LUISS

Department of Political Sciences

Master's Degree in International Relations
Major in Security

Chair of Demography and Social Challenges

China: a diachronic analysis of demographic policies and security prospects in a comparative perspective

Prof. Maria Rita Testa
SUPERVISOR

Prof. Alfonso Giordano
CO-SUPERVISOR

Martina Angelini
CANDIDATE
ID No. 647832

Academic Year 2022/2023

TABLE OF CONTENTS

Introduction

The People's Republic of China has an impressive population of over 1.4 billion individuals. This huge figure was often associated with the country's extraordinary economic development and was considered a military and political asset, at times, raising concerns from rival countries. After years of sustained population growth, a decline in population was recorded for the first time in 2023. Projections indicate that this trend will continue in the coming years. Just a few months later after this decline was recorded, the Republic of India overtook China as the most populous country. Will this mark the end of Chinese power?

The above-mentioned findings and predictions are epoch-making, as over the past decades, China has recorded one of the most remarkable population increases in history. Since the Republic's foundation in 1949, the Chinese population went from approximately 539 million to over 1.4 billion in 2023, virtually tripling in size (UN, 2022). Meanwhile, the Chinese government has shown vastly different attitudes toward the country's demographic trends and has consequently implemented different kind of policies: from openly pro-natalist positions and policies in the Republic's founding years to the decades of family planning policies aimed at curbing population growth, such as the infamous One Child Policy or the previous "Later, Longer, and Fewer" campaign. In recent years, the Communist Party has again revised its positions, adopting the Two Child Policy and, more recently, the Three Child Policy (Attané, 2022; Basten, 2014; Jing et al., 2022; Marois et al., 2021).

This dissertation focuses on the different demographic policies adopted in China since the Republic's foundation to the latest developments, with specific emphasis on the One Child Policy, given its paramount importance and enduring influences. This research's aim is to assess the effectiveness of these policies, addressing the following research question*: "what is the impact of Chinese demographic policies on the country's demographic structure?"*. In this assessment, an empirical analysis will be carried out with typical demographic indicators, such as population pyramids or dependency ratios etc. The assessment will be complemented by a comparison with the Italian case. The choice of Italy as a benchmark was prompted by the fact that, two so ostensibly diverse countries such as China and Italy have come to share some worrying demographic features and projections. Surprisingly, these are two of the countries with the lowest fertility rates in the world and they are both heading toward a future of an ageing and declining population. A situation that, as we shall see, on the Chinese side, has often been attributed to population control policies and is

imputed to government action, whereas, on the Italian side, has often been attributed to the absence of incisive policies and is imputed to government inertia.

The originality of this work does not reside in the subject matter, as the topic of Chinese family planning has been addressed extensively in the literature, the main contributions of will be summarized. Instead, the main novelty of this work lies precisely in the methodological choice to address such issue: a systematic empirical analysis of Chinese demographic structure, both from a diachronic and comparative perspectives. All graphs and tables used to support the empirical analysis in the dissertation are the result of personal elaborations.

Such empirical analysis in the Chinese case is fraught with difficulties. In general, the accuracy of the data provided by the Chinese Communist Party is questioned. Censorship, government's penchant for secrecy and questionable impartiality the institutions responsible for data collection undermine the reliability of the data (Noboa, 2021; Dorling & Gietel-Basten, 2017). In the specific case of Chinese family planning, there are additional issues on data accuracy, such as the episodes of under registration or collusion with local authorities to circumvent policy prohibitions, among others.

The main source for the analysis is international data, in particular, the 2022 edition of the United Nations' World Population Prospects. For projections, the UN medium fertility variant will be used. Relevant Chinese and Italian national data sources will also be referred to.

The dissertation is divided into three chapters. The first chapter will be dedicated to the analysis of the context that led to the adoption of the One Child Policy. After giving an overview of population growth in China since the founding of the People's Republic of China in 1949, we will retrace the evolution of the Chinese government's stances toward this demographic trend and its shift from pro-natalist positions in the early 1950s to opposing anti-natalist positions and the consequent adoption of family planning policies. We will examine the multiplicity of circumstances that has concurred in this shift, including socio-economic considerations, programmatic goals, academic studies, but also more contingent factors such as the personal beliefs of the leaders in charge. Of course, we will focus on the content of family planning policies, by investigating early measures such as the "Later, Longer, and Fewer" campaign, a program that was supposed to be implemented on a voluntarily basis, yet already had some coercive elements and, of course, the One Child Policy, with its markedly coercive measures (Whyte et al., 2015). The latter's objectives and main features, such as decentralization and exceptions, will be described.

Within this framework, evaluation of the effects of China's family planning policies will begin, starting from their effects on fertility levels. It will be demonstrated that demographic policies have triggered a rapid fertility decline. This phenomenon is characterised by two main features: was an immediate effect of the policy and deliberately intended by the government. Nevertheless, such pervasive fertility policies also had unintended consequences, such the cases of under-registration and the phenomenon of *heihaizi* (Noboa, 2021). All these effects will be explored in the first chapter, while the second chapter will continue investigating the distortions caused by the policies in the Chinese demographic structure, with focus on policy's impact of on the sex distribution and age structure of the Chinese population. As for the sex distribution, we will focus on the phenomenon of "missing women", while as for the age distribution, we will focus on population ageing. The phenomena explored in the second chapter have specific characteristic, they unfold over the long term and are, to a large extent, unintended. As we will see, these distortions entail a wide range of related security issues, that, in the worst scenarios, can undermine the government's political stability (Noesselt, 2021; Goldstone, 2023; Jayawardhana et al., 2023). Hence, such destructive scenario has compelled the Chinese government to launch a series of interventions and to revise its decades-old population control policies. This dissertation will also try to assess also the new policies and their effects or, more appropriately, the absence of effects.

In the third chapter, Italy will be introduced as a comparator. After an overview of Italian demography over the years, with focus on its population growth, fertility levels, main policies and population distribution by age and gender, a comparative analysis will be carried out. From this comparison, some important similarities and differences will be highlighted, as well as common challenges and security prospects.

CHAPTER I

Analysis of demography and population policies in China from the founding of the People's Republic of China to the adoption of the One Child Policy

Introduction

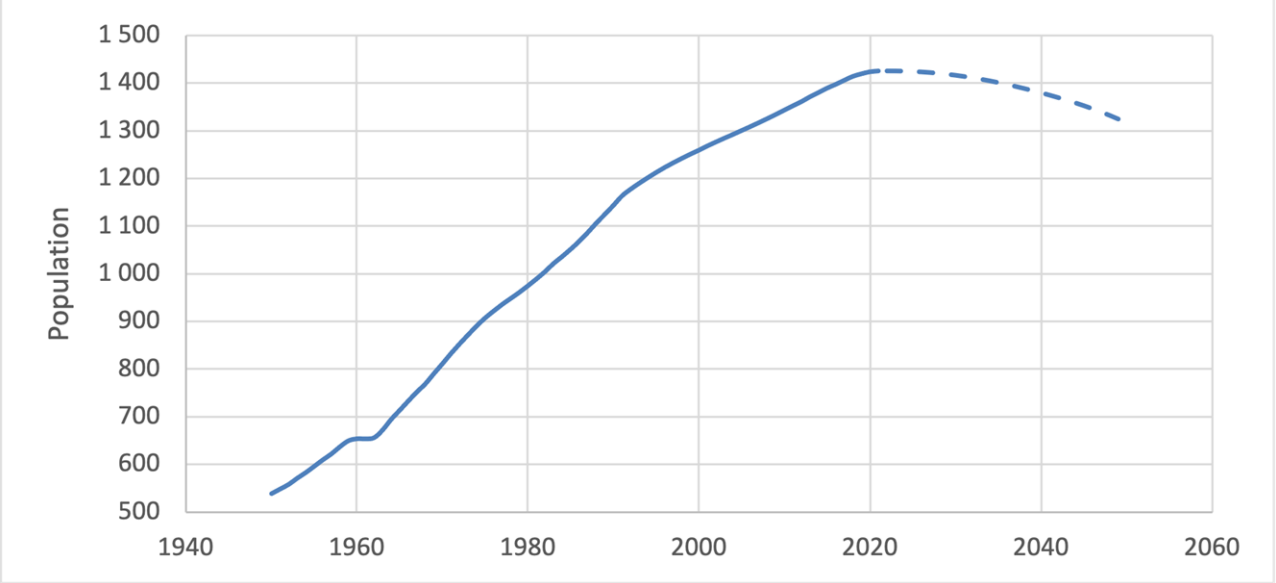
In this chapter, we will give an overview of Chinese demographic growth since the inception of the People's Republic of China in 1949 (par.1.1). In par 1.2, we will trace evolution of the Chinese government's demographic position and subsequent policies over several decades, starting with the pro-natalist positions of Mao's government in the Republic's founding years, moving on to the launch of the "Later, Longer, and Fewer" campaign and, finally, of the One Child Policy in early 1979. In par.3.3, we will delve into the political context behind the policy. Then, the content of the policy will be described, with focus on related incentives and sanctions, enforcement features and exceptions. Lastly, the first effects of the policy will be analyzed, focusing mainly on its intended effect on fertility levels, but also mentioning some of the policy unintended effects, such as the cases of under-registration and the phenomenon of *heihaizi*.

1.1 Overview of Chinese demographic growth

The People's Republic of China accommodates a population of 1.4 billion individuals in 2023, corresponding to 17.72% of the world's total population or nearly one-fifth of the global population. This figure has long made China the most populous country in the world. However, according to the latest revision of the 2022 edition of the United Nations' World Population Prospects, the Republic of India seems to have overtaken China in 2023 (United Nations, 2022).

The graph below (Graph 1) depicts China's population count since 1950 to the present and, with a dotted line, projections to 2050, based on the World Population Prospects' data. The period from 1950 to the present will be discussed in par. 1.1.1 and projections for future years will be analysed in par. 1.1.2.

Graph 1: Chinese population 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022. Note: the dotted line indicates future projections.

1.1.1 A period of sustained growth (1950 - current)

As graph 1 shows, China's population experienced a significant increase from 1950 and has nearly tripled over the last 70 years. In particular, according to the data provided by the United Nations' World Population Prospects (2022), in 1950, China's population was approximately 539 million. At that time, the population began to grow substantially, increasing by more than 100 million over the next 10 years (654 million) and reaching as much as 811 million in 1970. In the 1980, China's population was close to 1 billion (975 million). In the following year, China was the first country whose population reached 1 billion. A record to date held by China and India alone. In the following decades, the China's population continued to grow, albeit at a slower pace, with figures of 1.14 billion people in 1990, 1.26 in 2000 and 1.34 in 2010. By 2020, China's population was estimated at about 1.42 billion people. Table 1 (below) details China's population year by year from 1950 to 2021.

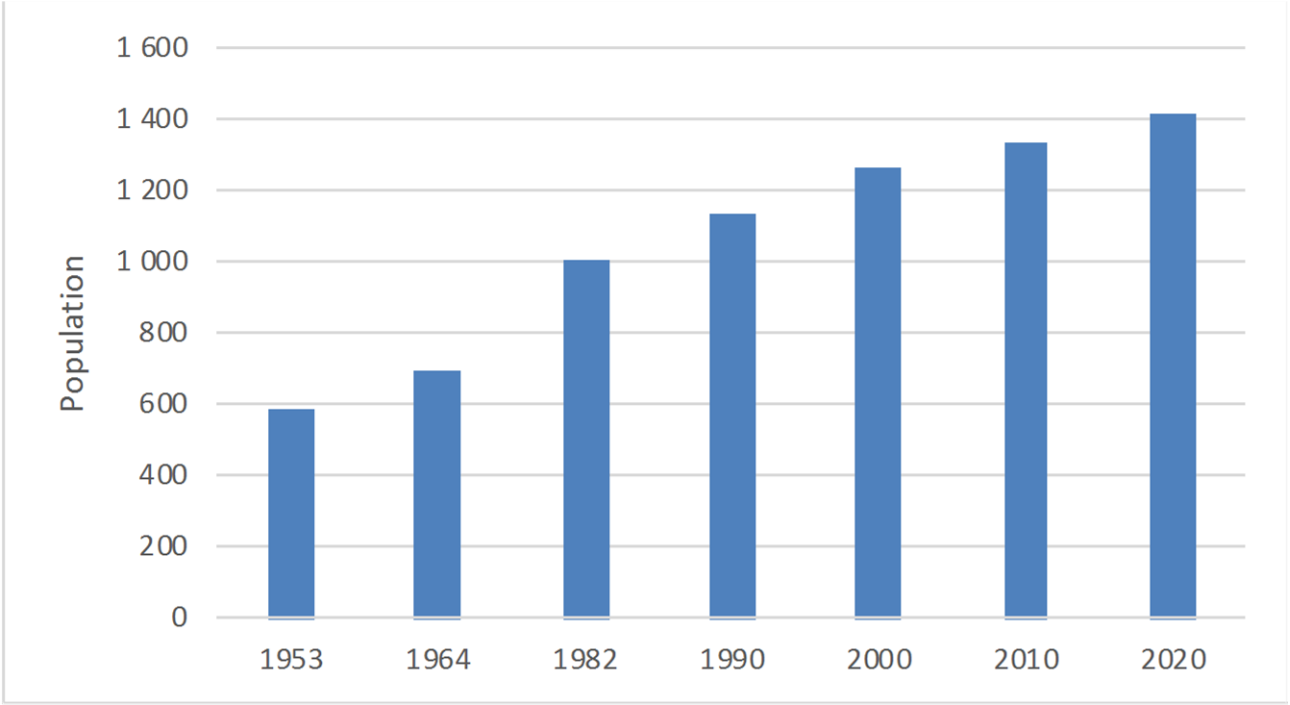
Table 1: Chinese population and Growth Rate 1950-2021

Year	Population	Growth Rate	Year	Population	Growth Rate
1950	539 190	1,76	1986	1 068 555	1,71
1951	548 768	1,75	1987	1 086 987	1,80
1952	558 460	2,30	1988	1 106 717	1,64
1953	571 450	2,05	1989	1 125 062	1,65
1954	583 308	2,25	1990	1 143 767	1,72
1955	596 564	2,24	1991	1 163 642	1,19
1956	610 076	2,01	1992	1 177 611	1,05
1957	622 490	2,39	1993	1 190 016	0,98
1958	637 516	1,95	1994	1 201 695	0,93
1959	650 067	0,65	1995	1 212 878	0,87
1960	654 291	-0,04	1996	1 223 411	0,80
1961	654 050	0,37	1997	1 233 187	0,75
1962	656 471	2,45	1998	1 242 416	0,71
1963	672 759	3,26	1999	1 251 256	0,67
1964	695 049	2,71	2000	1 259 610	0,71
1965	714 139	2,68	2001	1 268 588	0,65
1966	733 554	2,53	2002	1 276 891	0,63
1967	752 343	2,28	2003	1 284 961	0,61
1968	769 669	2,74	2004	1 292 786	0,62
1969	791 075	2,59	2005	1 300 848	0,62
1970	811 787	2,61	2006	1 308 927	0,63
1971	833 282	2,37	2007	1 317 246	0,65
1972	853 289	2,21	2008	1 325 781	0,66
1973	872 392	2,10	2009	1 334 554	0,68
1974	890 912	1,88	2010	1 343 698	0,67
1975	907 823	1,60	2011	1 352 685	0,65
1976	922 427	1,50	2012	1 361 506	0,74
1977	936 325	1,33	2013	1 371 616	0,65
1978	948 837	1,32	2014	1 380 585	0,67
1979	961 441	1,42	2015	1 389 795	0,56
1980	975 157	1,47	2016	1 397 636	0,61
1981	989 588	1,54	2017	1 406 143	0,59
1982	1 004 931	1,69	2018	1 414 409	0,38
1983	1 022 035	1,40	2019	1 419 730	0,30
1984	1 036 419	1,49	2020	1 423 998	0,13
1985	1 051 925	1,57	2021	1 425 862	0,00

Source: author's own elaboration based on United Nations - World Population Prospects 2022.

Another authoritative source on the subject is the national census. The first census was conducted in 1953, followed by a second in 1964 and a third in 1982. Since then, the census has been conducted regularly every decade by the National Bureau of Statistics, for a total of seven censuses. Chinese censuses cover the Chinese population living in mainland China, whereas it excludes population living in overseas China and Hong Kong, Macao and Taiwan. According to the results of the censuses, which are displayed in Graph 2 and Table 2, China's population was above 580 million in 1953. In the following decades, China's population has grown to nearly 700 in 1964 (695 million), to exceed one billion and reaching 1.01 in 1982 and 1.13 in 1990. Finally, in the last two decades, the population has reached 1.27 billion in 2000, 1.34 in 2010 and 1.41 in 2020.

Graph 2: Chinese population by census



Source: author's own elaboration based on Chinese Census. http://www.stats.gov.cn; https://csde.washington.edu/downloads/01-13.pdf

Table 2: Chinese population by census

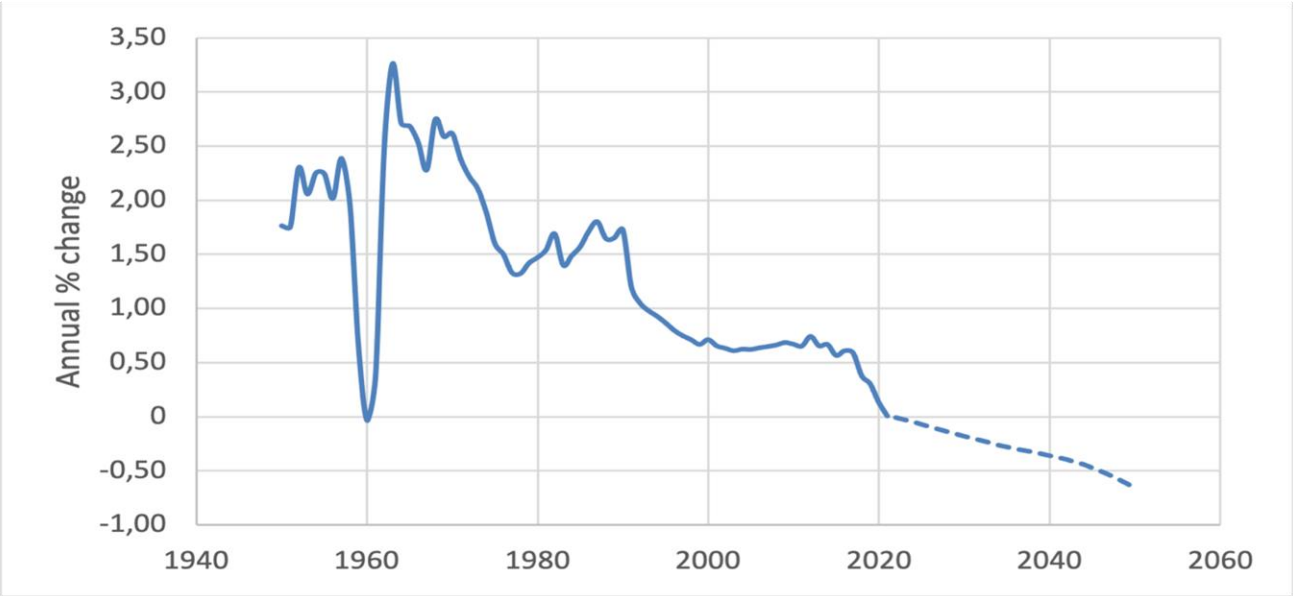
Year	Population
1953	582 603
1964	694 582
1982	1 008 181
1990	1 133 683
2000	1 265 830
2010	1 339 725
2020	1 411 779

Source: author's own elaboration based on Chinese Census

Overall, the data provided by the National Bureau of Statistics census deviates only slightly from those provided by the United Nations World Population Prospects and confirms the growth trend of the Chinese population.

Therefore, China has shown continuous population growth over the past century. Notwithstanding, the pace of this growth has not been constant. This can be glimpsed from the slope of the line in graph 1, which has sections with different inclinations. At the less sloping sections of the line, China's population grew at a less accelerated rate, whereas at the most sloping ones, population growth has been more expeditious. It is clearly the case in the period at the turn of 1960, in which the line appears virtually parallel to the x-axis, and then becomes very slanted in the period immediately thereafter. To capture the exact rate of population growth the population growth rate provides a particularly useful indicator. It expresses the average rate of change of population size over the period of one year, giving an accurate picture of the annual pace of population variation. It can display either positive or negative value, as the population grows or declines. Graph 3 displays the Chinese population growth rate from 1950.

Graph 3: Chinese Population Growth Rate 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

Three main observations can be drawn from Graph 3. Firstly, this graph clearly shows positive values, confirming the growth trend since 1950. Secondly, the graph shows an evident slowdown in growth rates. In fact, while in the 1950s, in 1960s (excluding the peak between 1959 and 1961) and in the first half of the 1970s it consistently showed values above 2%, from the second half of the 1970s the annual growth rate has fallen to levels of 1.5%. After a brief resurgence between 1985-1990, it finally dropped sharply to levels below 1% to current levels near 0%. Thirdly, the most noticeable spike in population growth occurred, as already anticipated, at the turn of the 1960s. Indeed, in those years China was experiencing a dramatic famine, as it will be explained in more detail below, in par 1.2. Details of China's population growth rate, year by year, from 1950 to 2021 can be found again in Table 1.

1.1.2 Projections for the future: towards an ineluctable decline?

As illustrated, China's population has increased significantly in recent decades since 1950 and China has been the most populous state in the world for many years, at times, raising concerns from rival countries. Actually, sources and projections for the future agree that this trend is expected to

come to a cessation in the coming years and China appears to be headed toward a future of population decline. Some sources estimate that the population growth trend will continue for a few years, but with a further declining population growth rate. Then, the Chinese population is expected to reach its peak and then finally beginning its decline. On the contrary, according to the forecasts of the Population Division of the United Nations (2022), China's population was predicted to peak in early 2020s and began declining in 2023, as shown in the dashed section of graph 1 and graph 2. More recent data seem to confirm this last projection (UN, 2022). Table 3 details China's population forecast and its growth rate for the coming decades, from 2022 to 2050.

Table 3: Chinese population and Growth Rate 2022-2050

Year	Population	Growth Rate
2022	1 425 925	-0,01
2023	1 425 849	-0,03
2024	1 425 493	-0,04
2025	1 424 864	-0,07
2026	1 423 900	-0,09
2027	1 422 611	-0,11
2028	1 421 007	-0,14
2029	1 419 084	-0,16
2030	1 416 866	-0,18
2031	1 414 346	-0,20
2032	1 411 546	-0,22
2033	1 408 480	-0,24
2034	1 405 141	-0,26
2035	1 401 489	-0,28
2036	1 397 606	-0,30
2037	1 393 487	-0,31
2038	1 389 190	-0,32
2039	1 384 714	-0,34
2040	1 380 020	-0,36
2041	1 375 094	-0,38
2042	1 369 951	-0,39
2043	1 364 584	-0,42
2044	1 358 891	-0,44
2045	1 352 935	-0,47
2046	1 346 579	-0,50
2047	1 339 841	-0,54
2048	1 332 684	-0,57
2049	1 325 063	-0,61
2050	1 316 946	-0,66

Source: author’s own elaboration based on United Nations - World Population Prospects 2022.

