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A Review of China's Great Leap Famine

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Abstract

China's Great Famine was one of the greatest man-made tragedies, during which 16.5 to 45 million individuals perished in rural areas. Massive scholars have studied the causes and effects of the Famine from many aspects. This article presents a comprehensive review and integration of these bibliographies.

Key words: China's great leap famine; Cause; Effect

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INTRODUCTION

The Chinese famine from 1958 to 1961 is one of the worst man-made catastrophes in human history. Lasting more than three years, it caused 16.5 to 45 million deaths in rural areas and about 33 million lost or postponed births (Ashton et al., 1984). The tragedy of the Great Leap Famine has provoked persistent efforts for academic research since the economic and demographic information regarding the famine became available to the public. The tragedy was named the Great Leap Forward Famine mainly because this catastrophe has deeply associated with a series of extreme policies implemented by the Chinese government. Thus, it's so meaningful to study the causes and effects of the Great Leap Famine. The result of the investigation regarding the famine not only has close relationship with the Chinese policy

today, but also may affect long run economic growth of China.

Many scholars have put a lot of effort in studying the causes and effects of the Famine in many aspects. This article presents a comprehensive review and integration of these researches and reports. In detail, this paper mainly discusses three causes: the character of party leaders, natural disasters, and institutional factors such as food procurement, food arrangements and consumption, political system, and international trading. As for effects of the famine, this article mainly introduces the following aspects: birth rates, mortality rates and the changes of sex ratio, survivors' health conditions, education and income, impact on marriage, and effects on China's regime and the economy.

This paper is organized as follows. Section 1 provides the background of the Great Leap Famine. Section 2 and section 3 introduces the cause and effect of the famine, respectively. Eventually, section 4 offers concluding remarks.

1. BACKGROUND

1.1 Great Leap Forward

The background of the Great Leap Forward is crucial to know in order to have a deep understanding about the Great Leap Famine. Chinese leaders, Mao particularly, had been satisfied and excited about China's economic performance since the creation of the People's Republic of China. Proud of the officials' achievement of improving the economy and switching the country's position to socialism in spite of the Korean War and their first time to rule a country, they were overconfident and thrilled to believe that they can have further achievement by their imaginations of surpassing the United State and the United Kingdom.

Mao's imagination was responded by exaggerated and fabricated reports of agricultural output submitted to

the central government by the local governments in the autumn of 1958. While all officials of local governments knew that fabrication is wrong and true number is far below the figure they reported, few dared to speak the truth, because of the fear of losing job even life after the Anti-Rightist Movement.

Another tragic of the Great Leap Forward was the massive production of steel in backyards of households across China. Mao was hoping to overtake Britain in fifteen years and back then, steel production was a ranking standard of industrialization. But this extremely overconfident plan was far beyond China's productive capacity (Coase & Wang, 2016). In order to fulfill Mao's ambition, all people from all factories, schools, and other production teams in China stopped their original job and began to make steel. This wrong diversion of labor from farming led to a significant drop of agricultural output between 1958 and 1961. That is a crucial foreshadow of the Great Leap Famine afterwards.

1.2 China's Great Famine

According to an official definition by the Chinese government, The Great Leap Famine is a period from 1959 to 1961, during which mortality rates were the highest. Famine started in the autumn of 1959 and became widespread when storages of the 1959 harvest depleted in the early 1960 (Meng et al., 2015). This Famine appeared as the worst in history recorded. In 1958 originally, the country lost amounted to almost 5% (30 millions) of its population. Only within 2 years, the death rate of famine doubled from 12 per thousand people in 1958 to 25 per thousand people in 1960, making it "the worst famine in human history." (Kung & Lin, 2003) However, unpublished Chinese materials estimated the death amount to nearly 40 million. We will never know the actual number because of the underestimation by Chinese government. But we know that only by 1962, had both birth and death rates returned to the normal levels (Almond et al., 2007).

A regional disparity occurred in the Great Leap Famine: "Central provinces such as Anhui, Henan, and Sichuan were the worst hit, while northeastern provinces such as Heilongjiang and Jilin were relatively spared. By 1961, death rates had returned to normal in more than half of the provinces, but remained high in, for instance, the southern provinces Guangxi and Guizhou." (Almond et al., 2010) the disparity may result from the various exposure of certain provinces to the famine, which was further caused by the different proportion of rural population in each province, population density, and "provincial response" to the shortage of food (Chen & Zhou, 2007).

