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Will Demographic Change Slow China's Rise?

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China's 2010 census revealed a population of 1.34 billion, 50 percent urban, 13.3 percent above age sixty, and with 118.06 boys born for every 100 girls. In this article, we discuss how gender imbalance, population aging, and their interaction with rapid urbanization have shaped China's reform era development and will strongly shape China's future. These intertwined demographic changes pose an unprecedented challenge to social and economic governance, contributing to and magnifying the effects of a slower rate of economic growth. We organize the analysis according to the proximate determinants of economic growth: first, labor input and its productivity; second, capital investment and savings; and finally, multi-factor productivity, including social stability and governance. We argue that the economic, political, and social context that turns labor and capital inputs into economic outputs is perhaps the most important and least understood arena in which demographic change will shape China's rise.

Demography and China's Destiny

China's 2010 census revealed a population of 1.34 billion, 50 percent urban and 13.3 percent above age sixty. China's share of elderly is projected to rise rapidly. The median age will exceed that of the United States within this decade, and the proportion aged sixty-five and above will increase to 25 percent by 2040, totaling 300 million strong (Peng 2011). How will the graying of China shape its rise? Could aging trigger a crisis? Some analysts do think that "crisis" is an apt term: "The aging of China's population represents a crisis because its arrival is imminent and inevitable, because its ramifications are huge and long-lasting, and because its effects will be hard to reverse" (Wang 2010, 244). *The Economist* argues that demography is China's "deadly point of unseen weakness"—its Achilles' heel (The Economist 2012). Others are more optimistic about China's ability to manage the social and economic stresses that will accompany population aging (Banister, Bloom, and Rosenberg 2012).

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We argue that demographic change will have long-lasting effects in many interlinked areas of China's society. Predicting China's economic growth may be notoriously difficult, but one thing is virtually certain: *Demographic change—including gender imbalance and population aging and how they interact with rapid urbanization—will strongly shape how China copes with a slower rate of economic growth.*

For such a large population at a relatively low level of per capita income, how will aging interact with a substantial gender imbalance and rapid urbanization? The sex ratio at birth in China has favored boys for two decades and this trend continues unabated, with the 2010 sex ratio at birth being 118.06 boys to every 100 girls (Peng 2011). The resulting deficit of young women in the marriage market will create twenty to thirty million "forced bachelors" over the coming decades (Li 2007). Some analysts warn that the marriage squeeze will lead to "serious instability in the institutions of marriage and family and consequently poses a great threat to the stability of the country's social order" (Peng 2011, 586).

Moreover, those tensions will no longer be sequestered in myriad remote villages across China's vast rural hinterland; instead, they are moving into the heart of urban China. In 2010, 221 million Chinese migrated between urban and rural regions. If urbanization continues apace, the next two decades will see China's cities absorb 335 million new residents (Peng 2011). These intertwined demographic changes pose an unprecedented challenge to social and economic governance.

Historic Trends Converge

Much can be said about demographic change and China's rise—the confluence of two historic trends:

> The term "demographic transition" refers to the secular shift in fertility and mortality from high and sharply fluctuating levels to low and relatively stable ones. This historical process ranks as one of the most important changes affecting human society in the past half millennium, on par with the spread of democratic government [and] the industrial revolution. (Lee and Reher 2011, 1)
>
> The dramatic modernization of the Asian economies ranks alongside the Renaissance and the Industrial Revolution as one of the most important developments in economic history. (Lawrence Summers, quoted in Eichengreen, Park, and Shin 2011, 3)

Indeed, China's recent economic growth stands out among the impressive Asian economies and within the scope of China's long history (e.g., essentially stagnant per capita income from 1800 to 1950 [Zhu 2012]). Here, we confine ourselves to exploration of how the interaction of China's demographic changes will shape the socioeconomic landscape of China in the medium term.

