



# A Study on the Impact of Delaying the Retirement Age Policy on the Employment of Young Workers

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## Abstract

In the face of a disappearing demographic dividend and in order to meet the serious challenge of an ageing population, the National 14th Five-Year Plan clearly proposes to “implement a gradual delay in the statutory retirement age”. Although a delayed retirement policy is inevitable, academic debates on the desirability of delayed retirement have not ceased. Through extensive literature research and theoretical analysis, this paper explores the impact of a delayed retirement age policy on the employment of young people and the substitution or complementary relationship between the older and younger workforce. It is intended to provide reference for the government to formulate a policy on the working life of the labour force.

## Subject Areas

Labor Economics, Welfare Economics

## Keywords

Delayed Retirement Age Policy, Labour Force, Employment, Crowding Out Effect, Output Effect

## 1. Presentation of the Problem

In recent years, employment difficulties have become the primary problem facing the country's university graduates, whose numbers have been rising year on year. The accelerating rate of ageing in Chinese society has greatly impacted China's economic development and pension insurance system. The results of the seventh national census bulletin show that, as of November 2020, there were approximately 260 million people aged 60 and above in China, accounting for

18.7% of the total population. Among them, about 190 million people are aged 65 and above, accounting for 13.5% of the total population<sup>1</sup>. The proportion of the elderly population aged 60 and above will reach about 25% by 2030<sup>2</sup>. In the face of the disappearing demographic dividend and in order to meet the serious challenge of an ageing population, the Third Plenary Session of the 18th CPC Central Committee proposed to “study and formulate a policy of gradually delaying the retirement age”, and the National 14th Five-Year Plan explicitly proposed to “implementing a progressive delay in the statutory retirement age”.

The statutory retirement age policy has not only social but also economic attributes. Adjustments to the statutory retirement age should therefore take into account both the change in social function before and after the adjustment, and the shift in its economic effect. Most countries have adopted policy instruments to rise the effective retirement age in response to the negative effects of population ageing, but such policy instruments have also raised academic concerns about their economic effects while mitigating the ageing problem. A common view among academics is that scientific decisions on the economic effects of delayed retirement are not only conducive to improving the employee pension insurance system, but also to high-quality economic development and overall social progress [1]. Apart from this, studies on the economic effects of the delayed retirement age policy have focused on the following four aspects: firstly, to analyse the impact of the delayed retirement age policy on pension income and expenditure; secondly, to study the impact of the delayed retirement age policy on changes in employment rates; thirdly, to explore the impact of the delayed retirement age policy on the redistribution of national income; and fourthly, to explore the impact of the delayed retirement age policy on economic growth.

Despite the imperative of a delayed retirement policy, academic debates on the desirability of delayed retirement have not ceased. Some argue that delayed retirement does not have too many side effects on youth employment, arguing that the crowding out of youth employment from delayed retirement is reflected in high-skilled industries such as education and technology, and is not evident in low-end industries (Nina Liu, 2014) [2]. An opposing voice argues that this policy will result in the older workforce crowding out the youth workforce, which in turn will lead to a decline in the employment rate of the youth workforce and will do more harm than good to youth employment, and therefore does not support delayed retirement and advocates that the older workforce vacates jobs for the youth workforce as early as possible (Pu Xiaohong, 2001 [3]; Zhou Hui, 2011 [4]). This view also worries freshers. But does the policy of delaying the retirement age really reduce youth employment? The purpose of this paper is to explore the impact of the delayed retirement age policy on youth labour force employment through extensive literature research and theoretical analysis.

<sup>1</sup>Data source: Seventh National Census Bulletin (No. 5).

<sup>2</sup>Data source: National Population Development Plan (2016-2030).

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## 2. Literature Review

### 2.1. Current Status of Foreign Research

There are three main types of foreign studies on the impact of delayed retirement age policies on the employment of young people in the labour force.

One is the view that delaying retirement age policies do lead to a reduction in the employment rate of the youth workforce. This view is prevalent in developed countries during periods of plummeting employment rates. Michello (2006) [5], based on an analysis of data published by the US government, suggests that encouraging a delayed retirement age policy may reduce the overall level of employment. Wise (2004) [6] encourages older workers to leave the workforce early to make room for younger workers. Kalwij *et al.* (2009) [7] argue that delayed retirement age policies lead to an increase in the supply of older workers, which will lead to the crowding out of young workers from the job market. Lefebvre (2012) [8] uses panel data from OECD countries to study changes in unemployment rates and concludes that early retirement of older people is detrimental to youth employment.

