

# **The impacts of China's Universal Two-Child Policy**

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## **ABSTRACT**

In October 2015 China's "one-child policy" was replaced by a universal two-child policy. The impacts of the new policy are inevitably speculative, but predictions can be made based on recent trends. The population increase will be relatively small, peaking at 1.45 billion in 2029 (compared with a peak 1.4 billion in 2023 if the one-child policy continued). The new policy will allow almost all Chinese to have their preferred number of children. The benefits of the new policy include: a large reduction in abortions of unapproved pregnancies, virtual elimination of the problem of unregistered children, and a lower sex ratio. All of these should improve health outcomes. Impacts of the new policy on the shrinking workforce and rapid population aging will not be evident for two decades. In the meantime more sound policy actions need to be taken to meet the social, health and care needs of the elderly population.

## INTRODUCTION

In October 2015 China announced that the iconic “one-child policy” had finally been replaced by a universal two-child policy. This change is highly significant, since for the first time in 36 years, no-one in China is restricted to having just one child. In this review we examine the evidence for the potential impacts of this policy shift. These impacts are inevitably speculative, but a body of research has developed, which aims to foresee the demographic, health, social and consequent policy impacts of the universal two-child policy from recent trends. Because much of this research is based on the impacts of the preceding policy, we start with an analysis of the impact and controversies surrounding the one-child policy.

### 1. THE ONE CHILD POLICY

The one-child policy was introduced in 1979 by the Chinese government who saw population containment as essential to lifting China out of severe poverty caused by decades of economic mismanagement.<sup>1</sup> Between 1950 and 1970 the population had increased from 540 million to over 800 million.<sup>2</sup> In response the government introduced the mostly voluntary “later-longer-fewer” policy, which encouraged *later* childbearing, *longer* spacing and *fewer* children. This led to a dramatic fall in the total fertility rate (TFR) from an estimated 5.9 in 1970 to 2.9 by 1979. Despite this downward trajectory in fertility, fears of overpopulation persisted, and so the one-child policy was introduced. Following the introduction of the Policy the TFR continued to fall but less precipitously. Data from numerous sources conclude that by the late-1990s the TFR had reduced to between 1.5 and 1.8, and it has remained at this level since.<sup>3,4</sup> (Figure 1).

The one-child rule was strictly enforced for urban residents, who in 1980 accounted for about 20% of the population, but nearly half by 2010. In rural areas this rule was particularly unpopular and deemed virtually unenforceable,<sup>5</sup> so from 1984 rural couples in the majority of provinces were allowed to have a second child where their first was a girl, the so-called 1.5 child policy. In the six north-western provinces all rural couples were allowed a second child, irrespective of the sex of the first child. Two or more children were allowed for ethnic minorities, who account for around 9% of the total population.<sup>2</sup> This created a marked rural-urban difference in TFR.<sup>6</sup> Enforcement was the responsibility of the then powerful National Family Planning Commission. The system of penalties was unpopular and inconsistently applied, with wide variations across the country, often at the discretion of local officials.<sup>7</sup>

As one of the most controversial policies in history, debate has raged over the positive and negative impacts of the one-child policy. The authorities claim that 400 million births have been prevented, which contributed to increasing per capita GDP.<sup>8</sup> But this is contested by claims that the higher number of prevented births includes the effects of the later-longer-fewer policy, and that the one-child policy has prevented closer to 200 million births.<sup>9</sup> In addition, many scholars believe that rapid economic development alone would have reduced fertility substantially, as has been the case in many other developing countries, such as Thailand where the TFR decreased from 5.6 to 2.1 between 1970 and 1990.<sup>10</sup> This together with the very rapid fall in fertility during the later-longer-fewer policy, raises the obvious question of whether the one-child policy was ever necessary at all.

The health outcomes of the one-child policy are also debated. Women have benefited from fewer pregnancies and births, which has contributed to the fall in the maternal mortality rate over the last three decades.<sup>11</sup> However, this has been at the costs of deprivation of reproductive choice, not only in family size, but also in contraceptive choice. The insertion of intrauterine devices postpartum without formal consent was routine in rural China, with permission needed for removal to have a second child.<sup>12</sup> Pregnancies which were unapproved under the policy (including any occurring outside marriage) have always been problematic. Most women undergo abortions voluntarily, but there are many accounts of forced abortions and sterilisations ordered by over-zealous local officials. Atrocities such as these peaked in the early years of the one-child policy, but have been rare over the last decade.<sup>7</sup>

Significantly, there have been social benefits for women with an acceleration of movement towards gender equality. Traditional son-preference led many Chinese parents to invest relatively little in their daughters, but in the absence of brothers, household resources could focus on daughters.<sup>13</sup> Recent studies have found no significant differences between single-girl and single-boy families in relation to health outcomes and education (in terms of access, aspiration or achievement), although differences are found between boy and girl siblings, with boys attending school on average six months longer.<sup>14,15</sup> Females now account for 52% of undergraduates and 48% of postgraduates.<sup>16</sup> Low fertility has also increased the chances of well-paid work and career advancement for women. Over 25% of CEOs of medium and large Chinese companies are women.<sup>17</sup> This has all contributed to improved health outcomes for young and middle-aged women.

