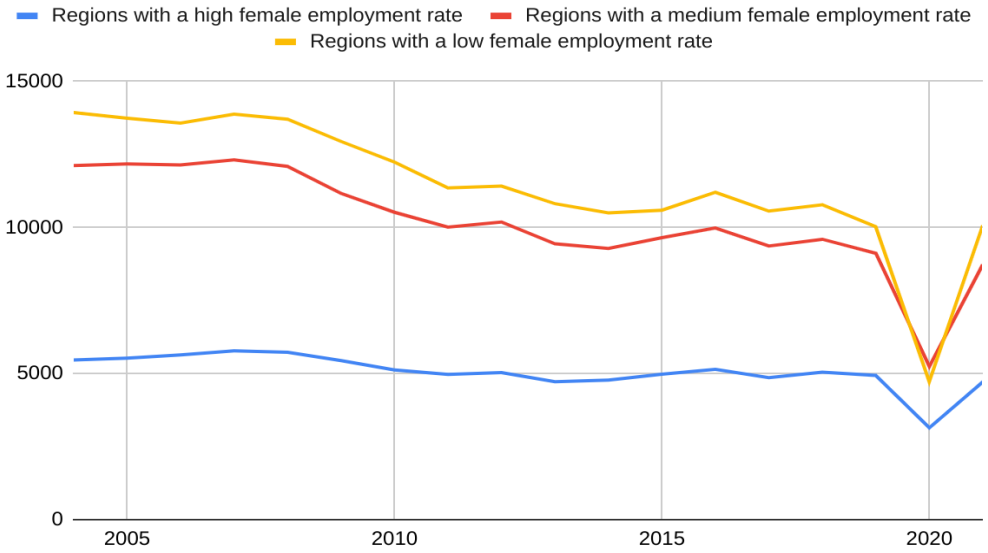
As noted above, marriage has always been closely linked to fertility in the literature: most births occurred within marriage, and a decline in fertility rates was indicative of a decline in first marriage rates. Over the years, marriage has become less of a determinant of the choice to have children.

Regardless of the female employment rate, the annual number of marriages declined in all Italian regions, although probably for different reasons.

In regions with high and medium RES, this decline could be determined by the increasing trend toward unofficial cohabitation or more liberal unions, while in regions with low female labor market participation, the decrease in the officialization of this sacrament could be attributed to a more precarious economic situation, in which many partners decide to delay or avoid marriage altogether. In these areas, the financial and economic situation seems to be a determining factor in the choice of marriage.[72]

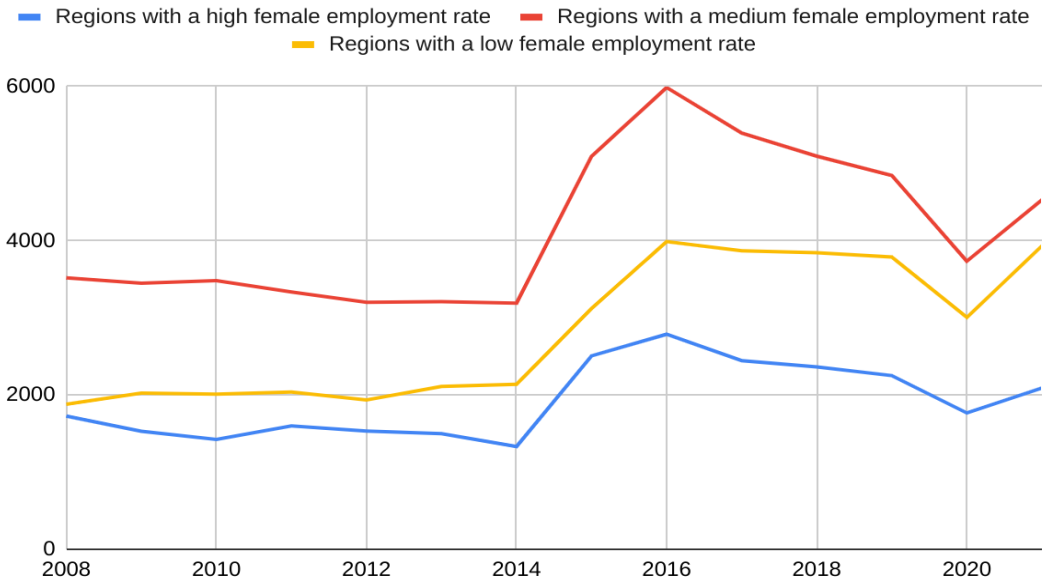
[72] Alesina A., Giuliano P. (2007), "Divorce, fertility and the value of marriage". Harvard University, April 2007

Figure 45: Annual Number of Religious and Civil First Marriage in Italy 2004-2021



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

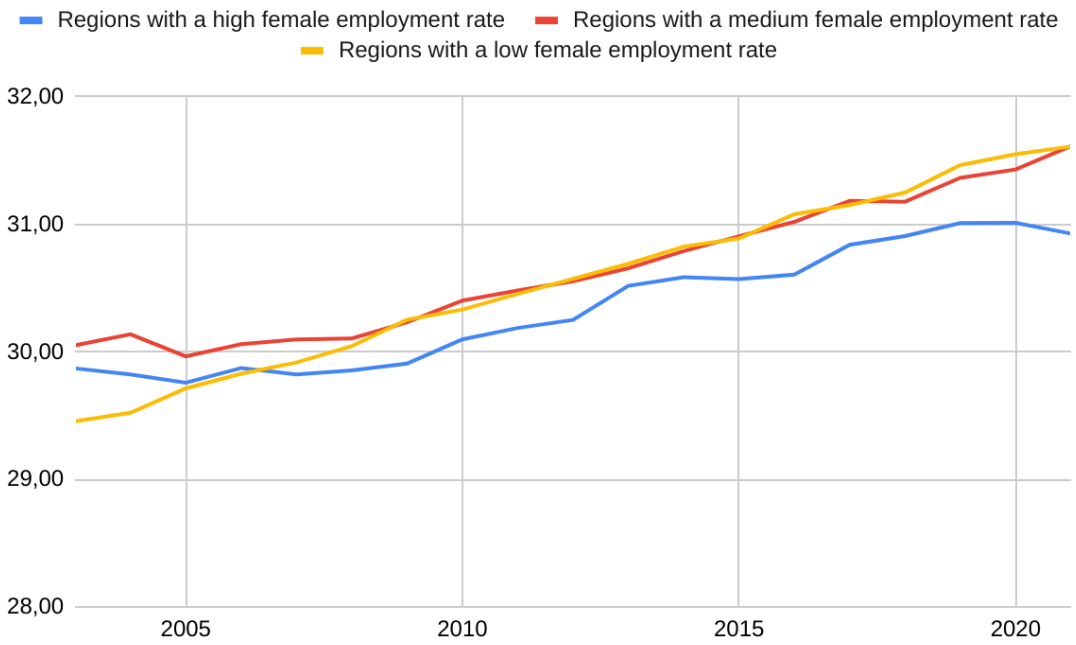
Figure 46: Annual Number of Divorces Granted in Italy 2008-2021



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

As for divorces, it can be said that this indicator is not directly responsible for the decline in fertility. The number of annual divorces followed a positive trend in the years from 2008 to 2021. in Valle d'Aosta, Trentino-Alto Adige, Autonomous Province of Bolzano and Emilia-Romagna, the data are in line with other European regions with high female labor market participation, where the end of a marriage is more frequent and less stigmatized. In regions with an average FER, the increase in divorces does not seem to affect total fertility rates noticeably, unlike regions with low female employment rates, where the still strong influence of family traditions leads to lower social acceptance of divorce.[73]

Figure 47: Median Age at First Childbirth in Italy
2003-2021



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Perhaps the most explanatory indicator of fertility rates in geographic areas with different female employment rates is the average age at first birth. The latter increased in all regions, especially in regions with low FER.

[73] Billari F. C., Kohler H.-P. (2002), *ibidem*

In regions with high female labor market participation, the average age at first childbirth increased by nearly two years over the period under analysis (29.87 years in 2003, 31.01 in 2021). This increase is in line with the postponement of motherhood, a trend increasingly common in economically advanced areas, where young women prefer to devote more time to their careers before motherhood.[74] Despite the increase in age, TFR showed only a slight decrease.

There has also been an increase in the average age at first delivery in the mid-RF regions, albeit to a lesser extent (30.05 years in 2003 and 31.61 years in 2021). Interestingly, the increase in age was particularly pronounced in the wake of the great economic crisis-combined with a decrease in the TFR-highlighting once again how uncertainty about the future of work predominantly affects the choice to have children.

Even in regions with a low female employment rate, this indicator has increased, albeit lagging behind regions with high and medium RES. This lag is indicative of a greater slowness to change cultural patterns and traditional values, but the increase in age at first childbirth has still had a negative impact on total fertility rates, which have continued to fall over the years.

In general, it can be said that these demographic variables are important indicators of fertility, but their influence varies according to the social and economic context of different Italian regions.

Where the female employment rate is higher, the decline in marriages and the increase in divorces has not had a decisive impact on fertility, and the postponement of motherhood has not led to a significant reduction in the FER, probably due to the more developed welfare systems that characterize these areas and the better service networks that make it possible to reconcile work and childcare.

While in regions with a low FER, deteriorating economic conditions had a greater and negative influence on the determinants of fertility. The three variables analyzed are directly related to the difficulty of ensuring economic security to form a family.

[74] Bettio F., Villa P. (1998), "A Mediterranean perspective on the breakdown of the relationship between participation and fertility". Cambridge Journal of Economics, 22(2), 137-171

CONCLUSION

The trajectory of this study has demonstrated that the decline in fertility, coupled with the challenges of women's integration into the labor market, presents a complex and multifaceted issue. Over the past two decades, all Italian regions have undergone significant demographic shifts, characterized by a steady decline in first-, second-, and third-order fertility rates. Conversely, this same period has seen a slow but gradual rise in female employment rates, although they remain significantly lower than the European average.

Despite a positive shift in the relationship between the Total Fertility Rate (TFR) and Female Employment Rate (FER) in Europe during the early 1980s, negative correlations between these two variables persist in most Italian regions. This trend points to the lack of effective policies that support a balance between work and family life, as well as the persistence of traditional views on women, which hinder the promotion of the working mother. Some regions, such as Trentino-Alto Adige and the Autonomous Province of Bolzano, stand out as exceptions. These areas boast a developed welfare system, characterized by accessible childcare, a flexible labor market, and progressive pro-natalist social policies.

The analysis has underscored the significance of economic, demographic, and sociocultural factors in shaping the relationship between fertility rates and female employment. Drawing on Gary Becker's New Home Economics theory, this study has confirmed the role of women's wages in regions with high, medium, and low FER. Higher incomes can produce both a substitution effect—whereby increased opportunity costs of childcare lead to lower fertility—and an income effect, where wealthier households are more likely to have children. This underscores that women's wages alone cannot fully explain the correlation between the two rates. Additional factors include the female unemployment rate and the prevalence of part-time work. Higher female unemployment is positively associated with fertility: regions with higher female labor market participation generally exhibit higher TFRs than those with lower FER. Typically, regions with higher employment also have more part-time work opportunities, facilitating a work-family balance, in contrast to regions with less flexible labor markets and lower FER, which tend to have fewer births.

Education also plays a role as a potential deterrent to procreation, as higher levels of education have been shown to increase attachment to the labor market. Consequently, while education positively impacts employment rates, it often has negative effects on fertility rates.

At the demographic level, the analysis revealed that marriage rates are positively correlated with fertility, but often inversely related to female employment rates. Additionally, the rising number of divorces, particularly in regions with medium and high FER, discourages young couples from having children, as concerns about relationship stability grow. The average age at first childbirth has also risen across all Italian regions, reflecting a tendency to postpone pregnancy and resulting in a decline in birth rates.

As has been extensively discussed, Italy's declining birth rate represents a contemporary crisis that demands government intervention to formulate comprehensive and multidimensional solutions. These should combine economic incentives, public support policies, and efforts to strengthen the social fabric. Without adequate generational replacement, Italy risks sliding into a cycle of economic decline, compounded by the increasing burden on welfare systems, particularly in terms of pensions and healthcare.

Because, a country without children is a country without a future.

APPENDIX

APPENDIX A - Total Fertility Rates in Italian Regions 2000-2022

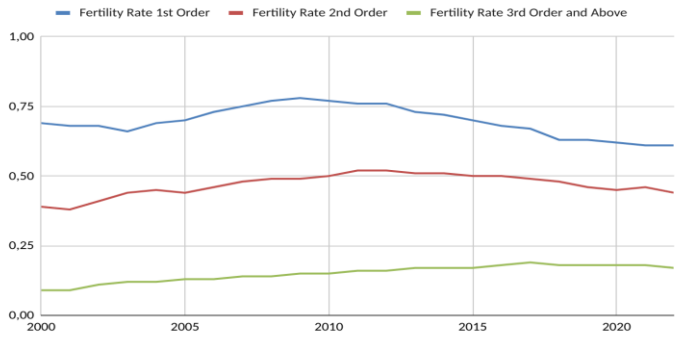
Graphic 1: Total Fertility Rates and Percentage Variation Respect the Previous Year in Piedmont 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,69		0,39		0,09		1,17		
2001	0,68	-0,01	0,38	-0,03	0,09	0,00	1,15	-0,02	
2002	0,68	0,00	0,41	0,08	0,11	0,22	1,20	0,04	
2003	0,66	-0,03	0,44	0,07	0,12	0,09	1,22	0,02	
2004	0,69	0,05	0,45	0,02	0,12	0,00	1,26	0,03	
2005	0,70	0,01	0,44	-0,02	0,13	0,08	1,27	0,01	
2006	0,73	0,04	0,46	0,05	0,13	0,00	1,32	0,04	
2007	0,75	0,03	0,48	0,04	0,14	0,08	1,37	0,04	
2008	0,77	0,03	0,49	0,02	0,14	0,00	1,41	0,03	
2009	0,78	0,01	0,49	0,00	0,15	0,07	1,42	0,01	
2010	0,77	-0,01	0,50	0,02	0,15	0,00	1,42	0,00	
2011	0,76	-0,01	0,52	0,04	0,16	0,07	1,43	0,01	
2012	0,76	0,00	0,52	0,00	0,16	0,00	1,43	0,00	
2013	0,73	-0,04	0,51	-0,02	0,17	0,06	1,41	-0,01	
2014	0,72	-0,01	0,51	0,00	0,17	0,00	1,41	0,00	
2015	0,70	-0,03	0,50	-0,02	0,17	0,00	1,37	-0,03	
2016	0,68	-0,03	0,50	0,00	0,18	0,06	1,36	-0,01	
2017	0,67	-0,01	0,49	-0,02	0,19	0,06	1,35	-0,01	
2018	0,63	-0,06	0,48	-0,02	0,18	-0,05	1,30	-0,04	
2019	0,63	0,00	0,46	-0,04	0,18	0,00	1,27	-0,02	
2020	0,62	-0,02	0,45	-0,02	0,18	0,00	1,25	-0,02	
2021	0,61	-0,02	0,46	0,02	0,18	0,00	1,24	-0,01	
2022	0,61	0,00	0,44	-0,04	0,17	-0,06	1,22	-0,02	

2023	-	-	-	-	-	-	1,17	-0,04	NA/E

- B



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

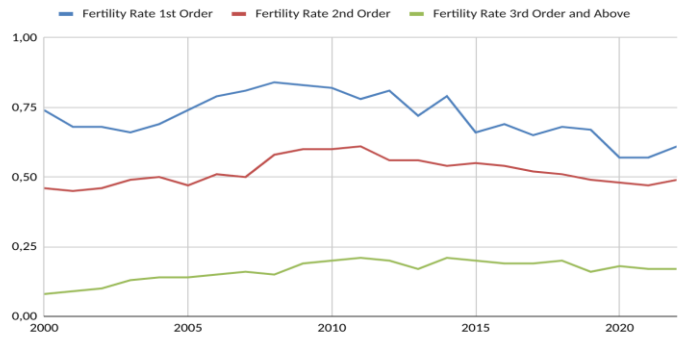
Graphic 2: Total Fertility Rates and Percentage Variation Respect the Previous Year in Aosta Valley 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,74		0,46		0,08		1,28		
2001	0,68	-0,08	0,45	-0,02	0,09	0,13	1,22	-0,047	
2002	0,68	0,00	0,46	0,02	0,10	0,11	1,25	0,025	
2003	0,66	-0,03	0,49	0,07	0,13	0,30	1,28	0,024	
2004	0,69	0,05	0,50	0,02	0,14	0,08	1,33	0,039	
2005	0,74	0,07	0,47	-0,06	0,14	0,00	1,34	0,008	
2006	0,79	0,07	0,51	0,09	0,15	0,07	1,44	0,075	
2007	0,81	0,03	0,50	-0,02	0,16	0,07	1,47	0,021	
2008	0,84	0,04	0,58	0,16	0,15	-0,06	1,57	0,068	
2009	0,83	-0,01	0,60	0,03	0,19	0,27	1,62	0,032	
2010	0,82	-0,01	0,60	0,00	0,20	0,05	1,62	0,000	
2011	0,78	-0,05	0,61	0,02	0,21	0,05	1,60	-0,012	
2012	0,81	0,04	0,56	-0,08	0,20	-0,05	1,57	-0,019	
2013	0,72	-0,11	0,56	0,00	0,17	-0,15	1,44	-0,083	
2014	0,79	0,10	0,54	-0,04	0,21	0,24	1,54	0,069	

