

# CHINA'S ONE-CHILD POLICY: SOME UNINTENDED CONSEQUENCES

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## Abstract

*This paper gives a brief overview of China's family planning policy which, although recently relaxed, still controls a large swath of the population. Unofficially known as the 'one-child policy', it resulted from the social strife of the 1970s coupled with a Malthusian pessimism concerning the capability of the still largely closed and isolated Chinese economy to care for itself. We discuss the motivations for the policy, the unfortunate demographic future that it will create, and some policy reforms that can be undertaken today.*

**JEL codes:** J11, J13, O21, O53.

**Keywords:** free immigration; labour shortage; Malthusian; one-child policy.

## 1. Introduction

Implemented in 1979 in a bid to alleviate social, economic and environmental problems in the People's Republic of China (PRC), the country's one-child policy (1CP) was once heralded as a textbook example of good government policy.<sup>1</sup> A response to a reduction in the availability of health-care services and low savings, the policy decreased the strain on overcrowded hospitals and gave parents a reason to save for retirement. The 1CP, officially called the 'family planning policy', was implemented to slow the rate of population growth and ultimately control the size of the total population.

Under this policy, most couples of the Han race (which, according to the most recent census in 2010, accounts for 91.5 per cent of the population of mainland China) are allowed to give birth to only one child. Rare exceptions are most commonly allowed in cases where each parent is an only child or where an only child is afflicted with a severe disability. In addition to control over births, the policy pushed back the legal age for marriage to 22 years for males and 20 years for females in a bid to stymie population growth (Marriage Law of the People's Republic of China 1980, ch. 2, clause 6). The non-Han population is dealt with through local policies, with individual provinces deciding population policies for minorities. For many such minorities there are no restrictions on childbirth, and some provinces even pursue pro-childbirth policies for non-Han citizens. In general, the Han race lives in middle and eastern China, while the minorities live in the districts near the borders to the north, south and west of the country.

Parents who violate the 1CP face punitive and pecuniary penalties. Giving birth to a second child attracts a monetary fine (via a social support or compensation fee), which can range from

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three to six times the average annual income of each parent, since both are responsible for the birth of the additional child (Population and Family Planning Law of the People's Republic of China 2001, ch. 6, clauses 41–42).<sup>2</sup> Besides these pecuniary punishments, violations of the policy invoke political ire. The extended family can be disadvantaged in its search for political appointments, and suffer from obstacles and discrimination when dealing with administrative formalities. This guilt-by-association method implicates the whole family when only one person violates the policy. Local officials who ignore infractions also face punishment. In extreme cases, some women who have been pregnant for several months in violation of the 1CP have been forced to abort their child. In one recently publicised case on 11 November 2011, a young mother in Hunan province was forced to abort her seven-month-old fetus by injection of an abortifacient (L. Li 2013).

While forced abortions are troubling for all concerned and the rights violation is evident, no less troubling are the abortions undertaken voluntarily. As male children are particularly valued for cultural and historic reasons, sex-selective abortion is commonly practised as a way to ensure that the sole progeny is male. The natural ratio of males to females at birth is 105 to 100, which balances out over time because males suffer a higher mortality rate during their early years. According to the National Bureau of Statistics of the People's Republic of China, the ratio currently stands at 118 males for every 100 females, leaving many young Chinese men unattached (perhaps hopelessly so) as they enter their marriageable years. As of 2010 this imbalanced sex ratio had created a surplus of 40 million males unable to find an appropriately aged Chinese woman to marry (Poston, Conde and DeSalvo 2011).<sup>3</sup>

The Chinese government officially implemented the 1CP in 1979, but the policy was foreshadowed as early as the 1950s. The famous Chinese demographer and economist, Ma Yinchu, proposed population control measures that included promoting later marriages and the widespread availability and use of contraception (though not abortion) (Ma 1957). Furthermore, Ma Yinchu claimed it was 'very urgent to control the population, otherwise, the problem in the future will be more difficult to solve' (M. Xu 2011). In his report entitled *New Population Theory*, Ma Yinchu (1957, pp. 297–317) systematically established that China's population was growing too quickly while its rate of capital accumulation was not high enough to maintain a sufficient quality of life. He recommended that China not only strive to accumulate more capital but also increase its rate of capital accumulation. This could be achieved in absolute terms by producing greater amounts of raw materials, promoting scientific research and limiting consumption (e.g. of food) among the population. It was clear that capital accumulation could be increased in per capita terms by simply reducing the rate of population growth.

Policy recommendations such as this were partly ignored because of the belief held by Mao Zedong, Chairman of the Communist Party of China 1949–76, that population growth would empower the country, thus preventing the emergence of family planning programmes earlier in China's development (Potts 2006). Yet by the late 1970s population growth had come to be perceived as a very serious problem. Between 1949 and 1978 the population almost doubled, from 541.67 million to 962.59 million; total fertility averaged around six children per woman during this period, a level which started declining gradually for natural reasons only from the late 1960s.

Demographers estimate that the 1CP prevented 400 million births between 1979 and 2009, almost 25 per cent of China's present population (Guo 2014; Lu 2013).<sup>4</sup> The policy is not

without its opponents, both domestic and international, due to the heavy-handed manner in which it is implemented, the punishments imposed for infractions, and the rights violations perpetrated in cases of forced abortions and female infanticide.<sup>5</sup> In general, the punishments for not abiding by the law are widely seen as draconian, and better suited, if at all, to a time now past (Hvistendahl 2010). Despite opposition to the general manner in which the 1CP has been implemented, a recent survey undertaken by the Pew Research Center (2008, p. 18) found that 76 per cent of the Chinese population supported the policy.

