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Comparative Study on the Low Birth Rate Process in China and Japan and the Impact on University Graduates' Employment

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Abstract: The low birth rate is a global phenomenon that cannot be overlooked, having profound implications for the socio-economic conditions of many nations and regions. The declining birth rates in China and Japan have been a significant part of the global discourse on this topic. This paper analyzes the impact of low birth rates on the employment of university graduates, encompassing both positive effects such as an increase in employment rates, and negative effects including a decrease in innovation and increased difficulties in promotions. The study observes that there is a roughly 15-year gap in the shifts in the low birth rate phenomenon and the employment conditions of university graduates between China and Japan. The differences between the two nations mainly manifest in the timeframe and pace of the declining birth rates and the associated time lags. A commonality is that the fundamental cause for the low birth rate in both countries is the high cost of child-rearing. Lastly, the paper proposes suggestions for the Chinese government and university graduates, drawing upon the countermeasures and experiences of Japan. These suggestions helps enhance the employment competitiveness of university graduates and promote sustainable economic and social development, offering valuable references for both governments and university students.

Keywords: low birth rate, university graduates' employment, China, Japan

1. Introduction

Globally, the phenomenon of declining birth rates has emerged as a matter that cannot be disregarded. This trend, characterized by a diminishing fertility rate which subsequently results in a gradual decrease in the proportion of young population, is closely affiliated with various factors including economic development, governmental policies, and the dwindling desire for childbearing amongst the reproductive age groups. The repercussions of declining birth rates exert profound influences on the socio-economic landscapes of numerous nations and regions.

In this context, the declining birth rates witnessed in China and Japan constitute a significant segment of the global discourse on this topic. Since 2018, China has experienced a rapid decline in its fertility rate, marking its entrance into a phase where the issues stemming from a declining birth rate have become pronounced. Conversely, Japan has endured the predicaments associated with a

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consistently low birth rate for many years. Historically, China witnessed a period of rapid population growth over several decades, which brought an influx of inexpensive labor force, thereby fueling a substantial demographic dividend that propelled immense economic growth. Therefore, the sharp population decrease in recent years necessitates an urgent discussion on its implications for the employment prospects of Chinese university graduates and its subsequent impact on socio-economic development. On the other hand, Japan, a nation perennially grappling with declining birth rates, has encountered significant impacts on its socio-economic fabric. Notwithstanding, Japan has managed to stabilize university graduate employment and sustain positive economic growth, fostering an economic model that coexists with a declining birth rate. The employment scenario for the youth in Japan has undergone a significant transformation from the early 2000s to the present, with various similarities and disparities evident in the circumstances of China and Japan across different time periods.

Regarding the literary discourse on declining birth rates, Brinton et al. attribute the cause to a myriad of factors including the educational and employment opportunities for women, the distribution of familial and childcare responsibilities, shifts in the social and political milieu, amongst others. Additionally, the discrepancy between the desire and actual practice of childbearing stands as a crucial factor exacerbating this trend [1]. Many scholars have analyzed the implications of declining birth rates. For instance, Chen posits that it harbors negative repercussions, restraining consumption growth through avenues like population totals and income distribution, consequently affecting the healthy and sustainable development of the economy [2]. Conversely, Liu perceives positive societal influences stemming from declining birth rates, including heightened savings substituting expenditures on education and healthcare, fostering a high savings rate occurrence [3]. In addressing this issue, several scholars have proposed pertinent strategies. For example, Tanasa and Serban suggest that labor market regulations and governmental policy adjustments could to some extent foster fertility rates, although various political, economic, and cultural factors might impede such adjustments [4].

On the basis of the previous research, this paper aims to scrutinize the current status of declining birth rates in China and Japan, and its repercussions on university graduate employment, while dissecting the similarities and discrepancies observed between the two nations in this regard. Integrating the experiences of Japan with the prevailing circumstances in China, this study endeavors to proffer recommendations to the Chinese government and university students grappling with the declining birth rates, thereby holding intrinsic research value in fostering strategies to enhance university graduate employment amidst this trend.