A further controversy is the degree to which the one-child policy has contributed to the highly skewed sex ratio at birth (SRB). The SRB, defined as the number of male births for every

100 females, started to rise after the onset of the one-child policy, but this trend accelerated further after diagnostic ultrasound for sex determination became available from the late 1980s.<sup>18</sup> Although sex determination is illegal in China,<sup>19</sup> the high SRB demonstrates the lack of effective enforcement. The SRB peaked at 121 in 2005, with latest estimates showing a fall to 116 in 2014, but with ratios as high as 140 in parts of rural central China.<sup>19, 20</sup> In rural areas the SRB rises dramatically with second births, as couples try to ensure a male birth within the two child limit. By 2020 it is estimated that there will be around 30 million excess, and hence unmarriageable, men in the reproductive age group in a country where getting married and having children is still a strong cultural expectation.<sup>19, 21</sup> This has considerable mental health consequences: evidence indicates that never-married middle-aged and older men suffer significantly higher levels of depression,<sup>22, 23</sup> they are more prone to aggression than married men, and may be more easily drawn into crime, leading to concerns about social instability.<sup>20, 24, 25</sup>

There is also considerable debate around the effects of the one-child policy on the well-being of children. These effects have been characterised by a stereotype of parents and grandparents over-indulging the only child, creating spoiled, selfish, unsociable and obese “little emperors”.<sup>26</sup> But, the evidence is mixed. For example, studies which control for confounders, show only children have higher academic achievement, higher self-esteem and greater confidence,<sup>27-30</sup> all of which may contribute to better health outcomes. This is partly attributed to household resources being directed toward the only child with overall beneficial effects in terms of education and health.<sup>31</sup> However, there is also evidence to the contrary: a series of studies in young adult soldiers have shown that soldiers with siblings are significantly more motivated, hard-working, obedient, sociable, and mentally stable than those who are only children.<sup>32-36</sup>

There is less controversy about the effects of the one-child policy on the rapidly growing aging population.<sup>37</sup> Indeed fears about this have probably been the most influential factor in the decision to lift the one-child policy. While the increase in aging populations is a global phenomenon, the one-child policy has rapidly accelerated the process in China. The impact of large numbers of only children on family structures has its own name in China: the “4:2:1” phenomenon, referring to couples who are responsible for the care of their four older parents and one child. Although the state-sponsored New Rural Old Age Insurance Programme started in 2009, most Chinese elderly people, especially those in rural areas, still lack full pension coverage, so are largely dependent on offspring for financial support.<sup>6, 38</sup> This occurs in a setting where Confucian tradition still dictates that care of the elderly parents is a filial duty. China is perhaps unique in having laws that adult children can be compelled to

provide financial support to their elderly parents.<sup>39</sup> This places a considerable burden on 4:2:1 families. While sons have traditionally supported parents financially,<sup>40</sup> daughters (and sons-in-law) have generally performed the caring roles for their older parents.<sup>41,42</sup> So the shortage of women, partially caused by the one-child policy, is affecting the quantity and quality of elderly care, especially in rural areas. The growth in the elderly population is also putting serious pressures on the health system, which is not yet adapted to deal with the complex and expensive co-morbidities of an aging population.<sup>43</sup>

## **2. THE INTRODUCTION OF THE UNIVERSAL TWO-CHILD POLICY**

Demographers warned of the negative consequences of the one-child policy almost from the outset.<sup>44-50</sup> Their arguments centered around the fact that the “demographic dividend”, that is, the accelerated economic growth which results from a decline in fertility and mortality, was reversing. Soon the negative consequences were beginning to outweigh the positive. The negatives include accelerating population aging, the skewed sex ratio, and the decline in the working age population which would threaten economic growth. Moreover, in 1980 the government had pledged that the one-child policy would last for just one generation, so change was overdue. But contrary to the views of most demographers,<sup>6, 50-54</sup> the government feared that lifting the Policy would lead to a baby boom,

So the government’s response has been cautious with a series of gradual “exemptions”. By 2007 all provinces (except Henan, which followed in 2011) had started to permit couples who were both only-children to have two children. In November 2013, came the so-called “two-child for only-child couples” policy, allowing couples where at least one of the marital partners is an only-child to have a second child. But by May 2015, only 1.45 million (13.2%) of 11 million eligible couples applied for permission to have a second child.<sup>55</sup> The low uptake has been attributed to the high cost of child-rearing in cities, as the overwhelming majority of these eligible couples were unsurprisingly urban residents.<sup>56</sup> The couples who applied for a second child were younger, had higher household income, a young first child more likely to be girl, and parents who wanted a second grandchild.<sup>57</sup> This low uptake, together with appeals from scholars and the media, have probably accelerated the announcement of the universal two-child policy.