China's demographic transition is distinctive, even unique: the scale, scope, and rapidity of population changes are unprecedented. China's mortality halved in the 1950s, and fertility halved in the 1970s (prior to implementation of the "one-child policy"). Sociologist Feng Wang (2011) refers to China as a "demographic over-achiever."

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Furthermore, China's demographic change is more than population aging; it also encompasses a significant gender imbalance and large spatial shifts of population, with marked regional variation.

These demographic changes present a series of challenges to China's governance. In traditional China and most years in the People's Republic, authorities governed a predominantly rural population through local institutions such as kinship networks and social relations based on mutual assistance. The capacities in problem solving were embedded in the rural ways of life. As the rural population moves into urban areas, traditional local problem-solving capacities weaken or even disappear. Issues related to social welfare, old-age support, health care, and conflict resolution become salient challenges.

The recent large-scale migration out of villages has left some with only the old and the very young. Not only is this raising social issues, but it has created a dilemma for the state regarding whether and how to reorganize rural China to facilitate governance and the provision of public goods. The leadership is experimenting with a new form of rural organization and governance—sometimes relocating populations in the sparsely populated villages to form new communities—to cope with the challenges of governance in a demographically, economically, and politically changed countryside.

Similarly, in the urban areas, the Chinese government is trying to impose a bureaucratic solution to these challenges through so-called "social management." In both urban and rural areas, such efforts have led to great expansion of the bureaucratic state. This expansion may become the central target of popular contention in the years to come. Moreover, these changes have also heightened tensions between central and local authorities. The well-intentioned programs of the center create a series of unfunded mandates for local authorities, intensifying the struggle over land rights that pervades the countryside and stokes social discontent.

These governance challenges will define China's future. The economic, political, and social context that turns labor and capital inputs into economic outputs is perhaps the most important and least understood arena in which demographic change will shape China's rise.

In the remainder of this article, we discuss the role of demographic change in shaping China's rise according to the proximate determinants of economic growth in a standard growth accounting framework: first, labor input and its productivity; second, capital investments and savings; and finally, multi-factor productivity, social stability, and governance.

Labor and Its Productivity

The relationship between population change and economic growth remains a subject of debate among economists and demographers. A venerable line of "population pessimists" stretching back to Malthus argue that population growth slows down economic growth, because it tends to overwhelm technological progress and capital accumulation (Coale and Watkins 1958; Ehrlich 1968; Malthus [1798] 1970). Others, such as Boserup (1981), Kuznets (1967), and Simon (1981), have argued that large populations allow economies of scale and foster innovation. "Unified growth theory" (Galor 2011; Galor and Weil 1996) and institutional approaches to demographic change (Aoki 2011) see

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these arguments not as mutually exclusive but rather as sequentially applying to different historical periods, explaining how societies escaped the Malthusian trap to launch the modern era of rising per capita living standards.

Recent research decomposes population growth into its fertility and mortality components to examine its effects on economic growth. Most studies focus on one specific mechanism linking demographic change to economic growth: the ratio of the working-age population to the dependent population, as measured by the youth and old-age dependency ratios. The boost to income from the transitional change in the age structure of the population, with large cohorts concentrated in working ages, has been called a "demographic dividend" (Bloom, Canning, and Sevilla 2003; Bloom, Canning, and Fink 2010). This demographic process played a nontrivial role in the "East Asia Miracle" (Bloom and Williamson 1998). China reaped a "first demographic dividend" that contributed about 15 percent of China's unprecedentedly rapid growth in output per capita between 1982 and 2000 (Wang and Mason 2008, 147). Since 2000, this demographic boost has been shrinking and, according to some estimates, will dissipate completely by 2014 unless policies significantly change (Ogawa and Chen 2012). Because of the age structure, China's population will continue to grow for a while, but the growth of the working-age population will be slower and will shrink from its extraordinarily high 2010 share—74.5 percent of the total population.