1.2 The evolution of government positions on population growth: evolving historical conditions and policies under Mao's leadership

In the previous paragraph (par. 1.1) we saw that the Chinese population has grown considerably in the last decades. Over the years, the Chinese government has shown very different attitudes toward this demographic trend, adopting sometimes pro-natalist positions and policies, sometimes opposing positions, which translated in the implementation of family planning policies aimed at curbing population growth. These different attitudes were conditioned by an intricate variety of factors, of a more or less contingent nature: the socio-economic conditions, the broader goals set by the government, the predominant academic studies on the issue, but also the personal beliefs of the leaders in charge. For instance, Mao Zedong has always view population as a national resource and has therefore understood population growth has inherently positive. On the contrary, Deng Xiaoping tended to see uncontrolled population growth as problematic.

We will now analyze how the Chinese government's position has evolved throughout the history of the People's Republic of China, in the years of Mao's leadership according to this complex mix of factors. We will start from the Republic's founding years (par. 1.2.1), we will then analyse the 60s (par. 1.2.2) and the 70s (par. 1.2.3).

1.2.1 1950s: pro-natalism and the first isolated concerns

By the 1950s, China's population was growing at a considerable rate, however, at that time, the Chinese government led by Mao Zedong did not perceive demographic expansion as problematic (Noboa, 2021). Indeed, China was coming out of a century in which wars and epidemics hindered significant population growth. Conversely, under the sway of Soviet pro-natalism, large population was saw as inherently connected with economic development and political prosperity (Lavely & Freedman, 1990). Accordingly, in these years, the Chinese leadership encouraged higher birth rates through a variety of material incentives and limited access to sterilisation (Wang, 2011). Moreover, in 1950 regulations have been enacted to limit access to abortion practices (Lavely & Freedman, 1990) and, subsequently, the Ministry of Health banned the import of contraceptives in early 1953, as deemed incompatible with national policies and objectives (Lavely & Freedman, 1990; WHO, 2008).

The first one to raise concerns over population growth was the President of Peking University, the economist Ma Yinchu, today considered the father of Chinese family planning. Yinchu, soon after the results of the first census of 1953 which revealed that the population amounted to as many as 583

million, recommended family planning, pointing out that unchecked population growth could have been detrimental to the country's economic growth. Following up on this position, in August 1953 the "Regulation on contraception and abortion" was passed, promoting the use and the access to contraceptive methods and removing previous restrictions against abortion and sterilization (Wang, 2011). Afterwards, the local production of contraceptives is recorded to have commenced (WHO, 2008).

However, Yinchu's position, after receiving this initial attention, was soon dismissed as "rightist" by the Chinese leadership. Actually, the central government further reinforced its pro-natalist rhetoric in preparation for the launch of the "Great Leap Forward" in 1958 worrying that labor supply would not match the demands of this ambitious plan (Zhang, 2017). The Great Leap Forward is the campaign launched under the leadership of Mao Zedong between 1958 to 1961 to accelerate the country's industrialization and agricultural collectivization through the establishment of "people's communes" (Dikötter, 2010). In order to attain these goals, the availability of an abundant labor force was regarded as an indispensable requirement (Zhang, 2017).

1.2.2 1960s: towards anti-natalist positions and the halt of the Cultural Revolution

In the 1960s, the Chinese leadership began to veer towards anti natalist positions. In fact, the Great Leap Forward shortly after its implementation began to reveal its limitations: the intended leap into industrialization took labour out of food production and the forced policies of agricultural collectivization led to a loss of individual incentives to produce for the remaining agricultural labor. As a result, agricultural productivity declined alarmingly, reaching a juncture where it was no longer sufficient to satisfy the needs of the population. In those years, China experienced what is commonly considered to be the deadliest famine in world history, which that claimed the lives of tens of millions of people across the country (Dikötter, 2010; Zhang, 2017). The exact number of famine deaths is difficult to determine. The majority of estimates approximate the death toll to be between 20 to 45 million individuals, with certain sources suggesting figures up to 55 million. If we were to consider the most extreme estimates, the famine would have resulted in the loss of approximately 1 in every 12 lives (Dikötter, 2010; Zhang, 2017). This massive famine raised Malthusian concern and has been construed as strictly linked to population growth. Thus, when, soon after the end of the famine crisis, the level of fertility started to rebound vertiginously, reaching more than six births per woman, serious fears of population bomb spread (Zhang, 2017). As a response, already in the early 1960s the central government took some initial family planning measures and set the first population growth targets (Wu et al., 2009). In particular, at the end of 1962 the document 62-698 "Instructions for the serious

promotion of family planning" was published by the State Council and in 1964 family planning commissions were set up throughout the country, at the national level (the “State Family Planning Commission”) and gradually at the province and prefecture level. These initial measures were then halted with the onset of the “Cultural Revolution” in 1966 (Chen & Huang, 2020).

The Chinese Cultural Revolution was a political and socio-cultural campaign initiated by Mao Zedong and ended with his death a decade later (1976). At its core, the campaign aimed at reforming society. On the one hand, it focused on eradicating cultural and social influences perceived as "revisionist" or "bourgeois" in Chinese society and what was commonly known as the "Four Olds": old ideas, old culture, old habits, and old customs. On the other hand, it focused on reconstructing a society based on a renewed communist ideology and on the principle of class equality. This period is considered one of the most controversial pages of Chinese history. In fact, it was characterized by chaos and widespread violence throughout the country especially by students known as “Red Guards”. Destruction of universities, religious temples and works of art, massacres and serious human rights violations were witnessed all over the country, starting with the series of massacres perpetrated in Beijing in the notorious "Red August" (Dikötter, 2016; MacFarquhar & Fairbank, 1991). Especially in the first half of this period, demographic goals were set aside in favor of broader goal of reforming society, with most of the established family planning bodies ceasing their operation (Chen & Huang, 2020).

1.2.3 1970s: urgency of population control and the “Later, Longer, Fewer” campaign

Attention to family planning measures returned in the early 1970s, due to the stagnant economy and the deterioration of the general standard of living. In response to these factors, the government began to focus on the urgency of population control in an attempt to stimulate economic development and improve living standards. In particular, in early 1970, then Premier Enlai Zhou called for the recovery of family planning and, the following year, the document 71-51, "Report on Better Implementation of Family Planning Policy" was released, which officially sanctioned the resumption of family planning since the Cultural Revolution (Chen & Huang, 2020). After the premier's statement and the official document, two major family policy operations were launched: the “Later, Longer, and Fewer” campaign and the Leading Groups for Family Planning. Overall, both central and local governments significantly increased their budgets in order to finance family policy operations. Some estimates speak of an increase from 60 to 200 million yuan from 1971 to 1979 (Chen & Huang, 2020).

The first operation was the launch of the *Wan-Xi-Shao* ("Later, Longer, and Fewer") campaign. This campaign was conceived as a voluntarily program, through which the Chinese government hoped to control population growth, encourage a balance between the country's population and resources and improve the welfare of families by allowing them to allocate more resources on each child. The slogan "Later, Longer, and Fewer" summarized three demographic guidelines: "later" marriages (indicatively meant ages 28 and 25 for men and women in the cities and 25 and 23 for men and women in the countryside), "longer" spacing between childbearings (about four years in cities than three in the countryside) and "fewer" number of children (implied to be at most two, especially for urban couples (Noboa, 2021; Bongaarts & Greenhalgh, 1985; Chang et al., 2006).

The second main operation consisted in the establishment of the Leading Groups for Family Planning. These Leading Groups between 1970 and 1975 were established in all provinces for organizing, guiding and ensuring the correct enforcement of family planning policies at the province level, under central government direction. These provincial leading groups were highly influential institutions, suffice it to say that, very frequently, their leader also held the position of provincial party committee's leader. The Chinese professors Chen and Huang (2020) identify and describe the three main activities of these groups. First, Leading Groups oversaw the promotion the "later, longer, fewer" campaign and the design the respective reward-punishment system. Second, they supervised the organization and work of professional groups to propagate family planning. Public promoting family planning was through broadcast, scientific texts and school textbooks and consisted in the dissemination of a wide range of policy-related information, including birth control benefits, testimonies of successful family planning experiences, as well as popularization of contraception and sterilization methods. Third, Leading Groups were in charge of providing technical assistance in birth control, which included the distribution of contraceptive pills and supporting the introduction of technological equipment necessary for sterilization.

In these years, family policy operations were supposed to be implemented on a voluntarily basis. However, not only compliance with government directions was rewarded, but there is also evidence that violations were met with punishments. Rewards included discounts for sterilization operations, discounts and priorities in various services, such as education and employment ones, for unmarried people and priority in housing arrangements for couples marrying later. Instead, punishments mainly took the form of reduced subsidies. For instance, in the Shandong province medical expenses for childbirth were not covered after the second delivery (Chen & Huang, 2020). In the 28 provinces studied by Chen and Huang (2020), they found that only nine of these provinces

documented punishments in case of violations, of which three (Qinghai, Xinjiang and Jiangxi provinces) only implemented punishments from the fourth birth. In contrast, other research already points to the coercive elements in these policies, such as forced IUD insertion and forced sterilizations, and describes these operations as characterized by extremely intrusive elements since the very beginning, such the records on women of reproductive age that birth planning officials were instructed to keep. Indeed, these records contained extensive information, ranging from contraceptive use, previous births to even menstrual monitoring (Whyte et al., 2015).

1.3 The One Child Policy

In the 1970s, family planning policies became more structured and systemic: population control became more and more widespread and the measures implemented increasingly invasive and coercive. Finally, in early 1979 the One Child Policy was announced (Whyte et al., 2015). This shift toward a much more distinctively coercive policy should also be insert within the framework of a new political leadership and the following policy change. In fact, Mao died in 1976 and Deng Xiaoping took over in 1978, initiating several reforms. In this section the One Child Policy will be described, starting indeed from the analysis of this new surrounding political framework (par. 1.3.1). Subsequently, we will analyse the content of the policy (par. 1.3.2). Finally, we will discuss the decline in fertility in China and we will try to identify the role of the One Child Policy in this trend, by reviewing the main academic contributions on the subject (par. 1.3.3).

1.3.1 Framework: Deng's leadership and policies

After Mao’s death, Deng Xiaoping took over in 1978. Deng had already held multiple executive positions at the apex level within the Communist Party of China (CPC) in the Mao era, to be later marginalized and finally purged at the time of the Cultural Revolution at the behest of the then leader because of his divergent views. Only with Mao's death was Deng able to gradually return to the political scene until he became its undisputed protagonist (Pantsov & Levine, 2015).

Deng was one of the main architects and supporters of the so-called “Boluan Fanzheng”, a political campaign launched in the period immediately following Mao's death up to the 1980s. This expression literally means "eliminate chaos and return to normalcy" and indeed it aimed, firstly, at correcting the errors and distortions produced by the Cultural Revolution launched by his predecessor and, secondly, at restoring stability, given that the Cultural Revolution had resulted in social turmoil and economic instability. In response, Maoist policies and initiatives that had characterized this Revolution were gradually abandoned and dismantled. Millions of victims of the Revolution received

rehabilitation and could be progressively reintegrated into Chinese political and social life. In practice, these two goals translated in the launch of various reforms in different areas. On the economic side, the reforms hinged on economic pragmatism, through the promotion of more pragmatic and reasonable policies. On the political side, reforms aimed to improve governance while reducing the concentration of personal power so as to prevent any possible political excesses. Concerning the cultural side, several initiatives were launched to recover and reconnect with traditional Chinese culture, which had been severely damaged in previous years, starting with reforming China's education system. On the military side, the organization and operation of the Chinese armed forces have been revised with the aim of increasing their efficiency. Overall, these policies not only marked a clear break from Maoist policies and helped to restore political and economic stability after the turbulent years of the Cultural Revolution, but also laid the foundation for the subsequent national policies, the socio-economic policies of modernization, known as “Four Modernizations”, and the opening up to the external world, the so-called "Open Door Policy” (Meisner, 1996; Fairbank & Goldman, 2006; Fenby, 2013; Vogel, 2011).

The expression "Four Modernizations" describes a set of policies promoted by the Chinese leadership under Deng Xiaoping with the main goal of modernizing Chinese economy. In order to attain this objective, four key areas were modernized, namely agriculture, industry, defense, and science and technology. To modernize the area of agriculture, focus was placed on improving cultivation techniques, introducing new technologies and encouraging industrialization in rural areas. As for the industrial area, promotion technological innovation and the attraction of foreign investment became key. The defense sector was also modernized by advancing military technologies and by the strengthening of national defense capabilities. Finally, great attention was given to the promotion of research and innovation in the fields of science and technology. On the whole, the implementation of this set of policies is generally considered to have produced the desired results, making China a more advanced economy (Fairbank & Goldman, 2006; Fenby, 2013; Meisner, 1996; Vogel, 2011).

The term "Open Door Policy" refers to one of the main innovative policies promoted by the new leader, concerning China’s diplomatic and commercial relations with foreign countries. This policy aimed at “opening the door” of China to trade with the rest of the world and to foreign businesses willing of investing in China. To achieve these policy goals, China promoted the removal of existing trade barriers and customs restrictions and upheld the rights of foreign enterprises and investors operating in the country. Clearly, this policy marked a clear break with the isolationism that had characterized the Maoist era. In these years, many states established diplomatic and trade relations with China, starting from the United States and Japan, followed by Western powers of the

United Kingdom, France, Germany. For their part, these countries renewed engagement with China, was also motivated by the need to prevent the emergence of exclusive spheres of influence in China. Overall, the "Open Door Policy" thickened China's connections, both commercial and diplomatic, with the rest of the world and increased access to foreign technologies. On balance, it is believed to have contributed positively to Chinese economic performance. Nevertheless, is also believed to have contributed to increased tensions and divisions within the country (Fairbank & Goldman, 2006; Fenby, 2013; Meisner, 1996; Vogel, 2011).

Taken together, the “Four Modernizations” and the "Open Door Policy" marked a noteworthy change from the previous Maoist policies. Despite some controversies, these policies fostered the country’s modernization and opening to foreign trade, thus, significantly contributing to China's rapid economic growth. They are generally credited with leading the country in the following years to establish itself among the world's major economic powers (Kroeber, 2020; Vogel, 2011).

Within this framework, the new leadership saw large population as inconsistent with the established programmatic goals and policies. Indeed, unchecked population growth was believed to hinder modernization and economic development, by hampering the achievement of full employment and cutting increases in capital accumulation, living standards and education level (Chen, 1979; Liu, 1981). Reflexively, Deng Xiaoping’s administration started to look with concern at the entry of a large portion of the population – the baby boomers of the 1950s – into their reproductive years (Hesketh et al., 2005), which, among other things, awakened neo-Malthusian concerns on foodgrain shortages. As a result, Deng decided to strengthen population control (Zhang, 2017). This policy decision aimed at increasing living standards among the Chinese population and GDP per capita and improving Chinese modernisation and industrialisation prospects (Zhang, 2017; Wu et al., 2009). Overall, this shift was deemed to be more in line with the programmatic goals and policies of modernization and opening up to trade with foreign countries set by the new leader. The decision was also supported by a nourished body academic studies and future projections. Indeed, in those years, there were several studies on the optimal population size that would have yielded the maximum levels of well-being, as well as many projections on the dire consequences of unchecked growth on food and water resources and on the overall economic development (Bongaarts & Greenhalgh, 1985).

1.3.2 Policy Content: incentives and penalties; decentralization and exceptions

The One Child Policy aimed at curbing fertility levels, by requiring Chinese families to have at most one child. To ensure compliance with this limit, this policy put in place a series of incentives

and penalties. In particular, on the one hand, economic and administrative incentives were granted to those couples that manage to limit their family size to one child, and, on the other hand, a wide set of penalties were enforced against those couples who, on the contrary, committed violations of the policy and exceeded the established threshold of children (Bongaarts & Greenhalgh, 1985). Incentives were of various kinds: they included payroll supplements, access to social welfare payments, priority in housing, schooling, and medical care (Bongaarts & Greenhalgh, 1985). Penalties could be pecuniary sanctions or administrative actions, including losing employment in the public sector or suspension of party membership (Noboa, 2021). Besides, the policy is infamous for the coercive measures employed, like mandatory sterilizations, insertions of IUDs and abortions (Whyte et al., 2015). These coercive measures often drew criticism from the international community and from NGOs and human rights groups. Among the most critical of the policy, there are Human Rights Watch and Amnesty International. Respectively, the former has denied the government's right to regulate in such an intrusive way women's reproductive freedom and the latter has defined the coercive practices associated with the policy as "torture" (China Power Team, 2016).

The enforcement of the family planning proved to be problematic from the outset, especially encountered many more difficulties in rural areas than in urban areas. Indeed, in urban areas, residents already had relatively lower fertility rates compared to the rural population. Moreover, urban residents were mostly employed in state-owned enterprises, which made easier to monitor their behavior and to sanction possible infringements of policy. Thus, the enforcement of the policy in these urban areas is deemed, to a large extent, to be successful. By contrast, the enforcement of the policy wavered in rural areas. In 1979 rural residents consistently displayed higher fertility rates compared to their urban counterparts, due to their need for a larger family for agricultural work (Kane and Choi 1999). Moreover, monitoring and sanctioning their behaviour was comparatively more complex. Given the general heterogeneity of China, with very different demographic condition and diverse economic needs, and the resulting difficulties in implementing the set policy, in 1984 the Chinese government decided to allow for a greater degree of decentralization in the enforcement of the policy, a technique that the Chinese government has often resorted to (Lieberthal, 1995). Decentralization allowed for more flexibility in the implementation of the policy. In several rural provinces, particularly in provinces where higher fertility rates and greater resistance had been recorded, local authorities opted for more lenient punishment or introduced exceptions. Indeed, taking into account their need for agricultural work, in some cases, residents to these provinces were permitted to have a second child (Short & Fengying, 1998; Zhang, 2017).

In general, thus the policy prohibited second births. However, there was a limited list of extraordinary circumstances which made couples eligible for a second child upon certain conditions. The list of exceptions has varied over the years and differed across provinces, however, in general terms, exceptions concerned specific circumstances. Firstly, as seen, a certain flexibility was granted to rural couples, to meet their needs for agricultural work. In several instances, these couples were permitted to have a second child, especially if the first one was a female (Short & Fengying, 1998; Zhang, 2017). Secondly, exceptions were also granted for ethnic minorities, such as Mongols or Koreans, on account of their modest populations compared to the Han ethnic majority. Also, in the case of Korean minority, as demonstrated by the study by Park and Han (1990) on the fertility levels of the Korean Minority in China between 1950 and 1985, Korean women already had relatively lower level of fertility, coupled with limited growth rate. Lastly, exceptions were also extended to parents of first-born children with disabilities. As we shall see in the next chapter (Chapter II), over the years, the policy has been considerably loosened and the list of exceptions has been extended, at first, to couples of only children and, then, to couples in which one of the parents was an only child, until it was completely abandoned.

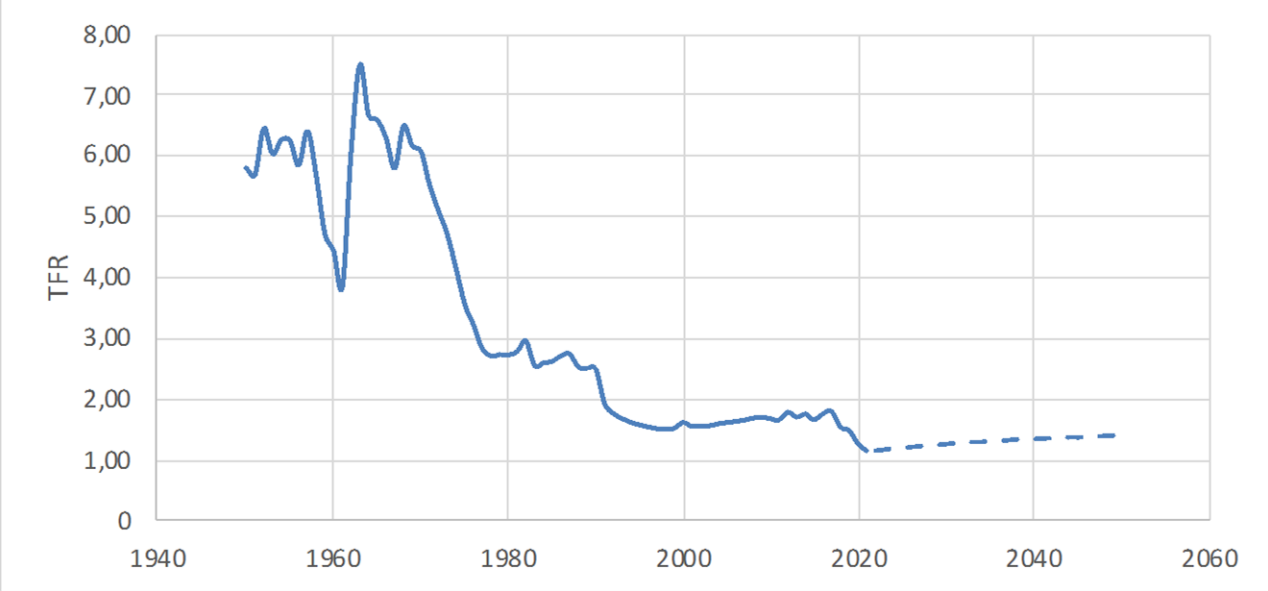
1.3.3 Fertility decline, *heihaizi* and academic debate

The first effect of the One Child Policy is on fertility. Despite it being established that fertility in China has significantly declined after the implementation of the policy, quantifying the precise entity of such decline as well as in general the effects of policy on the Chinese population structure is fraught with difficulties. A major difficulty is the cases of non-registration. Given the heavy consequences that infringing the one child requirement implied, it became widespread the practice of non-reporting the newborns to the Chinese household registration system. These newborns were commonly denominated *heihaizi*, which literally means “black children” (Noboa, 2021). According to one of the most recent research, the number of unregistered people in the country should currently hovers around 13 million (Dorling & Gietel-Basten, 2017). Obviously calculating the exact magnitude of this phenomenon is virtually impossible and estimates usually differ a lot, however, it is generally considered the most striking example of under-registration (Dorling & Gietel-Basten, 2017). Such a phenomenon not only has considerable repercussions on the lives of the individuals involved (until recently, they were denied many of their basic rights, were precluded in their access to education, to many employment and basic social services, such as medical care, which obviously dramatically affect their well-being and their life expectancy), but also undermines the exhaustiveness of official data (Noboa, 2021; Dorling & Gietel-Basten, 2017).