2. Background and Causes of the Low Birth Rate in China and Japan

2.1. Background and Causes of the Low Birth Rate in China

2.1.1. Background of the Low Birth Rate in China

According to the National Bureau of Statistics of China, and *the China Statistical Yearbook 2022*, by the end of 2022, the total population of China decreased by 850,000 compared to the end of the previous year. Throughout the year, there were 9.56 million births and 10.41 million deaths, resulting in a natural population growth rate of -0.60‰. This marked the first time since the establishment of the People's Republic of China in 1949 that the population experienced negative growth under natural development conditions. In 2020, the birth rate in China had already dropped to an ultra-low fertility rate standard of 1.3[5]. Since the mid-20th century, China's population had maintained a trend of rapid growth. However, starting in 2018, China's birth rate experienced a sharp decline, interrupting the previously sustained high-speed population growth trend (see Figure 1). Although the population

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was growing during this period, the growth rate was slowing down, and the negative population growth phenomenon in 2022 was a general trend [5].

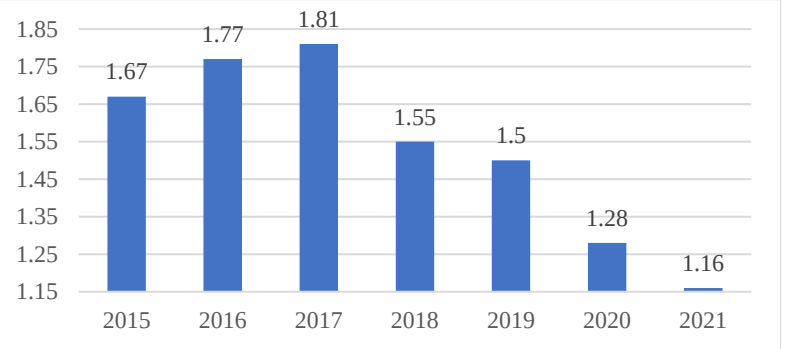

Figure 1: China's Birth Rate Statistics.

2.1.2. Reasons for the Low Birth Rate in China

Due to high child-rearing costs, among other factors, the childbearing willingness of couples of childbearing ages has decreased, leading to a year-by-year decline in the birth rate. The primary reason for the contemporary low birth rate phenomenon in China is the continuously escalating cost of raising a child. The steep child-rearing costs have led to a collapse in the willingness to bear children for many individuals [6]. Such ideas are disseminated among the population of childbearing age through various channels, including the internet, fostering a greater sense of identification with the concept of giving birth to fewer but higher quality offspring. Combined with the young people in China continually seeking higher standards of living, has culminated in an ideology that is acknowledged by many. Consequently, there has been a larger scale decline in the willingness to have children. The sharp decrease in the birth rate in recent years is the result of the combined effects of changing perceptions and the realities of the current situation.

2.2. Background and Causes of the Low Birth Rate in Japan

2.2.1. Background of the Low Birth Rate in Japan

In the post-war period, Japan experienced a surge in population due to the repatriation of soldiers and individuals from its colonies, and the government's intention was to support birth rate control. However, population control in Japan was not implemented through compulsory measures, but stemmed from the unwillingness of couples of childbearing age to have children due to high child-rearing costs [7]. In 1989, Japan faced a significant shock with a birth rate of 1.57. It was not an isolated incident. In 1995, the birth rate plummeted to a historic low of 1.42. In 2005 and 2006, the birth rates in Japan were 1.26 and 1.32, respectively. Although fluctuations in the birth rate have been observed, the general trend is a decline (see Figure 2). The consequence of the low birth rate is that Japan, having experienced negative population growth starting in 2009, continues to progress further down the path of population decline.