How will the change in China's workforce impinge on the pace of GDP growth? Some economists, such as Zhang Juwei at the Chinese Academy of Social Sciences, emphasize that the emergence of a labor shortage will contribute to slower economic growth by increasing wages and forcing costly upgrading of China's industrial structure. Authorities have promised to double workers' pay over the next five years, a trend already well in evidence. China's recent growth slowdown was predicted by Eichengreen, Park, and Shin (2011); they estimate that economies slow down significantly, in the sense that the growth rate declines by 2 percentage points or more, when their per capita incomes reach around US$17,000 in year-2005 constant international prices, a level that China will reach within the next year or two. Their international empirical analysis includes old-age and youth dependency ratios, as well as the ratio of per capita GDP to that in the lead country. They find that higher old-age dependency rates increase the likelihood of a growth slowdown. Specifically for China, their analysis suggests that a relatively high old-age dependency ratio (10.1 rather than 9.4 percent) raises the probability of a slowdown by 3.5 percentage points to 77 percent. However, the main driver is convergence of productivity and the capital/labor ratio to advanced-country levels. The prediction of a prolonged slowing of China's economic growth is broadly consistent across a range of analysts. For example, Perkins (2012) also argues that China's economic growth is likely to slow for a prolonged period, unless China can maintain high growth of productivity.

Arguably the most pressing question is how China will manage a growth slowdown: is its labor force well-prepared to improve productivity and remain globally competitive? There are some reasons for cautious optimism. Productivity growth fueled China's economic rise in recent decades, and with current productivity estimated at 13 percent of the US level, China has plenty of room for improvement before converging with the global frontier (Zhu 2012). Substantial investments in education provide the foundation for labor productivity. A third of Chinese were illiterate in the early 1960s; now, fewer than 5 percent are (Peng 2011, table 1). Large investments in tertiary education have

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significantly increased the human capital of China's young people, especially those with urban *hukou*. China boasts 8,930 college graduates for every 100,000 people, with about 120 million completing a college degree by 2010 (Peng 2011). Chinese also enjoy a relatively long life expectancy compared to other developing countries. Health and educational investments have clearly contributed to improving Chinese standards of living since at least the Mao era, and although the pace of improvement has slowed, overall levels compare favorably to those in India and many other developing countries. The leadership has called for further efforts to improve educational quality, and national health system reforms in 2009 infused significant new government financing into public health and medical care programs (Eggleston 2012).

However, it remains an open question whether China's investment in human capital is sufficient to propel the economy out of a growth slowdown. China's overall investment in education as a percentage of GDP remains modest relative to other middle- and high-income countries. As Heckman and Yi (2012) argue, China's current educational system is inefficient and inequitable, in part because relying on families to finance education perpetuates intergenerational poverty.

China's poor rural areas, in particular, suffer from relatively low levels of human capital—health, nutrition, and education. School-aged children (age five to sixteen) in China's 592 designated "poor counties" make up between 25 and 30 percent of their age cohorts and will therefore constitute a large part of China's future labor force. The problem is not illiteracy. Most students in these areas go to school for at least six years, and most finish the required nine years—enough to provide them with the basic numeracy, literacy, and discipline that they need for the low-wage, labor-intensive manufacturing jobs that pervade China's economy today (Hannum et al. 2008). However, the school system is not set up to provide students with the skills that the children of today and workers of tomorrow will need twenty years from now when wages rise. The current educational system, based on rote memory and drill, does not teach children how to learn. The new vocational education system is not living up to expectations, and academic high school fees and tuitions are the highest in the world for a rural public high school (Liu et al. 2011). The math and language abilities of those who finish compulsory education (nine years) are barely adequate for today's workplace and certainly fall far short of what will be needed if wages rise sharply, as expected. Most such students have almost no English ability and have never touched a computer.