2015	0,66	-0,16	0,55	0,02	0,20	-0,05	1,41	-0,084	
2016	0,69	0,05	0,54	-0,02	0,19	-0,05	1,42	0,007	
2017	0,65	-0,06	0,52	-0,04	0,19	0,00	1,35	-0,049	
2018	0,68	0,05	0,51	-0,02	0,20	0,05	1,39	0,030	
2019	0,67	-0,01	0,49	-0,04	0,16	-0,20	1,31	-0,058	
2020	0,57	-0,15	0,48	-0,02	0,18	0,13	1,23	-0,061	
2021	0,57	0,00	0,47	-0,02	0,17	-0,06	1,21	-0,016	
2022	0,61	0,07	0,49	0,04	0,17	0,00	1,27	0,050	
2023	-	-	-	-	-	-	1,16	-0,087	NA/E

- B



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

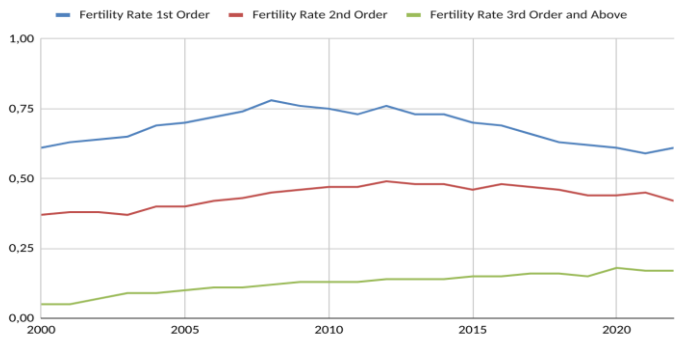
Graphic 3: Total Fertility Rates and Percentage Variation Respect the Previous Year in Liguria 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,61		0,37		0,05		1,03		
2001	0,63	0,03	0,38	0,03	0,05	0,00	1,06	0,03	
2002	0,64	0,02	0,38	0,00	0,07	0,40	1,09	0,03	
2003	0,65	0,02	0,37	-0,03	0,09	0,29	1,11	0,02	
2004	0,69	0,06	0,40	0,08	0,09	0,00	1,18	0,06	
2005	0,70	0,01	0,40	0,00	0,10	0,11	1,19	0,01	

2006	0,72	0,03	0,42	0,05	0,11	0,10	1,24	0,04	
2007	0,74	0,03	0,43	0,02	0,11	0,00	1,28	0,03	
2008	0,78	0,05	0,45	0,05	0,12	0,09	1,35	0,05	
2009	0,76	-0,03	0,46	0,02	0,13	0,08	1,36	0,01	
2010	0,75	-0,01	0,47	0,02	0,13	0,00	1,35	-0,01	
2011	0,73	-0,03	0,47	0,00	0,13	0,00	1,33	-0,01	
2012	0,76	0,04	0,49	0,04	0,14	0,08	1,38	0,04	
2013	0,73	-0,04	0,48	-0,02	0,14	0,00	1,35	-0,02	
2014	0,73	0,00	0,48	0,00	0,14	0,00	1,35	0,00	
2015	0,70	-0,04	0,46	-0,04	0,15	0,07	1,32	-0,02	
2016	0,69	-0,01	0,48	0,04	0,15	0,00	1,31	-0,01	
2017	0,66	-0,04	0,47	-0,02	0,16	0,07	1,29	-0,02	
2018	0,63	-0,05	0,46	-0,02	0,16	0,00	1,24	-0,04	
2019	0,62	-0,02	0,44	-0,04	0,15	-0,06	1,21	-0,02	
2020	0,61	-0,02	0,44	0,00	0,18	0,20	1,23	0,02	
2021	0,59	-0,03	0,45	0,02	0,17	-0,06	1,21	-0,02	
2022	0,61	0,03	0,42	-0,07	0,17	0,00	1,20	-0,01	
2023	-	-	-	-	-	-	1,16	-0,03	NA/E

- B



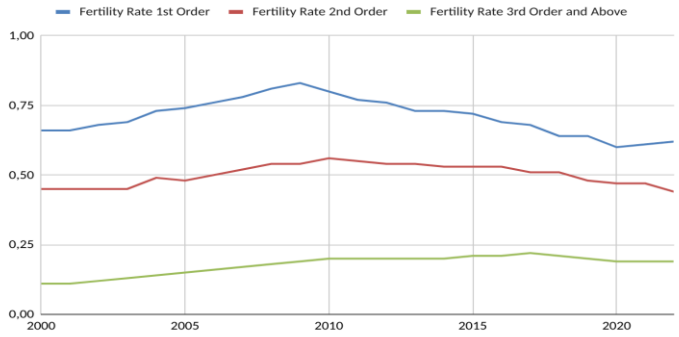
Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 4: Total Fertility Rates and Percentage Variation Respect the Previous Year in Lombardy 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,66		0,45		0,11		1,21		
2001	0,66	0,00	0,45	0,00	0,11	0,00	1,22	0,01	
2002	0,68	0,03	0,45	0,00	0,12	0,09	1,26	0,03	
2003	0,69	0,01	0,45	0,00	0,13	0,08	1,27	0,01	
2004	0,73	0,06	0,49	0,09	0,14	0,08	1,36	0,07	
2005	0,74	0,01	0,48	-0,02	0,15	0,07	1,37	0,01	
2006	0,76	0,03	0,50	0,04	0,16	0,07	1,43	0,04	
2007	0,78	0,03	0,52	0,04	0,17	0,06	1,47	0,03	
2008	0,81	0,04	0,54	0,04	0,18	0,06	1,53	0,04	
2009	0,83	0,02	0,54	0,00	0,19	0,06	1,56	0,02	
2010	0,80	-0,04	0,56	0,04	0,20	0,05	1,56	0,00	
2011	0,77	-0,04	0,55	-0,02	0,20	0,00	1,52	-0,03	
2012	0,76	-0,01	0,54	-0,02	0,20	0,00	1,51	-0,01	
2013	0,73	-0,04	0,54	0,00	0,20	0,00	1,47	-0,03	
2014	0,73	0,00	0,53	-0,02	0,20	0,00	1,46	-0,01	
2015	0,72	-0,01	0,53	0,00	0,21	0,05	1,45	-0,01	
2016	0,69	-0,04	0,53	0,00	0,21	0,00	1,43	-0,01	
2017	0,68	-0,01	0,51	-0,04	0,22	0,05	1,40	-0,02	
2018	0,64	-0,06	0,51	0,00	0,21	-0,05	1,36	-0,03	
2019	0,64	0,00	0,48	-0,06	0,20	-0,05	1,33	-0,02	
2020	0,60	-0,06	0,47	-0,02	0,19	-0,05	1,27	-0,05	
2021	0,61	0,02	0,47	0,00	0,19	0,00	1,27	0,00	
2022	0,62	0,02	0,44	-0,06	0,19	0,00	1,25	-0,02	
2023	-	-	-	-	-	-	1,21	-0,03	NA/E

- B



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

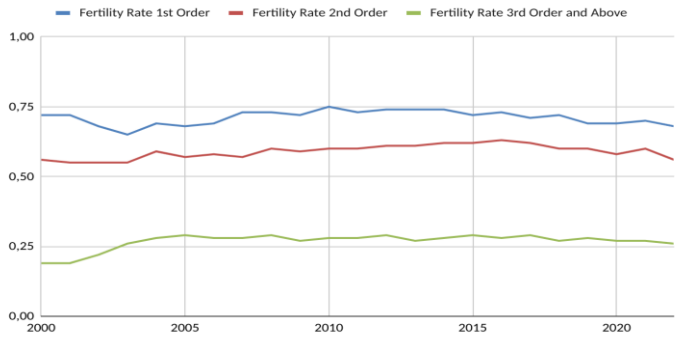
Graphic 5: Total Fertility Rates and Percentage Variation Respect the Previous Year in Trentino-South Tyrol 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,72		0,56		0,19		1,46		
2001	0,72	0,00	0,55	-0,02	0,19	0,00	1,46	0,00	
2002	0,68	-0,06	0,55	0,00	0,22	0,16	1,45	-0,01	
2003	0,65	-0,04	0,55	0,00	0,26	0,18	1,46	0,01	
2004	0,69	0,06	0,59	0,07	0,28	0,08	1,55	0,06	
2005	0,68	-0,01	0,57	-0,03	0,29	0,04	1,55	0,00	
2006	0,69	0,01	0,58	0,02	0,28	-0,03	1,54	-0,01	
2007	0,73	0,06	0,57	-0,02	0,28	0,00	1,57	0,02	
2008	0,73	0,00	0,60	0,05	0,29	0,04	1,61	0,03	
2009	0,72	-0,01	0,59	-0,02	0,27	-0,07	1,58	-0,02	
2010	0,75	0,04	0,60	0,02	0,28	0,04	1,63	0,03	
2011	0,73	-0,03	0,60	0,00	0,28	0,00	1,61	-0,01	
2012	0,74	0,01	0,61	0,02	0,29	0,04	1,64	0,02	
2013	0,74	0,00	0,61	0,00	0,27	-0,07	1,63	-0,01	
2014	0,74	0,00	0,62	0,02	0,28	0,04	1,65	0,01	
2015	0,72	-0,03	0,62	0,00	0,29	0,04	1,64	-0,01	
2016	0,73	0,01	0,63	0,02	0,28	-0,03	1,64	0,00	

2017	0,71	-0,03	0,62	-0,02	0,29	0,04	1,62	-0,01	
2018	0,72	0,01	0,60	-0,03	0,27	-0,07	1,59	-0,02	
2019	0,69	-0,04	0,60	0,00	0,28	0,04	1,57	-0,01	
2020	0,69	0,00	0,58	-0,03	0,27	-0,04	1,54	-0,02	
2021	0,70	0,01	0,60	0,03	0,27	0,00	1,57	0,02	
2022	0,68	-0,03	0,56	-0,07	0,26	-0,04	1,51	-0,04	
2023	-	-	-		-	-	1,42	-0,06	NA/E

- B



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 6: Total Fertility Rates and Percentage Variation Respect the Previous Year in the Autonomous Province of Bolzano 2003-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2003	0,61		0,56		0,35		1,52		
2004	0,62	0,02	0,59	0,05	0,35	0,00	1,56	0,03	
2005	0,62	0,00	0,60	0,02	0,37	0,06	1,60	0,03	
2006	0,64	0,03	0,59	-0,02	0,35	-0,05	1,58	-0,01	
2007	0,70	0,09	0,58	-0,02	0,34	-0,03	1,62	0,03	
2008	0,67	-0,04	0,60	0,03	0,34	0,00	1,61	-0,01	
2009	0,66	-0,01	0,59	-0,02	0,30	-0,12	1,56	-0,03	
2010	0,69	0,05	0,61	0,03	0,33	0,10	1,62	0,04	
2011	0,69	0,00	0,60	-0,02	0,32	-0,03	1,61	-0,01	

2012	0,73	0,06	0,61	0,02	0,33	0,03	1,67	0,04	
2013	0,72	-0,01	0,62	0,02	0,31	-0,06	1,65	-0,01	
2014	0,76	0,06	0,66	0,06	0,33	0,06	1,75	0,06	
2015	0,72	-0,05	0,67	0,02	0,33	0,00	1,71	-0,02	
2016	0,75	0,04	0,69	0,03	0,33	0,00	1,77	0,04	
2017	0,75	0,00	0,67	-0,03	0,33	0,00	1,75	-0,01	
2018	0,76	0,01	0,66	-0,01	0,31	-0,06	1,73	-0,01	
2019	0,73	-0,04	0,66	0,00	0,32	0,03	1,71	-0,01	
2020	0,73	0,00	0,66	0,00	0,32	0,00	1,71	0,00	
2021	0,74	0,01	0,65	-0,02	0,32	0,00	1,72	0,01	
2022	0,73	-0,01	0,62	-0,05	0,29	-0,09	1,64	-0,05	
2023	-	-	-	-	-	-	1,56	-0,05	NA/E

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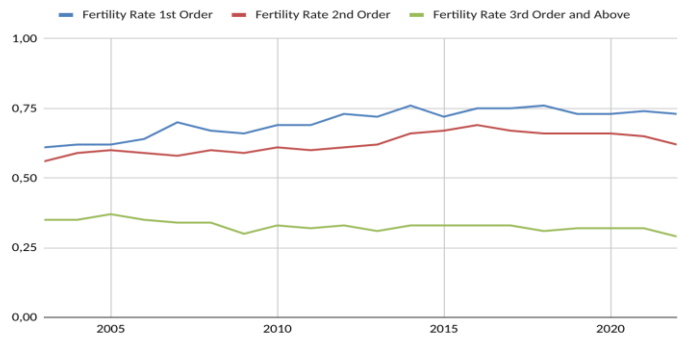

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 7: Total Fertility Rates and Percentage Variation Respect the Previous Year in the Autonomous Province of Trento 2003-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2003	0,69		0,54		0,18		1,41		
2004	0,75	0,09	0,59	0,09	0,21	0,17	1,55	0,10	
2005	0,74	-0,01	0,55	-0,07	0,21	0,00	1,49	-0,04	
2006	0,73	-0,01	0,57	0,04	0,22	0,05	1,51	0,01	
2007	0,76	0,04	0,56	-0,02	0,21	-0,05	1,52	0,01	

2008	0,78	0,03	0,59	0,05	0,23	0,10	1,60	0,05	
2009	0,78	0,00	0,59	0,00	0,23	0,00	1,60	0,00	
2010	0,82	0,05	0,60	0,02	0,23	0,00	1,65	0,03	
2011	0,76	-0,07	0,61	0,02	0,25	0,09	1,61	-0,02	
2012	0,75	-0,01	0,61	0,00	0,24	-0,04	1,60	-0,01	
2013	0,77	0,03	0,60	-0,02	0,24	0,00	1,60	0,00	
2014	0,73	-0,05	0,57	-0,05	0,24	0,00	1,54	-0,04	
2015	0,73	0,00	0,57	0,00	0,26	0,08	1,56	0,01	
2016	0,71	-0,03	0,57	0,00	0,24	-0,08	1,52	-0,03	
2017	0,68	-0,04	0,57	0,00	0,24	0,00	1,49	-0,02	
2018	0,67	-0,01	0,54	-0,05	0,23	-0,04	1,45	-0,03	
2019	0,66	-0,01	0,53	-0,02	0,23	0,00	1,42	-0,02	
2020	0,65	-0,02	0,51	-0,04	0,21	-0,09	1,36	-0,04	
2021	0,65	0,00	0,55	0,08	0,22	0,05	1,42	0,04	
2022	0,64	-0,02	0,50	-0,09	0,22	0,00	1,36	-0,04	
2023	-	-	-	-	-	-	1,28	-0,06	NA/E

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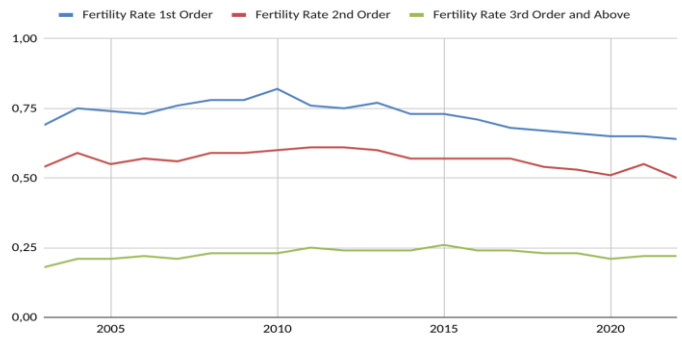

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 8: Total Fertility Rates and Percentage Variation Respect the Previous Year in Veneto 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,66		0,44		0,12		1,22		
2001	0,65	-0,02	0,43	-0,02	0,12	0,00	1,20	-0,02	
2002	0,67	0,03	0,44	0,02	0,13	0,08	1,24	0,03	
2003	0,67	0,00	0,45	0,02	0,14	0,08	1,26	0,02	
2004	0,71	0,06	0,50	0,11	0,15	0,07	1,36	0,08	
2005	0,72	0,01	0,49	-0,02	0,15	0,00	1,36	0,00	
2006	0,74	0,03	0,51	0,04	0,16	0,07	1,40	0,03	
2007	0,75	0,01	0,52	0,02	0,17	0,06	1,44	0,03	
2008	0,77	0,03	0,54	0,04	0,18	0,06	1,49	0,03	
2009	0,77	0,00	0,53	-0,02	0,18	0,00	1,48	-0,01	
2010	0,75	-0,03	0,54	0,02	0,19	0,06	1,49	0,01	
2011	0,74	-0,01	0,54	0,00	0,19	0,00	1,47	-0,01	
2012	0,75	0,01	0,54	0,00	0,19	0,00	1,48	0,01	
2013	0,71	-0,05	0,52	-0,04	0,19	0,00	1,43	-0,03	
2014	0,70	-0,01	0,52	0,00	0,20	0,05	1,42	-0,01	
2015	0,68	-0,03	0,52	0,00	0,20	0,00	1,39	-0,02	
2016	0,67	-0,01	0,52	0,00	0,20	0,00	1,39	0,00	
2017	0,65	-0,03	0,51	-0,02	0,20	0,00	1,37	-0,01	
2018	0,64	-0,02	0,50	-0,02	0,21	0,05	1,34	-0,02	
2019	0,63	-0,02	0,48	-0,04	0,19	-0,10	1,29	-0,04	
2020	0,61	-0,03	0,48	0,00	0,19	0,00	1,28	-0,01	
2021	0,61	0,00	0,49	0,02	0,19	0,00	1,30	0,02	
2022	0,62	0,02	0,47	-0,04	0,18	-0,05	1,26	-0,03	
2023	-	-	-	-	-	-	1,21	-0,04	NA/E