In response to many social pressures, not least of which is concern over future population decline, the 1CP has been relaxed in some instances; for example, when the husband and the wife are each an only child they are allowed to give birth to two children. By 2011, all 31 provinces and municipalities in mainland China had relaxed the policy. More recently, in November 2013 China announced a further loosening of the policy, this time allowing for two-child families in cases where only one parent is an only child.

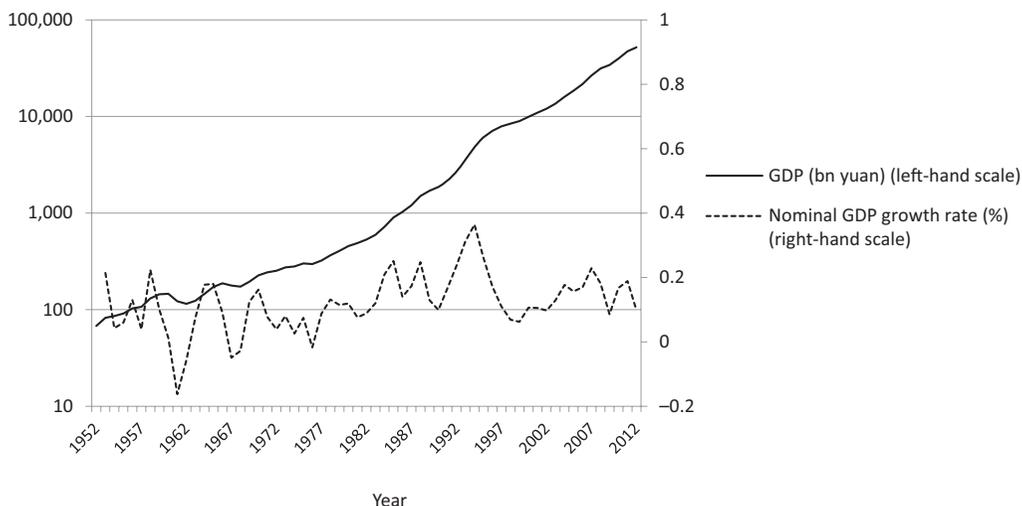
While the tide may be turning on the 1CP, it may be too late. China's boom has been driven by the opening of its market to the global economy coupled with its rapid population growth. Low-cost workers were the predictable result of the labour surplus that resulted from the high total fertility rate of previous generations. However, it is now estimated that by 2026 China's population will peak at 1.396 billion and thereafter will begin to shrink (Cai 2012). This sobering statistic has grave implications not only for the maintenance of the country's position as a high-growth leader in the twenty-first century economy, but also for the sustainability of its current institutions. The country's social security system, phased in gradually since 1953 and fully implemented only in the 1990s, was already underfunded by 35.4 per cent of Chinese GDP by 2012, and this unfortunate statistic is expected to steadily worsen as the country's working population ages (T. Li 2012).

In this paper we address this looming problem with a retrospect of the country's demographic policies. Section 2 assesses whether there ever was a pressing need for population control. Section 3 outlines the effects of the policy, including the imbalances that are increasingly apparent today. In section 4 we analyse how these effects have bred the problems looming in the future, and how a different policy path may have avoided them. Section 5 concludes.

## **2. Was the one-child policy 'necessary'?**

The one-child policy was introduced to alleviate numerous unprecedented social, economic and environmental problems China faced in the 1970s. Many of these were the direct result of poor policy choices made over the previous two decades.

The Cultural Revolution of 1966–76 was the most ambitious attempt to revive the beleaguered economy. In retrospect, this period was an unambiguous failure in terms of economic growth. Nominal GDP growth was relatively stagnant at 4.5 per cent per year, and hampered by high levels of inflation. By contrast, the period since the end of the Cultural Revolution has witnessed annual nominal growth of over 15 per cent. Indeed, not only has economic growth been stronger in the post-Cultural Revolution period (Figure 1), but volatility has been smoothed with fewer recessionary periods. The 25-year span of 1952–77 was marked by extreme recessions, most notably in 1961, 1967 and the relatively stagnant period from 1971 to 1976.



**Figure 1:** Nominal economic growth, 1952–2012.

Source: National Bureau of Statistics of the People's Republic of China. Available at <http://data.stats.gov.cn/workspace/index?m=hgnd> (accessed 4 August 2014).

Decades of socialism plunged the country into destitution. The *hukou* (household registration) system and the people's commune system not only removed private property and initiative from agricultural production, but also confined farmers to allocated lands from which migration was restricted. With all property owned by the central government, the system removed monetary incentives to invest. By removing the ability to change household location or job type, Chinese workers were unable to allocate labour resources to where they were most needed or productive. Technological backwardness, institutional limitations and unsustainable stewardship of its publicly owned natural resources (especially arable lands) left the country with a scarcity of general supplies, particularly food, to sustain its bulging population. This problem was especially acute as poor monetary management by the People's Bank of China reduced the purchasing power of the yuan through high levels of inflation.<sup>6</sup>

After 1956, all land was publicly owned by either the state or local governments. The farmers in a village were divided into production teams, and the amount of food a family could earn was determined by a points system (each hour worked earned ten points for a man, eight for a woman and six for a child). Notably, as the points system was time-based, remuneration was not linked to production or contribution to output, but rather just to a family member showing up for work. In the absence of an incentive to work hard, the system resulted in the low productivity that eventually led to its own demise. By 1978 this problem had compounded to the point that land reform became necessary. From that year, farmers could sign long-term contracts with local government to farm the land and market the produce.<sup>7</sup>

Unable to produce adequate agricultural resources domestically, and unable to import them from abroad, the communist country was in the grip of frequent famine and reliant on the generosity of foreigners to provide aid in the form of food. The World Food Programme started to provide assistance to China in 1979. China received about \$US1bn of aid from this

programme, including approximately \$830 million in food aid, which directly benefited more than 30 million citizens. This kind of aid continued until 2005, when China finally achieved food sustainability (J. Xu 2005).