Official data show a significant decline in Chinese fertility levels over the past decades. Estimates speak of a decline from an average of over 6 children per women in 1950-1955, to the current level well below the replacement level of 2.1, which is threshold necessary for a population to be replaced by the next generation (Weeks, 2015; Rowland, 2003).

The reference indicator is the Total Fertility Rate which summarises how many children a woman has on average for a given population (Weeks, 2015; Rowland, 2003). The graph below (Graph 4) depicts China's Total Fertility Rate since 1950 to the present, based on the World Population Prospects' data.

Graph 4: Chinese Total Fertility Rate 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

This graph clearly shows a downward trend, confirming the fertility decline in China, from around 6 children per women in 1950 to the level of 1,16 in 2021, well below the replacement level. Already at the turn of the 1960s there was a first drop in fertility, with a below 5 children per woman between 1959 and 1961. Nevertheless, it had been a circumscribed event, which can be traced back to the Great Leap Forward and the ensuing famine. In fact, at the end of the famine, fertility rebounded, to 7,5 in 1963 and then stabilised at pre-famine levels. A more conspicuous decrease occurred since the second half of the 1960s. The TFR declined rapidly from values above 6 in 1970 to 3,5 in 1975. Since 1977, the TFR has fallen below 3 children per woman and has been systematically below replacement levels since the 1990s. In the last decade, the average number of

children per woman has declined further. The most recent estimates show an average of 1,16 children per women in 2021 (UN, 2022).

This trend of declining fertility is not an isolated case; on the contrary, it is a common trend in many developed countries around the world. However, the rapidity and the timing of the decline in the Chinese case are astonishing. On the subject, there is a rich body of literature and a lively discussion, at the academic and political level. Contemporary scholars continue to study and assess this policy and its effects in the short and long run, often expressing conflicting if not opposing views.

Main studies on the subject attribute this rapid and drastic decline in fertility to the strict family planning policies implemented by the Chinese government (Feng et al., 2013; Mauldin, 1982; Goodkind, 2017). The Chinese authorities themselves proudly recognised the merit of the policies. Indeed, the standard view in the years immediately following the implementation of the policy, when it was common to state that the policy prevented 400 million people from being born into a poverty-stricken condition (Feng et al., 2013). This position has been supported by Mauldin (1982), who maintains that the One Child Policy caused an "induced fertility transition", but also more recently by Goodkind (2017), who found that very low fertility arrived two or three decades too soon in China compared with countries with similar economic conditions.

Interestingly, as it has been highlighted also by Basten and Jiang (2014), the most significant decline in fertility occurred at the turn of the 1960s and 1970s, prior to the enforcement of the One Child Policy, as can be observed graphically above (Graph 4). Whyte et al. (2015) have attributed the most substantial part of the decline in fertility to the "Later, Longer, and Fewer" campaign. Indeed, between 1970 and 1978, Chinese Total Fertility Rate has sharply dropped from more than 6 children per women to around 3.

Other authors have suggested that China's fertility might have dropped to the current low level even without governmental policies. Some suggest that the decline would have occurred anyway due to the economic development (Zhang, 2017; Noboa, 2021; Cai, 2010). In general, there are many theoretical studies that assume a link between the economic development of a country and its fertility levels, (Rowland, 2003; Weeks, 2015) Among these studies, many focus on microeconomic aspects, from the early microeconomic fertility model by the economist Harvey Leibenstein to the famous by quality - quantity fertility model elaborated by Gary Becker (Rowland, 2003; Weeks, 2015). Looking more specifically at the Chinese case, authors such as Zhang (2017), Noboa (2021) and Cai (2010) claim that the levels of fertility in China would have declined as a result of the country's economic development. Noboa (2021) supports this view by citing the example of countries like South Korea

and Thailand, which experienced significant economic growth during the same years as China but chose to implement family planning policies on a voluntary basis, and nonetheless exhibited sharp declines in fertility. Similarly, Zhang (2017), by comparing Chinese fertility trend between 1950 and 2010 to those of other developing countries, including again South Korea and Thailand, but also Mexico and India, found that all the countries under review had high fertility levels in the 1960s and exhibited sharp declines in fertility after 1970, even without such a compulsory population control policy. Further evidence is given by Yong Cai (2010) in his study on the Chinese provinces of Jiangsu and Zhejiang, where he found that, despite the two areas differed greatly in the intensity of the One Child Policy implementation, this difference did not translate into substantially different fertility levels, concluding, thus, that socioeconomic factors had stronger effect.

Other studies suggest that fertility may have plunged to the current low level through improved levels of education (Lavely & Freedman, 1990). Generally, fertility literature places great emphasis on the role of education (Rowland, 2003; Weeks, 2015). Many studies highlight that education tends to be inversely associated with fertility, affecting both the timing of childbearing and the number of children (Bongaarts, 2003; Cleland & Rodríguez, 1988; Rowland, 2003; Weeks, 2015) Education impacts on fertility in many ways, including the following: it raises the opportunity costs of childbearing for educated parents and in particular educated women, which simultaneously obtain alternatives to achieving social status other than bearing babies (Easterlin & Crimmins, 1985); it leads to greater knowledge and uses of contraceptive methods (Cleland & Rodríguez, 1988; Cleland & Wilson, 1987); the schooling of children increases the costs that families have to bear, decreasing the economic capacity to support an additional child (Caldwell's 1982; Caldwell et al. 1988). In the specific case of China, this position is supported by some empirical studies that confirm that fertility started declining among Chinese better educated strata even before the implementation of family planning programs (Piotrowski & Tong, 2016), both in urban and rural areas (Lavely & Freedman, 1990). In this regard, Freedman et al (1988) have conducted a comparative studies on the Chinese provinces of Liaoning (one of the most advanced provinces) and Sichuan (a relatively backward one), with the precise aim of assessing the relevance of education factor in the decline of fertility in these provinces. Despite this study attributes the decline in fertility to the family planning policies, it also found that the lower fertility levels observed in Liaoning, before the implementation of the policy, can be reconnected to the higher level of educational attainments of the province.

The effectiveness of the One Child Policy has also been assessed in light of its alternatives. In an early study, Bongaarts and Greenhalgh (1985) demonstrate that a two-child policy accompanied

by delayed childbearing could have been as effective as the one-child policy in reducing fertility, while considerably reducing the economic and logistic costs connected with its implementation.

To recapitulate, it is impossible to state with certainty what the result would have been without such invasive governmental policies. It is highly plausible, that fertility might have declined anyway as a result of other factors, however, the timing of such drop would probably have been different. The One Child Policy and the preceding "Later, Longer, and Fewer" have accelerated this trend.

CHAPTER II

Analysis and assessment of the One Child Policy's impact on the Chinese demographic structure

Introduction

In the previous chapter (Chapter 1) we traced the evolution of the Chinese government's demographic position and subsequent policies over several decades, starting with the pro-natalist positions of Mao's government in the Republic's founding years, moving on to the launch of the "Later, Longer, and Fewer" campaign and, finally, of the One Child Policy in early 1979. Afterwards, the content of the policy was analyzed, with focus on related incentives and sanctions and on its effect on fertility levels. After mentioning some of the effects of the policy, the cases of under-registration and the phenomenon of *heihaizi*, we dwelt on the fertility decline caused by the policy (and the "Later, Longer, and Fewer" campaign). This latter effect is characterised by two features: first, was an immediate effect of the policy. Actually, as we have seen, already before politics, with the 'Later, Longer, and Fewer' campaign, there had already been a significant drop in fertility. Second, was an effect deliberately intended by the government. The main objective of the policy was precisely to curb fertility levels, so as to promote economic development and improve the living standards of the population.

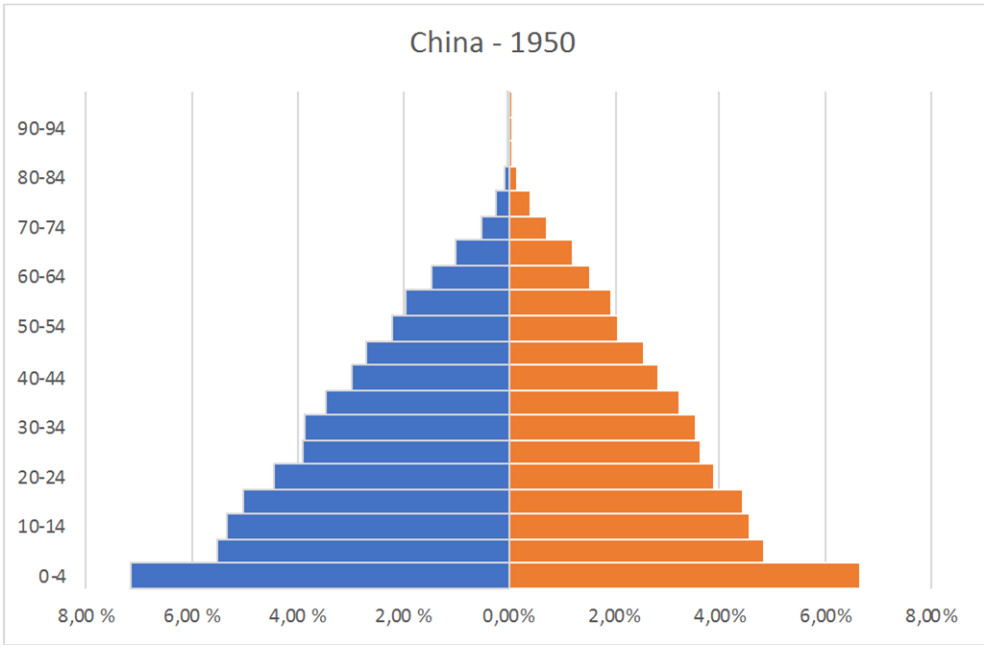
In this chapter, we will continue analysing the effects of the One Child Policy on the Chinese demographic structure, nevertheless, we will focus on a different kind of effects with different, if not opposing, characteristics to those analysed in the previous chapter. In particular, we will see the impact of the Policy on the gender distribution (par. 2.2) and age structure of the Chinese population (par.2.3). The effects to be discussed here are characterised by the fact that they unfold over the long term and are, to a large extent, unintended.

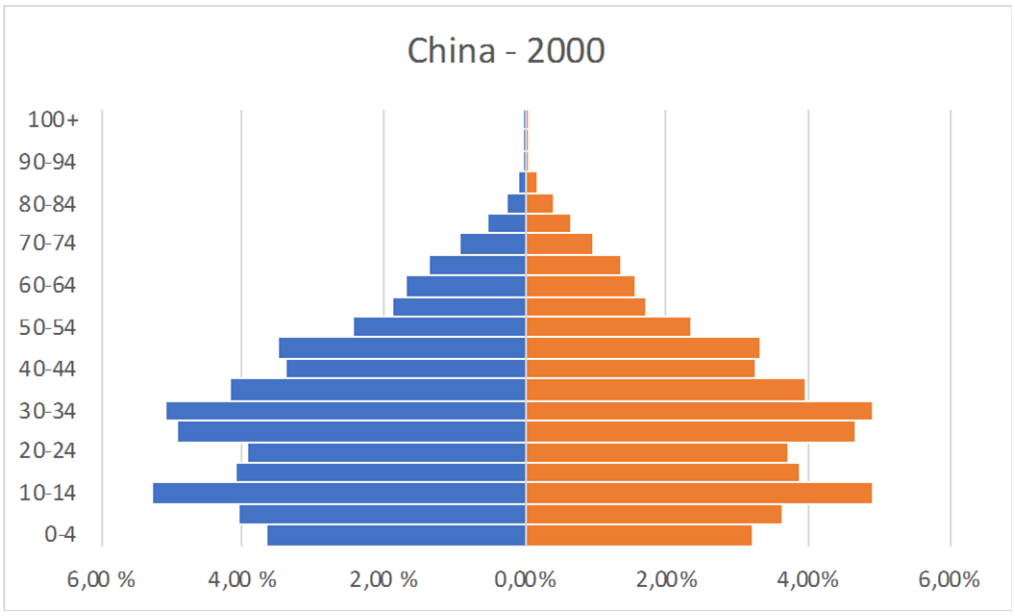
2.1 Overview of Chinese demography

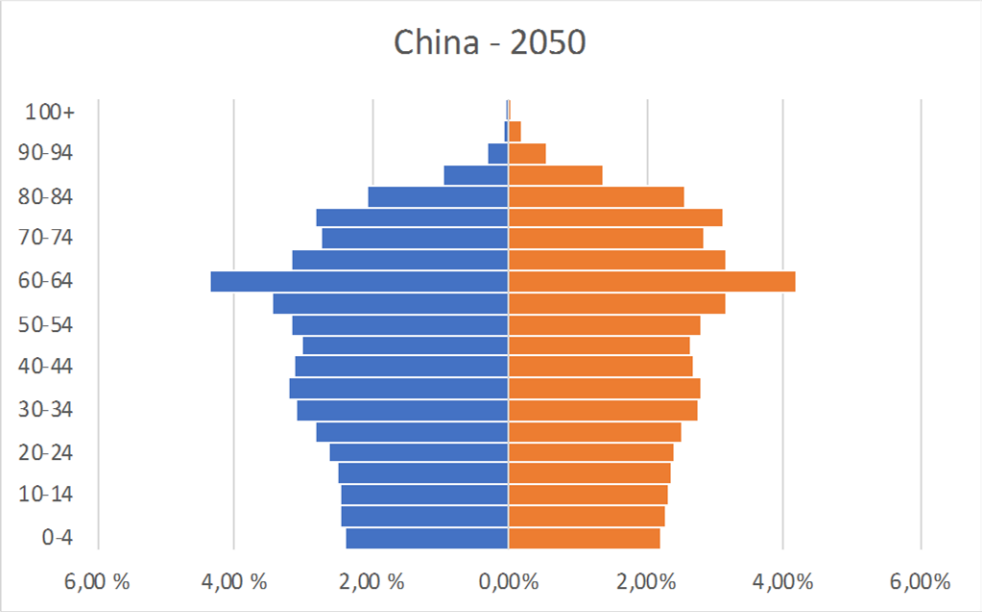
A very useful tool to have an overview of Chinese demographic structure, in order to better assess the One Child Policy's impact, is the population pyramid. The population pyramid provides a graphical representation of the age and sex distribution of a population (Weeks, 2015; Rowland, 2003).

Based on the UN data (2022), three population pyramids were constructed (Graph 5). The first one (Graph 5 a) depicts Chinese demographic structure before the One Child Policy, in 1950; the second one (Graph 5 b) in 2000, thus, after the implementation of the policy; and the last one (Graph 5 c) illustrates the population structure projections for 2050.

Graph 5 (a)(b)(c): Chinese population pyramids 1950, 2000 and 2050







Source: author's own elaboration based on United Nations - World Population Prospects 2022. Note: The left section (blue) depicts the male population and the right section (orange) the female population.

From the comparison of the three pyramids, one can see a radical evolution in the structure of the Chinese population. In fact, the three pyramids have distinctly different shapes. The first one (Graph 5 a) has a more definite pyramid shape, with a relatively larger base and a leaner top. In the second one (Graph 5 b) the shape is similar to the previous one, but with an enlargement in the middle age groups. Last, in the graph (Graph 5 c), the shape of the pyramid is the least distinctly pyramidal, it is almost rounded. This observation gives us a first consideration on the evolution of the structure of the Chinese population: the ageing trend that is expected for China in the coming years. In fact, the first pyramid's shape is typical of a youthful population, the third one represents an aged population.

A second observation that can be drawn from the graphs concerns the distribution between the sexes. In all the pyramids a relative excess of males over females can be observed, especially at the early age groups, while in the older age groups women outnumber men, in line with the latter's longer life expectancy (Weeks, 2015; Rowland, 2003). In 1950, males outnumber females in all the age groups up to 55-59 group, by over 25 million and, in 2000 and 2050, up to 65-69 group, respectively by of almost 39 and 49 million.

The following paragraphs will focus precisely on the Chinese missing women (par 2.2) and the ageing trend (2.3) of the Chinese population. These two phenomena will be empirically explored and correlated with the One Child Policy.

2.2 Chinese Sex Ratio: the phenomenon of "missing women"

The Chinese One Child Policy have had a strong impact on gender distribution in the population. The policy was implemented in a context of traditional son preference. Before the policy, couples already showed a marked preference for the male child. Nevertheless, in a high fertility setting, couples were much less likely to end up sonless, thus son preference affected sex ratios only to a limited extent (Park & Cho, 1995). With the introduction of such severe restrictions on fertility, gender discrimination against women increased significantly. Cases of infanticide of girls and abandonment of daughters have been repeatedly recorded, as well as cases of sex selective abortions when sex-determination technologies became available. As a result, male population consistently outnumber the female population by tens of millions. Gender discrimination is also evidenced by the relatively excess mortality of girls and by the skewed sex ratio in favour of boys, especially the Sex Ratio at Birth.

Consequently, many authors refer to the phenomenon of "missing women" (Ebenstein, 2010; Sen, 1992), i.e. those women that would be alive in the absence of gender discrimination. The exact number of the phenomenon is hard to quantify, not least because of the under-registration cases in China. However, estimates suggest that the number missing women resulting only from the One Child Policy is between 50 to 100 million (Edwards & Tiefenbrun, 2008).

We will delve into this phenomenon, by referring to one of the most reliable indicators of gender discrimination, the Sex Ratio at Birth (par. 2.2.1), and by analyzing the underlying son preference context (par. 2.2.2). Last, we will look at the possible consequences that gender imbalance entails and at the measures taken by the government so far to counter this phenomenon (par. 2.2.3).

2.2.1 Empirical study of the Sex Ratio at Birth in the Chinese population

China has currently the most skewed Sex Ratio at Birth (SRB) in the world. The SRB shows the ratio of the number of male births to every 100 female births in a population along a given time frame. This ratio shows values noticeably uniform of about 105-106 males per 100 females at births in developed countries, with a distinct excess of male births over their female counterparts (Rowland, 2003). Authors have often inquired about the causes of this excess of boys' births. This topic is still debated. Many hypothesized a link with biological factors, such as the need to compensate for relative higher male death rates or for higher male fetal mortality. Research on this topic has also shown the association between wars and raises in the ratio, advancing biological and evolutionary explanations for the phenomenon (Weeks, 2015; Rowland, 2003). The main sources for data on the SRB are the national censuses. At the international level, the United Nations provides one of the most reliable

sources, with its World Population Prospects, which also refers to data on the SRB around the world. Table 4 is based on this latest data.

Table 4: Chinese Sex Ratio at Birth

	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	2050-2055	2095-2100
China	1,07	1,08	1,12	1,14	1,16	1,17	1,15	1,13	1,07	1,07
More developed regions	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05
Less developed regions	1,06	1,06	1,06	1,07	1,08	1,08	1,08	1,07	1,05	1,05
Less developed regions, excluding China	1,05	1,06	1,06	1,06	1,07	1,07	1,06	1,06	1,05	1,05

Source: author's own elaboration based on United Nations - World Population Prospects 2019.

Table 4 shows SRB of China and of the groups of more developed countries and less developed countries and the latter without China. These groups are based on the UN categorization, which includes in the first group of countries European and North American countries, Australia, New Zealand and Japan and in the second the African and Asian countries (excluding Japan), South America, the Caribbean and Pacific Islands. The following findings emerge from this data. On more developed regions, they display ratios consistent with the value of about 105 males per 100 females at births. Looking at less developed regions, these countries display values slightly above that, between 105 and 108. The Chinese case deviates starkly from the values reported both by more developed regions and less developed ones. It displays a steady increase in the reported SRB from following the implementation of the One Child Policy. It went from 107 in 1980-1985, to values above 110, even reaching 117 the 2005-2010 period. Another UN estimate reports the SRB for the previous period, before the implementation of the One Child Policy, finding that between 1950 and 1973 China displayed a SRB not so different from other countries of 1.06 (UN, 2022). When China is subtracted from the category of less developed regions, their SBR values approach more those of more developed regions.

Further studies on Chinese SRB point out that there are wide variations in SRB across the country and speak of even higher SRB. Hesketh and Xing (2006) highlight higher SRB in rural areas, with values as high as 130 in some rural provinces. Specifically, Hesketh et al. (2011) add that abnormal values at 130 could be found in the area from Henan in the north to Hainan in the south, whereas the provinces of Xinjiang, Inner Mongolia and Tibet had values close to normal.

These data show a strong connection between the One Child Policy and skewed sex ratios. It is not surprising that the most distorted SRBs were in rural areas, given their need of men for agricultural work. The study on abnormal sex ratios in the Chinese population conducted by Therese Hesketh and Zhu Wei Xing (2006) shows two additional findings on the issue. First, by examining sex ratio by birth order, they found that second and subsequent pregnancies were associated with even higher sex ratio, which means that couples with their second pregnancy were even more likely to sex-select or non-registrate. Second, they also underlined a remarkable difference between urban and rural areas: in urban areas, where, as we saw, the one child requirement was more rigidly enforce, sex ratios were relatively higher for the first child, while in rural zones, where greater flexibility was granted in the enforcement of the policy and, in some cases, couples were allowed to have a second child if the first one was a daughter, higher sex ratio can be found in correspondence to second child.

2.2.2 A context of traditional son preference

Research on the subject attributes these abnormal sex ratios to the enforcement of the One Child Policy, or more precisely, to the enforcement of such a restrictive policy in a context of traditional of son preference (Hesketh & Xing, 2006; Das Gupta et al., 2003). Indeed, China has shown a clear preference for son over the years. Traditionally, in China males are preferred over females for a mix of economic and cultural reasons: they generally have a greater earning capacity, especially in rural area where agricultural activities are more spread; they are recipients of inheritance; they are responsible for providing old-age support for their parents; and according to the tradition Chinese descent line ideology, which is pronouncedly patrilinear, they continue the family descent line. By contrast, females contribute to a lesser extent to fieldwork and do not provide old-age support for their parents, since Chinese women, once married, become part of the husband's family (Hesketh & Xing, 2006; Das Gupta et al., 2003).

Therefore, over the years, China has had a clear preference for the son, well before the One Child Policy. However, despite couples already had a strong preference for the male child, sex ratios were affected only to a limited extent. Indeed, before the One Child Policy China displayed a SRB of 1.06 (UN, 2022). The reason is that in a high fertility setting, couples were much less likely to end up sonless extent (Park & Cho, 1995). With the introduction of fertility restriction and the increase availability of sex-determination technologies, the Chinese SRB soar to 117 or even 130 in some rural areas, as we saw in par 2.2.1.