Secondly, it is believed that the delayed retirement age policy has little impact on the employment rate of the youth workforce. Under the downward pressure of the economy, even with the implementation of the delayed retirement age policy, the employment rate has increased rather than decreased (Purcell, 2000 [9]; Levanno, 2011 [10]). Hammermesh (1987) [11] points out that there is no clear substitution relationship between employment of the older labour force and employment of the youth labour force. The findings of Boldrin (1999) [12] also did not show a relationship between the exit rate of the older labour force and the employment rate of the younger labour force. Beehr *et al.* (2000) [13], Flynn (2010) [14] argue that delayed retirement has less impact on physically or technically demanding jobs.

Thirdly, it is argued that a policy of delaying the retirement age will not only not reduce the employment rate of the young labour force, but will on the contrary increase it. Murnell and Wu (2012) [15] both argue that there is no complete substitution between the young and the old in the labour market, and that delaying retirement has a positive impact on employment. Kalwij (2010) [16] analyses empirical data collected and concludes that increasing the employment rate of the older workforce and increasing employment of the older workforce can be effective in promoting economic development and youth employment. Fisher (2011) [17] also argues that delayed retirement of the older workforce is beneficial in promoting economic development and that the number of occupations in society is not always static and that economic progress increases the number of jobs in the job market, thereby also Borsh (2010) [18], a study of the older and younger labour force in Germany, suggests that a later exit of the older labour force from the labour market is beneficial for maintaining economic stability and reducing financial pressures on firms, thus potentially increasing employment opportunities, reducing layoffs and increasing the employment rate of

the younger labour force. Lefebvre (2012) [8], by studying cross-sectional data from several OECD countries to explain the picture of social unemployment rates, ultimately stating that an early exit of the older workforce from the market would not only not provide more employment opportunities for the youth workforce, but would instead only exacerbate the youth workforce unemployment problem. Van Dalen (2002) [19] argues that delaying retirement would increase the burden of social security payments on firms and lead to lower demand for labour. Occupations with large physical leisure preferences can reduce individual utility. Phillips (2020) [20] suggests, through a study of development models in industrialised countries, that longer working hours can both improve people's welfare and maintain strong economic growth, while reducing health and pension burdens.

## 2.2. Current Status of Domestic Research

Similarly, there are three main types of domestic studies on the impact of delayed retirement age policies on the employment rate of the youth workforce.

One is the view that a policy of delaying the retirement age does lead to a reduction in the employment rate of young labour. Li Shaoguang (2005) [21] argues that jobs in which changes in labour supply are less responsive to changes in wage rates are more vulnerable to retirement delays, and such jobs are more likely to attract young people entering society due to their job stability, so delaying retirement will reduce the employment rate of young labour. Yang Xinran (2008) [22] argues that there is an indirect substitution relationship between the active youth labour force and the older labour force. In the short term, employment opportunities for young people will be directly affected by delaying the retirement age, which will continue to increase the unemployment rate in the country. Fan Qi (2015) [23], Yu Xiaoyu (2016) [24] and Li Xue (2022) [25] argue that the policy of delaying the retirement age has an inevitable "crowding out effect" on young workers.

Secondly, it is believed that the delayed retirement age policy has little impact on the employment rate of the youth workforce. In his article, Wang Tianyu (2016) [26] uses an overlapping generations model and simulates that the delayed retirement policy has little impact on the employment rate of the youth group due to the increase in the effort to find a job. Wang Haiyan (2006) [27] points out that one of the main reasons for the increase in youth unemployment is structural contradictions, but there is no absolute substitution between older and younger workers in terms of employment. Jin Gang (2010) [28] and Zheng Gongcheng (2013) [29] argue that there is no one-to-one substitution between the jobs of older workers and those of young workers based on the nature of work and the advantages of working at different ages, and therefore the "crowding-out effect" of the policy of delaying the retirement age on young workers is not obvious. Qingrui Liu and Shaofan Wu (2016) [30] argue that raising the retirement age will have little impact on the employment situation of young people, and that the employment pressure on young people mainly lies in the re-

structuring of the economy.

Thirdly, it is argued that a policy of delaying the retirement age will not only not reduce the employment rate of the young labour force, but on the contrary, it will increase the employment rate of the young labour force. Li Zhen (1998) [31] argues that a policy of delaying the retirement age will make the substitution effect of capital for labour weaker, thus vacating more jobs for the youth and increasing the employment rate. The International Labour Organisation has also done a calculation on pensions and the fact is that delaying retirement by just five years would cut society's pension expenditure in half, and the savings would create more new job opportunities. Zhang Chuanchuan (2014) [32] and Meng Xia (2022) [33] concluded from an analysis of a large sample of survey data that the increase in the employment of older workers would not only not crowd out younger workers, but would instead have a positive impact on the employment of younger workers. Yao Dongmin (2016) [34] simulated through a DMP model that delaying retirement after adding the variable of industrial structure upgrading would make the unemployment rate of young and middle-aged workers first decrease and then increase, and this effect would deepen according to the increase of aging in China. Zhang Zhiyuan (2016) [35] analyses the regression results of the CGSS panel data to conclude that the unemployment rate of young workers decreases with the increase in the number of older workers.