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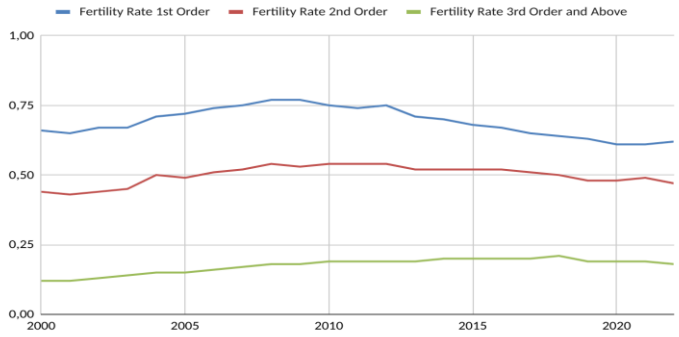

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 9: Total Fertility Rates and Percentage Variation Respect the Previous Year in Friuli-Venezia Giulia 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,62		0,41		0,08		1,10		
2001	0,61	-0,02	0,41	0,00	0,08	0,00	1,10	0,00	
2002	0,66	0,08	0,38	-0,07	0,08	0,00	1,12	0,02	
2003	0,71	0,08	0,36	-0,05	0,09	0,13	1,16	0,04	
2004	0,68	-0,04	0,43	0,19	0,10	0,11	1,21	0,04	
2005	0,69	0,01	0,44	0,02	0,11	0,10	1,24	0,02	
2006	0,71	0,03	0,46	0,05	0,12	0,09	1,29	0,04	
2007	0,75	0,06	0,46	0,00	0,13	0,08	1,35	0,05	
2008	0,75	0,00	0,48	0,04	0,14	0,08	1,36	0,01	
2009	0,75	0,00	0,48	0,00	0,15	0,07	1,38	0,01	
2010	0,73	-0,03	0,51	0,06	0,15	0,00	1,40	0,01	
2011	0,74	0,01	0,50	-0,02	0,15	0,00	1,39	-0,01	
2012	0,76	0,03	0,50	0,00	0,15	0,00	1,41	0,01	
2013	0,71	-0,07	0,51	0,02	0,16	0,07	1,38	-0,02	
2014	0,72	0,01	0,51	0,00	0,15	-0,06	1,39	0,01	
2015	0,68	-0,06	0,48	-0,06	0,16	0,07	1,33	-0,04	
2016	0,67	-0,01	0,50	0,04	0,17	0,06	1,34	0,01	

2017	0,66	-0,01	0,48	-0,04	0,17	0,00	1,32	-0,01	
2018	0,62	-0,06	0,49	0,02	0,18	0,06	1,28	-0,03	
2019	0,62	0,00	0,47	-0,04	0,17	-0,06	1,25	-0,02	
2020	0,62	0,00	0,46	-0,02	0,18	0,06	1,26	0,01	
2021	0,63	0,02	0,45	-0,02	0,17	-0,06	1,25	-0,01	
2022	0,63	0,00	0,45	0,00	0,17	0,00	1,26	0,01	
2023	-	-	-	-	-	-	1,21	-0,04	NA/E

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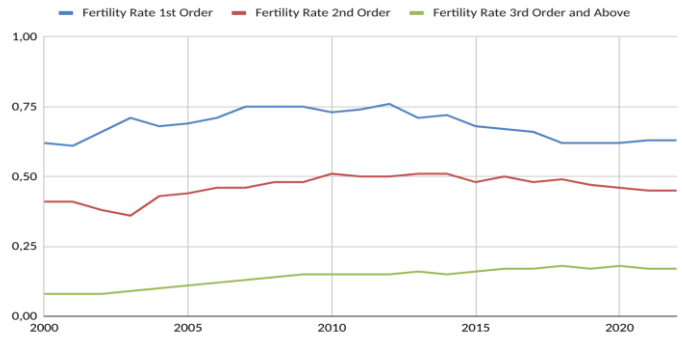

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 10: Total Fertility Rates and Percentage Variation Respect the Previous Year in Emilia-Romagna 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,71		0,36		0,09		1,17		
2001	0,73	0,03	0,36	0,00	0,10	0,11	1,19	0,02	
2002	0,72	-0,01	0,40	0,11	0,12	0,20	1,24	0,04	
2003	0,68	-0,06	0,42	0,05	0,14	0,17	1,24	0,00	
2004	0,72	0,06	0,46	0,10	0,14	0,00	1,33	0,07	
2005	0,75	0,04	0,46	0,00	0,15	0,07	1,35	0,02	
2006	0,77	0,03	0,48	0,04	0,15	0,00	1,40	0,04	
2007	0,79	0,03	0,50	0,04	0,16	0,07	1,45	0,04	
2008	0,81	0,03	0,52	0,04	0,17	0,06	1,50	0,03	

2009	0,82	0,01	0,52	0,00	0,18	0,06	1,52	0,01	
2010	0,80	-0,02	0,53	0,02	0,19	0,06	1,52	0,00	
2011	0,77	-0,04	0,54	0,02	0,19	0,00	1,49	-0,02	
2012	0,76	-0,01	0,53	-0,02	0,19	0,00	1,48	-0,01	
2013	0,74	-0,03	0,52	-0,02	0,19	0,00	1,46	-0,01	
2014	0,72	-0,03	0,51	-0,02	0,20	0,05	1,43	-0,02	
2015	0,70	-0,03	0,52	0,02	0,21	0,05	1,43	0,00	
2016	0,69	-0,01	0,51	-0,02	0,21	0,00	1,40	-0,02	
2017	0,65	-0,06	0,50	-0,02	0,21	0,00	1,36	-0,03	
2018	0,64	-0,02	0,49	-0,02	0,21	0,00	1,35	-0,01	
2019	0,63	-0,02	0,48	-0,02	0,20	-0,05	1,30	-0,04	
2020	0,61	-0,03	0,46	-0,04	0,19	-0,05	1,26	-0,03	
2021	0,61	0,00	0,47	0,02	0,20	0,05	1,27	0,01	
2022	0,63	0,03	0,46	-0,02	0,18	-0,10	1,27	0,00	
2023	-	-	-	-	-	-	1,22	-0,04	NA/E

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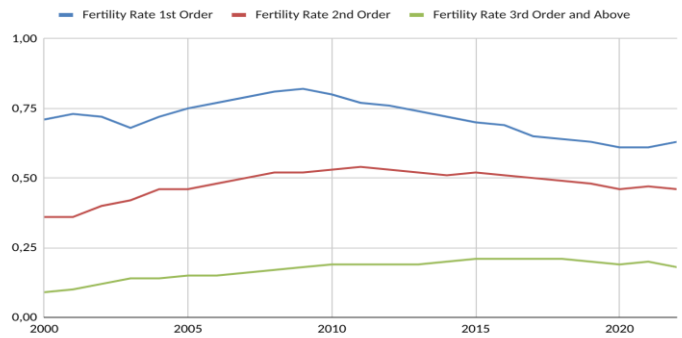

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 11: Total Fertility Rates and Percentage Variation Respect the Previous Year in Tuscany 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,67		0,38		0,08		1,12		
2001	0,67	0,00	0,38	0,00	0,08	0,00	1,13	0,01	
2002	0,68	0,01	0,40	0,05	0,10	0,25	1,18	0,04	
2003	0,64	-0,06	0,40	0,00	0,12	0,20	1,16	-0,02	
2004	0,72	0,13	0,44	0,10	0,12	0,00	1,28	0,10	
2005	0,72	0,00	0,44	0,00	0,12	0,00	1,28	0,00	
2006	0,73	0,01	0,45	0,02	0,13	0,08	1,30	0,02	
2007	0,75	0,03	0,46	0,02	0,14	0,08	1,34	0,03	
2008	0,78	0,04	0,49	0,07	0,14	0,00	1,41	0,05	
2009	0,75	-0,04	0,48	-0,02	0,14	0,00	1,37	-0,03	
2010	0,76	0,01	0,48	0,00	0,15	0,07	1,40	0,02	
2011	0,75	-0,01	0,48	0,00	0,15	0,00	1,38	-0,01	
2012	0,74	-0,01	0,49	0,02	0,15	0,00	1,39	0,01	
2013	0,71	-0,04	0,48	-0,02	0,15	0,00	1,34	-0,04	
2014	0,71	0,00	0,48	0,00	0,16	0,07	1,36	0,01	
2015	0,68	-0,04	0,47	-0,02	0,16	0,00	1,31	-0,04	
2016	0,67	-0,01	0,48	0,02	0,16	0,00	1,31	0,00	
2017	0,64	-0,04	0,48	0,00	0,17	0,06	1,29	-0,02	
2018	0,63	-0,02	0,46	-0,04	0,16	-0,06	1,26	-0,02	
2019	0,61	-0,03	0,44	-0,04	0,15	-0,06	1,21	-0,04	
2020	0,59	-0,03	0,43	-0,02	0,14	-0,07	1,16	-0,04	
2021	0,60	0,02	0,44	0,02	0,15	0,07	1,20	0,03	
2022	0,61	0,02	0,41	-0,07	0,14	-0,07	1,16	-0,03	
2023	-	-	-		-	-	1,12	-0,03	NA/E

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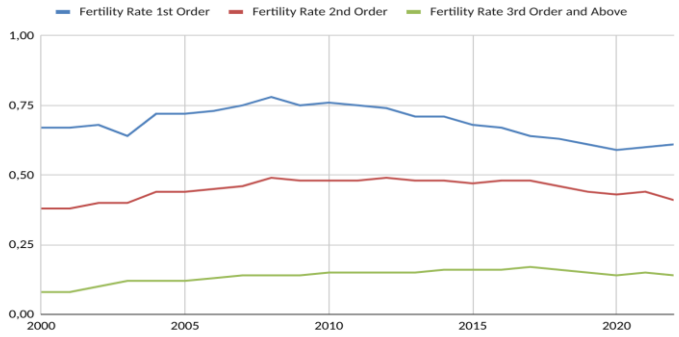

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 12: Total Fertility Rates and Percentage Variation Respect the Previous Year in Umbria 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,66		0,41		0,10		1,17		
2001	0,66	0,00	0,41	0,00	0,10	0,00	1,17	0,00	
2002	0,68	0,03	0,42	0,02	0,13	0,30	1,24	0,06	
2003	0,65	-0,04	0,42	0,00	0,16	0,23	1,23	-0,01	
2004	0,73	0,12	0,45	0,07	0,14	-0,13	1,31	0,07	
2005	0,73	0,00	0,47	0,04	0,14	0,00	1,34	0,02	
2006	0,75	0,03	0,47	0,00	0,14	0,00	1,36	0,01	
2007	0,76	0,01	0,50	0,06	0,15	0,07	1,40	0,03	
2008	0,79	0,04	0,50	0,00	0,15	0,00	1,44	0,03	
2009	0,74	-0,06	0,49	-0,02	0,15	0,00	1,38	-0,04	
2010	0,75	0,01	0,50	0,02	0,16	0,07	1,41	0,02	
2011	0,74	-0,01	0,50	0,00	0,15	-0,06	1,39	-0,01	
2012	0,73	-0,01	0,50	0,00	0,16	0,07	1,39	0,00	
2013	0,72	-0,01	0,49	-0,02	0,17	0,06	1,38	-0,01	
2014	0,70	-0,03	0,48	-0,02	0,16	-0,06	1,34	-0,03	
2015	0,66	-0,06	0,47	-0,02	0,15	-0,06	1,29	-0,04	
2016	0,66	0,00	0,47	0,00	0,15	0,00	1,28	-0,01	

2017	0,64	-0,03	0,47	0,00	0,16	0,07	1,26	-0,02	
2018	0,61	-0,05	0,45	-0,04	0,16	0,00	1,22	-0,03	
2019	0,60	-0,02	0,45	0,00	0,15	-0,06	1,20	-0,02	
2020	0,58	-0,03	0,44	-0,02	0,14	-0,07	1,16	-0,03	
2021	0,60	0,03	0,43	-0,02	0,15	0,07	1,18	0,02	
2022	0,59	-0,02	0,40	-0,07	0,14	-0,07	1,13	-0,04	
2023	-	-	-	-	-	-	1,10	-0,03	NA/E

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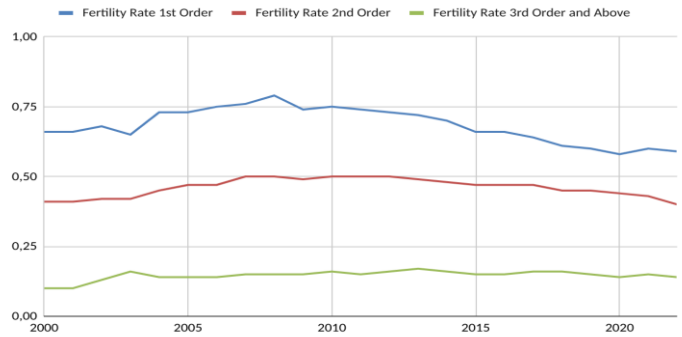

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 34: Total Fertility Rates and Percentage Variation Respect the Previous Year in Marche 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,65		0,44		0,10		1,18		
2001	0,63	-0,03	0,43	-0,02	0,10	0,00	1,15	-0,03	
2002	0,66	0,05	0,45	0,05	0,12	0,20	1,22	0,06	
2003	0,64	-0,03	0,45	0,00	0,13	0,08	1,22	0,00	
2004	0,67	0,05	0,46	0,02	0,13	0,00	1,27	0,04	
2005	0,69	0,03	0,46	0,00	0,13	0,00	1,28	0,01	
2006	0,71	0,03	0,47	0,02	0,14	0,08	1,32	0,03	
2007	0,70	-0,01	0,51	0,09	0,15	0,07	1,36	0,03	
2008	0,73	0,04	0,52	0,02	0,17	0,13	1,42	0,04	

2009	0,75	0,03	0,51	-0,02	0,17	0,00	1,43	0,01	
2010	0,73	-0,03	0,51	0,00	0,17	0,00	1,41	-0,01	
2011	0,73	0,00	0,52	0,02	0,18	0,06	1,42	0,01	
2012	0,71	-0,03	0,51	-0,02	0,16	-0,11	1,38	-0,03	
2013	0,68	-0,04	0,49	-0,04	0,17	0,06	1,35	-0,02	
2014	0,68	0,00	0,50	0,02	0,17	0,00	1,35	0,00	
2015	0,65	-0,04	0,51	0,02	0,17	0,00	1,34	-0,01	
2016	0,65	0,00	0,50	-0,02	0,18	0,06	1,32	-0,01	
2017	0,61	-0,06	0,47	-0,06	0,17	-0,06	1,26	-0,05	
2018	0,58	-0,05	0,46	-0,02	0,18	0,06	1,23	-0,02	
2019	0,58	0,00	0,45	-0,02	0,17	-0,06	1,19	-0,03	
2020	0,58	0,00	0,45	0,00	0,16	-0,06	1,19	0,00	
2021	0,58	0,00	0,46	0,02	0,16	0,00	1,20	0,01	
2022	0,59	0,02	0,41	-0,11	0,16	0,00	1,16	-0,03	
2023	-	-	-	-	-	-	1,17	0,01	NA/E

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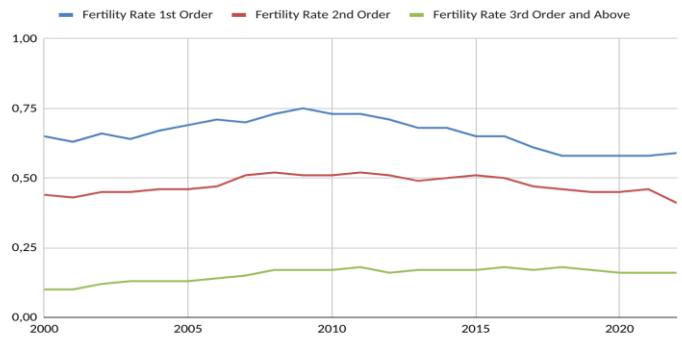