These skewed SBR are not the only manifestation of son preference and gender discrimination against women after the implementation of fertility policy. Indeed, this pronounced son preference

manifests itself not only prenatally, affecting the SBR, but it also manifests itself postnatally, affecting sex ratios of Chinese population at every age. Prenatally, it translates in the practice of sex-selective abortion of female fetus, which became increasingly spread in China when the sex-determination technologies became accessible to the majority of the population in the mid-1980s (Hesketh & Xing, 2006; Hesketh et al., 2011). Postnatally, son preference can translate even in the infanticide of female children (Lee, 1981). It can lead to daughters' abandonment (Hesketh & Xing, 2006; Hesketh et al., 2011). For instance, according to the United States' State Department statistics, among the Chinese children adopted by Americans between 1999 and 2013, almost 90% were female and the small percentage of male mostly had malformations or birth defects (Ziv, 2015). Other forms of postnatal discrimination are impoverished nutrition and lower access to care practices for daughter, as demonstrated by the lower immunisation of girls (Hill & Upchurch, 1995; Li et al. 2004). These latter forms of discrimination, certainly more subtle but still negatively impact on female mortality, as evidenced by UN data on Chinese infant mortality and child mortality in the 1990s and 2000s, that found higher values for females than for males (Li et al. 2004; United Nations; 2000).

2.2.3 Security implications and government response

This pronounced sex imbalance has entailed and still entails a wide range of connected issues. It is problematic not only in the short but also in the long run, when the large cohorts of "surplus" male offspring translates into excess of men.

Firstly, it leads to imbalances in the marriage market, with a surplus of men and a shortage of women (Han & Zhao, 2021). For years, China has been experiencing such imbalances. Based on data from the 1982 and 1987 censuses Zhang (1990) calculates that 94% of all unmarried between the ages of 28 and 49 are male, mostly of low extraction and with low education (Lichter et al., 1995). Men experience increasing social pressure to marry and social stigma if they failed to do so. Indeed, failing involves the appellation of *guang gun,* meaning "bare branch". This expression refers to the fact that, they do not give birth to family tree's branches, since they do not procreate (Hudson & Boer, 2002). At the same time, women experience social pressure to marry too. The few unmarried women are derogatorily labeled *sheng nu*, meaning "leftover women" (Gui, 2021).

Secondly, sex imbalance can lead to an increase in the crime rate and in the level of violence, as gender tends to be associated with the levels of crime and violence, threatening internal stability and international security (Hudson & Boer, 2002; Roberts, 2005). In the case of China, many studies confirm this association (Hudson & Boer, 2002; Edlund et al., 2013). This trend is even more worrying if looked in conjunction with the considerable number of unmarried males. Indeed, studies

show that these men are often marginalized within Chinese society and more likely to engage in deviant behavior (Edlund et al., 2013).

Thirdly, many authors have assumed a link between sex imbalance and the expansion sex industry of the past two decades, in particular of female sex work (Tucker et al., 2006) and of cases of kidnapping and trafficking of women (Xiong, 2021). One infamous example of the latter practice is the trafficking of women from the Kachin region. The Kachin Independence Army - the military wing of a political group of Christian ethnic minority called Kachin Independence Organization - have been fighting against the central government of Myanmar since 1961, albeit with interruptions and ceasefires. During the conflict, since the majority of men was fighting, it was up to the women to provide for their families. Human traffickers, taking advantage of their economic desperation, enticed many of these women and sold them to Chinese single men, often by deception (Kamler, 2015).

Lastly, sex imbalance has effects on the status of women, however these effects are debated. On the one hand, violence, kidnapping, and trafficking of women have increased (Xiong, 2021). Moreover, as previously analysed, women experience increasing social pressure to marry and greater social stigma if they failed to do so (Gui, 2021). On the other hand, some argue that, as women are fewer, their values – both within the household and the marriage market- and social status increase (Hesketh & Xing, 2006).

Given these alarming consequences of distorted sex ratios, combined with heavy criticism from the international community, the Chinese government has adopted several measures to face these problems. Already in the late 1980s the government had banned prenatal sex determination technology, except when necessary for medical reasons, and sex selective abortions. Moreover, in in the 2000s a more comprehensive program was launched, the so-called “Care for Girls” program. This program, on one hand, has toughened penalties and monitoring mechanisms for infringing such bans and, on the other hand, has introduced financial subsidies to parents who have girls. The program mainly targets couples facing increased pressure to have a male child, such as rural couples or those couples already with daughters (Kumar & Sinha, 2019). As a result, in 2010 the first decline of SRB in three decades occurred (see Table 4).

Although the latest data may seem reassuring, in that there has been the first decline in SRB, the governmental measures taken were still insufficient. It has been demonstrated that the ban sex selective abortions can inadvertently have negative effect exactly on those individuals who it has targeted to protect, namely women: women who remain determined to abort could resort to unsafe abortion practices and having unwanted daughters can affect their treatment within the household and

translates in postnatal discrimination. The main limitation of the program is that these bans do not change the underlying preference for sons (Kumar & Sinha, 2019). Alternatively, initiatives are needed that more directly address the root of the problem are necessary, for example with training courses aimed at improving their earning capacity or also improving the old-age social protection system. Ebenstein and Leung (2010) confirm the importance of this factor in son preference. In their studies they found that in the area where government pension plans were introduced, consequently relieving sons of the duty to support their elderly parents, the sex ratio at birth became less skewed. With the recent relaxation of the One Child Policy, referred in the next paragraph (par 2.3), SRB has dropped further and is estimated to persist in this trajectory (Table 4).

2.3 Chinese age distribution: a fast-ageing population

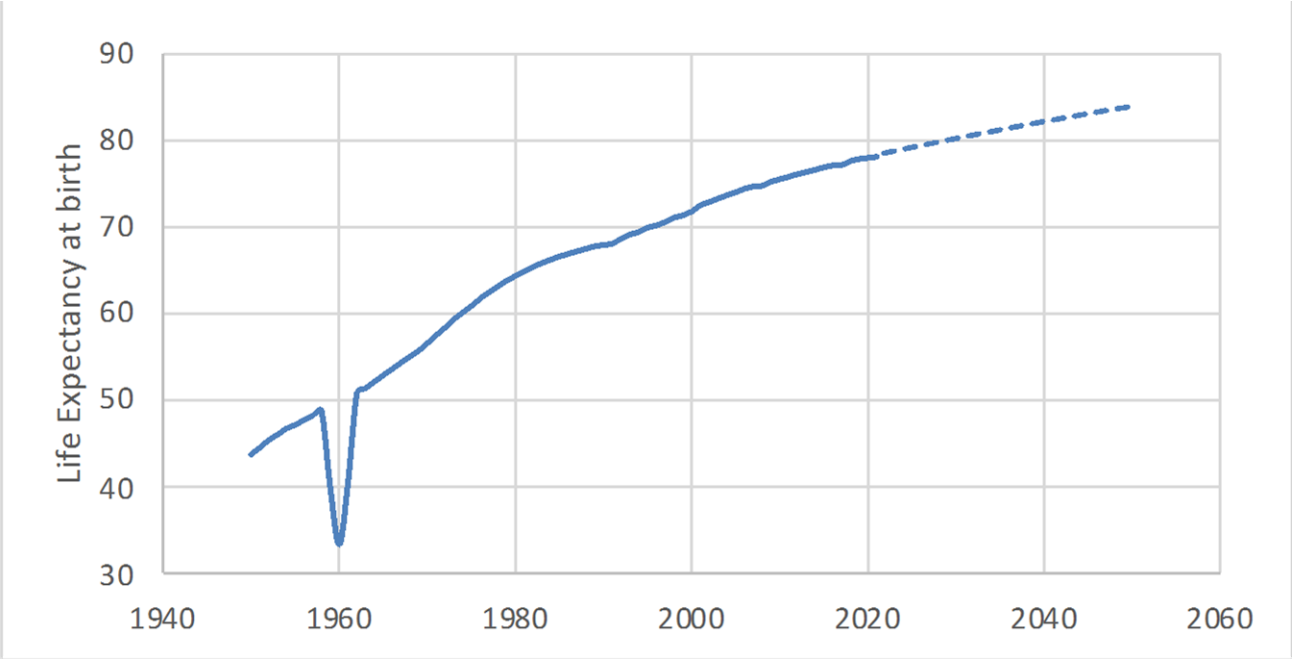
The One Child Policy have had a strong impact on age distribution in the Chinese population. Indeed, it had curbed the fertility levels across the country. This sharp drop combined with the increase in average life span is leading to a progressive increase in the proportion of elderly people in the total population. Put differently, the Chinese population is inexorably ageing.

We will delve into the ageing phenomenon, first, by providing an empirical analysis of the scale of the phenomenon (par. 2.3.1). Subsequently, the potential dramatic socio-economic effects of the ageing trend will be described (par. 2.3.2). Last, the focus will be on government's measures taken so far to mitigate this phenomenon and its correlated negative effects (par. 2.3.3).

2.3.1 Empirical study of age distribution in the Chinese population: Extended life expectancy and sudden drop in fertility

Over the years, economic and social development, scientific progress and medical advances have resulted in a significant amelioration in the general health levels of the Chinese people and a steady increase in life expectancy (China Power Team, 2020; Noesselt, 2021; Minzner, 2023). Undoubtedly, also the policies implemented by the Chinese government have contributed to this trend, starting from the renowned Mao's "barefoot doctors" initiative, which facilitated access to healthcare in rural areas (China Power Team, 2020; Zhang & Unschuld, 2008). Graph 6 shows life expectancy in China since 1950.

Graph 6: Life Expectancy in China 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

As can be seen from the graph above (Graph 6) the life expectancy of the Chinese population has increased by over 30 years over a 70-year period, from 43,7 in 1950 up to the present 78 years. Life expectancy is projected to improve further, reaching almost 84 in 2050. It can be seen from the graph that there has been a steady improvement over the period under review, with the exception of a drop at the turn of the 1960s, unsurprisingly, in the years of the famine crisis.

Additional UN (2022) data also highlight a decrease in infant (0-1 year) deaths, from 2846 thousand in 1950 to 63 thousand in 2021, and in the Infant Mortality Rate – that is the number of infant deaths per 1,000 live births – from 131, 8 to 5,7 over the same period. Overall, also the Crude Death Rate - that the number of deaths per 1,000 population – has declined, from 23,2 deaths to 7,4 per 1,000 people, from 1950 to 2021 (Rowland, 2003; Weeks, 2015).

This increase in life expectancy, combined with the sharp drop in the fertility rate following the implementation of the policy, is gradually leading to an exorbitant increase in the number of elderly people in the total population (Noesselt, 2021; Minzner, 2023; Goldstone, 2023; Marois et al., 2021; China Power Team, 2020; Goldstone, 2023). China's population is ageing at a rate that other countries have rarely matched before. According to the UN projections (2019), 26,1% of the Chinese population will be aged more than 65 by 2050, compared to 10% reported in 2000. Moreover, China will take only 20 years to double the proportion of the elderly population from 10 to 20% from 2017

to 2037, while Germany took a good 61 years from 1951 to 2012, for instance (Zhao et al., 2022; China Power Team, 2020.

Furthermore, UN (2022) data on the Annual old-age dependency ratio [65+/15-64], that counts the number of people aged more than 65 for every 100 persons aged between 15 to 64 (Rowland, 2003; Weeks, 2015), shows that in 1950 only 8,4 were aged more than 65 for every 100 persons aged between 15 to 64, in 2021 the figure doubled to 19 and according to projection will increase tremendously to 51,3 in 2050. Looking at the overall Annual dependency ratio [(0-14 & 65+) / 15-64] – that counts the number of people aged more than 65 together with children aged up to 14 for every 100 persons aged between 15 to 64 (Rowland, 2003; Weeks, 2015) – forecasts suggest that dependency ratio will increase from 44 in 2021 to 71 in 2050.

Clearly, such indicators are replete with limitations and must be used with caution. They do not give an exact picture of the proportion of workers to non-workers for various reasons. Among them, unemployment is not taken into consideration and the age margins of 15 and 64 do not necessarily correspond to either entry or exit from the labour force they do not take into account (Marois et al., 2021). Nevertheless, these figures, although certainly in an approximate manner, implies that China will see a contraction in its working-age population, responsible to provide for the younger than for the elderly.

2.3.2 The potential security implication of ageing: towards the decline of China's power?

This exorbitant and sudden ageing trend has the potential to have dramatic effects on China. It has the potential to hinder the country's economic growth and create major social problems, diminishing its political weight in the international arena. In the worst scenarios, ageing can create instability in China and beyond. Of course, the ageing trend is not unique to the Chinese case; on the contrary, it is a common trend in many developed countries around the world. In the latter countries an ageing population brings potential tensions and challenges as well, nevertheless, the Chinese case is particularly problematic for a variety of reasons. Such a critical issue has attracted the attention of many commentators (Noesselt, 2021; Minzner, 2023; Goldstone, 2023; Marois et al., 2021; China Power Team, 2020; Goldstone, 2023).

Focusing specifically on the economic aspect, the progressive contraction in Chinese working-age population could hinder or even halt the country's economic growth (Dorling & Gietel-Basten, 2018; Goldstone, 2023). Considering that the abundant supply of youth labour in the manufacturing sector is one of the factors behind China’s emergence as a global economic power (China Power

Team, 2020), this trend poses a serious risk to the economic growth and competitiveness of the country (Goldstone, 2023). Moreover, the growing number of retired persons against the shrinking number of contributors is likely to lead to tensions in the pension and financial system and in overall public spending (Goldstone, 2023; Minzner, 2023). Exacerbating this already bleak picture is the fact that the country's economic success is a factor from which the Chinese government derives legitimacy. Therefore, several authors fear that an economic peak could seriously undermine the government's political stability (Noesselt, 2021; Goldstone, 2023; Jayawardhana et al., 2023).

Considering now the social point of view, the expected consequences of ageing are alarming as well (Woo et al., 2002; Marois et al., 2021; Wei et al., 2015; Jiang et al., 2013; Nie, 2016). The aforementioned economic consequences are likely to aggravate social tensions in the country. In parallel, the government's allocation of funds will have to be revised to take into account the changed situation, reviewing the welfare systems (Woo et al., 2002). Furthermore, fundamental issues such as gerontocracy and intergenerational equity will increasingly gain ground (Marois et al., 2021; Wang, 2022; Zhang, 2004). One extreme outcome of ageing trend matched with low fertility is the problem of the *shidu fumu* or "deprived parents". This expression refers to those couples whose only child die when they are now beyond reproductive age, a phenomenon that is increasingly common and is likely to become more significant in the future, as the elderly population component in China is growing. Given the crucial social and economic function of son and daughters within the Chinese society in assisting their parents in old age these people now find themselves in an extremely vulnerable position (Wei et al., 2015; Jiang et al., 2013; Nie, 2016).

2.3.3 Government response: a radical change in demographic policies

In order to cope with the ageing phenomenon and stem possible negative consequences, policy interventions are called for urgently. First of all, to tackle the problem of workforce reduction is necessary, on the one hand, to extend the number of years workers spend in the labour force by raising retirement age (Minzner, 2023; Feng et al., 2018; Zeng, 2011); on the other hand, it is necessary to increase the productivity of the remaining workforce, by investing in technological development and improving the educational level of the population (Marois et al., 2021; Goldstone, 2023; Feng et al., 2018). Moreover, the government will have to review the current allocation of funds by reviewing the pension scheme and by strengthening the social security system (Feng et al., 2018; China Power Team, 2016; Wang et al., 2019). The demographic literature has conceived another possible solution in the face of the ageing phenomenon: "replacement migration". This option consists in compensating

for the shrinking workforce with international migration (Rowland, 2003; Weeks, 2015; Huguet, 2003).

The Chinese government is becoming aware of the scale of the phenomenon and, consequently, has initiated some policy interventions. Public authorities are considering raising the retirement age (The Central People's Government, 2013; Wang et al., 2019). Moreover, China seems to be reorienting its economic paradigm and investing more in innovation and education (Marois et al., 2021; Goldstone, 2023; Feng et al., 2018). Instead, replacement migration seems to be unfeasible to date, for socio-cultural reasons (Basten, 2013; Huguet, 2003)

Remarkably, the Chinese government has been compelled to revise its decades-long birth control policy, relaxing birth restrictions and reducing the corresponding sanctions. In 2009, the list of exceptions to the One Child Policy was expanded, allowing couples formed by only child parents to conceive a second child. In 2014, there was a further relaxation, whereby also couples in which only one of the parents was an only child became allowed to conceive a second child. In 2016, the One Child Policy gave way to the Two Child Policy. In 2018, the introduction of a tax for childless couples was even discussed (Gao, 2018; Cheng, 2018). Eventually, Three Child Policy was announced on 31 May 2021 (Attané, 2022; Basten, 2014; Jing et al., 2022; Marois et al., 2021).

The progressive easing of birth restrictions was based on the assumption that Chinese couples shape their fertility preferences on the basis of governmental policies and would therefore have as many children as they are allowed (Zeng 2007; Basten, 2014). From this perspective, a change in policy was believed to lead to a wave of births. Although it is too early to provide an overarching assessment of the new policies' effects, there is already a significant amount of evidence that contradicts this assumption. To date, the new policies do not seem to be yielding the desired results (Jing et al., 2022). In fact, the fertility rate not only shows no signs of increasing, but is steadily decreasing. Table 5 contains the latest UN data on Chinese fertility rate.

Table 5: Chinese fertility rates 2010-2021

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1,69	1,67	1,80	1,71	1,77	1,67	1,77	1,81	1,55	1,50	1,28	1,16

Source: author's own elaboration based on United Nations - World Population Prospects 2022.

As can be observed in Table 5, despite policy changes, the fertility rate is below replacement level and is continuously declining, with the most significant drop starting in 2018 and following

years. The Covid 19 pandemic has further contributed to the drop in births (Chen et al., 2022; Zhang & Li, 2021). In 2021 fertility rate was 1,16, significantly below the world average for the same year of 2,32 (UN, 2022). It seems that in 2022 a further decline occurred, with newspapers reporting an all-time low of 1.09 (Maste, 2023; Hawkins, 2023; Qi, 2023).

Table 6: Chinese fertility rates 2022-2050

Year	TFR	Year	TFR
2022	1,18	2037	1,32
2023	1,19	2038	1,33
2024	1,21	2039	1,34
2025	1,21	2040	1,34
2026	1,23	2041	1,35
2027	1,24	2042	1,35
2028	1,25	2043	1,35
2029	1,26	2044	1,37
2030	1,27	2045	1,36
2031	1,28	2046	1,37
2032	1,29	2047	1,38
2033	1,30	2048	1,38
2034	1,30	2049	1,39
2035	1,31	2050	1,39
2036	1,31		

Source: author's own elaboration based on United Nations - World Population Prospects 2022.

According to UN projections, the fertility rate should slowly experience an increase. However, this increase is estimated to be moderate in size, with values still below the replacement level (Table 6).

Urbanisation, economic growth, rising education levels, and women's emancipation are just some of the possible explanations behind this low fertility. Fertility preference surveys show a growing desire among Chinese couples to have only one child. A desire shared by both urban and rural parents. These surveys suggest that an ideational shift is taking place within Chinese society towards a preference for small families (Jing et al., 2022; Marois et al., 2021). Among the reasons behind this preference, couples also economic reasons. Indeed, the costs for raising a child and for

schooling are considerably high. In parallel, most couples choose to favour providing an adequate and competitive level of education for a child over having more children (Basten & Gu, 2013; Noesselt, 2021; Basten & Jiang, 2014; Zhenzhen et al., 2009). A further point to note is that housing and construction are now also designed to meet the needs of three-person families (Noesselt, 2021).

CHAPTER III

A comparative analysis: the Italian case

Introduction

In the previous chapters (Chapter 1 and Chapter 2), we focused on China, analyzing the country's demography and population policies from the founding of the People's Republic of China to the adoption of the One Child Policy (Chapter 1), and assessing the impact of demographic control on the Chinese demographic structure (Chapter 2).

In this chapter, we will introduce Italy as a compactor. In par. 3.1 we will provide an overview of Italian demography over the years will be outlined, with focus on its population growth, fertility levels and the government's attitude towards these demographic trends. The main feature of Italian demographic structure will be outlined as well, in its distribution by age and gender. In par.3.2 we will compare the Italian case with the Chinese one, highlighting the main similarities and differences, common challenges and related policy suggestions.

3.1 Overview of Italian demography

Italy currently accommodates a population of around 58 million inhabitants. This makes Italy the third most populous country in the European Union (after Germany and France) and the 25th in the world.

In this paragraph, we will first trace the country's demographic growth and fertility levels, also looking at the government's attitudes towards demographic trends and the demographic policies adopted (or not adopted) by the government over the years (par. 3.1.1). We will then proceed to analyse the demographic structure of the population in detail, in its distribution by age and gender (par. 3.1.2).

3.1.1 Overview of Italian demographic growth, fertility levels and policies

It is estimated that in the aftermath of unification, the resident population amounted to just over 28 million. Throughout the 19th century, Italy experienced a period of rather moderate population growth, with high mortality rate, especially infant mortality, and the considerable immigration to foreign countries preventing more significant increases (Pescosolido, 2015; Del Panta et al., 1996; Rosina & Impicciatore, 2022; Treves, 2001; Hearder & Morris, 2001).

During the early years of the next century (20th century), the Italian population experienced similar trends, with a slowly growing population and high rates of emigration abroad. With the First World War, hundreds of thousands of people lost their lives, nevertheless, in the following years, the

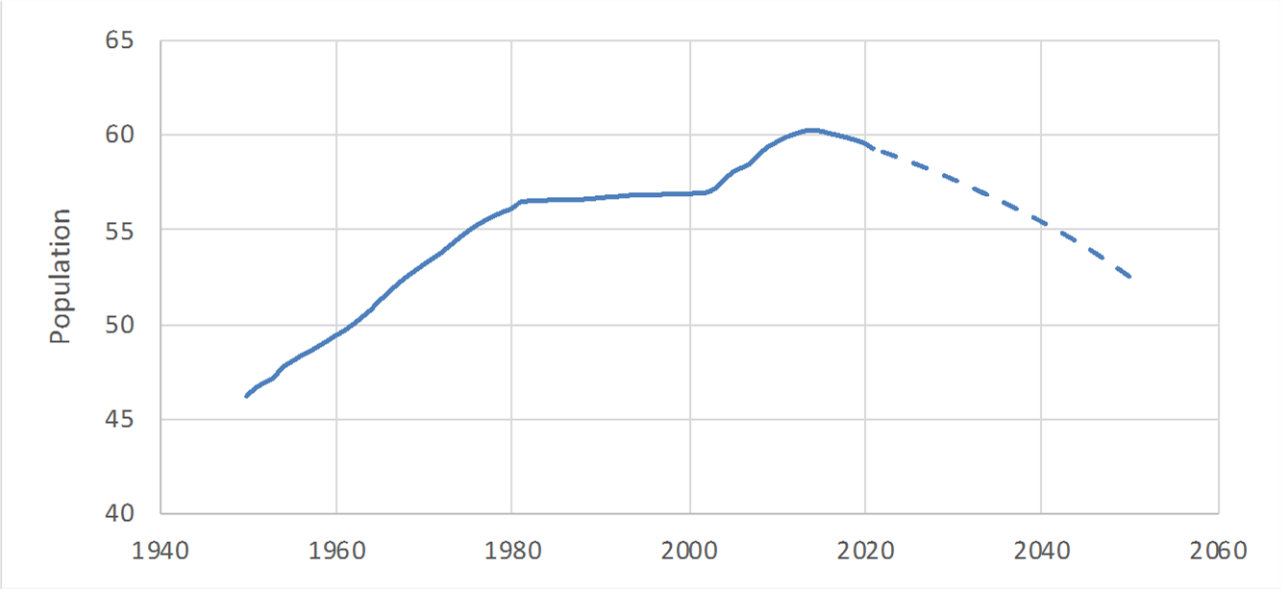
Italian population grew again (Pescosolido, 2015; Del Panta et al., 1996; Hearder & Morris, 2001; Rosina & Impicciatore, 2022; Treves, 2001).