The one resource that was produced in large quantities throughout the period was children. From 1949 to 1978, the Chinese population increased at an annual rate of 2 per cent, in accordance with Mao Zedong's belief that 'the more people, the stronger we are'. Such was his faith in the strength of the Chinese population that during his second and last visit to Moscow in 1957 the leader boasted of being able to sustainably lose 300 million citizens (half the country's population) in a nuclear war (Shen 2011). A personality cult surrounding Chairman Mao was evident in China at that time, and the leader's opinion was treated as the supreme command. In addition, food and other basic commodities were distributed according to a quota system linked to family size. Thus, an additional child meant that more resources were available for the family, an outcome that further encouraged higher birth rates to alleviate individual scarcity.

The death of Mao Zedong in 1976 accelerated the demise of the Cultural Revolution, and national economic policy started to liberalise the economy and allow for the private ownership of capital necessary for economic growth to resume.

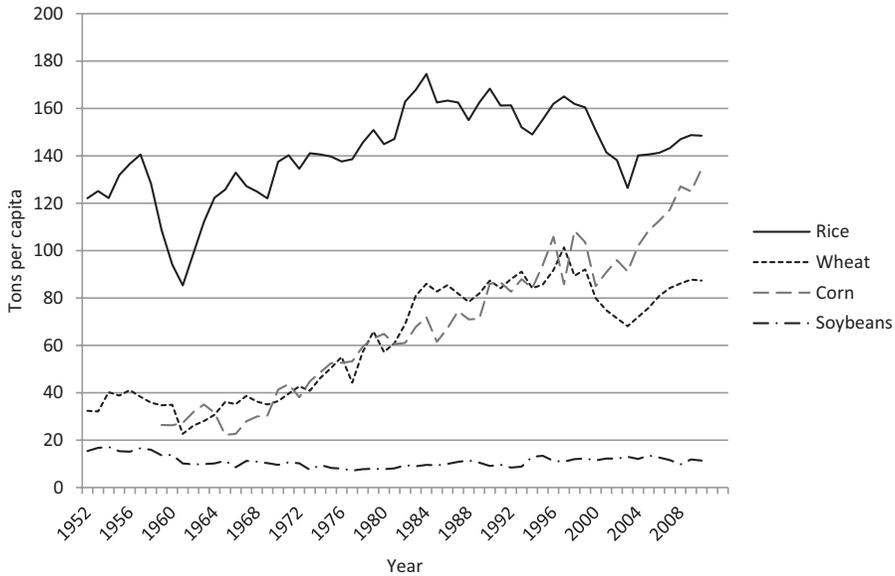
Deng Xiaoping, the de facto leader of China from 1978 to 1989 (he was never the country's 'official' leader), gave the following highly accurate explanation of the perceived necessity of the one-child policy:

In order for China to achieve the four modernizations, it must overcome at least two important roadblocks. The first one is weak economic standing. The second one is a large population with limited arable land. Now the population is more than 900 million, 80 percent of which are farmers. The coin of a large population has two sides. Under the condition of insufficient development, all the problems related to food, education and employment are severe ones. We should deepen the implementation of the family planning policy, and even if the population does not increase in the following years, the problem of population will still exist over a long period of time. (Deng 1979, pp. 163–4)

This kind of pessimism about the strain on resources imposed by population growth can be traced back to the nineteenth-century economist, Robert Thomas Malthus. Malthus's (1798, p. 61) theory of recessions induced by demographic pressures held that populations naturally grow at exponential rates while food supplies increase only linearly.<sup>8</sup>

According to national statistical data, China was faced with a nearly continual shortage of food from the mid-1950s until at least the late 1970s (Figure 2). Rice production per capita was scarcely higher in 1980 than it had been in 1955.

Annual per capita food production before 1978 rarely exceeded 300 kilograms, and during the Great Chinese Famine of 1959–61 this already low figure dropped by a third to around 200 kilograms (Figure 3). This drop was felt asymmetrically across the country. Food supplies to peasant farmers in the western reaches and deep interior of the country were reduced in order to compensate those in the wealthier coastal areas. These rural residents had to make their agricultural production available on a pro rata basis in order to meet the priority needs of the growing urban population. As a result of exaggerated yield reports during the Great Leap Forward (a campaign of rapid industrialisation and collectivisation from 1958 to 1960), coupled with natural disasters after 1960, farmers in rural areas of the west had to hand over food in quantities that left them with almost nothing for themselves.