2.2.2. Reasons for the Low Birth Rate in Japan

The reason behind Japan's low birth rate is the expensive costs associated with raising children. In an effort to maintain their current standard of living without a decline, families with couples of childbearing age are unable to accommodate higher child-rearing costs, thus are unwilling to raise more children [7]. Furthermore, the influence of the economic bubble has deeply ingrained a lower willingness to have children within the populace.

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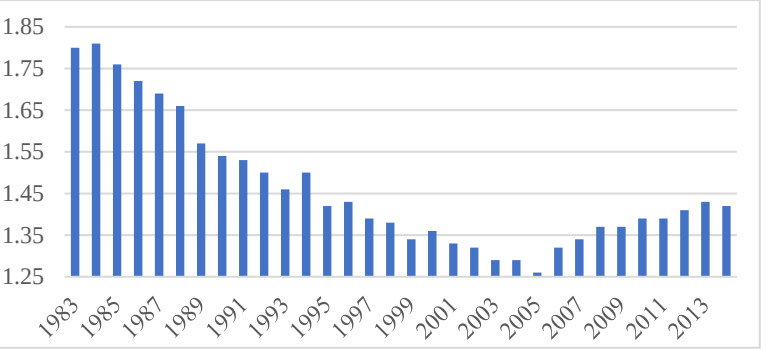

Figure 2: Japan's Birth Rate Statistics.

2.3. Comparative Analysis of the Low Birth Rate in Both Countries

2.3.1. Analysis of Time Lag Patterns

One pattern can be observed in the low birth rate processes of the two countries: the significant years in which both countries entered a deep phase of low birth rate, namely 2005 and 2018, and the years of negative population growth, 2009 and 2022. Both sets of years have a gap of about 15 years, and the gap between the two respective years within each country is approximately 4 years. This pattern also indicates certain similarities in the low birth rate trends between China and Japan.

2.3.2. Differences and Similarities

One of the differences between the two countries is the period when they entered the deep phase of low birth rate. Taking the point of negative population growth as a benchmark, China achieved negative population growth in 2022, while Japan reached this point in 2009. China faced a slump in birth rates in 2018, while Japan encountered a nadir in birth rates around 2005. These are both significant markers indicating the onset of a deep phase of low birth rate, but they occurred at different times. In the process of entering this deep phase, China demonstrated a more abrupt transition, while Japan started experiencing a gradual decline in birth rates from the 1980s, indicating a slower process. The biggest commonality between the two nations is the reason behind the low birth rate. Although the causes leading to a low birth rate are complex and multifaceted, a central similarity between China and Japan is that the primary cause in both countries is the continuous rise in child-rearing costs, which has resulted in a decline in the willingness to have children among the population of childbearing age.

3. Comparison of Employment Conditions of University Students in China and Japan at Different Stages

3.1. Comparison of University Students' Employment Conditions During the Deep Phase of Low Birth Rate

This paper considers the population born during periods of higher birth rates. When the university students among this group reach the employment age (around 20 years old), it corresponds to the period when their respective countries are entering the deep phase of low birth rate. This study compares the employment conditions of this group in both countries. Specifically, considering the population born around 1975-1985 in Japan, who entered the workforce approximately between 1995-2005 and the population born around 1993-2003 in China, who entered the workforce approximately between 2013-2023.

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3.1.1. Employment Situation of University Students in Japan During the Deep Phase of Low Birth Rate

During 1975-1985, the birth rate in Japan was between 1.76 and 1.91, a period when the birth rate in Japan was relatively high, approximately 0.5 higher than 20 years later.

By the late 1990s in Japan, university graduates faced increasingly difficult to secure employment, and the unemployment rate was high. The skills and attributes necessary for employment were relatively insufficient [8]. Companies preferred innovative talents with capabilities over mechanical and submissive workers. During this period, the young people, facing a high-threshold employment environment, began to lower their expectations for life and accept the reality of unemployment [9]. During this period, Japan's unemployment rate surged from the usual 1%-2% before the 90s to 5%-6% around the millennium [10].