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 14: Total Fertility Rates and Percentage Variation Respect the Previous Year in Lazio 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,63		0,46		0,11		1,20		
2001	0,60	-0,05	0,46	0,00	0,11	0,00	1,17	-0,03	
2002	0,63	0,05	0,45	-0,02	0,12	0,09	1,20	0,03	
2003	0,67	0,06	0,46	0,02	0,13	0,08	1,26	0,05	
2004	0,69	0,03	0,48	0,04	0,13	0,00	1,30	0,03	
2005	0,69	0,00	0,46	-0,04	0,13	0,00	1,28	-0,02	
2006	0,73	0,06	0,48	0,04	0,14	0,08	1,34	0,05	
2007	0,72	-0,01	0,49	0,02	0,14	0,00	1,35	0,01	
2008	0,79	0,10	0,52	0,06	0,15	0,07	1,46	0,08	
2009	0,78	-0,01	0,50	-0,04	0,15	0,00	1,43	-0,02	
2010	0,77	-0,01	0,52	0,04	0,15	0,00	1,44	0,01	
2011	0,78	0,01	0,52	0,00	0,16	0,07	1,46	0,01	
2012	0,77	-0,01	0,51	-0,02	0,15	-0,06	1,44	-0,01	
2013	0,76	-0,01	0,51	0,00	0,16	0,07	1,43	-0,01	
2014	0,78	0,03	0,47	-0,08	0,14	-0,13	1,40	-0,02	
2015	0,70	-0,10	0,51	0,09	0,15	0,07	1,36	-0,03	
2016	0,82	0,17	0,41	-0,20	0,13	-0,13	1,36	0,00	
2017	0,66	-0,20	0,48	0,17	0,16	0,23	1,30	-0,04	
2018	0,63	-0,05	0,47	-0,02	0,15	-0,06	1,25	-0,04	
2019	0,61	-0,03	0,43	-0,09	0,14	-0,07	1,18	-0,06	
2020	0,61	0,00	0,43	0,00	0,14	0,00	1,18	0,00	
2021	0,59	-0,03	0,45	0,05	0,14	0,00	1,18	0,00	
2022	0,60	0,02	0,42	-0,07	0,14	0,00	1,16	-0,02	
2023	-	-	-	-	-	-	1,11	-0,04	NA/E

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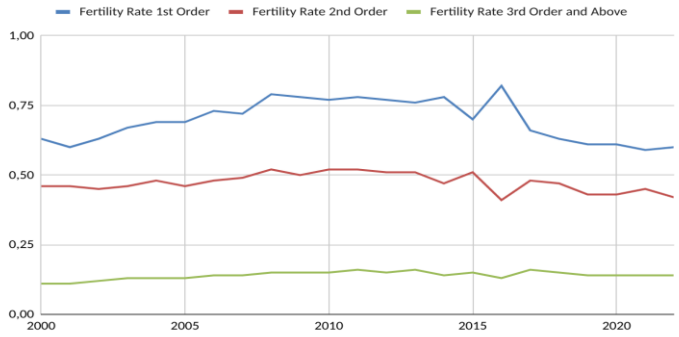

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 15: Total Fertility Rates and Percentage Variation Respect the Previous Year in Abruzzo 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,57		0,46		0,13		1,16		
2001	0,57	0,00	0,47	0,02	0,13	0,00	1,17	0,01	
2002	0,56	-0,02	0,45	-0,04	0,13	0,00	1,14	-0,03	
2003	0,58	0,04	0,46	0,02	0,14	0,08	1,19	0,04	
2004	0,61	0,05	0,45	-0,02	0,14	0,00	1,20	0,01	
2005	0,62	0,02	0,46	0,02	0,14	0,00	1,22	0,02	
2006	0,62	0,00	0,46	0,00	0,15	0,07	1,22	0,00	
2007	0,66	0,06	0,47	0,02	0,14	-0,07	1,27	0,04	
2008	0,67	0,02	0,48	0,02	0,15	0,07	1,31	0,03	
2009	0,68	0,01	0,47	-0,02	0,15	0,00	1,29	-0,02	
2010	0,68	0,00	0,49	0,04	0,16	0,07	1,34	0,04	
2011	0,68	0,00	0,49	0,00	0,15	-0,06	1,32	-0,01	
2012	0,67	-0,01	0,49	0,00	0,16	0,07	1,33	0,01	
2013	0,66	-0,01	0,48	-0,02	0,16	0,00	1,30	-0,02	
2014	0,66	0,00	0,48	0,00	0,15	-0,06	1,30	0,00	
2015	0,65	-0,02	0,48	0,00	0,16	0,07	1,29	-0,01	
2016	0,64	-0,02	0,49	0,02	0,16	0,00	1,29	0,00	

2017	0,61	-0,05	0,48	-0,02	0,16	0,00	1,25	-0,03	
2018	0,59	-0,03	0,46	-0,04	0,15	-0,06	1,20	-0,04	
2019	0,59	0,00	0,43	-0,07	0,15	0,00	1,17	-0,03	
2020	0,57	-0,03	0,45	0,05	0,15	0,00	1,17	0,00	
2021	0,58	0,02	0,46	0,02	0,16	0,07	1,20	0,03	
2022	0,60	0,03	0,43	-0,07	0,16	0,00	1,18	-0,02	
2023	-		-		-		1,13	-0,04	NA/E

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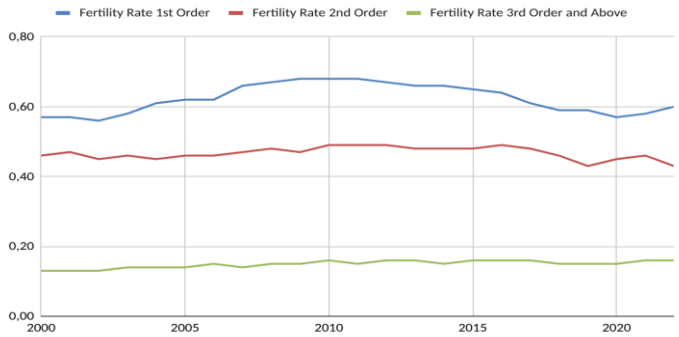

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 16: Total Fertility Rates and Percentage Variation Respect the Previous Year in Molise 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,55		0,46		0,14		1,15		
2001	0,52	-0,05	0,46	0,00	0,14	0,00	1,12	-0,03	
2002	0,53	0,02	0,47	0,02	0,15	0,07	1,15	0,03	
2003	0,53	0,00	0,46	-0,02	0,17	0,13	1,16	0,01	
2004	0,52	-0,02	0,45	-0,02	0,18	0,06	1,14	-0,02	
2005	0,56	0,08	0,42	-0,07	0,17	-0,06	1,15	0,01	
2006	0,54	-0,04	0,43	0,02	0,17	0,00	1,14	-0,01	
2007	0,61	0,13	0,43	0,00	0,14	-0,18	1,18	0,04	
2008	0,60	-0,02	0,45	0,05	0,14	0,00	1,19	0,01	

2009	0,58	-0,03	0,42	-0,07	0,13	-0,07	1,13	-0,05	
2010	0,63	0,09	0,46	0,10	0,15	0,15	1,23	0,09	
2011	0,60	-0,05	0,47	0,02	0,13	-0,13	1,19	-0,03	
2012	0,62	0,03	0,45	-0,04	0,12	-0,08	1,19	0,00	
2013	0,58	-0,06	0,45	0,00	0,14	0,17	1,18	-0,01	
2014	0,60	0,03	0,45	0,00	0,13	-0,07	1,18	0,00	
2015	0,62	0,03	0,43	-0,04	0,13	0,00	1,18	0,00	
2016	0,59	-0,05	0,44	0,02	0,14	0,08	1,16	-0,02	
2017	0,61	0,03	0,45	0,02	0,14	0,00	1,20	0,03	
2018	0,55	-0,10	0,42	-0,07	0,14	0,00	1,11	-0,07	
2019	0,56	0,02	0,47	0,12	0,12	-0,14	1,15	0,04	
2020	0,51	-0,09	0,41	-0,13	0,14	0,17	1,06	-0,08	
2021	0,55	0,08	0,39	-0,05	0,14	0,00	1,08	0,02	
2022	0,55	0,00	0,41	0,05	0,13	-0,07	1,10	0,02	
2023	-	-	-	-	-	-	1,10	0,00	NA/E

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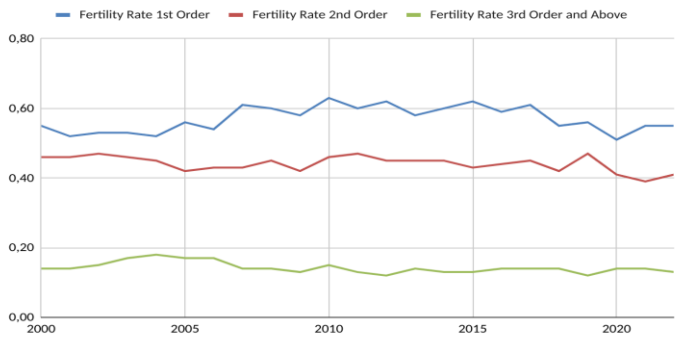

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 17: Total Fertility Rates and Percentage Variation Respect the Previous Year in Campania 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,68		0,57		0,23		1,48		
2001	0,67	-0,01	0,57	0,00	0,24	0,04	1,49	0,01	
2002	0,64	-0,04	0,57	0,00	0,26	0,08	1,47	-0,01	
2003	0,62	-0,03	0,58	0,02	0,28	0,08	1,48	0,01	
2004	0,63	0,02	0,59	0,02	0,27	-0,04	1,49	0,01	
2005	0,63	0,00	0,56	-0,05	0,25	-0,07	1,45	-0,03	
2006	0,63	0,00	0,57	0,02	0,25	0,00	1,46	0,01	
2007	0,63	0,00	0,58	0,02	0,25	0,00	1,47	0,01	
2008	0,65	0,03	0,57	-0,02	0,24	-0,04	1,46	-0,01	
2009	0,66	0,02	0,56	-0,02	0,23	-0,04	1,45	-0,01	
2010	0,64	-0,03	0,55	-0,02	0,24	0,04	1,44	-0,01	
2011	0,66	0,03	0,52	-0,05	0,24	0,00	1,41	-0,02	
2012	0,67	0,02	0,49	-0,06	0,23	-0,04	1,39	-0,01	
2013	0,65	-0,03	0,48	-0,02	0,23	0,00	1,36	-0,02	
2014	0,61	-0,06	0,50	0,04	0,23	0,00	1,34	-0,01	
2015	0,58	-0,05	0,53	0,06	0,24	0,04	1,35	0,01	
2016	0,59	0,02	0,54	0,02	0,23	-0,04	1,35	0,00	
2017	0,60	0,02	0,53	-0,02	0,23	0,00	1,36	0,01	
2018	0,58	-0,03	0,52	-0,02	0,22	-0,04	1,33	-0,02	
2019	0,59	0,02	0,51	-0,02	0,21	-0,05	1,31	-0,02	
2020	0,58	-0,02	0,51	0,00	0,21	0,00	1,30	-0,01	
2021	0,55	-0,05	0,52	0,02	0,21	0,00	1,28	-0,02	
2022	0,63	0,15	0,50	-0,04	0,20	-0,05	1,33	0,04	
2023	-	-	-	-	-	-	1,29	-0,03	NA/E

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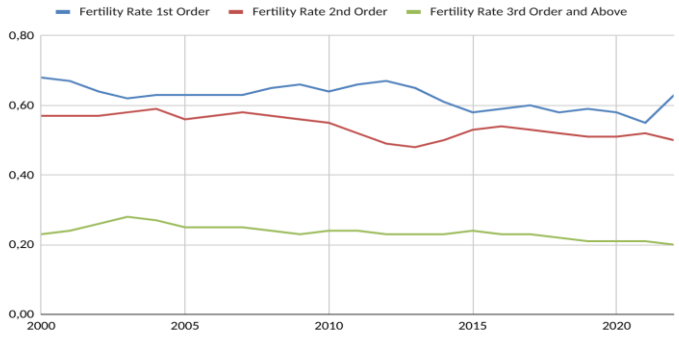

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 18: Total Fertility Rates and Percentage Variation Respect the Previous Year in Apulia 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,64		0,54		0,17		1,35		
2001	0,63	-0,02	0,54	0,00	0,17	0,00	1,34	-0,01	
2002	0,60	-0,05	0,52	-0,04	0,18	0,06	1,30	-0,03	
2003	0,60	0,00	0,51	-0,02	0,20	0,11	1,30	0,00	
2004	0,63	0,05	0,52	0,02	0,19	-0,05	1,34	0,03	
2005	0,59	-0,06	0,51	-0,02	0,19	0,00	1,29	-0,04	
2006	0,58	-0,02	0,51	0,00	0,19	0,00	1,28	-0,01	
2007	0,60	0,03	0,52	0,02	0,19	0,00	1,31	0,02	
2008	0,62	0,03	0,53	0,02	0,19	0,00	1,33	0,02	
2009	0,63	0,02	0,53	0,00	0,18	-0,05	1,34	0,01	
2010	0,63	0,00	0,52	-0,02	0,18	0,00	1,33	-0,01	
2011	0,63	0,00	0,51	-0,02	0,17	-0,06	1,31	-0,02	
2012	0,63	0,00	0,50	-0,02	0,17	0,00	1,30	-0,01	
2013	0,62	-0,02	0,49	-0,02	0,17	0,00	1,28	-0,02	
2014	0,61	-0,02	0,51	0,04	0,17	0,00	1,29	0,01	
2015	0,59	-0,03	0,50	-0,02	0,17	0,00	1,26	-0,02	
2016	0,60	0,02	0,50	0,00	0,17	0,00	1,27	0,01	

2017	0,58	-0,03	0,50	0,00	0,18	0,06	1,25	-0,02	
2018	0,56	-0,03	0,50	0,00	0,17	-0,06	1,23	-0,02	
2019	0,57	0,02	0,47	-0,06	0,16	-0,06	1,20	-0,02	
2020	0,56	-0,02	0,46	-0,02	0,16	0,00	1,18	-0,02	
2021	0,56	0,00	0,48	0,04	0,16	0,00	1,20	0,02	
2022	0,60	0,07	0,46	-0,04	0,16	0,00	1,22	0,02	
2023	-		-		-		1,20	-0,02	NA/E

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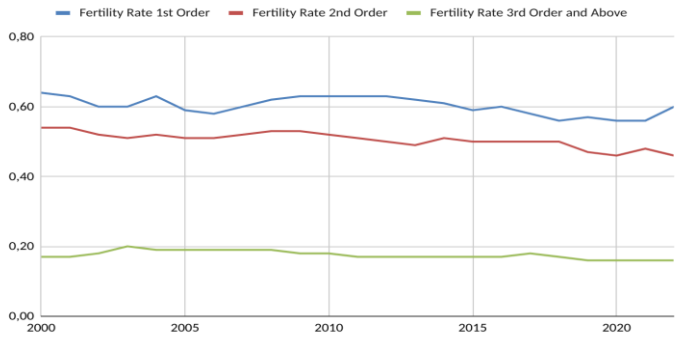

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 19: Total Fertility Rates and Percentage Variation Respect the Previous Year in Basilicata 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,54		0,51		0,19		1,25		
2001	0,51	-0,06	0,50	-0,02	0,20	0,05	1,21	-0,03	
2002	0,55	0,08	0,50	0,00	0,19	-0,05	1,24	0,02	
2003	0,56	0,02	0,48	-0,04	0,17	-0,11	1,21	-0,02	
2004	0,56	0,00	0,50	0,04	0,17	0,00	1,23	0,02	
2005	0,55	-0,02	0,46	-0,08	0,15	-0,12	1,16	-0,06	
2006	0,56	0,02	0,47	0,02	0,17	0,13	1,20	0,03	
2007	0,57	0,02	0,47	0,00	0,15	-0,12	1,20	0,00	
2008	0,58	0,02	0,47	0,00	0,17	0,13	1,23	0,03	

2009	0,59	0,02	0,45	-0,04	0,16	-0,06	1,20	-0,02	
2010	0,59	0,00	0,46	0,02	0,15	-0,06	1,20	0,00	
2011	0,59	0,00	0,45	-0,02	0,15	0,00	1,19	-0,01	
2012	0,58	-0,02	0,48	0,07	0,15	0,00	1,22	0,03	
2013	0,56	-0,03	0,42	-0,13	0,14	-0,07	1,13	-0,07	
2014	0,56	0,00	0,45	0,07	0,15	0,07	1,16	0,03	
2015	0,58	0,04	0,46	0,02	0,14	-0,07	1,18	0,02	
2016	0,57	-0,02	0,46	0,00	0,15	0,07	1,18	0,00	
2017	0,59	0,04	0,45	-0,02	0,16	0,07	1,20	0,02	
2018	0,56	-0,05	0,44	-0,02	0,14	-0,13	1,14	-0,05	
2019	0,57	0,02	0,44	0,00	0,14	0,00	1,15	0,01	
2020	0,57	0,00	0,42	-0,05	0,14	0,00	1,14	-0,01	
2021	0,51	-0,11	0,45	0,07	0,15	0,07	1,11	-0,03	
2022	0,55	0,08	0,42	-0,07	0,12	-0,20	1,10	-0,01	
2023	-	-	-	-	-	-	1,08	-0,02	NA/E