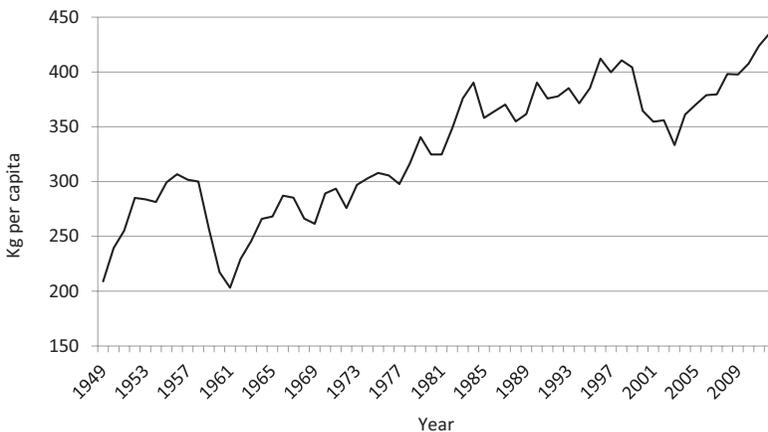


**Figure 2:** China’s agricultural production (tons per capita), 1952–2010.

Source: Economic Research Service, United States Department of Agriculture. Available at <http://www.ers.usda.gov/data-products.aspx> (accessed 29 June 2014).

The dilemma of a rapidly expanding population along with stagnant food production before 1978 was mainly thrown up by the ownership system (or lack thereof) of rural land. In 1956 the state claimed ownership of all rural land through either below market-value compensation or mandatory forfeiture.

While the ownership structure and poor legislation explain some of the food shortages, environmental issues compounded the problem. Droughts afflicted the Yellow River Basin,



**Figure 3:** Edible food production (kg per capita), 1949–2011.

Source: National Bureau of Statistics of the People’s Republic of China. Available at <http://www.stats.gov.cn/english/statisticaldata/AnnualData/> (accessed 29 June 2014).

south-west and southern China in 1959 and 1960, successive droughts occurred in the North China Plain and the middle and lower reaches of the Yangtze River in 1961, and in 1958 and 1962 most of China suffered from severe drought. This exacerbated the Great Chinese Famine. Although per capita food production increased quickly throughout the 1960s and then slowly throughout the 1970s, total production still remained at dismally low levels. The People's Congress blamed overpopulation for the shortage of food and natural resources, choosing to ignore the crucial reason, namely the centrally planned economic system. As socialism suppressed the entrepreneurial abilities of the people and shunned any concept of dynamic economic efficiency, output failed to keep pace with the demands of the growing population. In particular, policies that failed at promoting industrialisation – a main ideology of Maoists – left the country dependent on agricultural production without the requisite institutional or incentive structure to derive the best advantage from this arrangement.

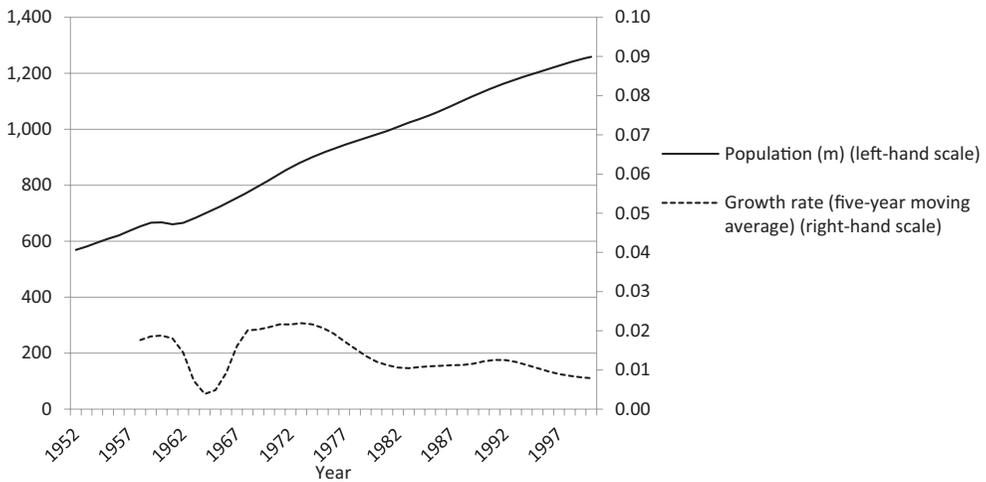
By way of contrast, Europe managed to maintain high levels of agricultural growth to keep pace with its strong post-war population growth, which brought the population of the European Union to 501.4 million in 2013, an increase of nearly 100 million citizens since 1962. Increases in total factor productivity have resulted in output increasing by over 3 per cent per year since 1989 and by even more in the transition countries of eastern Europe due to the catch-up effect (Rungsuriyawiboon and Lissitsa 2006). More striking is the fact that this strong historical output growth has been maintained in spite of Europe's Common Agricultural Policy (CAP), which since 1962 has promoted an agrarian society. Growing evidence suggests that the CAP actually had the effect of limiting output growth by enforcing a system of tariffs, quotas and price supports aimed at preventing agricultural production from shifting to larger operations able to achieve economies of scale (Ó Caithnia 2011; Rickard 2012). Despite these restrictions, agricultural productivity growth was still high, largely because the ownership structure of agriculture was largely private, thus properly motivating individuals to maximise profits in the context of promoting output.<sup>9</sup>

In short, the price system made possible by a market for agricultural produce is able to communicate to consumers and producers the conditions surrounding the supply of, and demand for, various factors of production and output. The communist regime in China disrupted two important prices, with chaotic results for food production. On the one hand, the price of having children was skewed as income payments became based on the number of family members (instead of on the productivity of labour, as in other economic systems). When this mispricing enticed families to aim to have many children in order to maximise their earnings potential, food availability was constrained as agricultural resources were not increased commensurately with population growth. The end result was a lack of resources invested in agricultural production at the time when they were most needed.

### **3. The impacts of the family planning policy**

According to the census of 2010, the average annual population growth rate during 2001–10 was 0.57 per cent. The rate during 1991–2000 was 1.07 per cent, while that during 1982–90 was 1.48 per cent. The bulk of China's population growth explosion occurred between 1968 and 1978, when annual growth rates remained consistently near 2 per cent (Figure 4).