3.1.2. Employment Situation of University Students in China During the Deep Phase of Low Birth Rate

From 1993 to 2003, China's birth rate ranged between 1.57 and 1.69. Although the one-child policy suppressed the growth of the birth rate, it remained relatively high, sustaining a rapid population growth.

When the population born during this period reached employment age between 2013 and 2023, a situation similar to Japan's emerged. With the yearly increase in graduates, more individuals flooded the labor market, intensifying competition for jobs and exacerbating employment difficulties for graduates [11]. Due to increased competition, the phenomenon of "lying flat" emerged among Chinese youth, characterized by lowered aspirations for real life, and downgraded consumption and desires [12].

3.1.3. Comparison Between the Two Countries

From the analysis above, it can be seen that there are many similarities in the employment situation of university students in both countries when entering the deep phase of low birth rates. Both exhibited increased difficulties for university graduates in finding employment and lowered life expectations. Despite a 15-year gap, the manifestations in China and Japan are highly similar during this period.

3.2. Comparison of Current Employment Situations for University Graduates

3.2.1. Current Employment Situation for University Graduates in Japan

In Japan, the deepening of the declining birth rate trend has led to a continuous decrease in the number of graduates. The job market generally exhibits a state of supply exceeding demand. Currently, the employment rate for university graduates in Japan is high, making it easier for them to find jobs.

3.2.2. Current Employment Situation for University Graduates in China

The present employment and labor supply situation in China is in a phase where demand exceeds supply, with the overall scenario being that it is challenging for university graduates to find jobs, and companies have more leeway to suppress wages.

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3.2.3. Comparison Between the Two Countries

Compared to China, Japanese graduates nowadays find it easier to secure jobs with decent incomes and benefits than their Chinese counterparts of the same age and individual conditions. In contrast, Japanese companies need to incur higher costs than Chinese companies to hire graduates of the same caliber.

4. The Impact of Low Fertility Rates on University Graduates' Employment Opportunities

A standard university student takes approximately 20 years from birth to join the workforce. This implies that the changes in the societal birth rates that can influence university students' employment would be seen about 20 years later. It is noted that the sharp decline in China's birth rate began around 2018, and the current job market for university graduates in China is still dominated by those born during the high fertility rates of the 2000s. The decrease in birth rate in China has not yet significantly impacted the employment of university students, lacking typicality.

4.1. Positive Impact of Decreasing Birth Rates on University Students' Employment

4.1.1. Positive Impact Evidence

Figure 3 and figure 4 illustrate the employment rates of university students in Japan from 2013 to 2023, simplified for analysis. Considering that individuals generally join the workforce around the age of 20, we have extracted birth rate data between 1993 and 2003, as illustrated in Figures 3 and 4. The data exhibits a general decline in birth rates in Japan between 1993 and 2003. Conversely, the employment rates for university graduates twenty years later, from 2013 to 2023, display an overall increasing trend. The noticeable dip in the employment rates in 2021 and 2022 is primarily attributed to the global prevalence of COVID-19, an external factor. Nevertheless, the overarching trend is an increase. This suggests that the decreased birth rates in Japan would lead to a rise in university graduates' employment rates as this cohort enters the working age group.

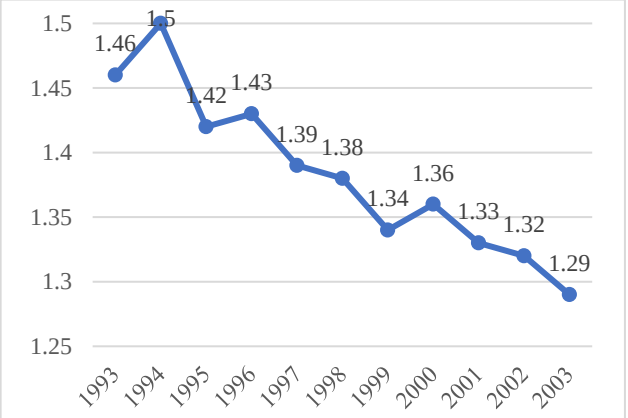

Figure 3: Japanese Birth Rate Curve.