2. CAUSE

2.1 The Character of Party Leaders

Mao Zedong's character and ideology were important foreshadows of the Great Leap Famine. Mao's ideology

was that China could get rid of poverty and switched to socialism quickly if the society changed to an unselfish collective (no private) mode. Mao Zedong was a talented self-learner with an over-proud mind, integrated with his experience of having been looked down upon by college intellectuals when he was young, he believed that intellectuals would play an unessential role in socialist China. A fatal flaw in Mao's character is that he could not tolerant anyone to voice disagreement. Local officials were only allowed to obey orders, with Mao being the only voice in the Party. So, all officials chose to keep silence and save their disagreements in order to save their jobs during the Great Leap Famine. With crushing the market from the source, Mao Zedong's flawed ideology and extreme policies led to the most severe famine in human history, since in this "totalitarian regime" leading by Mao, the cause of radicalism is often assumed to be the ideology or the characters of the leaders (Dernberger, 1972; Gregor, 1999, 2000, 2015; Liu, 1980; Todd, 2002; Yang, 1996).

2.2 Natural Disasters

Officially, Chinese government reported that natural disaster was the main cause of Great Leap Famine. All provinces except Xizang and Xinjiang were reported to have suffered from one type of drought, flood, typhoon, plant disease, or insect pest and lost nearly 60 million hectares, According to Chinese reports, droughts incurred a loss of 25 percent of grain in Hubei and 54 percent in Shaanxi in 1959, while floods ruined 810,000 hectares in Guangdong and 58,000 hectares in Fujian in the same year. In 1960, totally eleven typhoons hit Guangdong, Fujian, Jiangxi, and Shandong and unfortunately, these natural disasters continued into 1961. The average proportion of land hit by natural disaster from 1959 to 1961 more than doubled that in 1949 to 1966. However, many domestic and foreign investigators believed that these official Chinese reports were designed to cover up political and institutional factors. They highlighted that Chinese government exaggerated the numbers to attract state attentions. In essence, the weather and natural disasters must have contributed to the loss of grains but there remains doubt regarding to what extent (Ashton et al., 1984; Yao, 1999).

2.3 Institutional Factors

2.3.1 Food Procurement Policy

Meng et al. (2015) indicated that an inflexible and aggressive government procurement policy, in which procurement were fail to adjust to the corresponding production amount and a large proportion of output were procured from those more productive provinces, was a crucial factor of overall famine death. Moreover, the research indicated that rural food procurement during Great Leap Famine was high enough to prevent the famine and there was obvious difference in famine mortality

rates across various rural areas, the death rates in rural areas were positively correlated with food production per person.

2.3.2 Food Arrangements and Consumption

Lin and Yang (2000) highlighted that output distribution and irrational consumption are the second cause of Great Leap Famine. Under centrally planned regime, urban residents were promised a certain amount of food. Peasants, however, could only have right to the residual crop, which was relatively low. With little grain left, which was known as urban bias or various arrangements of access to crop, the famine occurred.

Chang and Wen (1997, 1998) believed that the fail to consume rationally is a direct cause of the Great Leap Famine. It was mainly due to the communal dining system and its free food supply policy. Because of the centrally planned regime, all Chinese residents had to hand in their grain stocks to the government and communal dining halls thus became their only source of food. The fear of deprivation by the government led to an unusual quick consumption of private crop stocks by farmers themselves. In the meantime, the free food supply policy induced huge overconsumption. Shortly, a food shortage at communal dining hall occurred as a result of reduced deprivation from residents and that overconsumption of food. Chang and Wen also pointed out that this consumption inefficiency, resulting from the free food supply policy in the communal dining institutions, is consistent with an economic concept: "if property rights for food in a society are not defined, food consumption will be inefficient." This inefficiency made the "barely adequate" situation of food supply even worse and consequently causing an overall famine in China.

2.3.3 Political System

Yang and Su (1998) believed that the incentive for political position advancement was another cause of the Great Leap Famine. The political system of China at the time of the Great Leap Famine was dominated by the party leaders, especially Mao. Down the hierarchy were local officials and activists. Under this hierarchical system, officials who wanted to save or advance their career had no choice but to save their disagreements and follow Mao's call entirely. This incentive of political position advancement also determined the extent of political radicalism, such as the adoption of commune food consumption and the grain deprivation by the central government.