Post-unification governments did not intervene significantly in this area. Conversely, demographic trends gained attention during the fascist period. Indeed, during the 20-year fascist period, population growth became a priority on the national agenda. In line with the objective of making Italy self-sufficient and strengthening its military apparatus, Mussolini attached great importance to demographic expansion. Accordingly, the regime set demographic growth targets and adopted policies to encourage couples to have more children and to promote family, seen as the primary cell of society. Among the policies adopted, there were tax relief and the establishment of financial premiums for large families. At the same time, the fascist regime introduced restrictions to emigration abroad, as well as to abortion and contraception. Overall, the population increased more strongly during this period, only to come to a standstill with the outbreak of the Second World War, which caused a significant loss of life (Ipsen, 1997; Del Panta et al., 1996; Hearder & Morris, 2001).

At the end of the war, Italy, like many of the belligerent countries, experienced a period of sustained population growth. This period is known as the "Baby Boom" and covers the time span from the post-war period to the early 1960s. Throughout this period, record-breaking numbers were recorded. Among the reasons behind this trend, there are factors directly related to the conclusion of the conflict, such as the return of Italian soldiers to their homeland, but also renewed stability and economic growth that the country experienced during those years, with the so-called "economic miracle" (Del Panta et al., 1996; Hearder & Morris, 2001; Rosina & Impicciatore, 2022; Treves, 2001).

The graph below (Graph 7) depicts Italy's population count since 1950 to the present and its projections up to 2050, based on the data provided by the United Nations' World Population Prospects (2022).

Graph 7: Italian population 1950-2050



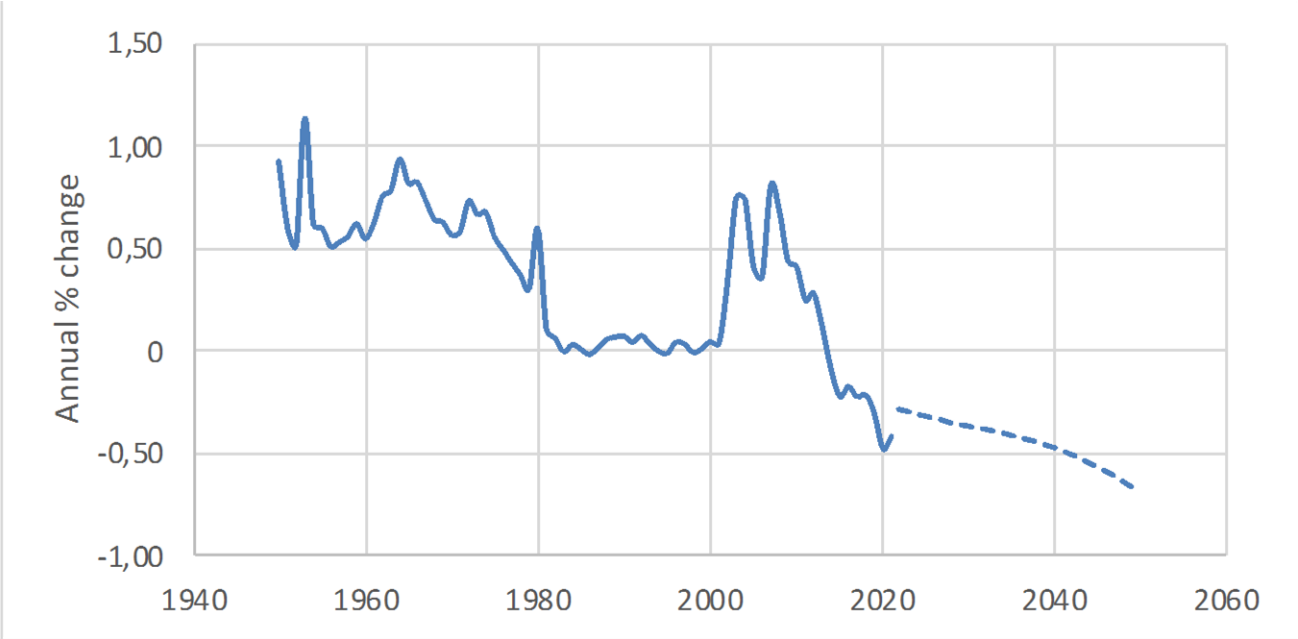
Source: author's own elaboration based on United Nations - World Population Prospects 2022.

As graph 7 shows, the Italian population experienced a significant increase from 1950. In particular, in 1950, the country's population was just above 46 million, and increased by more than 3 million in 10 years and of an additional 3 million over the next 10 years. Hence, in 1970 the Italian population was above 53 million. In the period that followed, the population continued to increase, reaching 56 million inhabitants in 1980. Afterwards, the population settled at those figures for a long time. In the two decades between 1980 and 2000 population has only slightly increased, by a few hundred thousand. More specifically, this increase amounted to almost 600 thousand people between 1980 and 1990 and just another 200 thousand between 1990 and 2000. The population growth rate increased again in the first decade of the new century and population increased of 3 million people in that period and reached 60 million in 2012. After that the Italian population reached its peak in 2014 and slowly began to decline. By 2020, Italy's population was estimated at about 59.64 million people (UN, 2022).

Therefore, the Italian population has increased since 1950 to 2020 by more than 13 million people. Notwithstanding, the pace of this growth has not been constant, as can be deduced from the irregular slope of the line in graph 7. The line displays a greater slope in the period between 1950 and 1980, then it becomes almost parallel to the x-axis between 1980 and 2000. Subsequently, it becomes inclined again and then finally reach a peak and begin the decline immediately thereafter. The graph

below (Graph 8) allows for a clearer visualization of the exact rate of annual population variation. It displays the Italian population growth rate from 1950.

Graph 8: Italian population Growth Rate 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

Graph 8 shows positive values between 1950 and 1980 and again in the first decade of the 2000s, confirming the growth trend in these time frames; it shows values close to 0% between 1980 and 2000, signaling a stagnation in population growth; and, lastly, the annual growth rate decreased systematically in the 2010s, reaching negative values in 2014. These negative figures signal the decline in the total population.

Details of Italy's total population and its growth rate, year by year, from 1950 to 2021 can be found again in Table 7.

Table 7: Italian population and Growth Rate 1950-2021

Year	Population	Growth Rate	Year	Population	Growth Rate
1950	46 175	0,94	1986	56 641	-0,01
1951	46 609	0,61	1987	56 637	0,03
1952	46 893	0,53	1988	56 652	0,07
1953	47 140	1,15	1989	56 690	0,08
1954	47 684	0,63	1990	56 733	0,08
1955	47 983	0,61	1991	56 780	0,05
1956	48 278	0,52	1992	56 809	0,08
1957	48 529	0,54	1993	56 857	0,04
1958	48 792	0,57	1994	56 882	0,01
1959	49 069	0,63	1995	56 886	-0,00
1960	49 380	0,56	1996	56 884	0,05
1961	49 655	0,63	1997	56 914	0,04
1962	49 970	0,77	1998	56 938	0,00
1963	50 354	0,79	1999	56 939	0,02
1964	50 756	0,95	2000	56 951	0,06
1965	51 240	0,83	2001	56 982	0,05
1966	51 666	0,84	2002	57 008	0,35
1967	52 099	0,75	2003	57 207	0,76
1968	52 490	0,65	2004	57 643	0,75
1969	52 832	0,64	2005	58 078	0,42
1970	53 171	0,58	2006	58 322	0,37
1971	53 477	0,59	2007	58 538	0,82
1972	53 795	0,74	2008	59 019	0,69
1973	54 196	0,68	2009	59 430	0,45
1974	54 563	0,69	2010	59 696	0,42
1975	54 938	0,57	2011	59 949	0,26
1976	55 250	0,50	2012	60 103	0,29
1977	55 528	0,44	2013	60 277	0,12
1978	55 771	0,38	2014	60 348	-0,08
1979	55 983	0,31	2015	60 298	-0,22
1980	56 159	0,61	2016	60 168	-0,16
1981	56 500	0,12	2017	60 069	-0,22
1982	56 565	0,07	2018	59 939	-0,21
1983	56 606	0,00	2019	59 816	-0,30
1984	56 609	0,04	2020	59 640	-0,47
1985	56 632	0,02	2021	59 361	-0,41

Source: author's own elaboration based on United Nations - World Population Prospects 2022.

After a systematic decline in the annual growth rate, the Italian population experienced its first decline in 2014. Since then, the decline has continued and the population has dropped below 60 million. According to the most authoritative sources, including the Population Division of the United Nations (2022), the drop would not be a temporary occurrence. The forecasts of the United Nations (2022) say that the country's population will continue to decline inexorably. The dotted section of the graph 7 and graph 8, based on these forecasts, shows a population decline and declining negative

growth rates. Table 8 details Italy's population forecast and its growth rate for the coming decades, from 2022 to 2050.

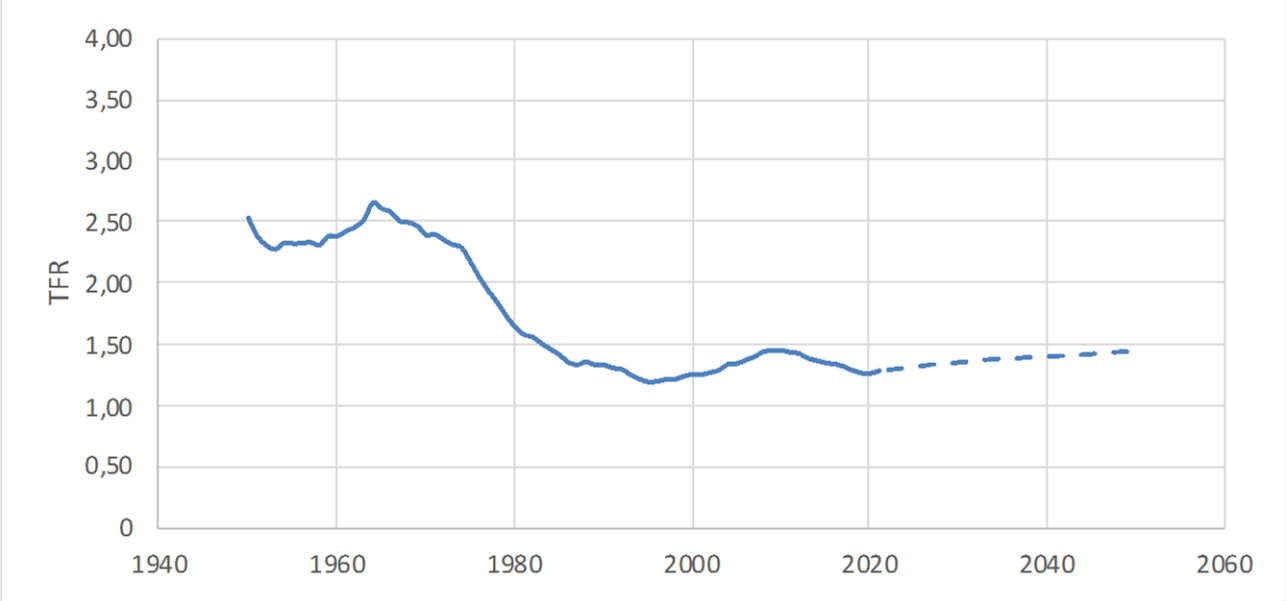
Table 8: Italian population and Growth Rate 2022-2050

Year	Population	Growth Rate
2022	1 425 925	-0,01
2023	1 425 849	-0,03
2024	1 425 493	-0,04
2025	1 424 864	-0,07
2026	1 423 900	-0,09
2027	1 422 611	-0,11
2028	1 421 007	-0,14
2029	1 419 084	-0,16
2030	1 416 866	-0,18
2031	1 414 346	-0,20
2032	1 411 546	-0,22
2033	1 408 480	-0,24
2034	1 405 141	-0,26
2035	1 401 489	-0,28
2036	1 397 606	-0,30
2037	1 393 487	-0,31
2038	1 389 190	-0,32
2039	1 384 714	-0,34
2040	1 380 020	-0,36
2041	1 375 094	-0,38
2042	1 369 951	-0,39
2043	1 364 584	-0,42
2044	1 358 891	-0,44
2045	1 352 935	-0,47
2046	1 346 579	-0,50
2047	1 339 841	-0,54
2048	1 332 684	-0,57
2049	1 325 063	-0,61
2050	1 316 946	-0,66

Source: author’s own elaboration based on United Nations - World Population Prospects 2022.

Among the factors behind the population decline is certainly the falling fertility rate among Italian women. Indeed, UN’s data show a significant decline in fertility levels in Italy over the past decades, from around 2.5 children per woman in 1950 to the current level below replacement levels of 2.1 (Weeks, 2015; Rowland, 2003). Graph 9 (below) depicts Italy’s Total Fertility Rate since 1950 to the present, based on the most recent World Population Prospects’ data (2022).

Graph 9: Italian Total Fertility Rate 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

As can be seen in the graph above, the TFR in Italy has dropped significantly over the period under review. The decline in fertility is common trend in many developed countries around the world, however the level of fertility in Italy are worryingly low. Italy remains one of the countries with the lowest birth rate in the world. In 1950 the average fertility rate was around 2.5 children per woman. Subsequently, the average number of children started to decline. Particularly, since the second half of the 1960s the TFR started to decline, falling below replacement levels in the second half of the following decade level. For the first time, the TFR under replacement levels was recorded in 1976. Since then, the Total Fertility Rate has been systematically below this threshold and dropped further over the next two decades. In the mid-1990s, historical lows were reached. There has been a slight upturn in fertility levels in the 2010s, with an average of above 1.4 children per woman between 2007 and 2012, but still far below the replacement levels. After this period of slight recovery, which is attributed to the higher fertility of immigrant women, since 2013, the average has fallen again to its current level, which, according to the most recent estimates should be around 1,28 children per women in 2021 (UN, 2022).

Over the years, demographic trends have often been the subject of political debate. Some measures to support families have been introduced, such as financial incentives for families and "baby bonus" (Censi et al., 2018; Vogliotti & Vattai, 2015). As Vogliotti and Vattai (2015) point out the main

actions taken concerned the fiscal sphere, including Irpef deductions and deductions of certain 'family expenses' from taxable income. Low birth rates have continued to draw attention, especially with the pandemic. Nevertheless, the policies adopted are largely regarded as insufficient (Donati, 2010; Vogliotti & Vattai, 2015). Donati (2010) describes the Italian government's interventions in support of families as minimal and targeted only at extreme cases of families at risk of poverty or with severe hardship. He goes further arguing that the Italian system not only is characterised by a substantial lack of subsidiarity towards families, but furthermore it is based on a system of "inverse" subsidiarity, in which it is precisely families that finance the public debt and compensate for the lack of public welfare.

In fact, fertility levels continue to be worryingly low and the population declining. A summary of Italian fertility rates in the last decade and projections until 2050 can be found in the table below (Table 9 and Table 10).

Table 9: Italian fertility rates 2010-2021

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1,45	1,43	1,42	1,38	1,37	1,35	1,34	1,32	1,29	1,27	1,26	1,28

Source: author's own elaboration based on United Nations - World Population Prospects 2022.

Table 10: Italian fertility rates 2022-2050

Year	TFR	Year	TFR
2022	1,29	2037	1,39
2023	1,30	2038	1,40
2024	1,31	2039	1,40
2025	1,32	2040	1,40
2026	1,32	2041	1,41
2027	1,34	2042	1,41
2028	1,34	2043	1,42
2029	1,34	2044	1,42
2030	1,35	2045	1,42
2031	1,36	2046	1,43
2032	1,37	2047	1,44
2033	1,38	2048	1,44
2034	1,38	2049	1,44
2035	1,38	2050	1,44
2036	1,38		

Source: author's own elaboration based on United Nations - World Population Prospects 2022.

The tables above confirm the worrying fertility levels in Italy. The Covid 19 pandemic further contributed to the decline in births: In 2020, the historical minimum of 1.26 was reached. In the following year there was a recovery, albeit very slight. In 2021 fertility rate was 1,28, higher than the 2020 average, but nevertheless significantly below the world average for the same year of 2,32 (UN, 2022). It seems that in 2022 a further decline occurred. According to ISTAT estimates for 2022[1], the average number of children per woman dropped to 1.24, with an average of 1.26 in the North, 1.16 in the Centre and 1.26 in the South. Furthermore, according to the same ISTAT estimates, in 2022 the number of births fell below 400,000 (precisely to 393,000) for the first time since the unification of Italy.

Many academic studies address the issue low fertility in Italy (Mencarini & Vignoli, 2018; Bellani et al., 2021), attempting to identify the causes of these exceptionally low levels. According to the research of Vignoli et al. (2020a) and Fiori et al. (2018) economic constraints lie behind these low figures. Other studies demonstrates that the widespread employment instability of the country's labour market also has an impact on family formation (Vignoli et al., 2020b; Barbieri et al., 2015). Additional studies hypothesise that low fertility could be linked to house property or housing security. Vignoli et al. (2013) confirm this hypothesis, demonstrating that the late achievement of security of their housing situation among Italian couples affect their fertility choice. Lastly, Dalla Zuanna, (2001) maintains that also the Italian familistic structure may contribute to low fertility in the country.

Interestingly, fertility preference surveys indicate the desire of Italian couples remains to have larger families close to the replacement level of 2.1 (Novelli et al., 2020), however they are unable to realise their desired family size.

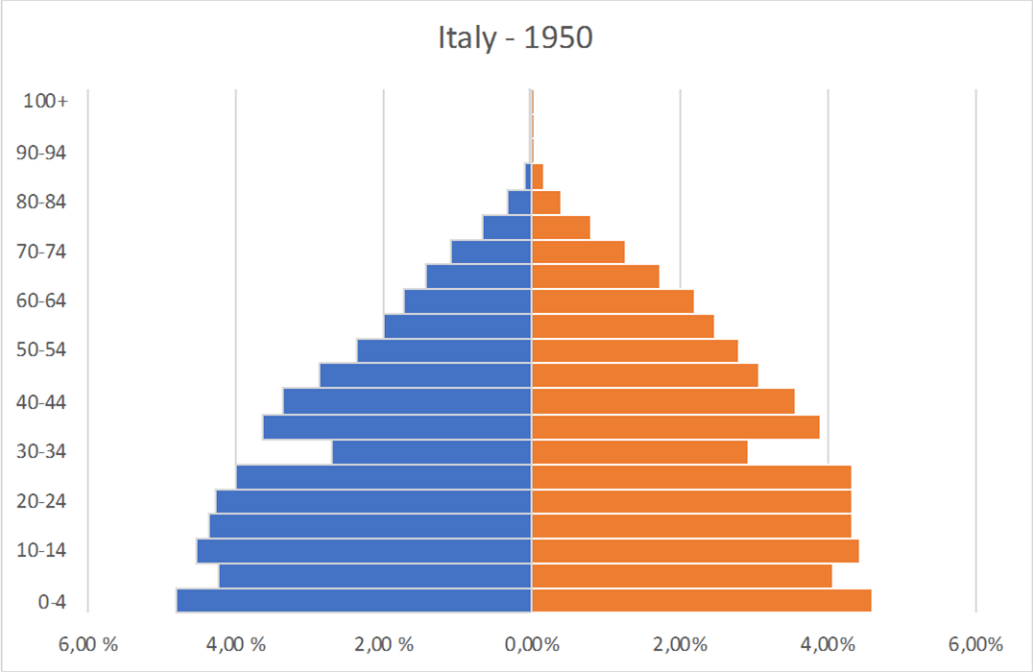
3.1.2 In depth analysis of Italian demographic structure

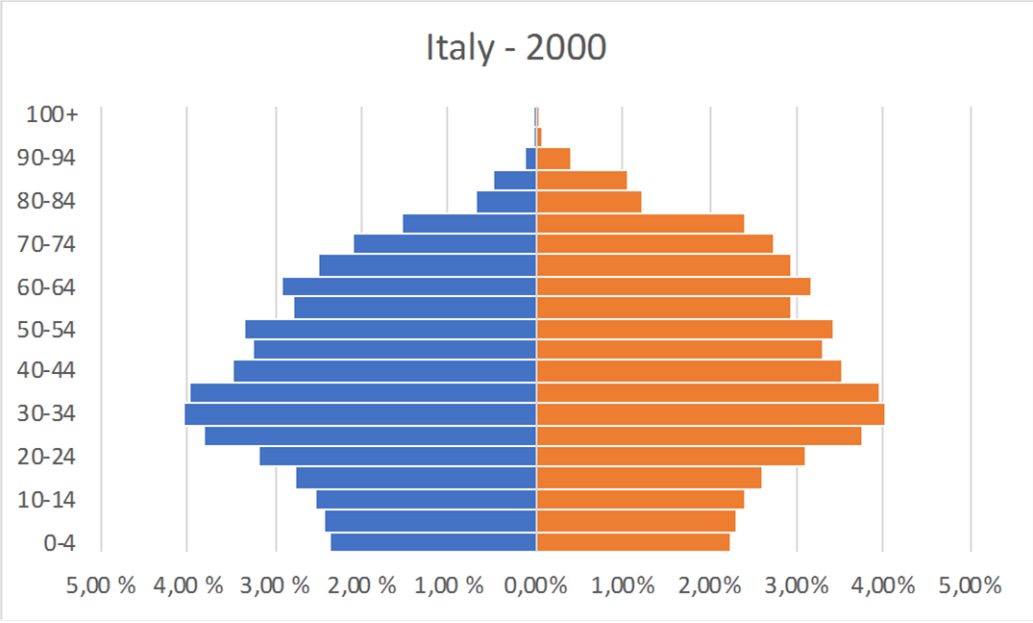
As illustrated, Italy currently accommodates a population of around 58 million inhabitants. In the period between 1950 and now, the country's population has increased by more than 13 million people, with an uneven rate of growth. In 1950 the population amounted to around 46 million in 1950, it has increased in the following decades (in particular with the "Baby Boom") and reached its peak in 2014. After that a slow decline has begun, a trend that is expected to continue in the coming years. We will now analyse in detail the demographic structure of the population from a diachronic perspective, in its distribution by age and gender. Parallel to the analysis of China, this will be done by means of a demographic tool: the population pyramid (Graph 10).