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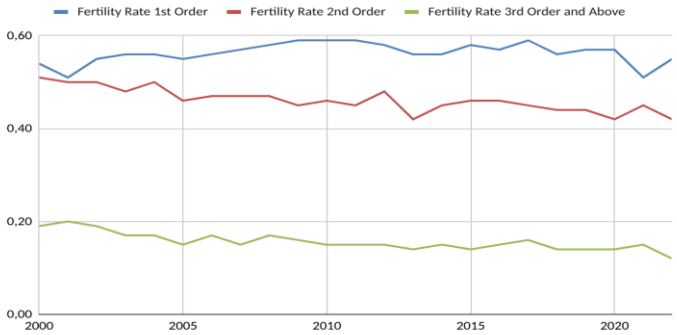


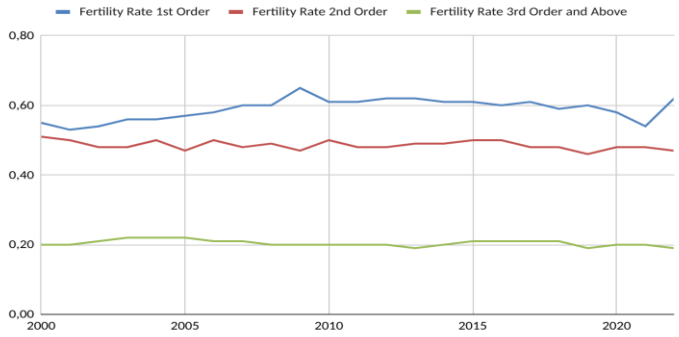
Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Graphic 20: Total Fertility Rates and Percentage Variation Respect the Previous Year in Calabria 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,55		0,51		0,20		1,26		
2001	0,53	-0,04	0,50	-0,02	0,20	0,00	1,24	-0,02	
2002	0,54	0,02	0,48	-0,04	0,21	0,05	1,23	-0,01	
2003	0,56	0,04	0,48	0,00	0,22	0,05	1,27	0,03	
2004	0,56	0,00	0,50	0,04	0,22	0,00	1,27	0,00	
2005	0,57	0,02	0,47	-0,06	0,22	0,00	1,26	-0,01	
2006	0,58	0,02	0,50	0,06	0,21	-0,05	1,29	0,02	
2007	0,60	0,03	0,48	-0,04	0,21	0,00	1,29	0,00	
2008	0,60	0,00	0,49	0,02	0,20	-0,05	1,29	0,00	
2009	0,65	0,08	0,47	-0,04	0,20	0,00	1,31	0,02	
2010	0,61	-0,06	0,50	0,06	0,20	0,00	1,32	0,01	
2011	0,61	0,00	0,48	-0,04	0,20	0,00	1,29	-0,02	
2012	0,62	0,02	0,48	0,00	0,20	0,00	1,30	0,01	
2013	0,62	0,00	0,49	0,02	0,19	-0,05	1,29	-0,01	
2014	0,61	-0,02	0,49	0,00	0,20	0,05	1,30	0,01	
2015	0,61	0,00	0,50	0,02	0,21	0,05	1,31	0,01	
2016	0,60	-0,02	0,50	0,00	0,21	0,00	1,31	0,00	
2017	0,61	0,02	0,48	-0,04	0,21	0,00	1,30	-0,01	
2018	0,59	-0,03	0,48	0,00	0,21	0,00	1,29	-0,01	
2019	0,60	0,02	0,46	-0,04	0,19	-0,10	1,26	-0,02	
2020	0,58	-0,03	0,48	0,04	0,20	0,05	1,26	0,00	
2021	0,54	-0,07	0,48	0,00	0,20	0,00	1,23	-0,02	
2022	0,62	0,15	0,47	-0,02	0,19	-0,05	1,28	0,04	
2023	-		-		-		1,28	0,00	NA/E

- B



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

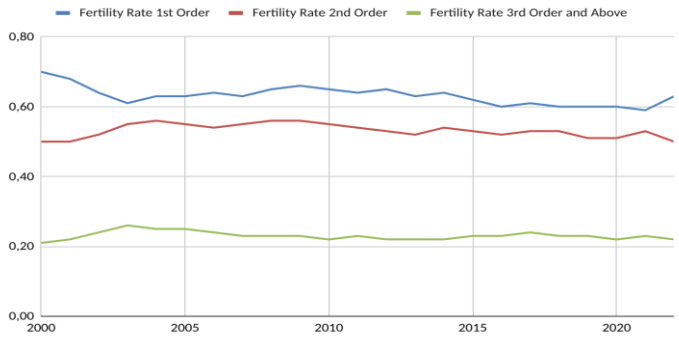
Graphic 21: Total Fertility Rates and Percentage Variation Respect the Previous Year in Sicily 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,70		0,50		0,21		1,41		
2001	0,68	-0,03	0,50	0,00	0,22	0,05	1,40	-0,01	
2002	0,64	-0,06	0,52	0,04	0,24	0,09	1,40	0,00	
2003	0,61	-0,05	0,55	0,06	0,26	0,08	1,43	0,02	
2004	0,63	0,03	0,56	0,02	0,25	-0,04	1,44	0,01	
2005	0,63	0,00	0,55	-0,02	0,25	0,00	1,43	-0,01	
2006	0,64	0,02	0,54	-0,02	0,24	-0,04	1,42	-0,01	
2007	0,63	-0,02	0,55	0,02	0,23	-0,04	1,41	-0,01	
2008	0,65	0,03	0,56	0,02	0,23	0,00	1,44	0,02	
2009	0,66	0,02	0,56	0,00	0,23	0,00	1,44	0,00	
2010	0,65	-0,02	0,55	-0,02	0,22	-0,04	1,42	-0,01	
2011	0,64	-0,02	0,54	-0,02	0,23	0,05	1,41	-0,01	
2012	0,65	0,02	0,53	-0,02	0,22	-0,04	1,40	-0,01	
2013	0,63	-0,03	0,52	-0,02	0,22	0,00	1,37	-0,02	
2014	0,64	0,02	0,54	0,04	0,22	0,00	1,40	0,02	
2015	0,62	-0,03	0,53	-0,02	0,23	0,05	1,38	-0,01	
2016	0,60	-0,03	0,52	-0,02	0,23	0,00	1,35	-0,02	

2017	0,61	0,02	0,53	0,02	0,24	0,04	1,37	0,01	
2018	0,60	-0,02	0,53	0,00	0,23	-0,04	1,37	0,00	
2019	0,60	0,00	0,51	-0,04	0,23	0,00	1,33	-0,03	
2020	0,60	0,00	0,51	0,00	0,22	-0,04	1,33	0,00	
2021	0,59	-0,02	0,53	0,04	0,23	0,05	1,35	0,02	
2022	0,63	0,07	0,50	-0,06	0,22	-0,04	1,35	0,00	
2023	-	-	-	-	-	-	1,32	-0,02	NA/E

- B



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

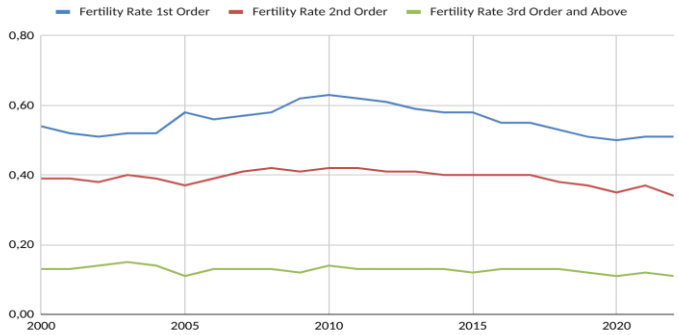
Graphic 22: Total Fertility Rates and Percentage Variation Respect the Previous Year in Sardinia 2000-2022

- A

Year of Event	Fertility Rate 1st Order	Variation % FTR 1st order	Fertility Rate 2nd Order	Variation % FTR 2nd order	Fertility Rate 3rd Order and Above	Variation % FTR 3rd order	Total Fertility Rate	Variation % FTR	Notes
2000	0,54		0,39		0,13		1,06		
2001	0,52	-0,04	0,39	0,00	0,13	0,00	1,04	-0,02	
2002	0,51	-0,02	0,38	-0,03	0,14	0,08	1,03	-0,01	
2003	0,52	0,02	0,40	0,05	0,15	0,07	1,07	0,04	
2004	0,52	0,00	0,39	-0,03	0,14	-0,07	1,04	-0,03	
2005	0,58	0,12	0,37	-0,05	0,11	-0,21	1,06	0,02	
2006	0,56	-0,03	0,39	0,05	0,13	0,18	1,08	0,02	
2007	0,57	0,02	0,41	0,05	0,13	0,00	1,11	0,03	
2008	0,58	0,02	0,42	0,02	0,13	0,00	1,13	0,02	

2009	0,62	0,07	0,41	-0,02	0,12	-0,08	1,16	0,03	
2010	0,63	0,02	0,42	0,02	0,14	0,17	1,18	0,02	
2011	0,62	-0,02	0,42	0,00	0,13	-0,07	1,17	-0,01	
2012	0,61	-0,02	0,41	-0,02	0,13	0,00	1,14	-0,03	
2013	0,59	-0,03	0,41	0,00	0,13	0,00	1,12	-0,02	
2014	0,58	-0,02	0,40	-0,02	0,13	0,00	1,11	-0,01	
2015	0,58	0,00	0,40	0,00	0,12	-0,08	1,11	0,00	
2016	0,55	-0,05	0,40	0,00	0,13	0,08	1,08	-0,03	
2017	0,55	0,00	0,40	0,00	0,13	0,00	1,08	0,00	
2018	0,53	-0,04	0,38	-0,05	0,13	0,00	1,03	-0,05	
2019	0,51	-0,04	0,37	-0,03	0,12	-0,08	1,00	-0,03	
2020	0,50	-0,02	0,35	-0,05	0,11	-0,08	0,97	-0,03	
2021	0,51	0,02	0,37	0,06	0,12	0,09	0,99	0,02	
2022	0,51	0,00	0,34	-0,08	0,11	-0,08	0,95	-0,04	
2023	-	-	-	-	-	-	0,91	-0,04	NA/E

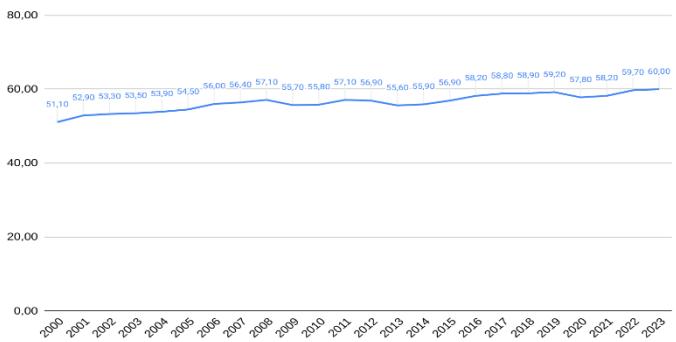
- B



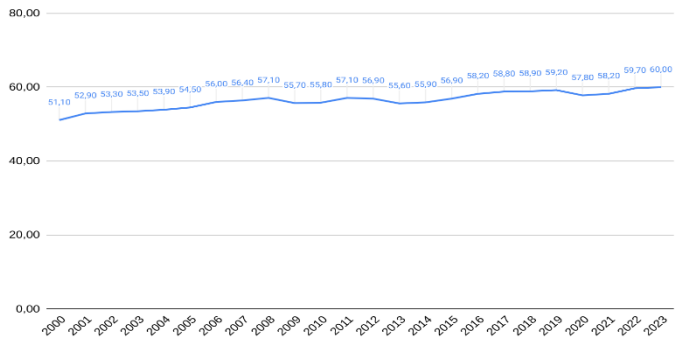
Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