The ICP seems to correlate well with a reduction in the population growth rate. It can reasonably be judged responsible for reducing population growth by 200 million–400 million,



**Figure 4:** Chinese population: number and growth rate, 1952–2000.

*Note:* The birth figures come from children registered in the *hukou* system, and are generally reliable and comprehensive. Almost all children are registered within this system, and illegal immigration into the country (which the statistics would not include) is generally perceived to be quite small relative to the total population.

*Source:* Penn World Table. Available at <https://pwt.sas.upenn.edu> (accessed 29 June 2014).

based on a counterfactual estimate of birth rates drawn from neighbouring countries at similar developmental levels (Liya 2011). If the current family planning policy is maintained in the future, China's population is expected to reach 1.4 billion before commencing a period of rapid decline.

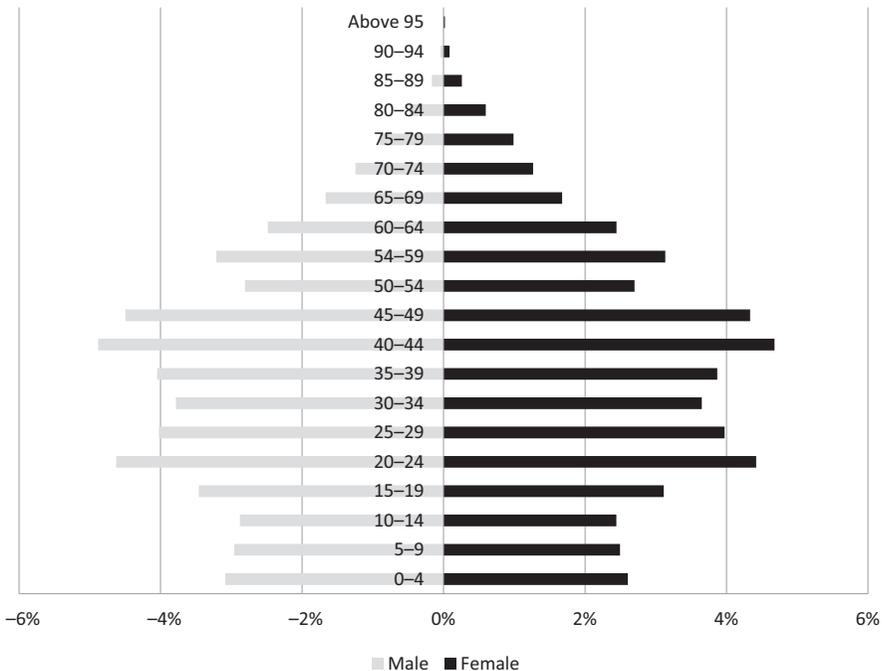
The government considers that the reduction of population has played a very important role in improving the living standards of the Chinese people, and it is commonly viewed as being largely successful. However, it has brought about various demographic, cultural, economic and social changes to China whose benefits are less clear. The traditional cultural preference for boys has led to self-selective abortions of female fetuses. (However, recent laws have prohibited the use of ultrasound technologies to identify the sex of fetuses, and termination of pregnancies is also prohibited for sex selection or non-medical purposes.) Families are exposed to emotional hardship if their only child passes away. The policy is also often seen as a violation of human as well as civil rights (Freedman and Isaacs 1993). A second child born to a family can have difficulty securing a legal identity, which exposes the child to a future life of disadvantage marked by discrimination.

For the purposes of this article, the most serious effect of the 1CP is the distortion of the population structure. This distortion has two aspects: (a) the sex ratio and (b) the growth and advance of China's 'baby boom'. The sex ratio in 1990 was 111 boys for each 100 girls at birth. By 2000 and 2013 this figure had reached 116.9 and 117.6 respectively.<sup>10</sup> This preference for boys does not seem to disappear in families allowed to have more than one child. From 1990 to 2004, the sex ratios for first-, second- and third-born children were 106.9, 138.0 and 143.7.

This sex imbalance is expected to create social instability. To obtain a glimpse of what *may* lie ahead, consider one of the few countries to have experienced a rapid change in the balance of the sexes: the Soviet Union immediately following World War II. Early in the war, in 1941, the country could still 'boast' a rough balance in the ratio of men to women of 0.96 for the age

20–29 demographic. By 1946 this ratio had declined to 0.70, leaving nearly 23 million more women than men. Over the same period the birth rate fell precipitously, from 34.6 births per 1,000 of population to 26.0. The lack of men after the war necessitated economies of scale in birthing, resulting in a steep rise in the number of births out of wedlock (Brainerd 2007). In addition, the Soviet government implemented strong pro-natalist policies such as a tax on single people and on married couples with fewer than three children. Fathers of children born out of wedlock were legally absolved of any financial responsibilities, with the state providing unmarried mothers with a monthly payment until the children reached 12 years of age. The procedure for divorce was made so expensive and complicated that it has been described as a ‘prohibition’ of the practice (Avdeev and Monnier 2000). Indeed, the sex imbalance following the war weakened at least one area of control by the communist regime – the goal of eliminating the traditional ‘bourgeois’ family structure in an attempt to create further equality between men and women. Population controls would return, but not until after a baby boom in the 1950s (Engel 2004). One long-lasting and detrimental outcome of the Soviet sex imbalance was the increased bargaining power of men in the marriage market (as per Becker 1981), and with it less necessity for men to invest in characteristics that would attract a mate, such as education (Angrist 2002).