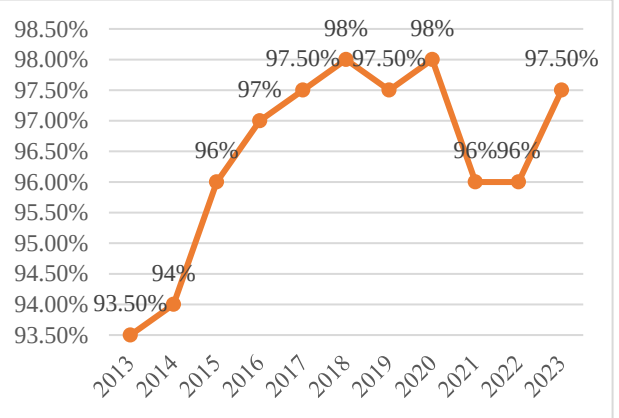

Figure 4: Japanese University Graduates Employment Rate Curve.

4.1.2. Positive Effects: Causes

The positive impact of declining birth rates on the employment rate of university graduates can be attributed to several factors. The primary reason is the reduction in the number of births, which results in a decreased supply of labor in the job market. With fewer individuals entering the workforce to

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meet a constant or even increasing demand for labor, competition among university graduates (the suppliers of labor) decreases, potentially driving up the price of labor (i.e., wages). Consequently, university graduates are more likely to secure jobs with satisfactory remuneration.

Moreover, there are various other factors contributing to the rise in the employment rate of university graduates, including government initiatives to boost employment and the emphasis by universities on career-oriented education. These aspects will be analyzed in greater detail in the subsequent sections of the paper.

4.2. Negative Impacts of Declining Birth Rates on University Graduate Employment

While the deepening trend of declining birth rates generally appears to promote the employment prospects of university graduates, there are also negative repercussions that may not be directly reflected in employment rates.

4.2.1. Decline in Innovation Potential

Young individuals are often regarded as the primary drivers of innovation. A reduced youth presence in the job market, resulting from declining birth rates, could weaken the overall innovative capabilities of corporations and society at large. This could diminish the pursuit of novel technologies, business ventures, or strategic initiatives, thereby affecting the employment opportunities and growth prospects for university graduates.

4.2.2. Stagnation or Decline in Wages

Though a labor shortage theoretically leads to wage increases, the actual outcome may vary. If companies decide to cut costs in response to economic slowdowns, or if they pivot towards automation to reduce their reliance on human labor, wage growth for university graduates could be curtailed.

4.2.3. Limited Career Progression

The aging population brought about by declining birth rates can result in many senior positions being held by middle-aged or elderly individuals for extended periods. This scenario can limit the promotion opportunities and overall career advancement for younger university graduates.

5. Countermeasures, Experiences, and Insights

While a declining birthrate may alleviate the difficulty of university graduates finding employment, it will ultimately have a general negative impact on the socio-economic fabric, along with a host of other issues [13]. Consequently, there will naturally be factors that are detrimental to the employment prospects of university graduates. However, the reality is that Japan has indeed achieved a year-on-year increase in the employment rate of university graduates under the context of a declining birthrate, with the satisfaction levels of employed graduates also showing a rising trend. On the other hand, China is a country on the brink of facing the repercussions of a declining birthrate on the employment of university graduates. Hence, it is imperative to analyze the strategies and experiences in Japan, identify the current shortcomings in China, and propose recommendations for the Chinese government, universities, and students.

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5.1. Japan's Experience in Strategies for University Graduate Employment

Japan's university employment guidance is targeted, offering specialized employment guidance tailored to students with diverse characteristics. Japan boasts a unique "experiential employment" system, enabling students to precisely identify roles they are both interested in and competent for. Concurrently, numerous policies and laws have been implemented to facilitate effective employment for university graduates [14]. Japan has a comprehensive employment service system that thrives on the trilateral interaction between the government, higher education institutions, and the broader society [15].