APPENDIX B - Evolution of Female Employment in Italian Region 2000-2023

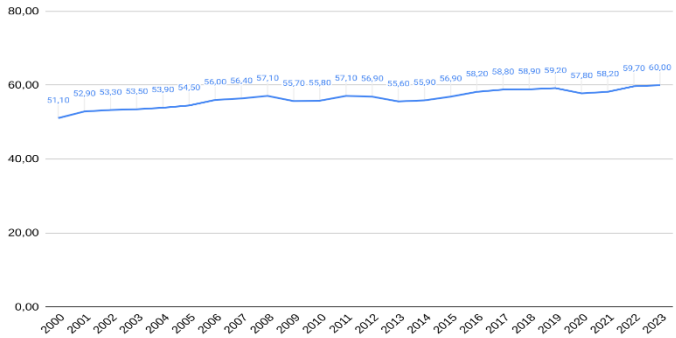
Graphic 1: Piedmont



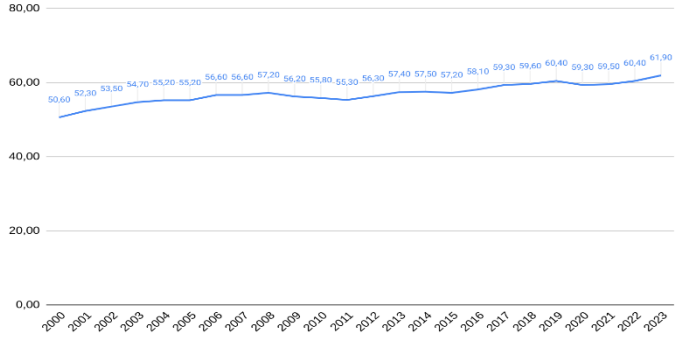
Graphic 2: Aosta Valley



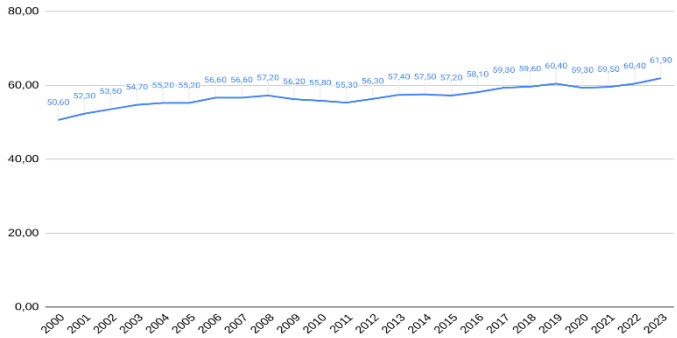
Graphic 3: Liguria



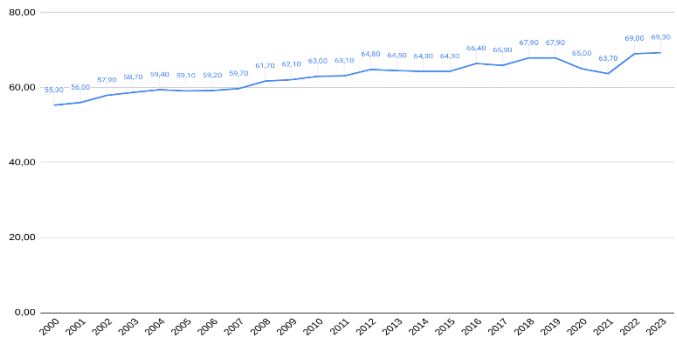
Graphic 4: Lombardy



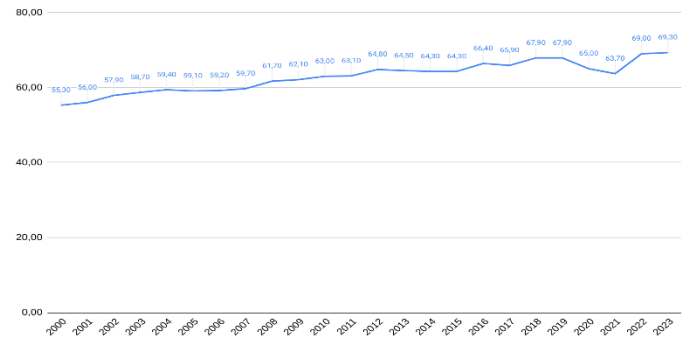
Graphic 5: Trentino- South Tyrol



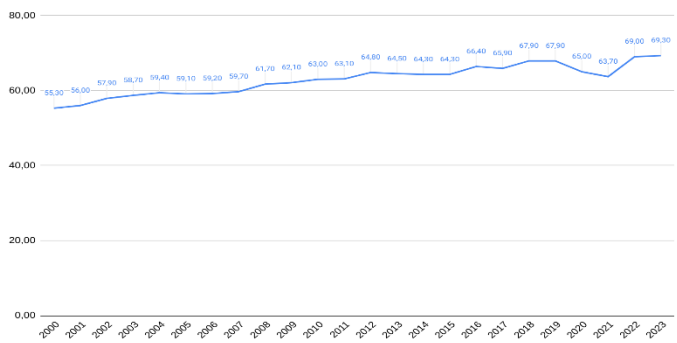
Graphic 6: A. P. of Bolzano



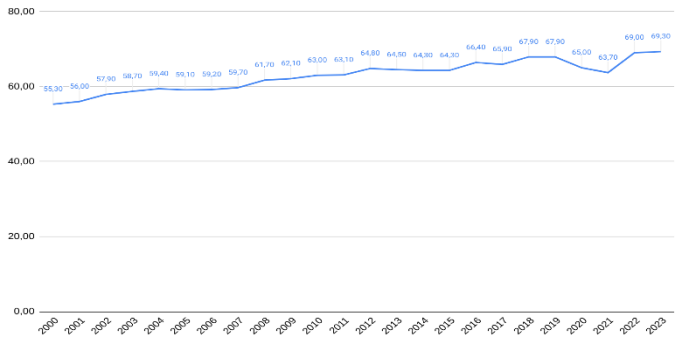
Graphic 8: A. P. of Trento



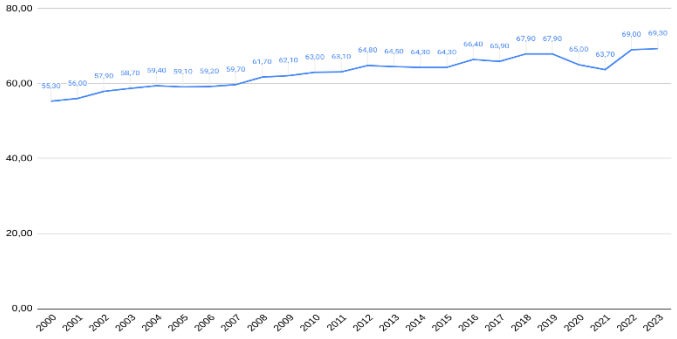
Graphic 9: Veneto



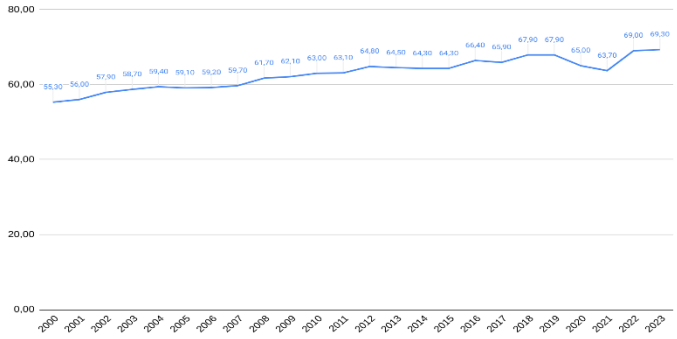
Graphic 9: Friuli-Venezia Giulia



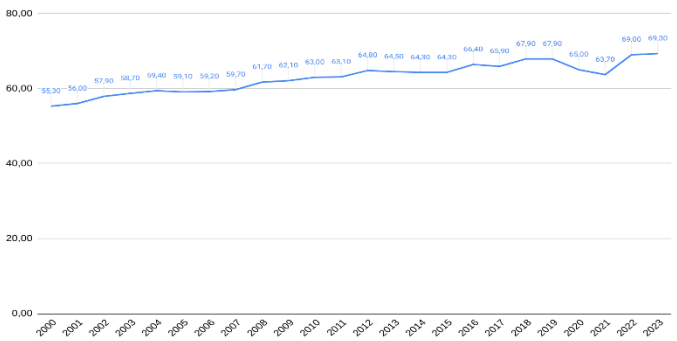
Graphic 10: Emilia-



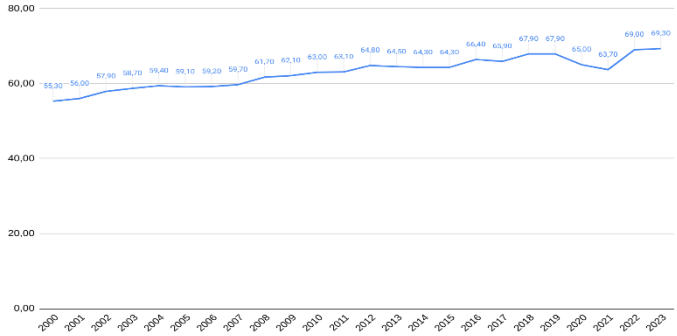
Graphic 11: Tuscany



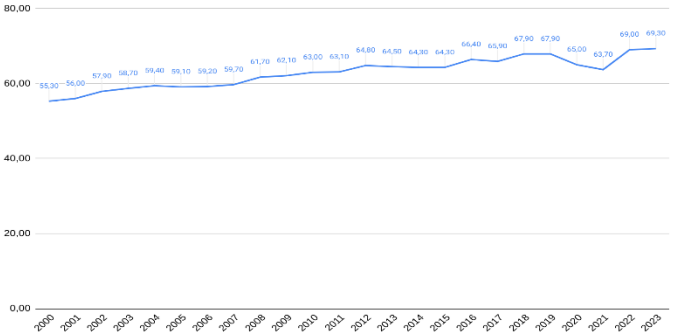
Graphic 12: Umbria



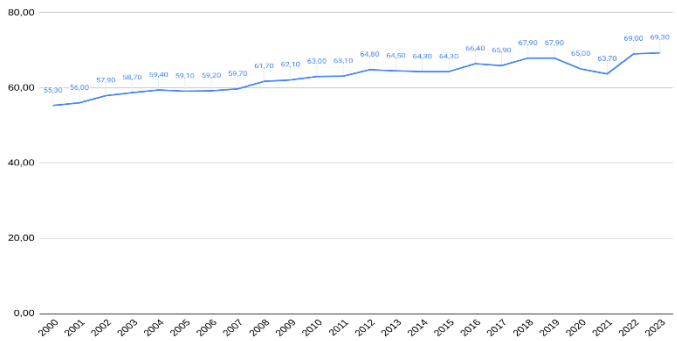
Graphic 13: Marche



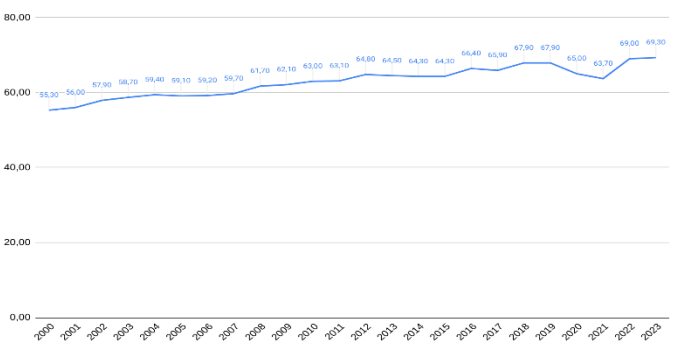
Graphic 14: Lazio



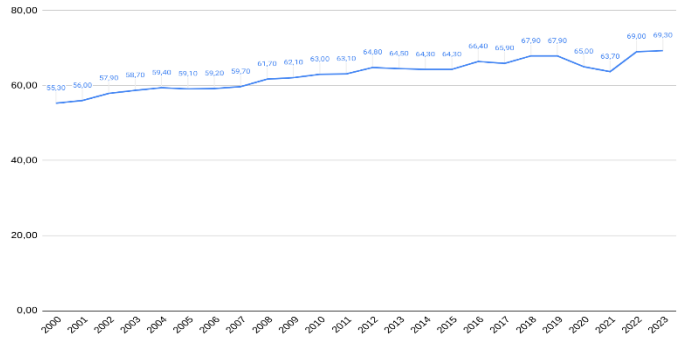
Graphic 15: Abruzzo



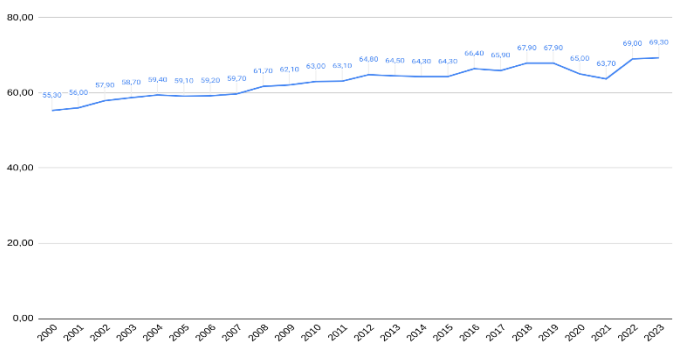
Graphic 16: Molise



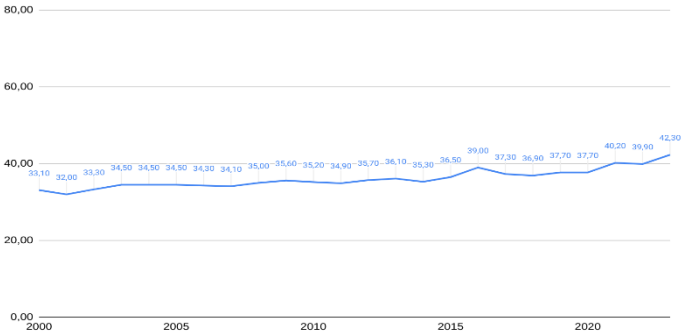
Graphic 17: Campania



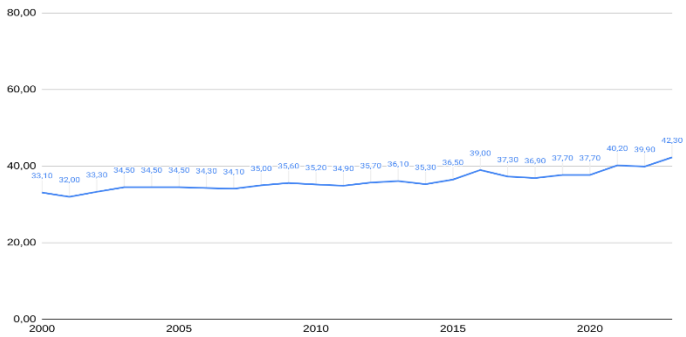
Graphic 18: Apulia



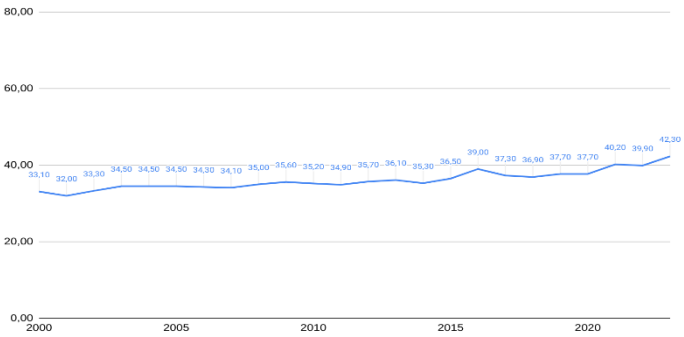
Graphic 19: Basilicata



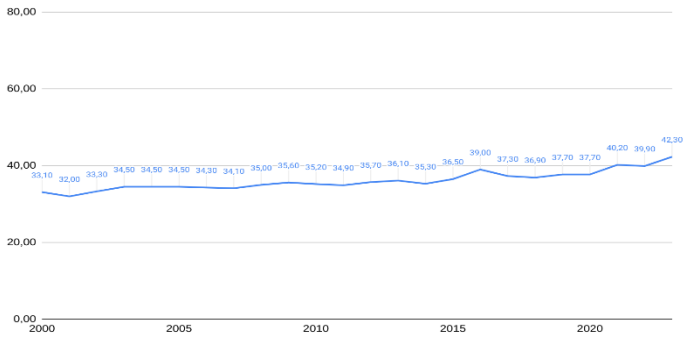
Graphic 20: Calabria



Graphic 21: Sicily



Graphic 22: Sardinia



Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

APPENDIX C - Correlation Between Total Fertility Rate and Female Employment Rate 2000-2023

C.1

YEAR	CORRELATION
2000	-0,3798906963
2001	-0,3885515829
2002	-0,2561666449
2003	-0,01983417828
2004	0,2062549673
2005	0,3183224739
2006	0,4142846949
2007	0,4927936333
2008	0,5829130679
2009	0,5792686418
2010	0,6297559367
2011	0,6449764137
2012	0,6893564415
2013	0,6721815953
2014	0,6577414149
2015	0,5708363665
2016	0,5666117575
2017	0,5013446036
2018	0,4793536017
2019	0,4025728295
2020	0,3271684096
2021	0,3437661577
2022	0,2721168964
2023	0,1371765516

C.2

ITALIAN REGION	CORRELATION
PIEDMONT	0,2221073791
AOSTA VALLEY	-0,3451061004
LIGURIA	0,1725364835
LOMBARDY	0,003064240132
TRENTINO-SOUTH TYROL	0,3107256799
AUTONOMOUS PROVINCE OF BOLZANO	0,5567004072
AUTONOMOUS PROVINCE OF TRENTO	-0,6008562468
VENETO	-0,1586439676
FRIULI-VENEZIA GIULIA	0,4152660241
EMILIA-ROMAGNA	-0,4278846223
TUSCANY	-0,1495337579
UMBRIA	-0,5709444854
MARCHE	-0,1434318533
LAZIO	-0,01191724351
ABRUZZO	-0,732254417
MOLISE	-0,3269456259
CAMPANIA	-0,456143626
APULIA	-0,777442268
BASILICATA	-0,8167617494
CALABRIA	0,2245161044
SICILY	-0,454862401
SARDINIA	-0,4446187468

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

APPENDIX D – Analysis of Factors Affecting the Relationship Between TFR and FER

Table 1: Main Economic, Demographic and Sociocultural Indices in Piedmont, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,22	53,50	27799	44	58	72,3		29,88				
2004	1,26	53,90	29224	48	54	73	175	32,07	16446			
2005	1,27	54,50	28724	36	53	73,5	178	29,78	16180			
2006	1,32	56,00	29388	36	42	73,4	191	29,89	16218			
2007	1,37	56,40	30529	37	43	73,3	192	29,91	16321			
2008	1,41	57,10	30889	44	55	73,3	206	29,94	16258	5816	52936	
2009	1,42	55,70	31966	66	67	72,1	197	30,08	15175	5514	55500	
2010	1,42	55,80	32302	76	72	71,2	215	30,12	14140	5086	52778	
2011	1,43	57,10	32196	74	76	71,3	228	30,22	13515	5097	53202	
2012	1,43	56,90	31774	89	95	70,5	230	30,4	13885	5288	53456	
2013	1,41	55,60	29572	111	98	68,9	233	30,42	12559	4747	52770	
2014	1,41	55,90	30298	117	108	68,9	246	30,54	12333	5288	53050	
2015	1,37	56,90	30261	111	94	70,5	251	30,61	13326	7987	52651	49,4
2016	1,36	58,20	30177	97	90	70,7	249	30,72	13636	8975	53916	49,4

2017	1,35	58,80	31068	90	93	71,6	243	30,87	12801	8068	56314	49,4
2018	1,30	58,90	33055	83	81	72,9	247	30,99	12974	8031		49,5
2019	1,27	59,20	34289	69	83	72,8	262	31,06	12306	7375		49,5
2020	1,25	57,80	34079	69	76	71,4	248	31,2	7091	5810		49,5
2021	1,24	58,20	34125	64	75	71,9		31,27	11922	6880		49,3

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 2: Main Economic, Demographic and Sociocultural Indices in Aosta Valley, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,28	60,80	27741	1	1	74	,,	30,02				
2004	1,33	58,60	29825	1	1	75,3	5	29,8	478			
2005	1,34	58,20	28485	1	1	74,2	6	29,71	421			
2006	1,44	58,60	29987	1	1	75,1	6	29,89	470			
2007	1,47	59,70	30554	1	1	76,4	6	29,84	497			
2008	1,57	59,90	34071	1	1	75,6	6	29,76	507	199	78600	
2009	1,62	59,00	32966	1	1	74,4	6	29,81	449	180	89200	
2010	1,62	60,30	32309	1	1	74,3	6	29,59	408	144	90900	
2011	1,60	60,80	32093	2	1	72,9	6	29,86	412	176	94600	

2012	1,57	61,50	31296	2	2	71,2	7	29,87	401	188	92800	
2013	1,44	60,60	29634	3	2	70,6	7	30,36	394	156	93100	
2014	1,54	60,80	30280	3	2	71,5	7	30,79	369	131	88800	
2015	1,41	61,40	31151	3	2	70,9	7	30,53	380	292	88300	50,2
2016	1,42	61,80	30303	3	2	71,1	7	30,65	393	308	83700	49,7
2017	1,35	62,70	30965	3	2	71,5	8	30,97	349	256	79900	49,4
2018	1,39	64,10	31985	2	2	71,6	8	30,99	428	224		48,6
2019	1,31	64,10	34708	2	2	72,7	7	31,46	421	233		49,4
2020	1,23	63,40	33735	2	1	71,1	8	31,1	240	146		49,7
2021	1,21	63,20	35237	2	2	69,9		30,69	389	186		49,4

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 3: Main Economic, Demographic and Sociocultural Indices in Liguria, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,11	51,00	24555	17	25	70,2	,,	30,55				
2004	1,18	50,70	25740	15	23	70,8	75	30,34	6285			
2005	1,19	50,60	25611	12	26	71,6	69	30,45	6428			
2006	1,24	52,50	26067	12	19	71,9	77	30,58	6571			