## **3. THE POTENTIAL IMPACTS OF THE UNIVERSAL TWO-CHILD POLICY**

### **3.1 The impacts on fertility**

The fertility level after the universal two-child policy is a key factor that will affect population growth, the proportion of elderly people, the workforce and economic development, the sex

ratio, public health, health systems and the environment, all of which will be discussed in the rest of this paper. But the effects of the new policy may be less than expected. There is now clear evidence that the role of fertility policy is diminishing fast, and that fertility in contemporary China, as elsewhere, is socio-economically determined.<sup>7,10</sup>

Surveys of fertility preference undertaken over the past two decades show that China has indeed become a low fertility culture,<sup>58-60</sup> and such surveys are generally thought to somewhat overestimate actual fertility.<sup>61,62</sup> The overall consensus from these studies is that around 90% of women report they want one or two children, while in large cities nearly two-thirds of women state a preference for only one child. Reasons given include the high cost of child rearing, especially for education, and the impact on parental lifestyle and on the mother's career.<sup>63-65</sup>

The challenge is that future fertility cannot be accurately forecast, because of its various uncertain determinants. For example, the lower fertility preference in urban areas together with the current drive towards urbanisation, (70% urbanisation planned by 2030), is likely to keep fertility low. However, a number of scholars believe the two-child choice will gather momentum.<sup>66</sup> We present here the most likely future scenario of Chinese fertility transition in the next few decades based on various demographic analyses. Given the lower socioeconomic level in rural areas, and the fact that minority ethnic groups are allowed three or more children, it is estimated that the TFR in rural and urban areas will rise from the current 2.01 and 1.24, respectively to 2.15 and 1.67 in the next decade. The combined rural-urban TFR is estimated to be 1.88 in 2017 and 1.81 in 2030,<sup>6</sup>

In the discussion to follow, we explore the projected impacts of the universal two-child policy, drawing comparisons with the scenario of the one-child policy remaining in place. These are based on population projections using the assumed TFRs outlined above, and with the same background demographic parameters (such as medium mortality and rural-urban migration).<sup>6</sup>

### **3.2 Impacts on population aging**

As shown in Figure 2, the Chinese population is aging quickly under either policy scheme. The percentage of over-65s under the universal two-child policy is expected to reach 18% in 2030, with the proportion about twice as high in rural versus urban areas.<sup>6,67</sup> As previously noted, aging is a global phenomenon: today the UK's over-65s account for 17% of the total population, and Japan's 26%.<sup>68</sup> It is the rapid acceleration in the aging population associated with the one-child policy which has created a significant challenge for China and

the comparative projection results presented in Figure 2 show that population aging will be substantially less serious with the universal two-child policy than if the one-child policy remained unchanged. There are two particularly vulnerable groups of elderly persons in China. The first is the so-called empty-nesters (living in households without children) mainly caused by the large out-migration of young people during rapid urbanisation and job mobility.<sup>6,37</sup> Around half of these empty-nesters live alone and half with a spouse.<sup>69</sup> Their numbers will rise over the next two decades and the proportion in rural areas will grow to twice of that in urban areas by 2050<sup>6</sup>. Empty-nesters, especially those living alone are especially prone to mental health problems.<sup>70</sup> The second vulnerable group is the disabled elderly. A recent study has predicted the number of disabled over-65s will increase rapidly from 8.4 million in 2010 to 19 and 37million in 2030 and 2050, respectively.<sup>71</sup> Many of these are in the extreme elderly (over-80) age group and their health care, personal and social care needs present a huge challenge.

### **3.3 Impacts on population size, workforce and economic development**

The universal two-child policy is predicted to lead to a peak population of around 1.45 billion in 2029 and then gradually decline (Table 1). Under a continuing one-child policy scenario the population would peak at around 1.4 billion in 2023 and then rapidly decline (Table 1) The total population size under the one-child policy would be smaller than under the universal two-child policy (Table 1), and this would cause serious problems for aging, pension fund deficiencies and labour shortages.<sup>72,73</sup> Under a continuing one-child policy two-fifths of the reduced population size in 2030, and one-half in 2050, would be aged 18-64, that is of working age, and the other reductions would be in children aged 0-17, that is the forthcoming workforce.<sup>6</sup> (Figure 3) The new policy will not have an effect on the workforce in the short-term. It will slowly decline until 2020 and moderately decline from 2020 to 2030, with no difference between the two policies. But beyond 2030 increased births under the universal two-child policy should lead to a substantially larger workforce, by 30 and 60 million working-age individuals in 2040 and 2050, respectively, compared to the unchanged one-child policy (Figure 3). This is very important because a large working age population has been shown to be crucial to economic growth. One estimate is that about 27% of the increase in Chinese GDP from 1982 to 2000 was due to the large working-age population, which resulted from the baby boom of the 1950s and 1960s.<sup>74</sup> Elsewhere in Asia, plentiful labour contributed substantially to the rapid growth of GDP in South Korea, Singapore, Taiwan and Hong Kong in 1970s and 1980s.<sup>75</sup> These all add strength to the positive and economic impacts of the universal two-child policy.<sup>76,77</sup>

The elderly dependency ratio will increase sharply under either policy scenario. Defined as the number of persons aged over-65 divided by number of working-age persons aged 18-64, it is of course desirable that this figure remains low in any population. Only after 2030 will the demographic benefits of the two-child policy become evident in producing a considerable lower elderly dependency ratio than the one-child policy.<sup>6</sup> (Figure 4).