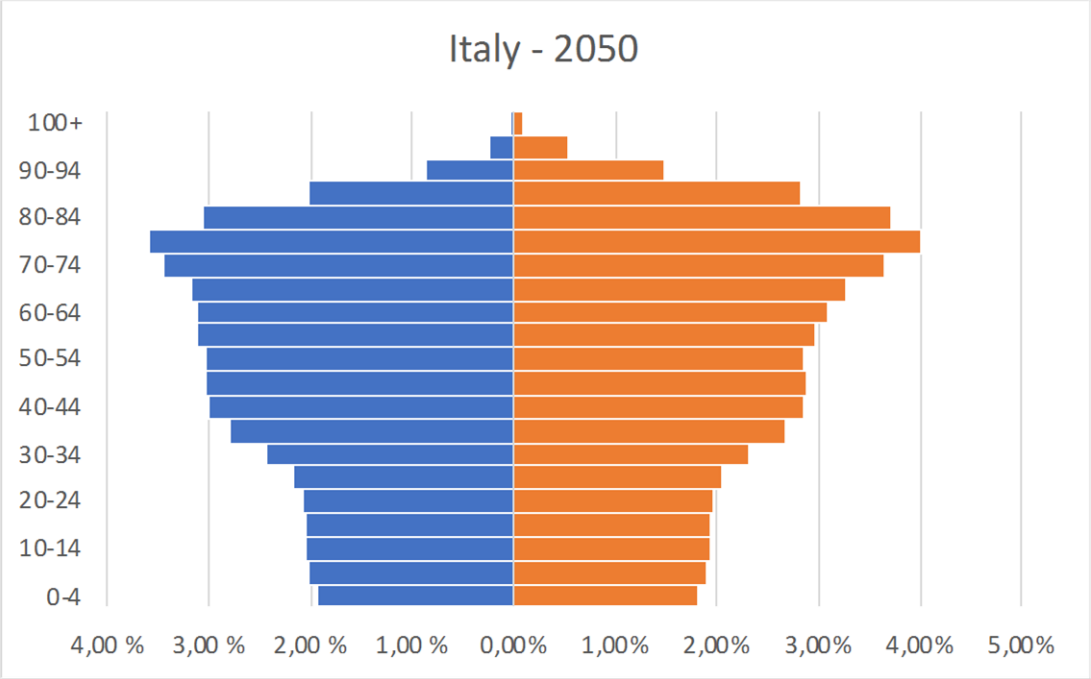
[1] https://www.istat.it/it/files/2023/04/indicatori-anno-2022.pdf

Based on the UN data (2022), three population pyramids were constructed (Graph 10): Graph 10 a Graph 10 b Graph 10, respectively depicts Italian demographic structure in 1950, in 2000 and projections for 2050.

Graph 10 (a)(b)(c): Italian population pyramids 1950, 2000 and 2050







Source: author's own elaboration based on United Nations - World Population Prospects 2022.

From the comparison of the shape of the three pyramids, a radical evolution in the structure of the Italian population can be detect. The first one (Graph 10 a) has a more definite pyramid shape, with a relatively larger base and a leaner top. This kind of shape is typical of a youthful population. In the second one (Graph 10 b) there is an enlargement in the middle age groups and the base appears relatively narrower, while in the last one (Graph 10 c) the widening shifts to the older age groups and there is a further contraction in the base. The last two shapes, instead, signal an aged population.

The first consideration that can be drawn from this data on the structure of the Italia population concerns the country's distribution by age, namely, the country's ageing trend. Looking at the distribution by sex in the three graphs, there do not appear to be any discernible distortions in the gender distribution of the population, except for an excess of females over males in older age groups, which is aligned with global statistics on women's greater longevity.

Referring also to another demographic indicator, namely the Sex Ratio at Birth, the regular distribution of the Italian population between the sexes is confirmed. As can be seen in the table below (Table 11), in Italy there are 106 male births for every 100 female births. The SRB has been constant at 106 over time and is not expected to deviate. This value is slightly higher than the average for more developed countries of 105 males per 100 females at births and under the average of less developed regions, which display values slightly above that, between 105 and 108 (UN, 2022).

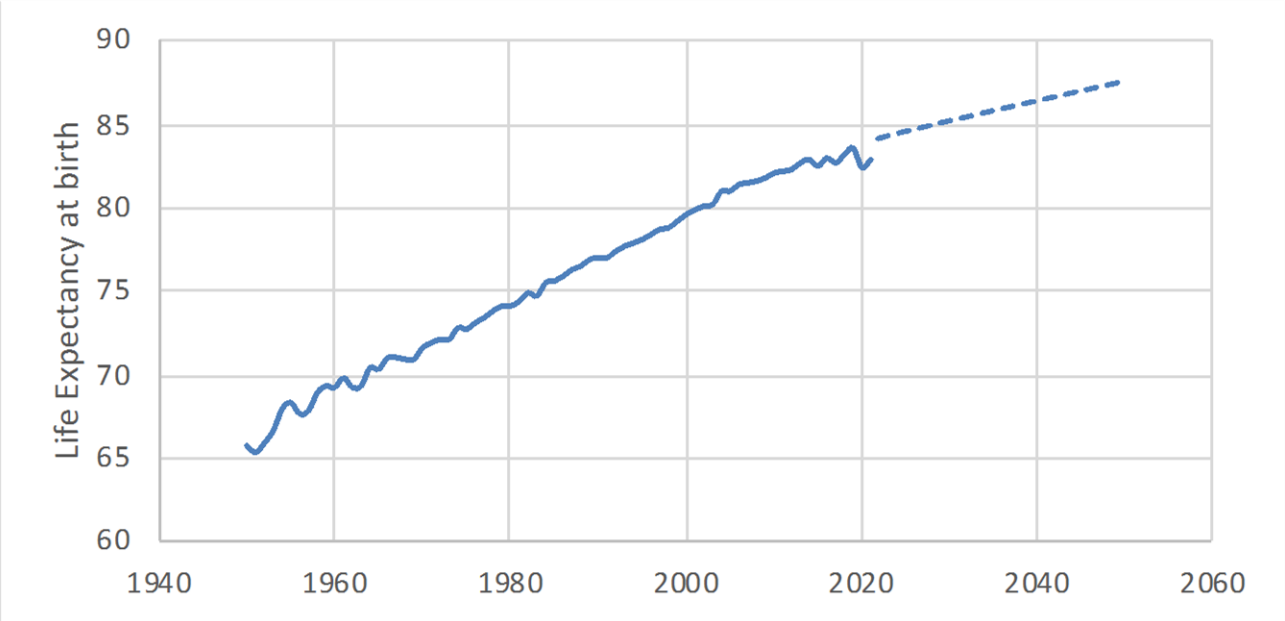
Table 11: Italian Sex Ratio at Birth

	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	2050-2055	2095-2100
Italy	1,06	1,06	1,06	1,06	1,06	1,06	1,06	1,06	1,06	1,06
More developed regions	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05	1,05
Less developed regions	1,06	1,06	1,06	1,07	1,08	1,08	1,08	1,07	1,05	1,05

Source: author's own elaboration based on United Nations - World Population Prospects 2019.

Let us now proceed to analyze the age distribution of the population in Italy. As already deduced from the age pyramids above (Graph 10) the Italian population is experiencing a trend of demographic aging. The ageing of the Italian population can be attributed to the combination of the decrease in fertility levels and the increase in life expectancy. The former phenomenon has already been analysed above and can be observed in Table 9 and Graph 9. The latter phenomenon, that is the increase in life expectancy, can be graphically seen in the graph below (Graph 11), which shows precisely life expectancy in Italy since 1950.

Graph 11: Life Expectancy in Italy 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

As can be seen from the graph above (Graph 11), the life expectancy of the Italia population has increased in a constant manner over the past 70 years, with an increase of approximately 17 years. Indeed, according to the UN's data (2022), life expectancy was 65,7 in 1950 and increased to 83 years in 2021. Moreover, life expectancy is projected to improve further, reaching almost 88 in 2050.

Additional useful demographic indicators, from the UN (2022) data, highlight a significant decrease in infant (0-1 year) deaths from around 58,5 thousand in 1950 to 925 in 2021, and in the Infant Mortality Rate from 64 infant deaths per 1,000 live births in 1950 to just 2,3 in 2021.

Therefore, this increase in life expectancy combined with the very low the fertility rates registered in Italy over the last decades result in an increasing proportion of the elderly population in the total population. According to the UN projections (2019), 36% of Italian population will be aged more than 65 by 2050, nearly twice as high as that in 2000, that was 18,3%. In addition, UN (2022) data on the Annual old-age dependency ratio [65+/15-64], show a significant increase of the number of people aged more than 65 for every 100 persons aged between 15 to 64 (Rowland, 2003; Weeks, 2015). Indeed, according to the UN's data, while in 1950 12,4 persons were aged more than 65 for every 100 persons aged between 15 to 64, this figure has more than doubled to 27,4 in 2021. Projections paint an alarming picture of this ratio increasing to 71,8 in 2050. Looking at the overall Annual dependency ratio [(0-14 & 65+) / 15-64] the picture that emerges is even worse. According to forecasts, the counts the number of people aged more than 65 together with children aged up to 14 for every 100 persons aged between 15 to 64 will increase from 57 in 2021 to 93 in 2050.

Such indicators do not give the exact proportion of workers to non-workers (Marois et al., 2021), nevertheless suggest that Italy will have to deal with this changing demographic picture and with an ever-increasing age population.

3.2 Italy – China: main similarities and differences

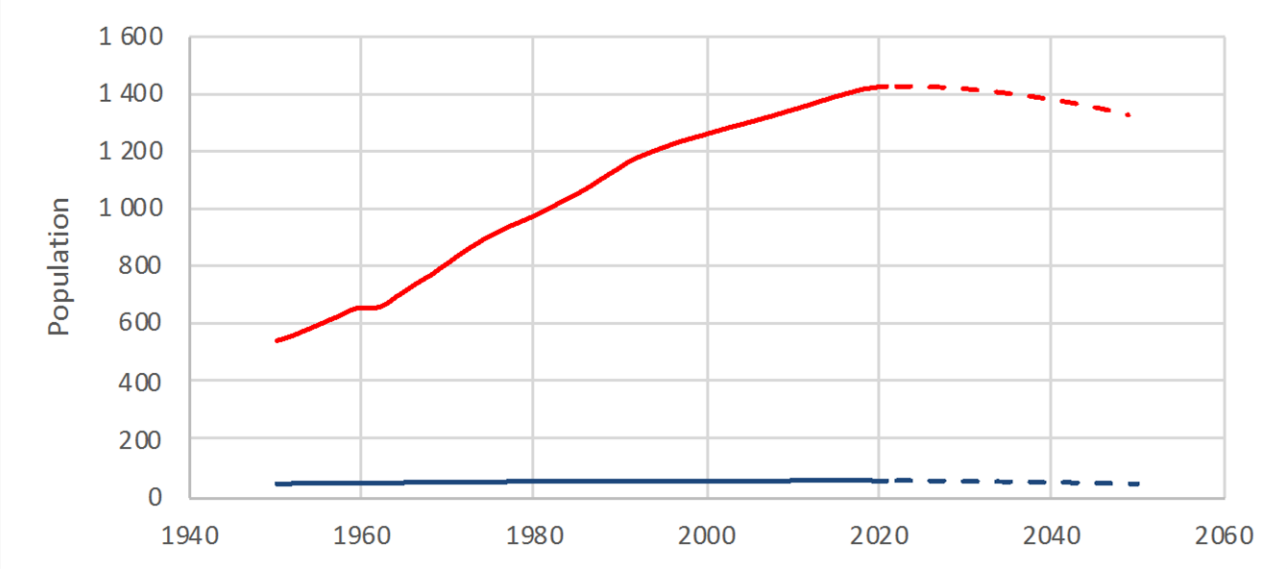
After analysing the characteristics of the Chinese demographic landscape and the effects of government policies on the country's population structure (in Chapters 1 and 2) and after giving an overview of the demographic landscape of Italy (par 3.1), in this paragraph these two countries will be compared in order to identify the main differences and similarities in the demographic landscape of the two countries, looking first at their demographic growth and fertility levels (par. 3.2.1) and their demographic structures (par. 3.2.2). Lastly, in par. 3.2.3, the common security challenges posed by the demographic situation will be discussed and some possible policies to address these challenges will be suggested, from a comparative perspective.

3.2.1 Empirical comparison of demographic growth and fertility levels

According to the latest data, China and Italy are respectively the 2nd and 25th most populous countries in the world. In particular, China has a population of 1.4 billion in 2023 and Italy has around 58 million. Therefore, the Chinese population is about 23 times that of Italy (United Nations, 2022).

The graph below (Graph 12) compares Chinese and Italian population counts since 1950 with projections up to 2050, based on the World Population Prospects' data.

Graph 12: Chinese and Italian population 1950-2050



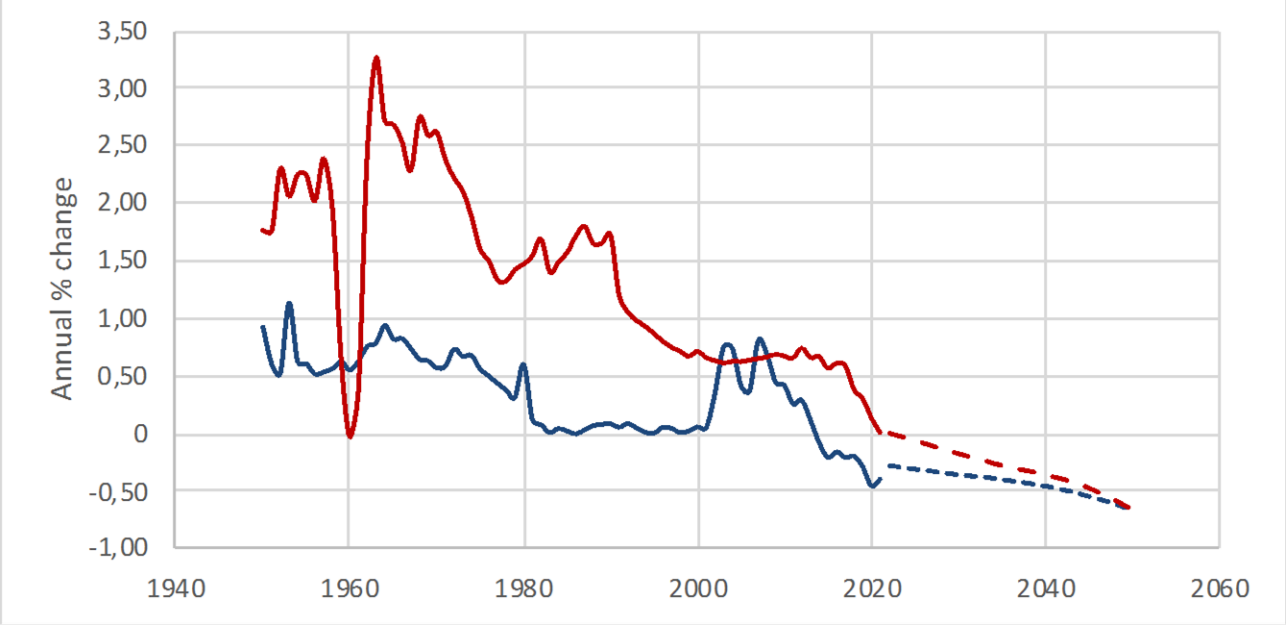
Source: author's own elaboration based on United Nations - World Population Prospects 2022. Note: the line in red is for China and the blue for Italy

The first observation that can be drawn from looking at the graph concerns the enormous difference in population between the two countries. Despite Italy being the third most populous country in the EU, the Chinese population is far more numerous. This neatly illustrates the magnitude of China's population. The second observation that can be drawn from the graph concerns the magnitude of China's population growth since 1950. The population of both countries has increased since 1950: Italy's population has increased from 46 million in 1950 to 59.64 in 2020, while China's population has increased approximately from 539 million in 1950 to 1425 in 2020. Nevertheless, China's population growth is much more considerable. Since 1950 to 2020, Italy's population has increased by more than 13 million people, whereas China has experienced an increase of 886 million people, almost tripling its population in the last 70 years. This means that the population increase in

China was almost 70 times greater than in Italy. In fact, the increase in the Italian population is almost undetectable from the graph.

Both in Italy and China, the pace of the population growth has not been constant. The graph below (Graph 13) compares the annual growth rate of the Chinese and Italian populations since 1950 with projections up to 2050.

Graph 13: Chinese and Italian Population Growth Rate 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

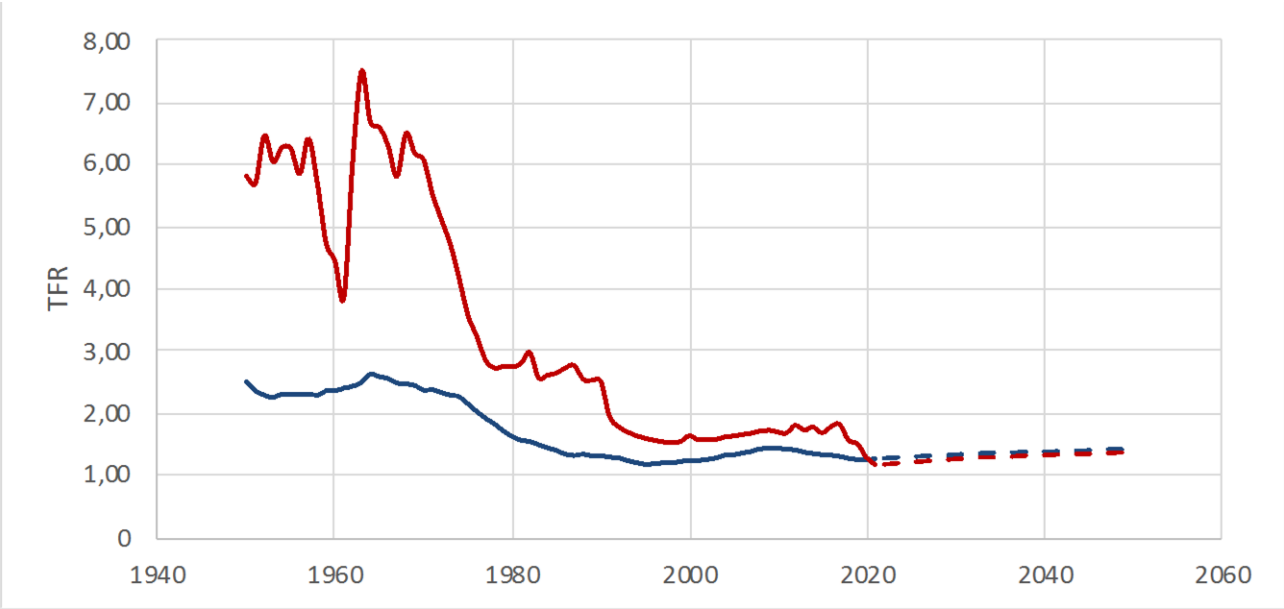
Manifold observations can be drawn from the graph. Firstly, the graph pictures the unsteady pace of population growth. There are periods of sustained growth and then sudden slowdowns. This is particularly the case in China, with noticeable spike in population growth during the years of the Great Leap Forward and the ensuing dramatic famine. Secondly, the graph confirms the more accelerated growth rates of the Chinese population compared to the Italian population. Indeed, China consistently showed remarkable values above 2% until the first half of the 1970s (excluding the peak between 1959 and 1961) and maintained values of 1.5% for the second half of the 1970s. On the other hand, Italy, maintained growth rates of less than 1% (with the exception of 1953), and showed values close to 0% already for the entire period between 1980 and 2000. Lastly, the graph shows an evident slowdown in growth rates, with both countries reaching zero growth or even negative values. In Italy,

negative values have already been recorded since 2014, while China has reached negative values in recent years.

Another element that the cases of China and Italy have in common concerns population decline. After having for years declining population growth rate, the Italian population has already reached its peak in 2014 and, since then, has slowly began to decline. Likewise, the Chinese population has been showing a declining growth rate for years and have reached its peak and begun declining in 2023. According to forecasts, both countries are headed toward a future of population decline, as can be observed visually in graph 12 above.

Amidst the massive demographic differences between the two countries, Italy and China share another common characteristic, which is one of the main factors behind the population decline. Interestingly, these are two of the countries with the lowest fertility rates in the world, with levels of fertility considerably below the replacement level. The most recent estimates UN World Population Prospects (2022) show an average of 1,16 and 1,28 children per women in 2021, respectively in China in Italy. The following graph (Graph 14) traces the fertility levels of the two countries since 1950 with projections up to 2050.