2007	1,28	54,80	27287	16	16	72,3	85	30,52	6421			
2008	1,35	54,70	29088	15	21	72,8	83	30,44	6251	2286	786	
2009	1,36	54,70	28985	18	21	72	84	30,68	5711	2242	892	
2010	1,35	54,80	29637	22	22	70,9	89	30,72	5386	2372	909	
2011	1,33	55,20	29594	22	21	71	94	30,83	5163	2230	946	
2012	1,38	54,10	29545	23	31	70,1	89	30,78	5324	2093	928	
2013	1,35	53,60	28269	33	33	67,8	89	30,86	5011	2062	931	
2014	1,35	54,00	28764	38	35	67,6	94	31,04	4864	2010	888	
2015	1,32	56,20	30273	33	29	68,7	96	31,07	5040	3244	883	48,2
2016	1,31	54,30	30864	31	34	71,3	100	31,31	5032	3672	837	48,6
2017	1,29	54,30	31721	29	34	70,6	99	31,35	4977	3288	799	48,7
2018	1,24	55,40	31230	30	37	70,6	99	31,32	5034	3141		48,8
2019	1,21	56,20	32723	27	38	70,4	95	31,51	4662	2821		48,7
2020	1,23	56,20	31865	26	28	69,3	88	31,43	2761	2223		48,7
2021	1,21	56,20	31586	23	31	70,9		31,76	4564	2564		48,7

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 4: Main Economic, Demographic and Sociocultural Indices in Lombardy, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,27	54,70	30390	63	88	75,7		29,99				
2004	1,36	55,20	31895	72	103	75,7	438	29,82	34676			
2005	1,37	55,20	31709	79	99	75,7	456	29,98	34873			
2006	1,43	56,60	32997	72	90	76,3	478	29,97	34612			
2007	1,47	56,60	32922	65	84	76,6	497	30,02	35490			
2008	1,53	57,20	33602	74	90	76,5	515	30,03	34327	11006	128296	
2009	1,56	56,20	34459	115	120	75,1	526	30,15	31749	10490	130129	
2010	1,56	55,80	34605	122	123	74	540	30,33	29682	11244	132707	
2011	1,52	55,30	34528	126	125	73,8	524	30,54	28136	10392	134635	
2012	1,51	56,30	34046	169	165	72,8	571	30,63	28400	10020	135307	
2013	1,47	57,40	34456	193	175	72,1	599	30,66	26535	10336	132381	
2014	1,46	57,50	34831	200	178	72,1	599	30,81	25953	10110	131803	
2015	1,45	57,20	34221	188	176	73	592	30,96	27052	15712	131964	49,2
2016	1,43	58,10	35129	170	176	74,3	603	31,06	28378	18782	132548	49,3
2017	1,40	59,30	36101	143	159	75,1	616	31,2	26447	16979	134385	49,3
2018	1,36	59,60	35968	138	147	75,7	621	31,29	27343	15788		49,3
2019	1,33	60,40	37702	126	141	76,2	634	31,44	26140	14993		49,5

2020	1,27	59,30	37611	113	120	74,3	610	31,55	14723	10911		49,6
2021	1,27	59,50	40277	137	133	73,4		31,83	25319	13269		49,5

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 5: Main Economic, Demographic and Sociocultural Indices in Trentino-South Tyrol, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,46	56,80	29386	4	8	77,4		29,82	NA			
2004	1,55	57,60	30132	5	8	76,9	61	29,82				
2005	1,55	56,90	30529	6	8	76,9	62	29,79				
2006	1,54	56,90	31942	5	8	77,7	65	29,86				
2007	1,57	57,90	32427	5	8	77,8	69	29,81		1147	10301	
2008	1,61	59,70	33111	6	8	77,2	73	29,88		926	10430	
2009	1,58	60,00	33007	7	8	76,7	72	29,94		980	10866	
2010	1,63	60,10	33548	8	9	76,6	76	30,27		955	11319	
2011	1,61	60,40	33120	9	9	76,4	76	30,2		1030	11053	
2012	1,64	61,40	32547	12	13	75,6	83	30,27		941	10835	
2013	1,63	61,00	32746	13	14	75,8	84	30,54		946	10648	
2014	1,65	61,30	32783	15	14	75,3	89	30,56		1525	10608	

2015	1,64	62,00	33852	14	13	75,3	90	30,54		1873	10836	53,5
2016	1,64	62,70	34678	14	13	75,9	93	30,56		1523	10865	53,3
2017	1,62	64,00	35386	11	11	76,4	95	30,81		1459		53,4
2018	1,59	64,80	35165	10	10	76,8	95	30,77		1376		53,2
2019	1,57	65,00	37046	9	11	77,5	95	30,94		1054		53,3
2020	1,54	63,20	36418	11	12	76,2	90	30,92		1313		53
2021	1,57	62,60	38340	10	11	75,3		30,91				52,8

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 6: Main Economic, Demographic and Sociocultural Indices in the Autonomous Province of Bolzano, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,52	58,70	31878	2	3	77,7		29,84				
2004	1,56	59,40	32291	3	3	78,7	32	29,93	1855			
2005	1,60	59,10	32286	3	3	78,7	34	29,86	1838			
2006	1,58	59,20	36418	3	3	79,6	34	29,9	1909			
2007	1,62	59,70	35503	3	3	79,5	36	29,79	1788			
2008	1,61	61,70	36315	2	3	79	37	29,97	1785	517	1916	
2009	1,56	62,10	36400	3	4	78,6	38	30,03	1917	476	2068	

2010	1,62	63,00	37276	3	3	79	42	30,38	1906	492	2340	
2011	1,61	63,10	37811	4	4	78,8	41	30,35	2024	526	2370	
2012	1,67	64,80	36996	5	5	78,8	45	30,45	2081	508	2071	
2013	1,65	64,50	39107	5	6	78,3	46	30,67	1842	491	2080	
2014	1,75	64,30	37424	6	5	77,3	48	30,41	2037	473	2020	
2015	1,71	64,30	39923	5	5	78,4	48	30,48	2103	792	1997	54
2016	1,77	66,40	39217	5	5	78,9	51	30,41	2135	901	2314	54
2017	1,75	65,90	37892	3	5	79,8	51	30,67	2163	697	2439	54
2018	1,73	67,90	40606	4	4	79,1	52	30,72	2347	687		53,3
2019	1,71	67,90	39028	4	4	80,1	51	30,67	2241	690		53,6
2020	1,71	65,00	39534	5	5	79,3	47	30,75	1686	600		53,6
2021	1,72	63,70	44370	5	5	77,6		30,65	2083	575		53,4

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 7: Main Economic, Demographic and Sociocultural Indices in the Autonomous Province of Trento, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,41	54,90	28519	2	5	77		29,79				
2004	1,55	55,80	30491	2	5	75,2	28	29,71	1823			

2005	1,49	54,70	31050	3	5	75,1	29	29,71	1804			
2006	1,51	54,70	31115	2	5	75,8	31	29,81	1841			
2007	1,52	56,20	33055	2	4	76,1	33	29,82	1894			
2008	1,60	57,70	35005	3	5	75,5	36	29,79	1778	630	8385	
2009	1,60	58,00	33732	4	5	74,9	35	29,85	1658	450	8362	
2010	1,65	57,30	34650	5	5	74,4	34	30,16	1635	488	8526	
2011	1,61	57,70	31804	5	5	74,1	35	30,06	1728	429	8949	
2012	1,60	58,10	33922	7	7	72,6	37	30,08	1684	522	8982	
2013	1,60	57,60	32217	7	9	73,3	38	30,41	1578	450	8755	
2014	1,54	58,40	32177	8	9	73,4	41	30,71	1496	473	8628	
2015	1,56	59,80	32612	9	8	72,3	42	30,6	1562	733	8611	53,1
2016	1,52	59,10	34658	9	8	73	42	30,74	1607	972	8522	52,7
2017	1,49	62,10	34604	8	6	73	44	30,97	1470	826	8426	52,9
2018	1,45	61,70	35495	6	6	74,6	43	30,83	1512	772		53,1
2019	1,42	62,10	35226	6	7	74,9	44	31,25	1388	686		53
2020	1,36	61,50	35917	6	7	73,1	43	31,12	902	454		52,5
2021	1,42	61,40	38526	6	6	73,1		31,23	1313	738		52,3

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 8: Main Economic, Demographic and Sociocultural Indices in Veneto, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,26	52,30	28436	31	51	76,8		30,02				
2004	1,36	52,40	29179	32	60	76,1	217	29,78	19032			
2005	1,36	53,10	29431	36	55	75,9	240	29,87	19236			
2006	1,40	53,50	30989	30	59	76,8	259	30	18777			
2007	1,44	54,00	31458	26	47	77,1	271	30,06	19056			
2008	1,49	55,70	32075	29	47	77	296	30,01	18661	4546	62338	
2009	1,48	53,90	31348	45	58	75	268	30,15	16985	4736	60938	
2010	1,49	53,50	32336	57	68	75,1	260	30,38	16547	3848	62748	
2011	1,47	54,90	32715	50	59	74,8	276	30,49	15496	4496	62158	
2012	1,48	55,00	32078	71	73	74,8	288	30,55	15712	3912	61754	
2013	1,43	53,30	31416	78	90	72,7	291	30,71	14570	4516	60893	
2014	1,42	54,50	31392	72	95	72,9	301	30,83	14411	4237	60417	
2015	1,39	54,00	32973	73	83	73,2	294	30,95	14928	7399	59538	49,2
2016	1,39	55,20	34253	72	79	74,3	309	31,08	15200	8574	60512	49,2
2017	1,37	57,10	35501	66	78	74,9	321	31,15	14270	7468	59617	49,1
2018	1,34	58,20	35673	70	78	75	317	31,18	14769	6852		49,2
2019	1,29	58,80	36670	56	74	76,1	340	31,29	13664	6578		49,2

2020	1,28	56,50	35536	57	73	75,3	316	31,42	8294	5480		49,2
2021	1,30	57,70	37113	56	59	73,5		31,63	13037	6648		49,1

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 9: Main Economic, Demographic and Sociocultural Indices in Friuli-Venezia Giulia, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,16	51,9	28120	10	17	74,2	,,	30,32				
2004	1,21	52,7	28446	8	13	72,3	57	30,16	4468			
2005	1,24	54	28166	10,00	12,00	72,10	64,00	30,10	4497			
2006	1,29	54,8	29346	8	11	74,6	68	30,18	4302			
2007	1,35	55,7	30037	8	11	74,9	68	30,14	4332			
2008	1,36	55,5	30512	8	15	74,7	69	30,29	4089	1425,00	19190	
2009	1,38	54,3	31033	13	14	72,5	68	30,33	3961	1507	19308	
2010	1,4	55,7	31210	15	15	71,5	69	30,55	3805	1474	19192	
2011	1,39	56,8	31794	12	15	71,6	64	30,57	3498	1296	18521	
2012	1,41	56,2	30518	17	19	71,1	67	30,61	3726	1431	18002	
2013	1,38	55,3	30730	19	22	70,6	75	30,71	3460	1324	16794	
2014	1,39	55,3	31760	22	21	70,9	75	30,77	3479	1360	16053	

2015	1,33	55	32217	20	23	72,2	76	31,07	3546	2160	15234	48,6
2016	1,34	57	32725	18	23	72,3	78	31,10	3566	2324	14887	48,5
2017	1,32	58,4	34143	17	20	73	77	31,21	3320	2141	14744	48,6
2018	1,28	59,5	33227	17	20	73	79	31,24	3366	1969		48,7
2019	1,25	58,6	32858	14	19	74,5	74	31,37	3256	1912		48,8
2020	1,26	58,9	33794	13	18	75,2	75	31,22	2037	1582		48,7
2021	1,25	60,2	34637	13	18	74,4		31,46	3035	1708		48,9

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 10: Main Economic, Demographic and Sociocultural Indices in Emilia-Romagna, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,24	61,8	30591	21	38	77,3		29,80				
2004	1,33	60,5	31356	29	42	76,2	183	29,74	14072			
2005	1,35	60,2	32121	29	46	76,7	192	29,67	14324			
2006	1,4	61,6	33317	29	38	77,1	200	29,84	14529			
2007	1,45	62	33731	23	34	78,3	204	29,85	15051			
2008	1,5	62,3	34381	26	38	78	204	29,81	14892	5046	8314800	
2009	1,52	61,5	34845	46	50	75,3	211	29,85	13959	4533	8249400	

2010	1,52	60	34941	51	63	74,7	220	30,15	13062	4081	8377400	
2011	1,49	60,9	33568	49	58	74,8	236	30,34	12484	4737	8325000	
2012	1,48	61,4	32971	71	74	73,7	261	30,41	12626	4402	8128900	
2013	1,46	59,7	34066	83	91	72,9	251	30,50	11928	4406	7733900	
2014	1,43	59,1	34076	84	89	73,5	258	30,58	11925	3774	7601900	
2015	1,43	59,7	34700	75	86	73,8	264	30,73	12456	7417	7466600	48,7
2016	1,4	62,2	35169	69	78	74,7	283	30,80	12899	8067	7511900	48,7
2017	1,36	62,1	35431	61	77	75,2	287	30,91	12064	7305	7666500	48,6
2018	1,35	62,7	34536	54	71	76,6	286	31,15	12363	7084		48,7
2019	1,3	64,1	38593	54	65	76,7	291	30,97	12145	6709		48,7
2020	1,26	62	37768	55	66	75,5	278	31,28	7511	5268		48,7
2021	1,27	61,6	39941	45	68	75,3		31,46	11677	6282		48,4

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 11: Main Economic, Demographic and Sociocultural Indices in Tuscany, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,16	53,2	29589	26	50	74,5		30,33				
2004	1,28	53,1	30064	32	49	73,6	161	30,11	14811			

2005	1,28	54,3	30391	35	50	73,3	171	30,29	14767			
2006	1,3	55	31591	29	49	74,5	180	30,34	14708			
2007	1,34	55,5	32380	26	44	73,9	182	30,37	15206			
2008	1,41	56,2	32920	31	52	74,5	200	30,44	15083	4164	69361	
2009	1,37	55,5	32174	39	56	74,1	203	30,47	13873	4138	71757	
2010	1,4	54,4	32154	45	54	73,2	206	30,68	13052	4670	68650	
2011	1,38	54,6	32487	49	55	72,8	201	30,76	12463	4070	67747	
2012	1,39	55,3	31107	60	70	72,4	206	30,83	13079	3823	67587	
2013	1,34	56,3	31710	69	76	71,3	210	30,95	11846	3611	64692	
2014	1,36	56,9	32755	80	92	70,9	207	31,04	11630	3489	61626	
2015	1,31	58,5	33323	81	76	71,2	225	31,27	11757	5807	61074	48,4
2016	1,31	58,4	32936	79	85	72,4	228	31,20	12413	6754	61725	48,4
2017	1,29	59,9	33835	74	75	72,3	237	31,48	11772	6552	61590	48,3
2018	1,26	60,5	33792	59	67	72,7	226	31,42	11737	5892		48,1
2019	1,21	60,6	35877	55	61	73,4	235	31,72	11211	6001		48,3
2020	1,16	59,5	34834	53	60	72,9	229	31,82	5894	4420		48,4
2021	1,2	59,2	35815	55	71	72,2		32,04	10510	5585		48,2

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 12: Main Economic, Demographic and Sociocultural Indices in Umbria, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,23	51,9	27909	9	14	70,1		29,86				
2004	1,31	51,6	28090	8	13	71,2	35	29,48	3772			
2005	1,34	51,2	28286	9	13	72,1	38	29,72	3815			
2006	1,36	53,7	30867	6	13	72	39	29,80	3773			
2007	1,4	55,6	30804	6	11	73,7	38	29,99	3604			
2008	1,44	56,7	30995	7	12	74,1	44	29,97	3725	557	20232	
2009	1,38	53,3	30593	10	15	72,6	47	30,25	3237	779	19348	
2010	1,41	53	30703	11	14	72,5	51	30,17	3114	809	18474	
2011	1,39	53,4	30805	11	14	71,4	48	30,34	3032	714	17930	
2012	1,39	53,3	29555	17	20	69,9	49	30,57	2960	578	16827	
2013	1,38	53,7	30161	20	20	68,4	51	30,52	2609	649	15182	
2014	1,34	53,6	28715	22	22	68,7	52	30,58	2640	691	13827	
2015	1,29	55,3	30094	20	22	71,1	57	30,73	2618	952	13118	47,9
2016	1,28	55,2	31454	19	19	70,5	56	30,86	2676	1537	12458	47,9
2017	1,26	55,1	33228	21	21	71	54	31,19	2529	1086	13463	48
2018	1,22	54,9	33338	17	19	71,5	51	31,00	2603	1222		47,9
2019	1,2	58	34278	15	18	71,5	57	31,19	2496	1135		48,1

2020	1,16	56,9	33714	15	17	70,2	53	31,39	1251	1029		47,9
2021	1,18	57,6	38011	12	13	71,4		31,50	2102	1249		47,6