Further, the universal two-child policy transition will result in greater consumption and job opportunities associated with childbearing and childrearing, which will contribute to economic growth.

### **3.4 Impacts on the sex ratio**

The 2000 census data shows that in the 1.5-child policy areas, the SRB was as high as 125 compared with 109 in two-child policy areas, which provides evidence that the 1.5 child policy has specifically exacerbated China's high sex ratio at birth (SRB).<sup>78</sup> This policy was interpreted by many Chinese as implying that one boy was sufficient to ensure family welfare, but one girl was not, and hence that female children had lesser value, thus reinforcing the culture of son-preference and increasing China's SRB.<sup>4,79,80</sup> Evidence of this effect emerged from an experimental programme conducted in four rural areas (with a total population of 8 million) in four provinces. In these areas a two-child policy operated from the mid-1980s. The result was substantially lower sex ratios than those in the surrounding rural areas where the 1.5-child policy had been implemented.<sup>81</sup> Furthermore, it has been mathematically demonstrated that slightly more than one quarter of the excess SRB in the 1.5-child areas is due to the structural effects of not allowing couples whose first child is a boy to have a second birth.<sup>4</sup> On this evidence, adopting the universal two-child policy will make significant contributions to reducing the SRB in China, but it is unlikely to totally normalise for s to come, because of long-standing tradition of son preference especially in rural areas, and continued access to sex-selective technologies.

### **3.5 Impacts on population health**

Replacing the one-child policy with the universal two-child policy will have positive impacts on health for children, adults and the elderly.

#### *(1) The health consequences for children*

The new policy will greatly reduce or eliminate some of the most serious impacts of the one-child policy. Albeit uncommon, the practice of abandonment of unwanted girls soon after birth, with institutionalisation in orphanages and negative health and social consequences, should become much rarer. Similarly, "black-listed" out-of-quota children should disappear.



These are children without household registration, caused by their parents' violation of the one-child policy and their refusal or inability to pay the penalty. Lacking registration creates barriers to the child's educational opportunity and social status, with consequent poorer mental health outcomes in many of these children.<sup>82</sup> In fact, with the announcement of the two-child policy, the status of existing black-listed children is being normalised.<sup>83</sup> The new policy is also likely to reduce discrimination in nutrition, education and health care against girls, which persists in some rural areas.<sup>84</sup>

### *(2) Health consequences for adults.*

The new policy should substantially reduce the tragedy of many millions of abortions, due to so-called "out-of-quota" second pregnancies. In addition, there will be a marked reduction in sex-selective abortions, which presents a considerable health risk, since they are of necessity conducted late, during the second trimester.<sup>85</sup> Of course as the SRB decreases with the new policy, there will be a concomitant reduction in the numbers of unmarriageable men with higher rates of depression and other mental health problems.<sup>20, 23</sup>

### *(3) Impacts on elders*

Perhaps the most feared family tragedy under the one-child policy was the premature death of an only child. Data from the 2000 census showed that the average probability of the only-child's death before their mother reached ages 45, 80, 85 and 90 were 4%, 11.6%, 15.5% and 21.4%, respectively.<sup>86</sup> Permanent childlessness for a couple or lone parent can have potentially serious consequences for their mental and physical health,<sup>87</sup> especially when many Chinese elders are dependent on offspring for care. Demographers have estimated that there were about one million permanently childless families due to death of the only-child in 2010 and the number has been increasing by about 78,000 every year.<sup>88</sup> It is expected that this socially undesirable trend will substantially decline under the universal two-child policy.

Evidence from longitudinal healthy aging surveys indicates that elderly people cared for by daughters (and sons-in-law) rather than sons (and daughters-in-law) have a lower mortality risk and lower probability of declining cognitive capacity.<sup>41, 89</sup> Further evidence suggests that older parents are more satisfied with care provided by daughters than sons, and that older parents have better relationships with their daughters than sons.<sup>42</sup> The one-child policy prevented almost half of all couples from having a daughter; the new policy will enable many more couples the opportunity of a daughter. The outcome will eventually enable more elderly parents to benefit from the care of daughters, thus enhancing their mental and physical health.<sup>41,42</sup>

### **3.6 Impacts on health systems**

While the new policy is unlikely to lead to a very large increase in the average birth rate for China as whole, highly heterogeneous development across the country means that increases in fertility may be marked in particular localities, such as in some rural areas and small towns. The authorities will need to monitor these changes locally, so that increased capacity in health services, especially maternal and child health services, can be planned, as necessary.

A major concern is the acute shortage of paediatricians and paediatric nurses across the country, which has worsened over the past decade.<sup>90</sup> Lower incomes, highly pressurised working conditions and demanding parents all contribute to the unpopularity of paediatrics as a speciality.<sup>91</sup> So any increase in birth rate resulting from the two-child policy will exacerbate pressures on an already stressed system. A recent study, based on birth rate predictions until 2020, estimated that around 190,000 more paediatricians are currently needed.<sup>92</sup> While overall numbers of personnel in the maternal and child health services are sufficient, there are concerns for the quality of these services.<sup>91</sup> This could deteriorate if pressure on these services increases with the birth rate.