Kung and Chen (2011) observed that, according to the research, political rank alone can explain 16.83% of the mortality rate. Furthermore, death rates were said to be associated with who the leaders were, especially their ideology and idiosyncrasies. However, political radicalism dropped once those officials sat on the highest ranks of their possible career peaks, at which they became satisfied.

2.3.4 International Trade Policy

Ashton et al. (1984) believed that China's international trade policy was another causation of the Great Leap Famine. Before the imports of major grain from 1961, domestically supplied food was basically the only food source for Chinese residents. What made it worse was that the net grain exports showed a trend of climbing in the first two years of the Great Leap Famine. According to the data, net grain exports in 1959 were more than 50% larger than that in 1958. During 1961, there was an increase in crop imports and a decrease in crop exports, when the Great Leap Famine began to influence China's international trade. The research highlighted that the net grain exports of China during 1959 and 1960 totaled up to about 7 million tons, statistically representing enough food to feed 16 million Chinese people a diet of 2000 calories per day for almost two years.

Moreover, Yao (1999) added that China became totally independent of the global trading market after finishing the relationship with the USSR. In the meantime, China had to export a large amount of crop in 1959 and 1960 in order to pay back loans owed by the USSR even that was the same time when China's domestic grain output was at shortage. Overall, China's failure to import food from the international trading zone, and trading independence of the global market reinforced the inability to respond to a domestic output shortage.

3. EFFECT

3.1 Birth Rates, Mortality Rates and the Change of Sex Ratio

The Great Leap Famine has a large impact on birth rates, mortality rates and sex ratio (St Clair et al., 2005). For example, the birth rates in Anhui province dropped by about 80 percent during the famine from 1958 to 1961. Meanwhile, the death rate began to rise in 1959 and reached its highest point in 1960, with the average figure being 12 percent. Besides, for Wuhu and its surrounding 6 counties, the overall mortality rate was 15%. Meng and Qian (2006) found that the resulting mortality rates and impact on adult health by the famine are negatively correlated with people's age at the beginning of the crisis, while the survival rates are negatively correlated with per capita agricultural output.

Moreover, Cai and Feng (2005) believed that the Great Leap Famine led to a massive amount of "intrauterine deaths", in other words, miscarriages and stillbirths. The increase in the number of these two events resulting from the famine contributing directly and significantly to the sudden reduction in fertility during the famine. The famine has the biggest impact on miscarriage in some less-privileged proportion of the female population, especially those living in rural areas who can enjoy little protection

and supply of food from the government, opposing to urban residents.

Almond et al. (2007) thought that the Great Leap Famine also affected the sex ratio of Chinese population, primarily caused by maternal malnutrition. Malnutrition of mothers were believed to decrease the sex ratio, males to females, in two generations of China: those exposed before birth and their children. Data indicated that males were more vulnerable to maternal malnutrition during the famine. Besides, children whose mothers were exposed prenatally to the famine had a larger probability of bearing girls (known as “echo effect”). Song’s (2012) analysis of data supported “echo effect”. He identified a V-shaped pattern of sex ratio at birth.

3.2 Health Conditions

The Great Leap Famine also had effects on the health conditions of cohorts. Song et al. (2009) revealed an interesting result concerning mental disease: urban citizens who conceived and born during the famine had higher risk of developing schizophrenia than both the pre-famine and post-famine population. Among rural residents, however, the post-famine population had the highest risk of developing schizophrenia, with little difference between the pre-famine and the famine population. One possible explanation regarding this issue was that in rural areas there were much higher death rates caused by the famine, as contrast to urban areas. Thus, the schizophrenia patterns of rural cohorts might include two counteracting components: the impact of prenatal malnutrition, which rose the risk of developing schizophrenia, and the additional impact from population selection, which reduced the risk of developing schizophrenia.

As for physical influence, Wang et al. (2010) revealed a correlation between malnutrition in childhood during the famine and the risk of overweight, obesity and BMI in adulthood in Chongqing cohorts. They found that Great Leap Famine led to shorter and overweight females and shorter but slimmer males. Moreover, Huang et al. (2010) investigated the impact of the Great Leap Famine on height among rural women and found that their height decreased in 1958 and 1959 by 1.7 and 1.3 cm, respectively. Chen and Zhou (2007) provided some statistics for this issue. For those who were one year old when the famine started, the famine “reduced their height by 2.08% (3.34 cm), weight by 6.03% (3.38 kg), weight-for-height by 4% (0.01 kg/cm) and upper arm circumference by 3.95% (0.99 cm).” Huang et al. (2010) also found, in general, that postnatal exposure to famine during the first two to three years after birth reduced height and increased both BMI and hypertension (almost 3-fold), while exposure during pregnancy reduced BMI. Surprisingly, height, BMI and hypertension of urban residences were not affected significantly by the famine.