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 13: Main Economic, Demographic and Sociocultural Indices in Marche, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,22	54,2	28248	11	19	74		29,72				
2004	1,27	54,7	28479	14	21	73,2	61	29,77	5807			
2005	1,28	53,3	29633	13	19	73,5	62	29,78	5867			
2006	1,32	53,8	30276	12	19	74,8	69	29,97	6084			
2007	1,36	55	31388	11	17	74,5	75	30,04	5780			
2008	1,42	56	32103	15	17	73,4	75	30,03	5881	1234	28919	
2009	1,43	55,4	31533	24	22	71,9	70	30,13	5377	1184	28746	
2010	1,41	55,2	32001	18	20	72,3	71	30,51	4803	1355	28529	
2011	1,42	54,5	31801	21	25	70,4	78	30,52	4655	1296	27827	
2012	1,38	54,8	31040	31	33	70,5	90	30,53	4488	1140	27168	
2013	1,35	53,6	31411	37	39	68,6	92	30,66	4338	1202	25830	
2014	1,35	55	30964	33	37	69,9	89	30,79	4140	1068	25277	

2015	1,34	54,1	31650	35	34	70,3	89	30,90	4264	1866	25200	48,5
2016	1,32	54,4	32131	38	36	70,1	90	31,10	4459	2286	25282	48,5
2017	1,26	54,3	33165	35	38	70,2	82	31,24	4054	2142	25558	48,6
2018	1,23	56,4	33275	26	30	73	87	31,33	4293	2203		48,5
2019	1,19	57,6	36063	27	34	72,4	88	31,45	3911	2105		48,5
2020	1,19	56,4	35315	23	26	71,8	83	31,72	1959	1689		48,7
2021	1,2	56,1	34730	23	24	72,2		31,80	3819	2126		48,6

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 14: Main Economic, Demographic and Sociocultural Indices in Lazio, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,26	44,9	28624	86	117	70		30,39				
2004	1,3	47,5	30100	81	97	70,5	233	30,44	23495			
2005	1,28	48,2	30109	83	92	69,3	235	30,51	23381			
2006	1,34	48,1	31905	80	92	71,2	238	30,67	23310			
2007	1,35	48,1	31959	69	77	71,5	232	30,74	23521			
2008	1,46	49,3	31769	80	97	71,7	252	30,80	22389	5127	142024	
2009	1,43	48,8	33401	92	108	70,7	253	30,92	20888	6074	143248	

2010	1,44	49,1	31994	114	107	69,6	274	30,92	19087	6127	143642	
2011	1,46	49,2	31724	110	100	68,9	280	30,94	18630	5785	140854	
2012	1,44	50	30764	133	130	68	308	31,03	19017	5144	138754	
2013	1,43	49,4	30075	156	147	66,3	313	31,08	17632	5679	133156	
2014	1,4	51,2	28991	175	154	66,5	333	31,35	17052	5627	131580	
2015	1,36	51	29819	169	141	67,2	340	31,27	17124	8238	130622	48,2
2016	1,36	51,8	31477	159	134	68,2	335	31,89	17635	9601	130053	48,2
2017	1,3	52,9	32297	147	137	69,1	331	31,66	17478	9119	128504	48,2
2018	1,25	53,1	32366	158	141	68,9	340	31,83	17167	8478		48,3
2019	1,18	53,6	33453	140	123	69,1	342	31,93	15798	8410		48,3
2020	1,18	52,1	32858	125	108	68,6	318	32,08	8904	6423		48,3
2021	1,18	52	33205	133	118	67,8		32,23	14524	8200		48,2

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 15: Main Economic, Demographic and Sociocultural Indices in Abruzzo, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,19	47,1	25689	19	24	68,9		29,85				
2004	1,2	44,2	25849	17	23	68,7	45	30	5127			

2005	1,22	44,5	26293	14	27	69,7	43	30,12	5335			
2006	1,22	45,1	26874	14	20	70,3	44	30,37	5276			
2007	1,27	44,4	28425	12	21	71,5	46	30,24	5190			
2008	1,31	46,5	27298	17	19	71,2	52	30,46	4883	931	35666	
2009	1,29	43,3	27501	21	22	68,2	47	30,49	4654	992	36742	
2010	1,34	43,9	25147	22	24	67	52	30,67	4423	889	38353	
2011	1,32	45,3	26978	23	23	68,1	56	30,55	3914	1049	38714	
2012	1,33	45	25947	31	30	68,4	60	30,74	4061	968	38731	
2013	1,3	44,5	26347	36	26	65,5	58	30,98	4144	1128	36903	
2014	1,3	43,4	26040	35	33	64,6	59	31,02	3839	1101	35811	
2015	1,29	43	26317	35	34	66,1	56	31,21	3871	1637	33048	48
2016	1,29	44,6	27308	32	35	67	61	31,26	4137	2121	30093	48
2017	1,25	45,1	27888	30	35	68,6	57	31,36	3766	1850	28877	47,9
2018	1,2	45,6	28936	26	34	70,4	65	31,34	3912	1768		47,9
2019	1,17	47	30275	32	31	69,5	67	31,76	3800	1973		47,9
2020	1,17	46,4	26037	23	27	68,7	65	31,82	1737	1351		47,9
2021	1,2	46,7	29021	23	27	69		31,76	3533	1868		47,9

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 16: Main Economic, Demographic and Sociocultural Indices in Molise, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,16	36,9	23956	6	7	66,6		30,15				
2004	1,14	38,7	24045	7	7	65,4	9	29,77	1369			
2005	1,15	36,9	24183	6	6	65,4	8	30,26	1361			
2006	1,14	38,1	23838	5	7	66,4	8	30,12	1276			
2007	1,18	40,5	25258	5	5	66,5	9	30,23	1221			
2008	1,19	41,5	25873	5	6	66,7	10	30,44	1205	163	5832	
2009	1,13	40,5	26142	6	5	63,8	10	30,84	1123	181	5927	
2010	1,23	39,1	25439	5	4	62,9	9	30,71	1098	175	6038	
2011	1,19	39	24638	6	5	61,5	11	30,75	990	152	5370	
2012	1,19	39,1	23459	8	7	62,1	11	31,08	910	187	5471	
2013	1,18	38,6	21607	11	7	56,5	12	31,11	895	171	4929	
2014	1,18	38,9	24004	11	7	57,9	12	31	919	231	4839	
2015	1,18	39,5	23894	10	7	59,1	12	31,37	854	277	4576	48
2016	1,16	42	24781	9	7	61,6	13	31,63	1062	317	4517	47,5
2017	1,2	42,8	27411	11	7	60,4	12	31,41	933	372	4546	47,7
2018	1,11	42	24477	9	7	64,7	10	31,58	981	324		47,9
2019	1,15	43,2	27051	8	7	65,7	13	31,93	861	337		47,3

2020	1,06	43	27368	6	5	63,9	13	31,78	373	282		47
2021	1,08	39,7	27247	6	6	64,7		31,98	862	385		47

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 17: Main Economic, Demographic and Sociocultural Indices in Campania, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,48	29,8	23124	169	185	62,1		28,55				
2004	1,49	29,4	24117	164	157	61,4	132	28,65	32378			
2005	1,45	28	23855	157	143	60,5	123	28,77	31382			
2006	1,46	28,5	24745	132	121	60,1	127	28,98	31325			
2007	1,47	27,9	24828	122	94	59,8	126	29,12	32118			
2008	1,46	27,3	25043	131	108	57,9	126	29,26	31795	3040	117651	
2009	1,45	26,3	25267	139	99	55,7	119	29,46	29610	3106	118549	
2010	1,44	25,6	24578	149	106	54,4	110	29,63	27810	2925	117220	
2011	1,41	25,4	25381	166	119	53,7	117	29,98	25234	2989	116574	
2012	1,39	27,5	24252	219	159	52,7	140	30,27	24693	2779	114983	
2013	1,36	28,3	23497	255	176	51,5	158	30,33	23485	3237	109585	
2014	1,34	27,5	24252	247	186	51,2	152	30,39	23439	3107	107615	

2015	1,35	27,4	24229	224	165	52	164	30,39	23549	4913	106270	47,7
2016	1,35	28,7	24373	242	177	53,9	170	30,45	25406	6363	104825	47,6
2017	1,36	29,4	24732	257	186	55	166	30,66	23180	6246	107217	47,7
2018	1,33	29,4	25555	246	180	54,1	168	30,81	23638	6619		47,8
2019	1,31	29,4	27125	239	174	53,8	169	31	22997	6429		47,7
2020	1,3	28,7	26626	209	144	53,3	166	30,98	10128	5122		47,7
2021	1,28	29,1	26676	220	161	53,8		31,09	23100	6871		47,7

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 18: Main Economic, Demographic and Sociocultural Indices in Apulia, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,3	29,5	22711	111	107	61,9		28,97				
2004	1,34	28,9	22435	113	110	61,8	75	29,14	18828			
2005	1,29	26,8	23312	110	97	62,4	69	29,2	19383			
2006	1,28	28,6	25009	97	83	63,2	82	29,33	18173			
2007	1,31	29,9	25901	83	76	63,7	94	29,57	19567			
2008	1,33	30,1	26502	89	79	63,5	100	29,67	19714	2016	66590	
2009	1,34	29,3	26396	100	78	61	105	29,86	18799	2369	67748	

2010	1,33	29,4	26426	111	80	59,6	111	29,94	18170	2384	67111	
2011	1,31	30,2	25707	102	86	59,6	115	30,26	16402	2615	64769	
2012	1,3	31,1	24707	132	99	59,1	123	30,2	16880	2497	60731	
2013	1,28	29,6	26556	162	123	55,4	120	30,27	15278	2690	56544	
2014	1,29	29,5	25099	176	137	55,1	119	30,45	14980	2853	53959	
2015	1,26	30,5	26683	171	116	56,4	120	30,66	14217	3932	51477	48,3
2016	1,27	31,4	27995	163	125	57,5	129	30,8	15352	5165	48411	48,4
2017	1,25	31,7	27553	156	122	57,5	141	30,94	15052	5142	47188	48,6
2018	1,23	32,8	26887	130	102	58,5	139	31,07	15467	5491		48,6
2019	1,2	32,9	27722	122	94	60	140	31,12	14170	5188		48,9
2020	1,18	32,8	27252	112	87	59,7	133	31,3	5747	4140		48,8
2021	1,2	33,8	28097	114	92	59,7		31,35	14857	5378		48,9

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 19: Main Economic, Demographic and Sociocultural Indices in Basilicata, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,21	34,5	21322	14	16	64,7		29,46				
2004	1,23	34,5	22576	13	15	63,7	14	29,74	2590			

2005	1,16	34,5	22259	12	15	63,8	14	29,95	2572			
2006	1,2	34,3	24067	11	12	66,1	14	30,02	2703			
2007	1,2	34,1	24999	8	12	64,9	14	30,06	2681			
2008	1,23	35	23844	12	12	64,2	16	30,2	2410	218	4916	
2009	1,2	35,6	25806	13	11	61,2	14	30,69	2419	276	5053	
2010	1,2	35,2	24955	14	13	58,9	15	30,7	2350	231	5291	
2011	1,19	34,9	25549	15	10	60,4	16	30,78	2201	244	4810	
2012	1,22	35,7	23804	19	12	57,9	19	30,84	2043	235	4816	
2013	1,13	36,1	23598	20	12	56,3	20	31,16	2122	240	4804	
2014	1,16	35,3	23807	19	13	59	18	31,31	2052	299	4476	
2015	1,18	36,5	25432	17	13	61,8	17	31,1	2063	470	4349	46,9
2016	1,18	39	25228	16	13	61,6	21	31,24	2191	687	4017	46,7
2017	1,2	37,3	25599	15	12	61,6	19	31,73	2057	582	4061	46,3
2018	1,14	36,9	26363	15	12	61,7	20	31,59	2142	552		46,7
2019	1,15	37,7	24364	13	10	63,7	20	31,9	1987	497		47,2
2020	1,14	37,7	26740	10	8	63,4	20	32,25	578	435		47,1
2021	1,11	40,2	29043	10	7	64,8		31,93	1961	571		47,3

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 20: Main Economic, Demographic and Sociocultural Indices in Calabria, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,27	30,2	20648	60	59	60,3		28,56				
2004	1,27	32	21183	53	48	60,5	43	28,83	9483			
2005	1,26	30,8	22644	54	45	58,4	44	29	9270			
2006	1,29	31,6	22666	49	40	59,5	45	29,24	9227			
2007	1,29	31	23178	40	35	58,9	46	29,34	9396			
2008	1,29	30,7	23963	42	38	57,5	50	29,45	9305	851	31130	
2009	1,31	30,1	25233	41	32	56,2	47	29,76	9051	624	31693	
2010	1,32	30,1	23980	43	32	54,4	51	29,76	8724	769	31809	
2011	1,29	31,3	24160	49	32	53,8	52	29,96	8454	882	31243	
2012	1,3	31,1	25075	77	56	52	58	30,02	8539	859	29764	
2013	1,29	28,7	23479	89	59	49,4	55	30,03	8138	1041	29266	
2014	1,3	28,9	22856	91	69	49,9	56	30,35	8008	1038	28341	
2015	1,31	28,6	24289	94	59	49,4	52	30,46	8149	1433	27343	47,9
2016	1,31	29,2	23325	89	69	50,2	61	30,59	8715	1885	25888	48,3
2017	1,3	30,2	25544	84	63	51,6	62	30,61	7623	2042	24412	48,1
2018	1,29	31	26232	85	67	53,4	63	30,88	7913	2137		48,1
2019	1,26	30,3	26946	89	57	53,8	62	30,98	7177	2019		48,1

2020	1,26	29	29495	78	54	53,3	50	31,01	3004	1706		48,1
2021	1,23	30,5	26854	66	48	53,7		31,24	7884	2210		47,8

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 21: Main Economic, Demographic and Sociocultural Indices in Sicily, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,43	27,3	20651	183	175	59,9		28,4				
2004	1,44	27,3	21291	156	139	60	118	28,4	25211			
2005	1,43	28,3	21923	151	130	60,5	122	28,52	24323			
2006	1,42	29,6	21841	125	106	61	129	28,7	24119			
2007	1,41	29,1	22720	118	102	60,5	122	28,92	24092			
2008	1,44	29,3	22672	132	103	59,5	132	28,96	24344	3606	98145	
2009	1,44	29,3	22938	136	98	58,4	131	29,18	23290	3665	97627	
2010	1,42	28,8	21139	145	102	57	137	29,38	22284	3121	92501	
2011	1,41	28,8	21620	138	101	56,4	147	29,48	20768	3419	89407	
2012	1,4	28,6	21372	189	127	54,3	162	29,52	21081	3440	86619	
2013	1,37	27,1	21923	216	138	51,9	155	29,81	20442	3289	81473	
2014	1,4	27,4	21807	228	149	51	157	29,81	19395	3622	76759	

2015	1,38	28,1	21946	228	140	52,1	159	29,98	20638	5001	73165	48
2016	1,35	28,3	22054	232	151	52,1	156	30,13	21188	6984	69366	47,8
2017	1,37	29,2	22745	223	151	52,3	160	30,27	20158	6873	66856	47,7
2018	1,37	29,1	23879	215	157	52,5	156	30,35	21000	6718		47,7
2019	1,33	29,8	24815	196	145	52,6	166	30,56	18988	6810		47,6
2020	1,33	29,3	26034	168	125	52,9	159	30,5	9667	5561		47,6
2021	1,35	29,1	26322	175	127	53,2		30,5	20194	7142		47,6

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

Table 22: Main Economic, Demographic and Sociocultural Indices in Sardinia, 2003-2021

Year	TFR	FER	Avarege Net Income	Male Unemployment	Female Unemployment	Male Employent Rate	Part-Time	Median Age at Childbirth	Marriages	Divorces	Female Enrolled in University	Female Enrolled in the High School
2003	1,07	36,7	25013	45	52	65,9		30,77				
2004	1,04	38,2	26792	47	47	64,8	57	30,73	6963			
2005	1,06	37,1	25670	41	45	65,6	55	31,09	6683			
2006	1,08	38,2	27658	36	37	65,9	58	31,03	6789			
2007	1,11	39	28063	30	36	66,5	61	31,03	7134			
2008	1,13	40,3	27842	40	43	64,3	69	31,16	7331	973	30909	
2009	1,16	40,2	28886	45	44	61,4	73	31,07	6728	940	29977	

2010	1,18	41,9	27257	55	41	60	83	31,28	6214	1476	29032	
2011	1,17	42,3	27659	51	41	61,1	79	31,39	5631	1212	28096	
2012	1,14	43	26861	62	45	60,4	80	31,45	5548	1305	26689	
2013	1,12	39,7	25663	70	45	56,9	77	31,45	5251	1518	26415	
2014	1,11	40,3	24709	73	53	56,7	84	31,75	4804	1373	25134	
2015	1,11	42,5	26013	66	53	57,8	86	31,56	4880	2207	24096	48,1
2016	1,08	42,3	26242	67	50	58,2	82	31,72	5178	2770	23253	48,3
2017	1,08	42,1	27748	68	48	58,7	79	31,72	4824	2595	23091	48,1
2018	1,03	45	27835	62	43	60,4	89	31,79	4789	2506		48,2
2019	1	47,3	28710	56	45	60,2	91	32	4469	2448		48,3
2020	0,97	45,1	28841	50	36	59	87	32,23	2354	2030		48,3
2021	0,99	46,3	26653	49	38	60,7		32,41	3731	2757		48

Source: Own Elaboration Based on ISTAT Data (dati.istat.it)

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