5.2. Current Shortcomings in China

5.2.1. Shortcomings at the Government and Societal Levels

In China, the efficiency of employment agencies is sub-optimal, with ambiguous delineations of authority and responsibility. The employment promotion policies and regulations are not well developed. The social employment service system lacks robustness, and the related departments are not standardized in their management [14]. China's relatively closed internet environment and limited press freedom impede the dissemination of diverse information. This results in a significant information gap between university students and the real world, further complicating their employment prospects.

5.2.2. Shortcomings at the University Level

Chinese universities are often deprived of academic independence, with ideological content exerting considerable influence on higher education. This interference is detrimental to cultivating the critical thinking skills essential for employment. The feasibility of employment guidance provided by Chinese universities to students is low, limiting its practical application in facilitating student employment.

5.3. Recommendations for the Chinese Government, Universities, and University Students

5.3.1. Suggestions for the Government and Universities

(1) Strengthen Cross-Border and International Exchanges: Encourage universities to collaborate with enterprises from various industries, establishing "experiential employment" to allow students to immerse in real work environments. It is also recommended to moderately ease internet restrictions to open more platforms for international exchanges, helping university students bridge the information gap between domestic and international arenas and foster a global perspective.

(2) Promote Academic Independence in Universities: Transform universities into hubs for flourishing academic research. Reduce the interference of ideology in university education and encourage intellectual exchanges of diverse viewpoints. This would foster students' abilities in independent thinking and problem-solving.

(3) Enhance Policy Support and Efficiency of Employment Agencies: providing more policies to support for university student employment. Learn from the efficient management models of Japan to ensure that domestic employment agencies can provide quick and accurate services for university students and enterprises.

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5.3.2. Suggestions for University Students

(1) Focus on Skills Development: In addition to academic and professional skills, it is vital to cultivate soft skills like communication, teamwork, and critical thinking. Develop the ability to critically assimilate diverse viewpoints, aligning professional knowledge with practical work experiences.

(2) Build a Global Perspective: Utilize more online resources both domestically and internationally, participate in foreign courses, or collaborate with student teams abroad to complete projects, thereby cultivating a global viewpoint.

(3) Enrich Social Practices: Establish interpersonal exchanges with people from diverse backgrounds outside of the university setting, facilitating interpersonal interactions in the workplace. Strive to secure more internship opportunities during university years to accumulate experience.

With the deepening of the low birth rate trend, coupled with the continuous advancement of globalization and technological progress, the future job market for university graduates will face even more challenges and opportunities. In this scenario, the government, universities, and university students need to constantly adapt and innovate to address these challenges and opportunities. Future studies can further explore how to utilize advanced technologies such as big data and artificial intelligence to enhance the matching and accuracy of employment information; how to effectively implement employment-oriented reforms in education; and how to effectively promote the development of employment capabilities among university students.

6. Conclusion

This paper analyzes and compares the impact of the declining birth rate in China and Japan on college graduates' employment, reaching several conclusions. Firstly, the positive impact mainly manifests in the increase of employment rate among college graduates. Secondly, the negative impacts include a decrease in innovative capability, reduction in wages, and limitations on promotions. The differences between China and Japan are primarily reflected in the time span and speed of the declining birth rate, as well as the relative time differences. A commonality between China and Japan is that the fundamental cause of the declining birth rate in both countries is the high cost of child-rearing. On the basis, this paper proposes relevant suggestions for the Chinese government, universities, and college students. It holds research value in terms of how to promote the employment of college students in the wave of declining birth rate.

However, this paper only conducts research from the perspectives of fertility rate and college graduate employment rate statistical analysis and qualitative analysis. In the future, empirical tests can be carried out on a more sufficient data foundation to validate the conclusions more effectively.

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