### **3.7 Impacts on natural resources and environment**

In the past few decades, growth in the Chinese population has been widely assumed to threaten natural resources and the environment. However, evidence suggests that this is unlikely to occur as a consequence of the universal two-child policy. Firstly, the overall increase in population will be modest with a peak of approximately 3% higher total population than would occur under the one-child policy scenario. Second, it is true that in 2011 water and land resources per capita in China were reduced by 30% and 36% compared with 1979 attributable to population growth. But the declines levelled-off after 2000. Under the universal two-child policy, the Chinese average water resource per capita and average arable land per capita would reach the lowest value around 2029, reduced by about 2% and 6% respectively compared to 2011, and then start to gradually increase as the total population size decreases after 2029.<sup>6</sup>

### **3.8 The other impacts**

The new policy will allow almost all couples to meet their reproductive preference.<sup>58,59</sup> No longer will couples face the consequences of penalties and stress associated with having an unapproved second child. A divisiveness was created by the one-child policy, with different

rules applying to neighbours and friends, as well as resentment towards the wealthy who were able to afford the penalties for having two children. [These negative effects are expected to be totally eliminated.](#) Further, the new policy will greatly reduce the corruption associated with the enforcement of the one-child policy. This included bribing of officials for permission for more than one child, and the often unregulated collection of fines from birth control violators.<sup>50</sup> All of these outcomes will help to create a more “harmonious society”, an attribute highly regarded by the Chinese government and the people.

## **4. POLICY IMPLICATIONS AND RECOMMENDATIONS**

### **4.1 Population aging**

The universal two-child policy was introduced principally to address the serious challenges of population aging, one of the greatest challenges for China in the 21<sup>st</sup> century. However, in the next twenty years the universal two-child policy will have only a marginal effect on the rapid acceleration in population aging. Compared to some industrialised countries where room for increasing fertility, raising retirement age and expanding pension programmes in rural areas are very limited, China has three unique opportunities to address the challenge of rapid population aging. Firstly, the universal two-child policy will substantially increase fertility in some localities, especially in rural areas and small towns. Secondly, the exceptionally low compulsory retirement age can be raised. The retirement age in China, 55 for women and 60 for men, is among the lowest in the world. Evidence shows that increasing the retirement age improves physical and mental health outcomes.<sup>93</sup> It prolongs pension contributions, improving the financial stability of the pension system,<sup>94</sup> while increasing post-retirement payments. It will also ameliorate the predicted labour shortage, seen as a consequence of 36 years of the one-child policy, while also buying the time needed for the benefits of the universal two-child policy to be fully realised. Thirdly, state-sponsored pension systems must be strengthened, especially in rural areas, where rapid aging will be a greater problem in the coming decades, due to continuing rural-urban migration of young people.<sup>6</sup> These new rural old age insurance programs will not only enhance senior citizens’ welfare, but also create a huge amount of capital by collecting premiums from hundreds of millions of new programme participants. This will contribute to further economic development. Greater financial independence for the elderly will also reduce reliance on sons, resulting in a more enlightened attitude towards the relative value of sons and daughters.

In addition to these three fundamental policy actions, the authorities should improve awareness and actively encourage change in a number of areas. Three-generation living arrangements (either co-residence or close proximity) should be encouraged. These are perhaps especially appropriate in China, given the long and deep-rooted tradition of filial piety to old people.<sup>95</sup> Evidence suggests that older parents who live with their adult children have better cognitive function, self-rated health, and life satisfaction.<sup>96</sup> Since grandparents traditionally take-on childcare responsibilities, such arrangements increase the workforce participation of female adult children, with consequent financial and health benefits.<sup>97</sup> They also decrease home-based care expenditures for disabled elderly.<sup>98</sup> A policy encouraging three-generation living was very successful in Singapore.<sup>99</sup> In particular support for rural elderly people to go to live with, or near, city-dwelling children should be a priority.

Further, the benefits of daughters rather than sons for old age care<sup>41,42</sup> should be widely publicised. Older parents should be encouraged to live with (or nearby) an adult daughter and son-in-law, even if they have both son and daughter. This would gradually change the tradition of daughters marrying-out of their own families, would be beneficial for older adults, and also help to reduce son preference, with obvious effects on the SRB.

Finally, although the SRB will decline with the beneficial effects of a more balanced sex ratio in the reproductive years, especially in rural areas, these effects can only be gradual. In the meantime the needs of aging single men, as an especially vulnerable group, will require recognition in policy.

Overall, if sound policy actions are promptly and effectively taken, China should be able to successfully address the challenges of population aging.