Mu and Zhang (2011) also revealed that the Great Leap Famine triggered a higher probability of disability among rural female survivors, contrasting to rural male survivors, especially if those females exposed to famine in utero. Also, survivors of the famine were more likely to develop chronic disease as they age (Mu & Zhang, 2011; Fogel, 2004).

3.3 Education and Income

The Great Leap Famine also had significant impacts on education levels and incomes of cohorts. Almond et al. (2010) believed that people born either when or where famine is the most severe were more likely to be illiterate and unable to provide labor force for the society. By investigating a sample of population who born during 1956 to 1964 in the 2000 Chinese Population Census, those authors found that males were 9 percent more likely to be illiterate and 6 percent less likely to work if experienced prenatal exposure to the Great Leap Famine, while females were 7.5 percent more likely to be illiterate and 3 percent less likely to work if experienced prenatal exposure to the Great Leap Famine accordingly.

Mu and Zhang (2011) also believed that the Great Leap Famine triggered a higher probability of illiteracy among female survivors, with a statistically significant gender difference best explained by the Chinese culture of preferring to have boys as children. In detail, the Great Leap Famine exposure increases gender gap in illiteracy rate by 1.587%, with increasing possibility of disability for rural female cohorts who exposed to famine relative to rural male survivors. Meng and Qian (2006) observed massive adverse effects on people’s work capacity caused by the famine. The degree of this effect is negatively associated with age when the famine started. They also believed that the Great Leap Famine decreased educational attainment by 3% for those who were one year old when the famine started (0.2 years on average) and reduced labor supply by 6.93%, equally 3.28 hours per week.

Furthermore, Chen and Zhou (2007) confirmed that the famine had impact on the labor supply and income of the survivors who had exposed to the Great Leap Famine during childhood. Their statistical report showed that cohorts who born in 1959 and 1960 had the largest decrease in working hours. Also, prenatal exposure had negative effect on the labor supply. For cohort in 1959, the annual per capita agrarian income declined by about 2% if the mortality rate in the birth place climbed by 1 person (per 1000). These empirical observations deeply indicated that the Great Leap Famine disaster from 1959 to 1961 has a sustainable welfare effect on the famine survivors even thirty years later.

3.4 Marriage

Almond et al. (2007, 2010) believed that the Great Leap Famine has impact on marriage. They found that people

born either when or where famine is the most severe were more likely to marry later (men), and marry spouses with less education (women). By observing people who born from 1956 to 1964, they found out that males were 6.5 percent less likely to be married if prenatally exposed to the famine while prenatally-exposed females were more likely to marry men with less education. Moreover, only 3.5 percent of males from intense famine areas were married, 5 percent of them never had married, although the effects for the rural residents were larger than urban residents.

3.5 Regime and the Economy

The Great Leap Famine also affected the regime and the overall economy of China. Yang and Su (1998) believed that the famine caused deep crush with agrarian radicalism and get China ready for dismantling the commune system. They believed the famine has impacts on the choices of farmers and cadres, and consequently on the institutional reforms in rural area that led to the abolishment of the communes.

Furthermore, Joseph (1986) pointed out several significant economic imbalances resulting from the Great Leap Famine. The main imbalance was between heavy industry and light industry. The massive production of steel and bias toward heavy industry, the policy of high procurement quantity and low procurement prices, combining damaged the agricultural development in China, consequently led to a significant imbalance in economic growth. The overemphasis on heavy industry also worsen the imbalance between accumulation and consumption of income distribution, resulting in a decreasing living standards and enterprise waste. The last imbalance was between market supply and demand for basic necessities and other goods, leading to a shortage in necessities and anxiety in residents.

CONCLUSION

This article presents a comprehensive review and integration of these researches and reports. The Great Leap Famine was a devastating tragedy, which hopefully can remind China's political leaders of what effects that political failures can have on an economy. The lessons of the Great Leap Famine must be learned by the leaders of China, especially the importance of balancing the open and the conservative means to deal with the past events and future policy.

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