### **3. Theoretical Analysis of the Impact of Delayed Retirement Age Policy on Youth Employment**

#### **3.1. Theoretical Analysis of the “Crowding Out” Effect**

At a theoretical level, the recognition of the “crowding out” effect of older workers on the employment of younger workers relies on two basic assumptions: firstly, that the number of jobs is fixed; and secondly, that there is a mutual substitution between older and younger workers.

The first hypothesis, also known as the lump of labour fallacy, is often mentioned in studies on the impact of migration on local employment rates (L. Hopkins, 2012). This assumption is based on the assumption that labour market demand is exogenous. In fact, however, changes in the number of older workers can themselves affect aggregate labour demand, and thus the employment rate of young workers. For example, an increase in the older workforce raises the total supply of labour, thereby reducing the marginal cost of labour, raising the optimal scale of production and increasing total labour demand. Alternatively, the level of human consumption decreases significantly after retirement, and delaying retirement may expand consumption, thereby increasing the ‘induced demand’ for labour (Zou Hong, 2015) [36]. Thus, many institutions and scholars argue that an increase in the supply of older labour contributes to economic development and higher employment rates.

For the second hypothesis, theoretically speaking, whether there is a mutual

substitution relationship between the two depends on the extent to which they are homogeneous. Academics have both argued that there is a mutual substitution between the older and younger workforce [22] and that there is no mutual substitution between the two, or even a complementary relationship [32]. The main reasons for the different conclusions of the studies are: the different stages of development in different countries and the different ways of classifying the samples for the empirical analysis.

Firstly, for developed countries, where social stratification and the rate of economic development are relatively stable, education and industrial structure do not fluctuate drastically and delaying retirement largely affects the employment levels of youth. However, for developing countries, which are undergoing rapid changes, the industrial structure and class changes drastically, and the market demand for people with different skill levels is constantly changing, so the substitution of older workers for younger ones is weakened.

Secondly, scholar Chuan-Chuan Zhang [32] examined the effect of employment of the higher age groups on the employment of young people using data from the 1990 and 2000 Chinese censuses and the 2005 National Sample Survey of 1% of the population. Ordinary least squares (OLS) estimation results showed that youth employment was significantly and positively related to employment in the higher age groups. A two-way fixed effects regression with panel data and a two-stage least squares regression were further employed to address the possible omitted variable bias in the OLS estimation, and the results still indicated that an increase in employment among the higher age groups would increase rather than suppress youth employment.

Thirdly, scholar Zhang Zhiyuan [35] in “Does an increase in the older labour force affect the employment rate of the younger labour force? In which the mutual substitution relationship between labour forces of different ages and education levels is measured through Welch’s (1979) [37] analysis of Equation (1) for the mutual substitution relationship between any two labour force groups.

$$G_{k,l} = \frac{\sum_c (q_{kc} - \bar{q}_c)(q_{lc} - \bar{q}_c)/\bar{q}_c}{\sqrt{\left(\sum_c (q_{kc} - \bar{q}_c)^2/\bar{q}_c\right)\left(\sum_c (q_{lc} - \bar{q}_c)^2/\bar{q}_c\right)}} \quad (1)$$

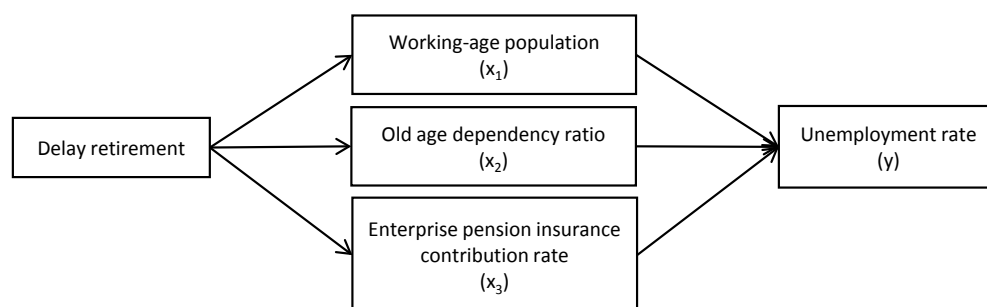
where  $G_{k,j}$  is the Welch Consistency Index,  $-1 \leq G_{k,j} \leq 1$ , and a larger  $G_{k,j}$  means a stronger substitution between the two labour groups, and vice versa, a weaker job substitution. Where  $k$  and  $l$  represent the two arbitrary labour force groups to be compared,  $q_{kc}$  denotes the proportion of labour force in industry  $c$  in group  $k$ ,  $q_{lc}$  denotes the proportion of labour force in industry  $c$  in group  $l$ , and  $q_c$  denotes the proportion of labour force in industry  $c$  among all labour force. The results show that disaggregation by age and education level alone leads to the following outcomes: 1) Occupational substitution is significantly higher for the older and younger workforce than for the older and younger workforce with different levels of education at the same level; 2) Gender has little effect on the