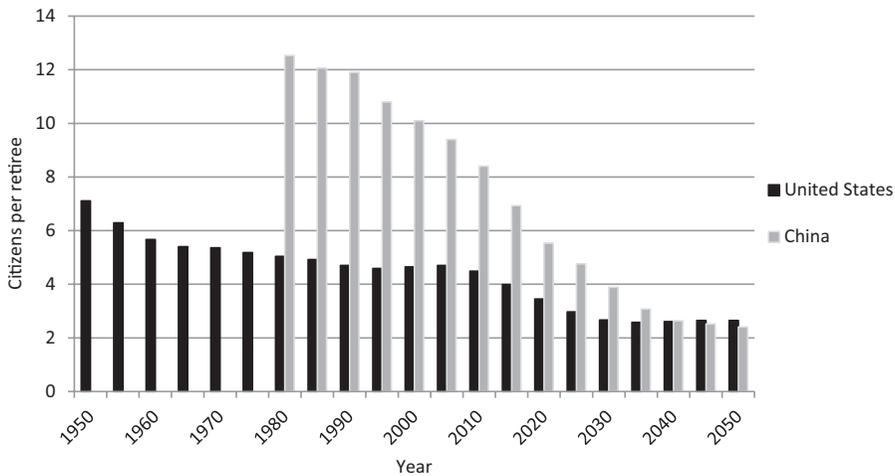
As troubling as the imbalance in the sex ratio is, the demographic bulge – China’s baby-boom generation – is now nearing retirement age. Figure 5 shows the age pyramid of China in 2012.



**Figure 5:** The age pyramid of China from the 2012 Population Survey.

*Note:* This survey data is based not on an official census but on a representative sample of 1,124,661 people.

*Source:* National Bureau of Statistics of the People’s Republic of China. Available at <http://data.stats.gov.cn/workspace/index?m=hgnd> (accessed 29 May 2014).



**Figure 6:** Working-age citizens per retiree, 1950–2050.

*Note:* Chinese data for 1980 and 1985 are from 1982 and 1987, respectively. Chinese age-specific demographic data is not generally available from before 1982.

*Source:* International Data Base, United States Census Bureau. Available at <http://www.census.gov/ipc/www/idbacc.html> (accessed 4 August 2014).

From these figures, we can see that China has an ageing trend with its baby boom generation currently aged between 40 and 49 years. The number of Chinese citizens in their forties is almost double the number of children younger than nine years of age. While Western countries worry about their own baby-boom generation straining resources as they enter retirement, in China this eventuality is even more pronounced.

By way of comparison, in the United States it is expected that by the year 2025 approximately three working-age citizens will support each retiree. In China the expected figure will still be a quite healthy five working-age citizens, but while in the United States this ratio will have levelled out by this time, in China the precipitous fall will continue until 2050 (Figure 6). At that time barely two workers will be toiling to support each Chinese retiree. The sharp decline in population caused by the ageing effect of the 1CP means that the large numbers of citizens born before the policy took effect (and those born in its early years due to the momentum of the existing generational cohort) will be drawing resources from the economy without commensurately contributing to their production. Most families in China are facing a ‘4 + 2 + 1’ situation whereby the family unit consists of four grandparents, two parents and one child. This imbalance exerts much pressure on young parents and their children to care for their elderly relatives (Davis 2014).

In the Western world the problems posed by an ageing population are usually expressed in terms of a drain on social security or state medical programmes. In China these issues are especially acute as social security is a relatively new phenomenon. Cao Yuanzheng, chief economist at the Bank of China, estimates that Chinese pension gap in 2013 will be about 18.3 trillion yuan, or roughly one-third of its GDP (T. Li 2012). By 2033 shortfall is expected to reach 68.2 trillion yuan.<sup>11</sup>

With conflicting official reports, and private analyses mostly pointing out that the pension fund is underfunded, the sustainability of the existing system is tenuous at best. Despite high

savings rates by Chinese workers (an estimated 20 per cent of Chinese income is saved, versus 4 per cent in America in 2013), the lack of a new generation of working-age savers coupled with only a relatively new social security system will exacerbate the sustainability issue. Furthermore, as most savings are controlled by the central and local governments, other more politically sensitive or desirable projects may take precedence over funding the social security system (Luo 2014).

As in the Western world, three solutions seem available. The first is delaying the age of retirement and thus resetting the number of years in which the average retiree can draw on social security services, a politically undesirable goal (as we will see in section 4). Second, increased taxes on workers may fill the gap. However, the tax burden on Chinese citizens is already heavy. According to the 2009 Tax Misery & Reform Index published by Forbes (2009), China ranked second in the world in this regard, just behind France. The ability of Chinese citizens to shoulder a greater tax burden is questionable.

Finally, the Chinese government can choose to inflate its liabilities away, honouring the nominal amount of funding but diminishing the fiscal impact in real terms. This 'solution' poses two problems. First is the issue of how Chinese workers' standard of living will be affected through inflation. Second is the impact an inflationary monetary policy will have on the future value of the yuan, and, as a consequence, how China's position as a global exporter will be affected. Of these two problems, the former is the more pressing since evidence suggests that China's trade balance is driven not exclusively by price competitiveness but by the country's high domestic savings rate (Li and Xu 2012).