Graph 14: Chinese and Italian Total Fertility Rate 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

As can be seen from the graph, in both countries the Total Fertility Rate has decreased since 1950. China has gone from around 6 children per woman in 1950 to the level of 1.16 in 2021 and

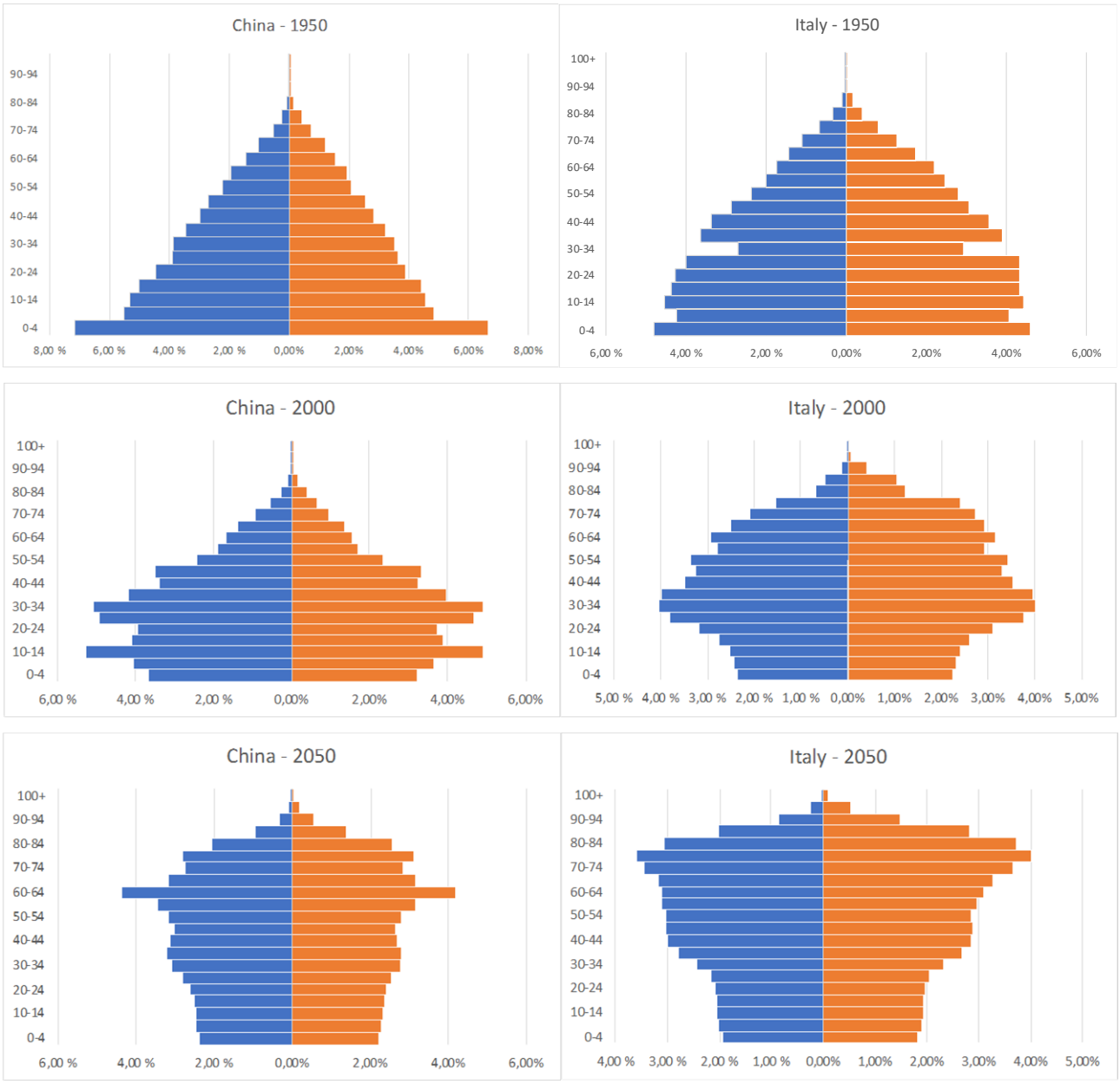
Italy has gone from around 2.5 to 1,28 children per woman in the same time frame. Both countries current display levels of fertility considerably below the replacement level: China has been systematically below replacement levels since the 1990s, while Italy even from before, with a TFR below replacement levels firstly recorded in 1976 (UN, 2022). The decline of fertility in China is impressive. Italy current TFR is halved compared to the 1950 levels, while China's is even six times lower than 1950 levels. Although the two countries now stand at very similar fertility levels, it should indeed be noted that they started from very different starting fertility levels. Moreover, while in Italy the decline in fertility was a gradual process spread over many decades, in China it was much more abrupt. In China, the TFR declined rapidly from values above 6 in 1970 to 3,5 in 1975, in just five years. Clearly, China's population control policies played a key role in such process, affecting both its rapidity and the timing.

3.2.2 Empirical comparison of demographic structures

Having compared population growth trends and fertility levels in China and Italy, let us compare in detail the demographic structure of the population of the two countries, in its distribution by age and gender and in its evolution throughout the years. This comparison will be made firstly by giving an overview of the demographic structure of the population, by means of the population pyramids, then by looking specifically at the sex and age distribution separately, through their respective relevant demographic indicators.

The population pyramids below (Graph 15) compare the demographic structure of the Chinese and Italian populations in 1950, 2000 and projections for 2050.

Graph 15: Chinese and Italian population pyramids 1950, 2000 and 2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

From the comparison of the pyramids above, some significant similarities and differences can be discerned between the population structure of the two countries. The pyramids of 1950 have similar shape, with a relatively larger base and a leaner top. Thus, both countries had a youthful population. In 2000, both pyramids show with an enlargement in the middle age groups. However, in the Italian case the base appears relatively narrower. This means that Italy has an ageing population.

Looking now at the projections for 2050, both pyramids show a relatively narrow base, but the Italian show a more remarkable widening shifts to the older age groups. This shape implies an ageing of the Chinese population in the coming years and, even more so, of the Italian population.

Looking at the distribution by age of the two countries population in the graphs, it appears that albeit with differences in timing, China and Italy share a projection towards an ageing population. Looking at the distribution by sex in the graphs, differences appear instead, in particular at the early age groups. At the earlier age groups, Chinese pyramids display a relative excess of males over females. In 1950, males outnumber females in all the age groups up to 55-59 group, by over 25 million and, in 2000 and in projections for 2050 up to 65-69 group, respectively by of almost 39 and 49 million. Instead, there do not appear to be any discernible distortions in the sex distribution of the Italian population. With regard to the older age groups, both in China and in Italy, women outnumber men, which is in line with the latter's longer life expectancy (Weeks, 2015; Rowland, 2003).

Overall, on the on the side of similarities, China and Italy share a common trend of population ageing. On the side of differences, China shows distortions in sex distribution, the so-called “missing women” phenomenon (Ebenstein, 2010; Sen, 1992).

China has excess higher mortality of girls and by more skewed sex ratio in favour of boys, than Italy. Remarkable differences can be seen in the two countries Sex Ratio at Birth. Table 12 below compares the Sex Ratio at Birth of the Chinese and Italian populations, over the years and with projections for the future.

Table 12: Chinese and Italian Sex Ratio at Birth

	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	2050-2055	2095-2100
China	1,07	1,08	1,12	1,14	1,16	1,17	1,15	1,13	1,07	1,07
Italy	1,06	1,06	1,06	1,06	1,06	1,06	1,06	1,06	1,06	1,06

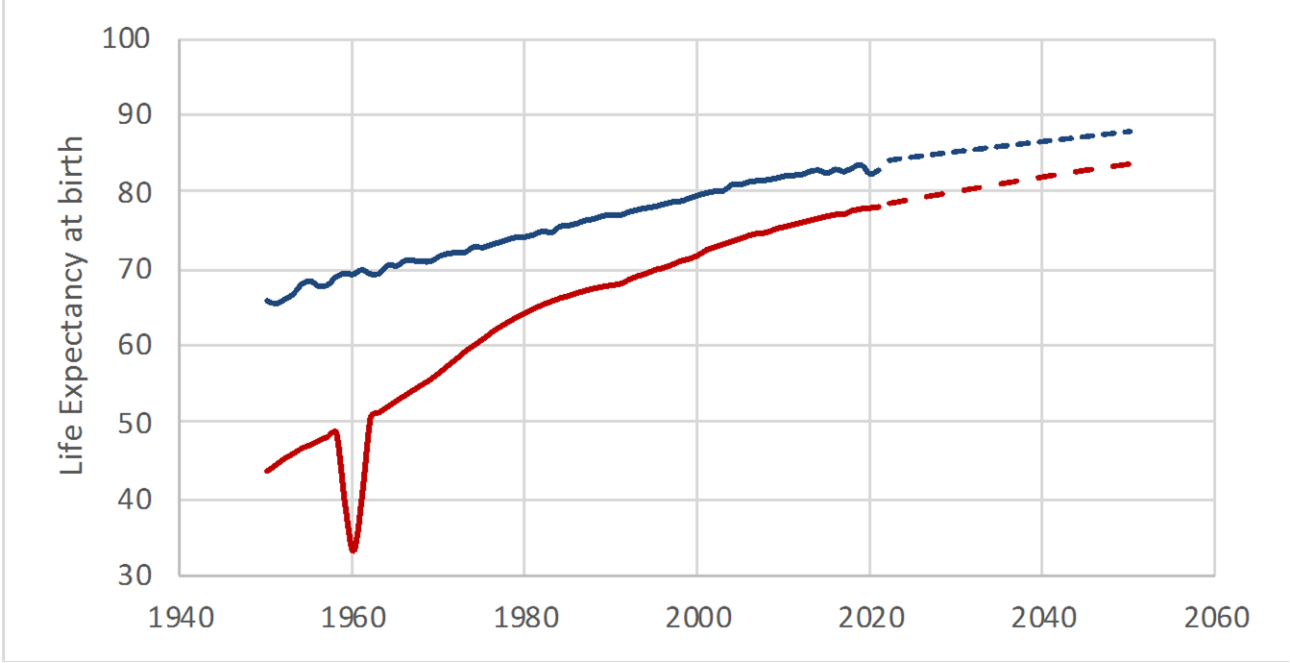
Data Source: United Nations, World Population Prospects 2019.

Normally, the Sex Ratio at Birth display values noticeably uniform of 105-106 males per 100 females at births. Virtually all developed countries stick to these figures (Rowland, 2003). While Italy displays values of 106 male births for every 100 female births, thus in line the average of 105-106, China deviates considerably. China went from 107 male births to every 100 female births in a population in 1980-1985, to values above 110, even reaching 117 the 2005-2010 period. These figures make China the country with the most skewed Sex Ratio at Birth in the world (UN, 2022).

Thus, on the one hand there is Italy, with values within the norm and perfectly constant over time; on the other hand, there is China, with its distorted Sex Ratio at Birth which have varied greatly over time. This difference can be ascribed to the policies implemented in China. Not surprisingly, China reported the increase in Sex Ratio at Birth following the implementation of the One Child Policy, whereas in recent years, with the implementation of the "Care for Girls" program (Kumar & Sinha, 2019) and the relaxation of the One Child Policy, have caused a decrease in the Sex Ratio at Birth, with projections showing almost regular values of 107 (UN, 2022).

Therefore, China and Italy have very different sex distributions. In contrast, they have similar age distribution, with a common trend of population ageing. Factors behind this decline include the aforementioned drop in fertility that has taken place in both countries, and the gradual extension of life expectancy. Life expectancy in China and Italy is illustrated in the following graph (Graph 15), which depicts its evolution in the two countries from 1950 to projections for 2050.

Graph 15: Life Expectancy in China and Italy 1950-2050



Source: author's own elaboration based on United Nations - World Population Prospects 2022.

At the moment, life expectancy in China is lower than in Italy. According to the most recent UN data (2022), life expectancy of the Chinese population was of 78 years while that of the Italia population was of 83 years, five years higher. In both countries life expectancy has increased considerably from 1950. In Italy it has increased of approximately 17 years over the past 70 years,

from 65,7 in 1950 and increased to 83 years in 2021. The increase in life expectancy in China has been even more remarkable, with an increase of over 30 years over a 70-year period: from 43,7 in 1950 up to 78 years. Although life expectancy in China remains lower than in Italy, China is catching up with Italy. The gap has narrowed considerably over the years, from a difference of 22 years in 1950 to 5 years in 2021. Moreover, projections for the future seem to suggest a further narrowing of this gap to 4 years in 2050.

Taken together, the gradual increase in life expectancy and the decline in fertility have contributed to a common trend of population ageing, both in China and Italy. According to the UN projections (2019), the percentage of the population aged over 65 will increase from 10% reported in 2000 to 26,1% by 2050 in China, while in Italy it will double from 18,3% to 36% over the same period. Furthermore, data on the Annual old-age dependency ratio [65+/15-64], that counts the number of people aged more than 65 for every 100 persons aged between 15 to 64 (Rowland, 2003; Weeks, 2015), suggest a significant increase in this ratio in both countries. Indeed, the Annual old-age dependency ratio went from 8,4 in 1950, to 19 in 2021 in China and from 12,4 in 1950 to 27,4 in 2021 in Italy. Projections paint an alarming picture of this ratio increasing to 51,3 in China and 71,8 in Italy by 2050 (UN, 2022). Looking at projections on the annual dependency ratio [(0-14 & 65+) / 15-64], that counts the number of people aged more than 65 together with children aged up to 14 for every 100 persons aged between 15 to 64 (Rowland, 2003; Weeks, 2015), the picture looks even more worrying. Indeed, forecasts suggest that dependency ratio will increase from 44 in 2021 to 71 in 2050 in China and from 57 in 2021 to even 93 in 2050 in Italy.

What emerges from these indicators is that, on the one hand, the old age percentages and dependency ratios are higher in Italy than in China, on the other hand, these percentages and dependency ratios are increasing much faster in China. Put differently, population is ageing in Italy and China but with different features: the Italian aging trend is more pronounced in scale, while the Chinese one is more accelerated in pace.

3.2.3 Comparative analysis of security prospects and policies

Comparing the demographic situation in China and Italy are some common challenges. Both countries have very low fertility rates, an ageing and declining population. These trends pose significant challenges to these countries' security, including economic security (by creating tensions in the pension and financial system and hindering their economic growth prospects) and social security (conceivably creating social problems or exacerbating existing social tension). For a more

in-depth analysis of these challenges, please refer to the second chapter. Thus, in both countries structural government interventions are required both to adapt to a population with an increasing proportion of elderly people over a shrinking labor force and to attempt to raise low fertility levels.

As regards possible policies to adapt to population ageing and address the parallel issue of workforce reduction, among the best policy options, there are: extending the number of years that workers spend in the labour force by increasing their retirement age (Minzner, 2023; Feng et al., 2018; Zeng, 2011); increasing the productivity of the remaining workforce, by investing in technological development and improving the educational level of the population (Marois et al., 2021; Goldstone, 2023; Feng et al., 2018); strengthening the social security and pension systems (Feng et al., 2018; China Power Team, 2016; Wang et al., 2019); supporting "replacement migration", that means compensating for the shrinking workforce with international migration (Rowland, 2003; Weeks, 2015; Huguet, 2003).

From a comparative perspective, different range of policies available for Italian and Chinese decision-makers. In China, there is relatively more scope for extending the number of years workers spend in the labour force by increasing the retirement age (Minzner, 2023; Feng et al., 2018; Zeng, 2011), while replacement migration seems to be a relatively more complex to date, due to a mix of socio-cultural reasons (Basten, 2013; Huguet, 2003). In both countries productivity can be enhanced by investing in research and technological development (Marois et al., 2021; Goldstone, 2023; Feng et al., 2018).

As regards measures to raise low fertility rates, on the Chinese side, the government has already taken measures, by gradually relaxing birth restrictions, then announcing the Two Child Policy in 2016 and, lastly, the Three Child Policy in 2021 (Basten, 2014; Attané, 2022; Jing et al., 2022; Marois et al., 2021). However, to date, the new policies do not seem to be yielding the desired results and the fertility rate is steadily decreasing. On the Italian side, instead, the Italian government has made only minor interventions so far (Censi et al., 2018; Vogliotti & Vattai, 2015, Donati, 2010) and fertility levels are steadily decreasing as well.

Again, the comparison between the two countries reveals different policies available for Italian and Chinese policy makers. In this regard, fertility preference surveys reveal an important piece of information. Behind low fertility in the two countries lie quite different situations: Chinese couples express a clear preference to have only one child, signaling an ideational shift towards a preference for small families (Jing et al., 2022; Marois et al., 2021), whereas Italian couples still express their preference for larger families above replacement (Novelli et al., 2020). However, they

are often unable to realise their desired family size for a conjuncture of structural conditions, primarily economic constraints (Vignoli et al., 2013; Fiori et al., 2018) and employment instability (Vignoli et al., 2020b; Barbieri et al., 2015). This difference entails very different political implications and will necessarily have to be taken into account for any effective future reforms.

Conclusion

This dissertation delved into the different demographic policies adopted in China since the Republic foundation to date and aimed at assessing the effectiveness of Chinese demographic policies, with specific emphasis on the renowned One Child Policy. This assessment included an empirical analysis of the effects of family planning in the country's demographic structure and a comparison with the Italian case.

The dissertation is divided into three chapters. The first chapter focused on the context that led to the adoption of the One Child Policy since the founding of the People's Republic of China in 1949. It gave an overview of population growth in China, showing that since 1949 the Chinese population began to grow substantially, with annual growth rates above 2% and an average of over 6 children per women. In parallel, the evolution of the Chinese government's stance towards this demographic trend and the resulting policies have been retraced, showing the government gradual shift from pro-natalist positions to opposing anti-natalist positions, until the adoption of the first family planning policies and, eventually, the One Child Policy. After identifying the multifaceted group of factors that concurred in this shift, the One Child Policy has been extensively analysed, with focus on its objective, on the set of incentives, sanctions and coercive measures employed, but also its exceptions and decentralized features.

Within this framework, the evaluation of the effects of the policy was conducted. In particular, three groups of effects were identified: fertility decline, "missing women", and population ageing. The first phenomenon was analysed in the first chapter, while the others were illustrated in the second chapter.

In the assessment of family planning impact on fertility, we found that following the implementation of restrictions, fertility levels have significantly declined in China from an average of over 6 children per women in 1950-1955, to the current level of 1,16 children per women in 2021 (UN, 2022), worryingly below the replacement level (Weeks, 2015; Rowland, 2003). Interestingly, we found that, the most significant decline in fertility occurred at the turn of the 1960s and 1970s, prior to the enforcement of the One Child Policy, and can be attributed to the previous "Later, Longer, and Fewer" campaign. Indeed, between 1970 and 1978, Chinese Total Fertility Rate had already sharply dropped from more than 6 children per women to around 3. We have reviewed the arguments of those who claim that fertility levels would have fallen the same even without the policies, as a result of economic development (Zhang, 2017; Noboa, 2021; Cai, 2010), urbanization or improved

levels of education (Lavely & Freedman, 1990), concluding that, while is highly plausible that fertility might have declined anyway, only such strict family planning policies could have produced such a rapid and drastic drop.

Moving on to the second chapter, we focused on the One Child Policy's impact on the Chinese demographic structure, in its sex and age distribution. As for the sex distribution, we found that the introduction of such severe restrictions on fertility in a context of traditional son preference heightened gender discrimination against women. Discrimination has taken the form of infanticide, abandonment and neglect of girls, as well sex selective abortions when sex-determination technologies became available. These forms of discrimination translated in the excess mortality of girls and in skewed sex ratios in favour of boys, especially the Sex Ratio at Birth. Currently, China has the most skewed Sex Ratio at Birth in the world, with a peak of even 117 male births per 100 female births in the 2005-2010 period and values of 130 male births per 100 female births, in some rural areas (Hesketh and Xing, 2006; Hesketh et al., 2011). Overall, Chinese male population consistently outnumber the female population by tens of millions. In this regard, many authors refer to the phenomenon of "missing women" i.e. those women that would be alive in the absence of gender discrimination (Ebenstein, 2010; Sen, 1992).

As for the age distribution, we found that the rapid and drastic drop in fertility levels, caused by family planning policies, combined with increasing life expectancy, is leading to a progressive increase in the proportion of elderly people in the total population. Put differently, China's population is inexorably ageing and, as a result of restrictive fertility policies, is doing so at a rate that no other country has ever equalled before. Projections indicate that 26,1% of the Chinese population will be aged more than 65 by 2050, compared to 10% reported in 2000 (UN, 2019) and the ratio of people aged more than 65 for every 100 persons aged between 15 to 64 - that is the Annual old-age dependency ratio [65+/15-64] (Rowland, 2003; Weeks, 2015) - is projected to increase tremendously to 51,3 in 2050, compared to 19 in 2021 (UN, 2022).

As we saw, both the phenomena of "missing women" and population ageing entail a wide range of connected issues, jeopardising the security of the country. Concerning the former phenomenon, such pronounced sex imbalance entails issues, both in the short but also in the long run, when the large cohorts of "surplus" male offspring translates into excess of men, leading to imbalances in the marriage market (Han & Zhao, 2021), social pressure to marry, social stigma and margination in case of failure (Hudson & Boer, 2002; Gui, 2021), increase in crime rate, and in the level of violence, as well as cases of kidnapping and trafficking of women, as trafficking of women from the Kachin region exemplifies (Xiong, 2021), among others. Concerning the latter phenomenon,

such exorbitant and sudden population ageing trend has the potential to hinder the country's economic growth (Dorling & Gietel-Basten, 2018; Goldstone, 2023), lead to tensions in the pension and financial system and in overall public spending (Goldstone, 2023; Minzner, 2023), create major social problems (Woo et al., 2002; Marois et al., 2021; Wei et al., 2015; Jiang et al., 2013; Nie, 2016) and, in the worst scenarios, undermine the government's political stability (Noesselt, 2021; Goldstone, 2023; Jayawardhana et al., 2023), thereby undermining the international order.

These destructive consequences have compelled the Chinese government to launch a series of interventions and to revise its decades-old population control policies, progressively easing birth restrictions, to the recent three Child policy announcement on 31 May 2021. This dissertation also covered and tried to assess also the new policies. Although it is too early to provide an overarching assessment of the new policies' effects, the evaluations conducted produced some interesting results. It showed that, on the one hand, the new policies have had an effect on the sex distribution of the population, with the Sex Ratio at Birth being now less skewed; on the other hand, the effects on fertility, are negligible for the time being, with Chinese fertility rate not only showing no signs of increasing, but steadily decreasing, with newspapers reporting an all-time low of 1.09 (Maste, 2023; Hawkins, 2023; Qi, 2023).

In the third chapter, we carried out a comparison between the demographic situation in Italy and China. At first sight, the two countries demographic picture appear very different. Suffice it to say that Italy has 58 million inhabitants, compared to China's 1.4 billion (UN, 2022). From this comparison, however, some remarkable similarities between emerged. Notably, these are two of the countries with the lowest fertility rates in the world and both countries are heading toward a future of an ageing and declining population, albeit with some differences. Indeed, by comparing relevant indicators, it emerged that, on the one hand, the old age percentages and dependency ratios are higher in Italy than in China, on the other hand, these percentages and dependency ratios are increasing much faster in China. Thus, the Italian aging trend is more pronounced in scale, while the Chinese one is more accelerated in pace.

We proved that in both countries demographic trends pose significant challenges. To face these common challenges, we offered some options available for Italian and Chinese policy makers, from a comparative perspective. Notably, concerning the problem of workforce reduction, we showed that in China, there is relatively more scope for extending the number of years workers spend in the labour force by increasing the retirement age (Minzner, 2023; Feng et al., 2018; Zeng, 2011), while replacement migration seems to be a relatively more complex to date, for socio-cultural reasons (Basten, 2013; Huguet, 2003). In both countries is necessary to increase the productivity of the

remaining workforce, by investing in technological development and supporting education (Marois et al., 2021; Goldstone, 2023; Feng et al., 2018). Concerning instead low fertility, in our analysis, we found that behind the two countries similar data lie quite different situations: in fertility preferences surveys, Chinese couples express a clear preference to have only one child, signaling that ideational shift towards a preference for small families (Jing et al., 2022; Marois et al., 2021), whereas Italian couples still express their ideal preference for larger families (Novelli et al., 2020). This entails very different policy implications and will have to be taken into account for any effective future reforms.

REFERENCES

Attané, I. (2022). Trois enfants pour tous en Chine ? Population & Sociétés, N° 596(1), 1–4. https://doi.org/10.3917/popsoc.596.0001

Barbieri, P., Bozzon, R., Scherer, S., Grotti, R., & Lugo, M. (2015). The Rise of a Latin Model? Family and fertility consequences of employment instability in Italy and Spain. European Societies, 17(4), 423–446. https://doi.org/10.1080/14616696.2015.1064147

Basten, S. (2013). Redefining "Old Age" and "Dependency" in East Asia: Is "Prospective Aging" A More Helpful Concept?. Asian Social Work and Policy Review, 7(3), 242–248. https://doi.org/10.1111/aswp.12015

Basten, S., & Gu, B. (2013). Childbearing preferences, reform of family planning restrictions and the Low Fertility Trap in China.