occupational substitution of the older and younger workforce at the same level of education; 3) The substitutability of the senior workforce with high education is low; 4) However, there is strong substitutability between low-skilled older labour and low-skilled younger labour. Thus, the substitution rates between older and younger labour forces of different qualities are not the same, and an increase in older labour does not necessarily exclude younger labour.

### 3.2. Theoretical Analysis of the “Output Effect”

In “The Impact of Delaying the Retirement Age on Youth Employment”, scholar Liu Yang [38] introduces the concept of “output effect”. He argues that the “output effect” refers to the effect of delayed retirement on job creation. The mechanism of the output effect is that the implementation of a delayed retirement age policy has an impact on intermediate variables, which in turn affect the final outcome variable, *i.e.* employment. Therefore, by choosing the intermediate variables of “the number of people of working age”, “the dependency ratio of the elderly” and “the rate of contribution to enterprise pension insurance”, the mechanism of the output effect is illustrated as follows (Figure 1).

A policy of delaying the retirement age will have different effects on the three variables mentioned above. First, delaying retirement increases the number of people of working age, and the more labour there is in the job market, the more likely firms are to hire cheap labour and the greater the willingness to hire, which reduces youth unemployment. Secondly, delaying retirement makes older people stay in the workforce longer. According to Kelly’s (1973) analysis, the old-age dependency ratio is a social burden, and reducing the old-age dependency ratio means reducing the consumer base, easing the social burden and saving more resources for saving and investment, thus promoting economic growth. According to the Austrian law, the unemployment rate will also fall. Thirdly, old age insurance contributions consist mainly of individual contributions and company contributions. The amount paid by the individual is deposited in the individual account and the amount paid by the company is deposited in the company’s capital account. In a socially funded account, the **rate of pension insurance contributions = system support rate × pension replacement rate**. A policy of postponing the retirement age reduces the system’s support rate.



**Figure 1.** Diagram of the mechanism of action of the output effect. Photo credit: self-drawn by the author.

Assuming the pension replacement rate remains unchanged, the pension insurance contribution rate will fall. A decrease in the pension insurance contribution rate will reduce labour costs for companies and stimulate a rise in demand for labour.

In general, the impact of the delayed retirement age policy on the employment of young people has both a “crowding-out effect” and an “output effect”, but the proportion of the two varies from period to period. At the beginning of the delayed retirement age policy, the “crowding out effect” was more significant than the “output effect”. Thus, while the implementation of the retirement age policy increased the number of people of working age and raised the old-age dependency ratio, it also led directly to a shortage of certain jobs. Some older workers continue to occupy jobs, resulting in fewer jobs for younger workers. Over time, the weight of the “output effect” increases, the burden on society is reduced and economic growth is accompanied by a reduction in the burden on business and an increase in labour demand. The increasing impact of the “output effect” causes the “crowding out” effect to weaken until it disappears, at which point the “output effect” becomes dominant. Therefore, Liu Yang concludes in his article that the crowding out effect can be seen as more of an intercept term effect of job crowding out, while the output effect has a positive slope effect on employment, so in the long run output will outweigh the crowding out effect, and the combined effect of the two will be a positive boost to the economy and employment.

#### 4. Conclusion and Recommendations

This paper uses theoretical analysis to conclude that after the implementation of the delayed retirement age policy, there will be both “crowding out effect” and “output effect”, and as time goes by, the “output effect” will increase and the “crowding out effect” will diminish until it disappears. As time passes, the “output effect” increases and the “crowding out effect” decreases until it disappears. Therefore, we find that the increase in employment of the older workforce will not only not reduce the employment of the younger workforce, but will also stimulate economic growth and provide more jobs for the younger workforce. However, in the process of implementing the policy of delaying the retirement age, it is necessary to firstly change the employment concept of young people, establish the concept of professional equality and have a clear understanding of their self-worth before entering the labour market, and secondly improve the financial compensation mechanism, for example, workers or cadres who voluntarily delay their retirement can have their pension insurance contributions appropriately increased. Although the findings of this paper may not be perfect due to the lack of empirical analysis due to data limitations, and more exploration and experiments are needed, the relationship between the employment of older and younger labour force derived from this paper provides a reference for the government to formulate a policy on the working life of the labour force.



## Conflicts of Interest

The author declares no conflicts of interest.

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