## **4.2 Health systems**

The shortfall in health personnel, especially in paediatrics, requires short term and long term solutions. In the short term, much of the work currently carried-out by paediatricians in acute hospitals is primary care in nature, and could be provided by maternal and child health doctors in community health centres. Such personnel would need to undergo enhanced short-term training in paediatrics, to upgrade their skills and thus improve service quality. In the longer term measures must be taken to make paediatrics more attractive as a speciality, for example through bonus systems, improved working conditions, and incentives (linked to lower co-payments) for parents to use primary care services and thus reduce the huge pressures on specialist paediatric services.

In addition, the opportunity to harness and redeploy the huge family planning workforce seems obvious. This comprises over five million administrative bureaucrats and field workers.<sup>5</sup> There will be considerable spare capacity under the universal two-child policy, because the bureaucratic infrastructure for birth approvals and punishments for out-of-quota second births will no longer be required. Training and redeployment of the current family planning workforce in elderly care and healthy aging social work would seem an obvious solution to address the challenges of the continued growth of an aging population while providing productive jobs for these workers.

## **5. CONCLUSION**

Since the onset of the one-child policy massive socio-economic change in China has led to a low fertility culture. The two-child policy will therefore not result in a baby boom, but rather a moderate increase in fertility. But the many negative impacts of one-child policy will disappear and nearly all Chinese will have their desired family size. The next step, the total removal of the fertility control policy, needs to be considered sooner rather than later.

In short, in the coming decades the universal two-child policy will help to address the challenge of population aging, reduce the SRB, remove the more oppressive elements of the one-child Policy, contribute to economic growth and allow the overwhelming majority of couples to have the number of children they want. The birth rate must be monitored locally, so that improved capacity can be planned in maternal and child health services, as necessary. We believe that the introduction of the universal two-child policy was a necessary and highly desirable action which will be beneficial for all sectors of Chinese society.

### **Text box**

#### **Literature search statement**

Data for this review were collected from Chinese and English language sources. English language literature were identified by searches of Web of Science, PubMed, and Google Scholar. The Chinese literature was identified through searches of Wan Fan database search engine (<http://www.wanfangdata.com.cn/>) and the Knowledge Network search engine (<http://www.cnki.net/>). Search terms were “one-child policy”

"two child policy" "population policy" and "China", References from key articles were also hand-searched.

### **AUTHORS CONTRIBUTIONS**

The authors contributed equally to this paper.

### **DECLARATION OF INTERESTS**

Authors do not have any financial and personal relationships with other people or organisations that could inappropriately influence (bias) our work reported in this paper.

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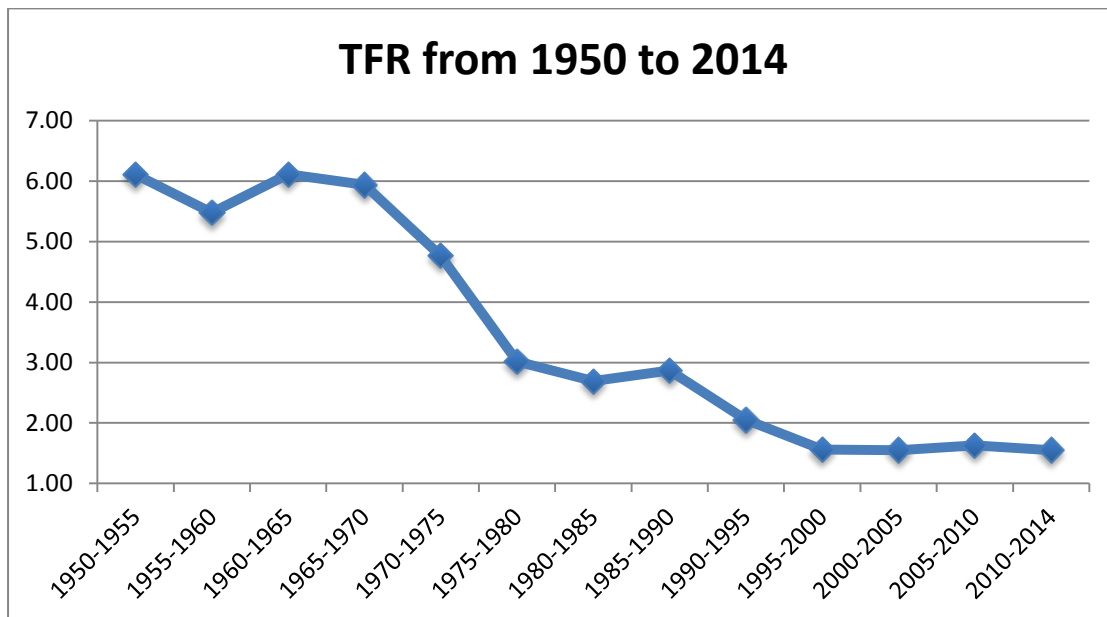
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Table 1. Projected population size (in 100 millions)