Basten, S., & Jiang, Q. (2014). China's Family Planning Policies: Recent Reforms and Future Prospects. Studies in Family Planning, 45(4), 493–509. https://doi.org/10.1111/j.1728-4465.2014.00003.x

Bellani, D., Arpino, B., & Vignoli, D. (2021). Time preferences and fertility: Evidence from Italy. *Demographic Research*, *44*, 1185–1228. https://doi.org/10.4054/demres.2021.44.50

Bongaarts, J. (2003). Completing the fertility transition in the developing world: The role of educational differences and fertility preferences. Population Studies, 57(3), 321–335. https://doi.org/10.1080/0032472032000137835

Bongaarts, J., & Greenhalgh, S. (1985). An Alternative to the One-Child Policy in China. Population and Development Review, 11(4), 585. https://doi.org/10.2307/1973456

Cai, Y. (2010). China's Below-Replacement Fertility: Government Policy or Socioeconomic Development? Population and Development Review, 36(3), 419–440. https://doi.org/10.1111/j.1728-4457.2010.00341.x

Censi, L., Degli Uberti, S., Pelliccia, A., & Vitiello, M. (2018). Politiche familiari e demografiche in Europa e in Italia. https://famiglia.governo.it/media/2315/rapporto-del-wp2.pdf

Chang, C.-F., Lee, C.-F., McKibben, S. L., Poston, D. L., & Walther, C. S. (2006). Fertility, Family Planning and Population Policy in China. https://doi.org/10.4324/9780203356449

Chen, T., Hou, P., Wu, T., & Yang, J. (2022). The Impacts of the COVID-19 Pandemic on Fertility Intentions of Women with Childbearing Age in China. Behavioral Sciences, 12(9), 335. https://doi.org/10.3390/bs12090335

Chen, Y., & Huang, Y. (2020). The power of the government: China's Family Planning Leading Group and the fertility decline of the 1970s. Demographic Research, 42, 985–1038. https://doi.org/10.4054/demres.2020.42.35

Cheng, K. (2018, August 20). Chinese scholar proposes "no child tax" on families with no kids. Mail Online. https://www.dailymail.co.uk/news/article-6078635/Chinese-scholar-proposes-no-child-tax-childless-citizens-encourage-couples-kids.html

China Power Team (2016). Does China have an aging problem? China Power. Updated March 15, 2023. Accessed August 13, 2023. https://chinapower.csis.org/aging-problem/

Cleland, J., & Rodríguez, G. (1988). The Effect of Parental Education on Marital Fertility in Developing Countries. Population Studies, 42(3), 419–442. https://doi.org/10.1080/0032472031000143566

Dalla Zuanna, G. (2001). The banquet of Aeolus. Demographic Research, 4(5), 133–162. https://doi.org/10.4054/demres.2001.4.5

Das Gupta, M., Zhenghua, J., Bohua, L., Zhenming, X., Chung, W., & Hwa-Ok, B. (2003). Why is Son preference so persistent in East and South Asia? a cross-country study of China, India and the Republic of Korea. The Journal of Development Studies, 40(2), 153–187. https://doi.org/10.1080/00220380412331293807

Del Panta, L., Livi Bacci , M., & Pinto, G. (1996). La popolazione italiana dal Medioevo a oggi.

Dorling, D., & Gietel-Basten, S. (2018). Why Demography Matters. Amsterdam University Press.

Dikötter, F. (2013). The tragedy of liberation : a history of the Chinese revolution, 1945-57. Bloomsbury Press.

Dikötter, F. (2010). Mao's great famine : the history of China's most devastating catastrophe, 1958-62. Bloomsbury.

Dikötter, F. (2016). The cultural revolution a people's history, 1962-1976. New York London Oxford New Delhi Sydney Bloomsbury Press New York London Oxford New Delhi Sydney Bloomsbury Press.

Donati P. (2010), Le politiche familiari in Italia: problemi e prospettive. Conferenza Nazionale della Famiglia, Milano, 8–10 novembre 2010, https://www.provincia.pc.it/Allegati/Livelli/relazione%20Donati1294756647133732825 5.pdf

Ebenstein, A. (2010). The "Missing Girls" of China and the Unintended Consequences of the One Child Policy. Journal of Human Resources, 45(1), 87–115. https://doi.org/10.1353/jhr.2010.0003

Ebenstein, A., & Leung, S. (2010). Son Preference and Access to Social Insurance: Evidence from China's Rural Pension Program. Population and Development Review, 36(1), 47–70. https://doi.org/10.1111/j.1728-4457.2010.00317.x

Edlund, L., Li, H., Yi, J., & Zhang, J. (2013). Sex Ratios and Crime: Evidence from China. The Review of Economics and Statistics, 95(5), 1520–1534. https://doi.org/10.1162/rest_a_00356

Edwards, C. & Tiefenbrun, S. (2008). Gendercide and the Cultural Context of Sex Trafficking in China. Fordham International Law Journal, Vol. 32, No. 3, pp. 731-780

Fairbank , J. K. (2008). Republican China 1912-1949. Cambridge University Press.

Fairbank, J. K., & Feuerwerker, A. (1986). The Cambridge History of China. Vol. 13 : Republican China 1912-1949. Part 2. Cambridge University Press.

Fairbank, J. K., & Goldman, M. (2006). China : a new history. Belknap Press Of Harvard University Press.

Fairbank, J. K., & MacFarquhar, R. (1995). The Cambridge history of China. 14, The people's republic, Part 1, the emergence of revolutionary China, 1949-1965. Cambridge University Press.

Fenby, J. (2013). Tiger Head, Snake Tails. Simon and Schuster.

Feng, W., Cai, Y., & Gu, B. (2013). Population, Policy, and Politics: How Will History Judge China's One-Child Policy? Population and Development Review, 38, 115–129. https://doi.org/10.1111/j.1728-4457.2013.00555.x

Feng, Q., Yeung, W.-J. J., Wang, Z., & Zeng, Y. (2018). Age of Retirement and Human Capital in an Aging China, 2015–2050. European Journal of Population, 35(1), 29–62. https://doi.org/10.1007/s10680-018-9467-3

Fiori, F., Graham, E., & Rinesi, F. (2018). Economic reasons for not wanting a second child: Changes before and after the onset of the economic recession in Italy. Demographic Research, 38, 843–854. https://www.jstor.org/stable/26457064

Freedman, R., Xiao, Z., Li, B., & Lavely, W. R. (1988). Education and fertility in two Chinese provinces: 1967-1970 to 1979-1982. Asia-Pacific Population Journal, 3(1), 3–30. https://pubmed.ncbi.nlm.nih.gov/12269185/

Gao, C. (2018, August 17). To Encourage More Births, Chinese Specialists Propose Birth Fund, Childless Tax. Thediplomat.com. https://thediplomat.com/2018/08/to-encourage-more-births-chinese-specialists-propose-birth-fund-childless-tax/

Goldstone, J. A. (2023). China's Looming Demographic Disaster. Www.noemamag.com. https://www.noemamag.com/chinas-looming-demographic-disaster/#:~:text=After%20tripling%20from%20330%20million

Goodkind, D. (2017). The Astonishing Population Averted by China's Birth Restrictions: Estimates, Nightmares, and Reprogrammed Ambitions. Demography, 54(4), 1375–1400. https://doi.org/10.1007/s13524-017-0595-x

Gui, T. (2021). Coping with Parental Pressure to Get Married: Perspective from Chinese "Leftover Women." SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3954642

Han, J., & Zhao, Z. (2021). One-Child Policy and Marriage Market in China. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3860596

Hawkins, A. (2023, August 16). China's fertility rate dropped to record low in 2022, estimates show. The Guardian. https://www.theguardian.com/world/2023/aug/16/china-fertility-rate-dropped-to-record-low-in-2022-estimates-show

Hearder, H., & Morris, J. (2001). Italy: A short history. Cambridge University Press.

Hesketh, T., Lu, L., & Xing, Z. W. (2011). The consequences of son preference and sex-selective abortion in China and other Asian countries. Canadian Medical Association Journal, 183(12), 1374–1377. https://doi.org/10.1503/cmaj.101368

Hesketh, T., & Min, J. M. (2012). The effects of artificial gender imbalance. EMBO Reports, 13(6), 487–492. https://doi.org/10.1038/embor.2012.62

Hesketh, T., & Xing, Z. W. (2006). Abnormal sex ratios in human populations: Causes and consequences. Proceedings of the National Academy of Sciences, 103(36), 13271–13275. https://doi.org/10.1073/pnas.0602203103

Hill, K., & Upchurch, D. M. (1995). Gender Differences in Child Health: Evidence from the Demographic and Health Surveys. Population and Development Review, 21(1), 127. https://doi.org/10.2307/2137416

Huang, G., Guo, F., Cheng, Z., Tani, M., & Chen, G. (2023). Projections of Future Demand and Costs of Aged Care Services in China. Population Research and Policy Review, 42(4). https://doi.org/10.1007/s11113-023-09803-0

Hudson, V. M., & Boer, A. D. (2002). A Surplus of Men, A Deficit of Peace: Security and Sex Ratios in Asia's Largest States. International Security, 26(4), 5–38. https://doi.org/10.1162/016228802753696753

Huguet, J. W. (2003). Can migration avert population decline and ageing in East and Southeast Asia? Journal of Population Research, 20(1), 107–124. https://doi.org/10.1007/bf03031798

Ipsen, C. (1997). Demografia totalitaria : il problema della popolazione nell'Italia fascista. Il Mulino.

Jayawardhana, T., Anuththara, S., Nimnadi, T., Karadanaarachchi, R., Jayathilaka, R., & Galappaththi, K. (2023). Asian ageing: The relationship between the elderly population and economic growth in the Asian context. PLOS ONE, 18(4), e0284895. https://doi.org/10.1371/journal.pone.0284895

Jiang, Q., Li, Y., & Sánchez-Barricarte, J. J. (2013). The risk of mothers losing an only child in China. Journal of Biosocial Science, 46(04), 531–545. https://doi.org/10.1017/s0021932013000540

Jing, W., Liu, J., Ma, Q., Zhang, S., Li, Y., & Liu, M. (2022). Fertility intentions to have a second or third child under China's three-child policy: a national cross-sectional study. Human Reproduction, 37(8). https://doi.org/10.1093/humrep/deac101

Kamler, E. M. (2015). Women of the Kachin Conflict: Trafficking and Militarized Femininity on the Burma-China Border. Journal of Human Trafficking, 1(3), 209–234. https://doi.org/10.1080/23322705.2015.1014664

Kinnear, P. (2001). Population Ageing Crisis or Transition? https://australiainstitute.org.au/wp-content/uploads/2020/12/DP45_8.pdf

Kroeber, A. R. (2020). China's economy : what everyone needs to know. Oxford University Press.

Kumar, S., & Sinha, N. (2019). Preventing More "Missing Girls": A Review of Policies to Tackle Son Preference. The World Bank Research Observer, 35(1), 87–121. https://doi.org/10.1093/wbro/lkz002

Lavely, W., & Freedman, R. (1990). The Origins of the Chinese Fertility Decline. Demography, 27(3), 357–367. https://doi.org/10.2307/2061373

Lee, B. J. (1981). Female Infanticide in China. Historical Reflections / Réflexions Historiques, 8(3), 163–177. https://www.jstor.org/stable/41298766

Li, S., Zhu, C., & Feldman, M. W. (2004). Gender Differences in Child Survival in Contemporary Rural China: A County Study. Journal of Biosocial Science, 36(1), 83–109. https://doi.org/10.1017/s0021932004006121

Lichter, D. T., Anderson, R. N., & Hayward, M. D. (1995). Marriage Markets and Marital Choice. Journal of Family Issues, 16(4), 412–431. https://doi.org/10.1177/019251395016004001

MacFarquhar, R., & Fairbank, J. K. (1991). The Cambridge history of China. Vol. 15 : the People's Republic. Part 2 : Revolutions within the Chinese Revolution : 1966-1982. Cambridge University Press.

Marois, G., Gietel-Basten, S., & Lutz, W. (2021). China's low fertility may not hinder future prosperity. Proceedings of the National Academy of Sciences, 118(40). https://doi.org/10.1073/pnas.2108900118

Maste, F. (2023, August 15). China's fertility rate drops to record low 1.09 in 2022- state media. Reuters. https://www.reuters.com/world/china/chinas-fertility-rate-drops-record-low-109-2022-state-media-2023-08-15/

Mauldin, W. P. (1982). The Determinants of Fertility Decline in Developing Countries: An Overview of the Available Empirical Evidence. International Family Planning Perspectives, 8(3), 116. https://doi.org/10.2307/2947896

Meisner, M. J. (1996). The Deng Xiaoping era : an inquiry into the fate of Chinese socialism, 1978-1994. Hill And Wang.

Mencarini, L., & Vignoli, D. (2018). Genitori cercasi. EGEA spa.

Minzner, C. (2023). Xi Jinping Can't Handle an Aging China. Foreign Affairs. https://www.foreignaffairs.com/china/xi-jinping-cant-handle-aging-china

Nie, J.-B. (2016). Erosion of Eldercare in China: a Socio-Ethical Inquiry in Aging, Elderly Suicide and the Government's Responsibilities in the Context of the One-Child Policy. Ageing International, 41(4), 350–365. https://doi.org/10.1007/s12126-016-9261-7

Noboa, R. (2021). China's demographic challenges: the long-term consequences of the one-child policy. Global Affairs. Global Affairs and Strategic Studies. Retrieved June 14, 2022, from https://www.unav.edu/web/global-affairs/chinas-demographic-challenges-the-long-term-consequences-of-the-one-child-policy

Noesselt, N. (2021). Ageing China: The People's Republic of China, Hong Kong, Macao and Taiwan. Springer EBooks, 117–139. https://doi.org/10.1007/978-3-030-73065-9_5

Novelli, M., Cazzola, A., Angeli, A., & Pasquini, L. (2020). Fertility Intentions in Times of Rising Economic Uncertainty: Evidence from Italy from a Gender Perspective. Social Indicators Research, 154(1), 257–284. https://doi.org/10.1007/s11205-020-02554-x

Oxford Analytica (2023). China's demographic crisis may not be so urgent. Emerald Expert Briefings. https://doi.org/10.1108/oxan-db279412

Pantsov, A., & Levine, S. I. (2015). Deng Xiaoping : a Revolutionary Life. Oxford University Press.

Park, C. B., & Cho, N. H. (1995). Consequences of Son Preference in a Low-Fertility Society: Imbalance of the Sex Ratio at Birth in Korea. Population and Development Review, 21(1), 59. https://doi.org/10.2307/2137413

Park, C. B., & Han, J. Q. (1990). A minority group and China's one-child policy: the case of the Koreans. Studies in Family Planning, 21(3), 161–170. https://pubmed.ncbi.nlm.nih.gov/2375047/

Pescosolido, G. (2015). Unità nazionale e sviluppo economico in Italia 1750-1913. Edizioni Nuova Cultura.

Piotrowski, M., & Tong, Y. (2016). Education and fertility decline in China during transitional times: A cohort approach. Social Science Research, 55, 94–110. https://doi.org/10.1016/j.ssresearch.2015.10.001

Qi, L. (2023). China's Fertility Rate Dropped Sharply, Study Shows. WSJ. https://www.wsj.com/world/china/chinas-fertility-rate-dropped-sharply-study-shows-e97e647f

Roberts, J. P. (2005). Bare Branches: The Security Implications of Asia's Surplus Male Population (review). Population Review, 44(1). https://doi.org/10.1353/prv.2005.0007

Rosina, A., & Impicciatore, R. (2022). Storia demografica d'Italia Crescita, crisi e sfide. Carocci editore.

Rowland, D. T. (2003). Demographic Methods and Concepts (PAP/CDR ed.). Oxford University Press.

Sen, A. (1992). Missing women. BMJ, 304(6827), 587–588. https://doi.org/10.1136/bmj.304.6827.587

Short, S. E., & Fengying, Z. (1998). Looking Locally at China's One-Child Policy. Studies in Family Planning, 29(4), 373. https://doi.org/10.2307/172250

The Central People's Government. (2013). Decision on major issues to comprehensively deepen the reform. Www.gov.cn; The Central People's Government of People's Republic of China. http://www.gov.cn/jrzg/2013-11/15/content_2528179.htm

Treves, A. (2001). Le nascite e la politica nell'Italia del Novecento. LED Edizioni Universitarie.

Tucker, J. D., Henderson, G. E., Wang, T. F., Huang, J. Y., Parish, W., Pan, S. M., Chen, X. S., & Cohen, M. S. (2006). Surplus men, sex work, and the spread of HIV in China. AIDS, 20(3), 479–481. https://doi.org/10.1097/01.aids.0000196163.63765.8c

United Nations. (2000). Too Young to Die: Genes or Gender? New York, United Nations Population Division, 1998, 260 pages. (ST/ESA/SER.A/155). Cahiers Québécois de Démographie, 29(2), 365. https://doi.org/10.7202/010295ar

Vignoli, D., Guetto, R., Bazzani, G., Pirani, E., & Minello, A. (2020 a). A reflection on economic uncertainty and fertility in Europe: The Narrative Framework. Genus, 76(1). https://doi.org/10.1186/s41118-020-00094-3

Vignoli, D., Rinesi, F., & Mussino, E. (2013). A Home to Plan the First Child? Fertility Intentions and Housing Conditions in Italy. Population, Space and Place, 19(1), 60–71. https://doi.org/10.1002/psp.1716

Vignoli, D., Tocchioni, V., & Mattei, A. (2020 b). The impact of job uncertainty on first-birth postponement. Advances in Life Course Research, 45, 100308. https://doi.org/10.1016/j.alcr.2019.100308

Vogel, E. F. (2011). Deng Xiaoping and the transformation of China. The Belknap Press Of Harvard University Press.

Vogliotti, S., & Vattai, S. (2015). Welfare state Le politiche della famiglia in un confronto europeo. https://afi-ipl.org/wp-content/uploads/1_IPL_Welfare_state_2_Politiche_familiari.pdf

Wang, F., Cai, Y., Shen, K., & Gietel-Basten, S. (2018). Is Demography Just a Numerical Exercise? Numbers, Politics, and Legacies of China's One-Child Policy. Demography, 55(2), 693–719. https://doi.org/10.1007/s13524-018-0658-7

Wang, H., Huang, J., & Yang, Q. (2019). Assessing the Financial Sustainability of the Pension Plan in China: The Role of Fertility Policy Adjustment and Retirement Delay. Sustainability, 11(3), 883. https://doi.org/10.3390/su11030883

Wang, Z. (2022). Xuezhi Guo, The Politics of the Core Leader in China: Culture, Institution, Legitimacy and Power. Journal of Chinese Political Science. https://doi.org/10.1007/s11366-021-09783-y

Wang, Z., Wei, L., Zhang, X., & Qi, G. (2023). Impact of demographic age structure on energy consumption structure: Evidence from population aging in mainland China. *Energy*, 127226. https://doi.org/10.1016/j.energy.2023.127226

Weeks, J. R. (2015). Population: An Introduction to Concepts and Issues (12th ed.). Cengage Learning.

Wei, Y., Jiang, Q., & Gietel-Basten, S. (2015). The well-being of bereaved parents in an only-child society. Death Studies, 40(1), 22–31. https://doi.org/10.1080/07481187.2015.1056563

Whyte, M. K., Feng, W., & Cai, Y. (2015). Challenging Myths About China's One-Child Policy. The China Journal, 74, 144–159. https://doi.org/10.1086/681664

Woo, J., Kwok, T., Sze, F., & Yuan, H. (2002). Ageing in China: health and social consequences and responses. International Journal of Epidemiology, 31(4), 772–775. https://doi.org/10.1093/ije/31.4.772

Wu, Z., Schimmele, C. M., & Li, S. (2009). Demographic change and economic reform. In A. Sweetman & J. Zhang (Eds.), Economic transitions with Chinese characteristics: Social change during thirty years of reform (pp. 149–167). Kingston: McGill-Queen's University Press.

Xiong, W. (2021). Does the Shortage of Marriageable Women Induce the Trafficking of Women for Forced Marriage? Evidence From China. Violence Against Women, 28(6–7), 1441–1463. https://doi.org/10.1177/10778012211014565

Yi, Z. (2007). Options for Fertility Policy Transition in China. Population and Development Review, 33(2), 215–246. https://doi.org/10.1111/j.1728-4457.2007.00168.x

Zeng, Y. (2011). Effects of Demographic and Retirement-Age Policies on Future Pension Deficits, with an Application to China. Population and Development Review, 37(3), 553–569. https://doi.org/10.1111/j.1728-4457.2011.00434.x

C. Zhang, Y. & Li Y. (2021), The COVID-19 outbreak further depresses the fertility of China: A preliminary analysis of newborn population changes in 2020. Paper presented at United Nations Expert group meeting on the impact of the COVID-19 pandemic on fertility, New York 11 May 2021. https://www.un.org/development/desa/pd/ru/event/ egm-impact-covid-19-fertility.

Zhang P. (1990). Issues and characteristics of the unmarried population. Chinese journal of population science, 2(1), 87–97.

Zhang, J. (2017). The Evolution of China's One-Child Policy and Its Effects on Family Outcomes. Journal of Economic Perspectives, 31(1), 141–160. https://doi.org/10.1257/jep.31.1.141

Zhang, D., & Unschuld, P. U. (2008). China's barefoot doctor: past, present, and future. The Lancet, 372(9653), 1865–1867. https://doi.org/10.1016/s0140-6736(08)61355-0

Zhang, Y. B. (2004). Initiating Factors of Chinese Intergenerational Conflict: Young Adults' Written Accounts. Journal of Cross-Cultural Gerontology, 19(4), 299–319. https://doi.org/10.1023/b:jccg.0000044686.61485.94

Zhao, Y., Zhang, T., Dasgupta, R. K., & Xia, R. (2022). Narrowing the age-based digital divide: Developing digital capability through social activities. Information Systems Journal. https://doi.org/10.1111/isj.12400

Zhenzhen, Z., Cai, Y., Feng, W., & Baochang, G. (2009). Below-replacement fertility and child-bearing intention in Jiangsu Province, China. Asian Population Studies, 5(3), 329–347. https://doi.org/10.1080/17441730903351701

Ziv, S. (2015). China's One-Child Policy and American Adoptees. Newsweek. https://www.newsweek.com/what-if-chinese-adoptees-and-end-one-child-policy-390130

Databases

United Nations, Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022, Online Edition. Rev. 1.

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1.

World Bank (2019) Fertility rate, total (births per woman) - China, Thailand. https://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=KR-CN-TH.