#### **4. Overcoming a labour shortage**

China will soon face an acute labour shortage. The United Nations defines as an 'ageing society' a country with an age structure where more than 10 per cent of the population is older than 60 years of age, or more than 7 per cent of the population is older than 65 (Zhang 2012). China's official statistics show that its current population aged 60 and over has reached 185 million, which accounts for 13.7 per cent of the total population (Chen and He 2013). The United Nations (2002) estimates that by 2050 one-third of China's population will be over 60 years of age, and only 54 per cent of the people will be of working age. It is obvious that China has been a greying society for some time now, and that this trend will not reverse in the near future.

The government has noted the reality of its demographic time bomb and has put forward several new policies. The most discussed of these policies is a relaxation on the restrictions imposed by the 1PC. Although more families are now permitted to give birth to two children, the 35-year lifespan of the family planning policy has had a profound impact on the country's fertility rate and propensity to conceive. With the increasing cost of living, many families are reluctant to have two or more children because of the perceived drain on their quality of life. Among the chief concerns in this regard is the quality of life at retirement age. The disconnection between current incomes and the expected future cost of living has reinforced a savings culture among young Chinese as a method to ensure adequate means for retirement. The cost of child rearing will strain the finances needed for retirement. On one estimate, the effects of increased expenditures on a single child and the expectation of less care from a single child as parents age are responsible for 30–50 per cent of the rise in Chinese household savings

since the 1CP was implemented (Choukhmane, Coeurdacier and Jin 2013; Chamon and Prasad 2010).

A decade of rapidly rising housing prices is indicative of the high rate of inflation broadly engulfing the country. It also strains incomes, especially in the newly prosperous coastal cities, and consumes much of the wealth of lower-income workers, especially recently arrived migrant workers who lack the knowledge of local housing markets they need to secure more advantageous prices. Families, especially young and middle-class families, have little income remaining after paying for their basic cost of living in the present as well as squirrelling away something for the future. Under the current one-child policy, many families are barely able to make ends meet with their sole dependant, let alone its brothers and sisters that would be possible if the policy were relaxed.

Despite these financial strains, it is true that relaxing the current policy would have an effect on the birth rate. However, this effect will likely be negligible as those couples who desire to bear more than one child in the current environment can already do so with only moderate difficulty. Wealthier couples who want additional children can have them under the current penalty scheme, and parents in rural areas are already bound by a less stringent requirement than their counterparts in larger cities. The rapid industrialisation of China in recent decades has reduced the demand for child labourers among rural families, with parents today more concerned with their child's education and personal development than using him or her to secure resources for the family. In urban areas the high price of housing means that a child places an unusually heavy financial burden on its parents as it necessitates more suitable accommodation in an already crowded and expensive real-estate market.

The second policy discussed is to postpone the retirement age. Under the current policy, citizens can begin drawing retirement benefits at age 60 (for men) or at age 55 (for women). Although the staff of government departments, institutions and state-owned enterprises often have retirement privileges (e.g. retirement for section-level officers at age 52), late retirement is very common among them, and many of them choose to work beyond the official retirement age. Many workers in non-state sectors find themselves needing to work beyond the legal retirement age because of the low social security allowance and insufficient savings in the current high-inflation environment.

Numerous blueprints have been drafted for delaying the retirement age (e.g. Lian 2013; Pozen 2013). On 1 October 2011, the city of Shanghai implemented a test of flexible procedures to delay drawing the basic pension. The provisions allowed for delaying the retirement age for men to not more than 65 years of age, and for women up to age 60. However, after the trial period it was found that this strategy was not ideal. First, retirees could continue to work while receiving a pension and, second, the flexible retirement age did not adequately motivate people to work later given the only moderate increase in lifetime pay they would receive (*Peninsula Morning Post* 2013).

While delaying retirement is one way to ease labour shortages in a short period, it is also a way to make up for the shortfall in social security funding. As in many countries, the structure of China's social security system amounts to a type of Ponzi scheme. The sustainability of China's system is even more imperilled than those of most other developed countries as it was implemented later, only after its baby boom occurred. As a result it now finds itself with many retirees to fund without having benefited from payments made by these workers earlier in their lives. Since there are insufficient numbers of young people to finance the retirees, it will be

necessary to delay the retirement age in the future. In fact, officials continually allude to the government's desire to delay the age of retirement until 62–65 years of age. One official publicly stated that the retirement age would be pushed back to 62 years, but this proposal attracted widespread public opposition; a street survey in Guangzhou undertaken by the *Guangzhou Daily* in January 2014 shows that almost 80 per cent of citizens were against any postponement of the retirement age (Lian 2013; Li and He 2014). The government's response was immediate and unambiguous: any postponement of the retirement age would be suspended for the time being, and on 9 March 2014 Yin Weimin, Minister of Human Resources and Social Security, declared that no scheme to delay retirement would be proposed before 2020 (Z. Li 2014).

A third possible solution is to relax the country's immigration policy. Current Chinese law does not permit citizens to hold dual citizenship. Many wealthy businessmen hold (illegally) a second citizenship in a more developed country, but rarely return to China or remit funds 'home' for fear of being caught. What is more, the policy is strict on immigration from less developed countries in South East Asia, where cheaper labour resources exist. A large number of illegal immigrants gather in factories in Guangdong province, which is one of the most developed provinces on the south-east coast. Workers in this region mostly comprise labourers from within China, mostly from the mid-west of the country, and are not generally sourced from South East Asian countries. Small numbers of African immigrants have begun to flow into the region, and although they could indicate the early stages of a broader trend they are still a small minority of the total population of China.

Although China has not yet relaxed its immigration policy for foreign citizens, various policies to encourage high-tech talent to *return* to China have been implemented for many years, though with modest success. For example, The Recruitment Program of Global Experts of 2008 aims at easing entry restrictions for skilled foreign workers under the age of 65. Chinese students who have studied abroad for more than one year gain policy-related privileges, such as tax rebates when purchasing their first car.