under different fertility policy scenarios

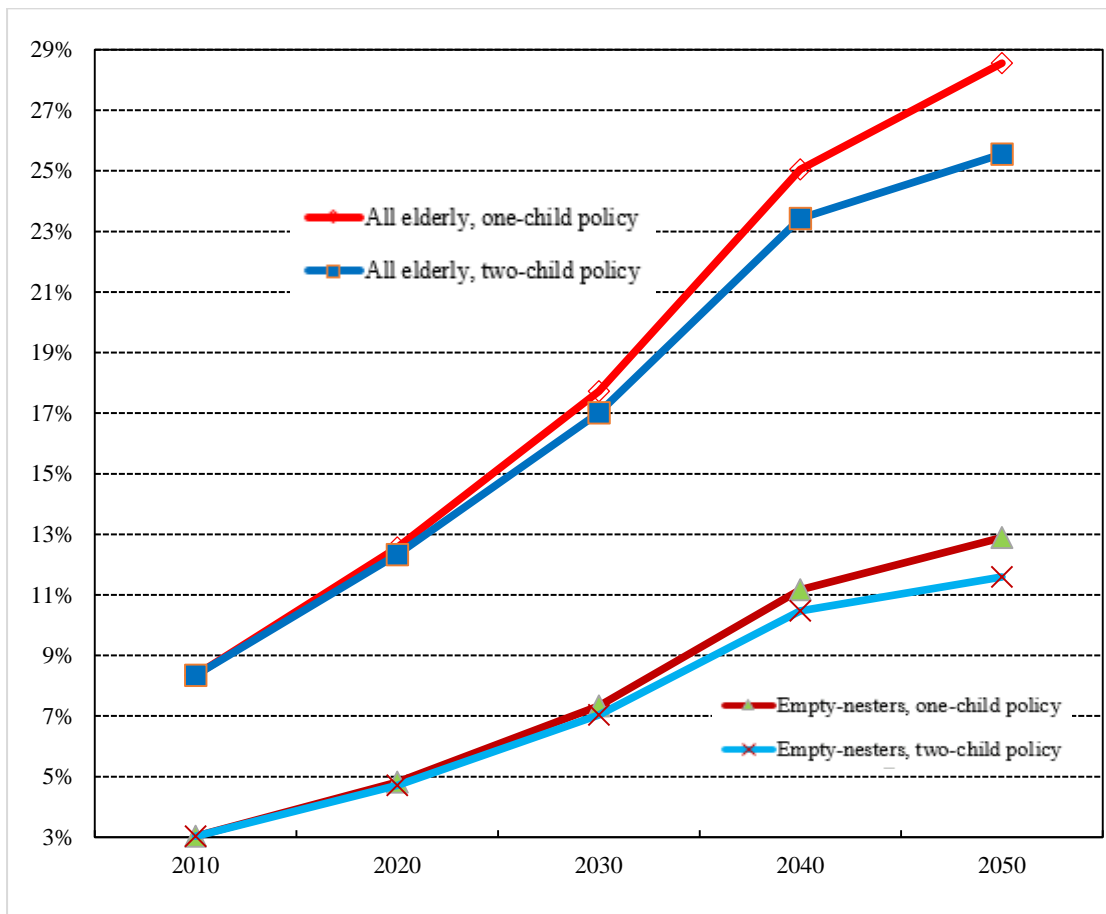
Year	Universal two-child policy	One-child policy
2010	13.40	13.40
2020	14.23	13.96
2030	14.45	13.86
2040	14.41	13.48
2050	14.20	12.69
Peak year of population size	2029	2023
Population size in peak year	14.45	13.99

Figure 1. Total fertility rate from 1950 to 2014 in China



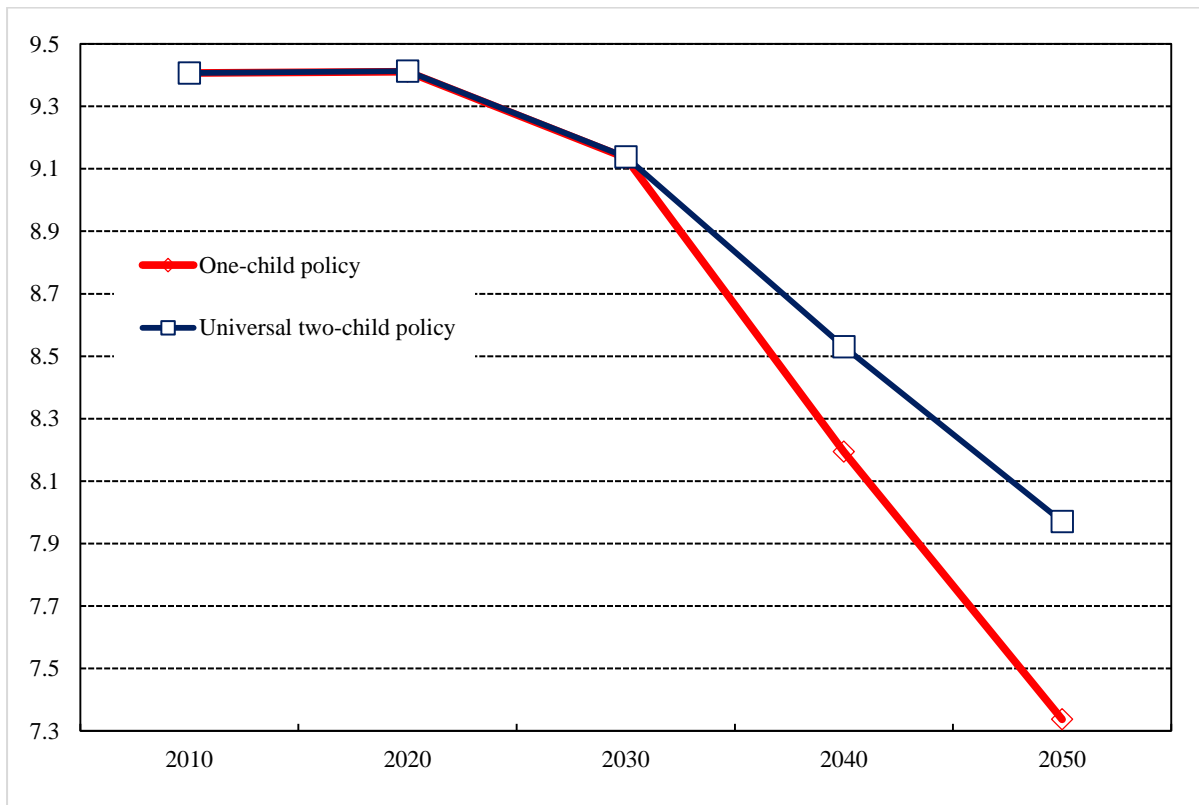
Sources: United Nations Population Division Department of Economic and Social Affairs World Population Prospects World Population Prospects: The 2012 Revision.

Figure 2. Percentages of elderly aged 65+ and elderly aged 65+ living in empty-nest households (empty-nesters) among total population



Source: Redraw based on data from Figures 1 and 3 of Reference 6.

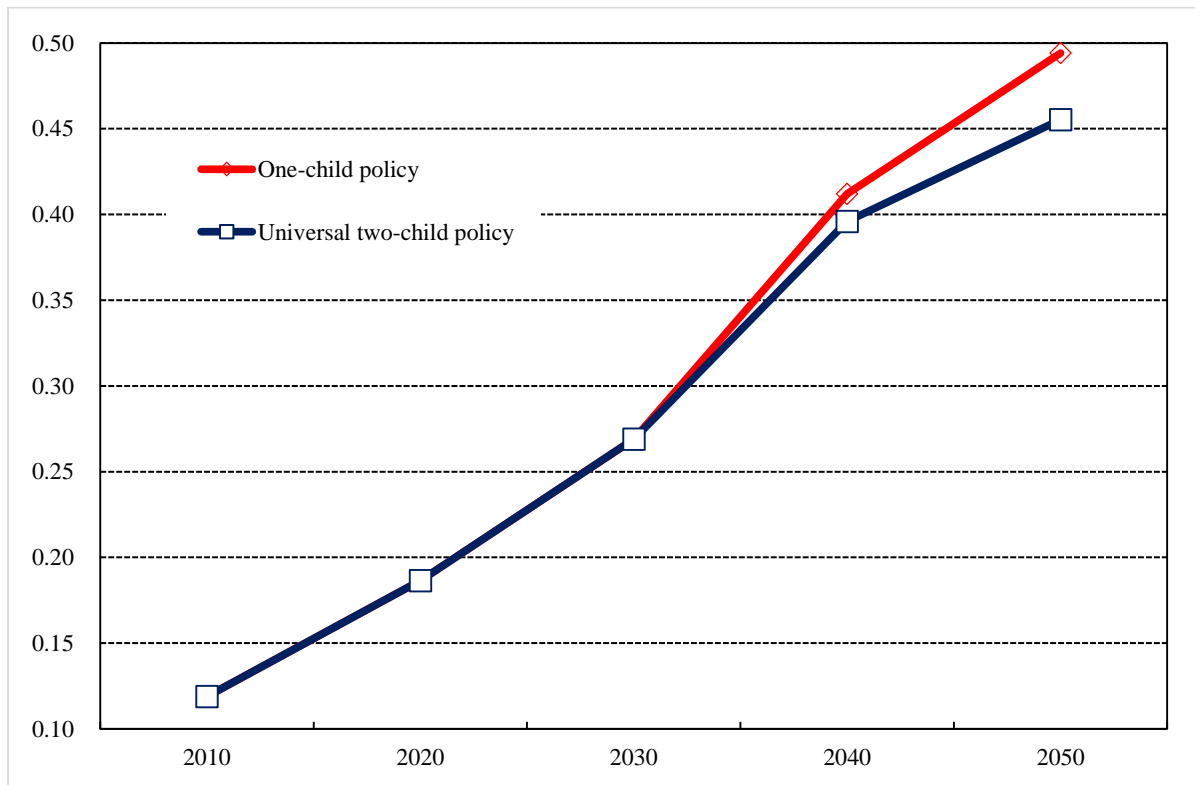
Figure 3. Number of labor force persons aged 18-64 (unit: 100 millions)



Source: Redraw based on data from Figure 5 of Reference 6.



Figure 4. Elderly dependency ratios



Source: Redraw based on data from Figures 6 of Reference 6.