Lacking a sufficiently large domestic population to work in its growing economy, China has had to seek workers abroad. This has not, however, amounted to an effort to attract foreigners to China. As a simple rule of thumb, if a country does not import the complementary goods necessary to meet a domestic shortage, production will have to be outsourced to where the complement is located. Nowhere is this more apparent than in China's labour market.

With looming uncertainty about the future availability of workers from within China, much investment has taken the form of capital exports to where workers are located. In recent years, China has made many investments in South East Asian and African countries. Large amounts of cheap labour are located in South East Asia, while Africa holds vast mineral riches. Inertia from China's population boom will ensure that China's supply of labour is still sufficient for its growing economy and will be for several years. As a result, the scale of investment in South East Asia is not very great to date. However, based on the status of China's ageing population, coupled with the demand for labour to power its high-growth economy, the export of capital will continue to rise in coming decades in a bid to find a cheap source of labour.

One reason why China is unwilling to import workers is the belief that foreigners divert resources away from the domestic population. Already in China's larger coastal cities the locals display much prejudice towards migrants with low levels of education from mid-west China.

The locals insist that these immigrants consume resources and space, while ignoring the fact that these same immigrants provide a workforce and make the division of labour more intensive and thus more productive. These productivity gains have driven wages higher for all workers, including (or even especially) the Chinese citizens in the coastal regions. The stereotyping of immigrants – whether from a foreign country or from an interior region of China – will impede the expansion of the workforce needed to fuel the country's growth into the future.

## 5. Conclusion

This paper has three goals. First, we have shown how China's family planning policy has had the effect of reducing the country's population far below the level that it might otherwise have attained. Second, we have shown that this policy was itself a response to the failed central planning policies of the communist government during its Great Leap Forward. Unable to feed its existing population or produce the basic means of subsistence, the regime sought to deal with the problem through population control rather than through liberalisations that would allow the country to achieve the levels of relative prosperity witnessed in neighbouring countries.

Finally, we have shown that China now faces difficult decisions as the unintended consequences of its family planning policy become apparent. Nearly 35 years after it was implemented, the country faces an acute labour shortage that it will need to fill in order to maintain its economic advance. The year 2012 was the first in which China's working-age population declined. Although the government has relaxed the family planning policy and has planned to raise the retirement age, these actions are insufficient to deal with the situation that will be faced in the following decade.

A liberalised immigration policy would alleviate labour shortages, but this option is not politically feasible in contemporary China due to social pressures. Lacking a credible method to permit foreign workers to enter the country, businesses have started to export capital where possible, mostly to labour-rich South East Asia and resource-rich Africa. As this progress continues, China's growth rates will fall as the high levels of domestic capital investment experienced over recent decades decline. It is widely feared that China's fast-paced economy will be unable to maintain its growth into the future, mostly because of a deficiency in domestic demand, a slowing of the world economy, or increased labour cost pressures in the overcrowded coastal cities. Despite these dangers, it is the failure of the family planning policy to foster a new generation of Chinese workers that poses the greatest threat to the country's economic miracle.

## Notes

1. Much of China's recent success is often erroneously attributed to its interventionist policies, when in fact its free-market reforms play a much more significant role (Schoolland 2012).
2. The exact fine depends on the parents' region of residence, income, and the number of children already born.
3. There is also evidence that the preference for male heirs is the result of economic liberalisation, as 'Chinese mothers with higher levels of education are substantially more likely to select sons than less educated mothers' (Almond, Li and Zhang 2013, p. 1).
4. This number is subject to considerable dispute. Other demographers (e.g. Wang and Cai 2010) argue that the number ranges from 100 million to 200 million.

5. Although the severest critics of the policy are outside China, it may come as a surprise to some that the core ideas underlying the 1CP came from Western science, in particular the Club of Rome's 'world-in-crisis' work of the early 1970s (Greenhalgh 2004).
6. Before 1978 there was no substantial consumer goods market in China, and we hesitate to make assertions concerning price inflation during the early years of the communist regime. The quota system of distributing goods among consumers was hampered by frequent, if not perennial, shortages in the absence of a price system to aid economic calculation. However, some statistics point to high levels of imputed price inflation throughout the 1950s, 1960s and 1970s, which contributed to the central government's difficulties in supplying adequate rations. The National Bureau of Statistics of the People's Republic of China estimates that prices rose by 50 per cent between 1951 and 1961. (All data available at <http://www.stats.gov.cn/english/>.)
7. More correctly, these contracts were with the so-called 'collective', because all land in rural areas of the country was *de jure* 'owned' by the village itself while its use was *de facto* controlled by the local government.
8. Malthus backtracked slightly on his rigid theory of arithmetic resource growth versus geometric population growth in later editions of his book. We thank an anonymous referee for drawing our attention to this point.
9. Of course, various price floors also 'motivate' production by guaranteeing minimum output prices.
10. All figures per 100 females at birth. See National Bureau of Statistics of the People's Republic of China. Available at [http://www.stats.gov.cn/tjsz/tjsj/tjcb/zggqgl/200509/t20050928\\_37489.html](http://www.stats.gov.cn/tjsz/tjsj/tjcb/zggqgl/200509/t20050928_37489.html) (accessed 29 June 2014).
11. According to official reports, the current social security funds still amount to about \$600 billion, but this figure is supported by a large number of central and local financial subsidies (Ministry of Finance of the People's Republic of China 2013).

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