Furthermore, in many ways the situation is deteriorating. Nearly one-third of elementary school students in poor rural areas are micronutrient deficient, leading to pervasive iron-deficient anemia (Luo et al. 2010; Wang et al. 2012). Large numbers of students in poor rural areas suffer from uncorrected vision (Glewwe, Park, and Zhao 2006). Dropouts from junior high are increasing as wage increases push up the opportunity cost of staying in school (Liu et al. 2011). There is no effort to keep children in school through an incentive-based system, such as conditional cash transfers or financial aid at the junior high or academic high school levels. China must overhaul rural education quickly if it is going to avoid producing tens of millions of workers who will be marginalized in the nation's future high-wage, high-skill economy.

Human capital in the form of health and longevity also appears to be running up against diminishing returns in China, in the sense that improved health and survival no longer play a large role in increasing lifetime labor force participation and instead

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contribute to longer retirement lives. In a relatively young population at an earlier stage of the demographic transition, such as in India, health improvements reduce infant and youth mortality, keeping more people alive into their working ages. Of the increase in India's life expectancy over the past two decades, three-quarters accrued to those younger than age sixty-five. Just the opposite was true in sixteen European countries and the United States: more than 75 percent of increases in life expectancy came after age sixty-five (Eggleston and Fuchs 2012). China is catching up quickly: the share of years lived past age sixty-five as a percentage of increase in life expectancy at birth was 52 percent for men and 41 percent for women in the most recent twenty-year period (Eggleston and Fuchs 2012). As a result, except for the poorest rural areas, improvements in longevity tend to lengthen retirement rather than working lives. Although grandparents do provide substantial childcare and other nonmarket services, the longevity transition implies a decrease in working years as a percentage of life expectancy and a challenge to social support systems because of the growing needs to finance medical care and pensions.

China's increasing burden of chronic disease further exacerbates the growth-slowing potential of a more elderly population and its associated medical expenditure burden. Fueled by rapid urbanization, increases in high-fat and calorie-rich diets, reductions in physical activity, unabated smoking among males, and other factors, the prevalence of chronic disease has quickly caught up with that of high-income countries. For example, almost one in ten Chinese adults suffers from diabetes: the age-standardized prevalence of diabetes among adults in China was 9.7 percent in 2007–08 (W. Yang et al. 2010), with a large share undiagnosed and untreated.

Fortunately for China, demographic transition engenders socioeconomic changes that partially offset the negative impact on the workforce. Evidence from the original fertility transition in Europe and the United States suggests that parents invest more per child when they have fewer children, consistent with Gary S. Becker's famed "quantity-quality trade-off" (Becker 1960; Becker and Lewis 1973; Guinnane 2011). In this sense, reduction in fertility could raise the per-worker productivity of the shrinking workforce. Although not all studies find such a "quantity-quality trade-off," the accumulation of human capital for future generations could be a potential driver of long-term economic growth and might even spur a "second demographic dividend" (Mason and Lee 2006).

The educational profile of China's future youth will also be strongly shaped by how China's population control policies evolve. The debate centers on whether the "two children for two-only-child couples" policy, and the de facto "one son" policy in rural areas, will be expanded to be a universal two-child policy or, more restrictively (and selectively), to be a "two children for one-only-child couples" policy (Peng 2011). Since population control policies and socioeconomic change both imply lower fertility and higher educational attainment in urban areas, relaxing the "one-child policy" in cities—by allowing two children if both the mother and father are themselves single children—will lead to fewer but more well-educated children than if population control policies were markedly relaxed in rural China. It remains unclear whether the March 2013 merger of the Ministry of Health and the Family Planning Commission signals a relaxation of family planning policies.

Numerous other channels link demographic change to human capital input for economic growth. The economic impact of a reduction in the working-age population can be

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partly offset by greater female labor force participation and less gender discrimination (see, e.g., Banister, Bloom, and Rosenberg 2012). Some analysts argue that China should increase its low official retirement ages of fifty-five for women and sixty for men (Peng 2011); others urge caution, given the relatively low human capital of China's elderly and the existing labor market challenges of employing China's burgeoning cohorts of college graduates (Cai and Zhao 2012). One thing is certain: creative thinking and innovative policies will be needed if China's future labor force is to contribute as significantly to per capita income growth as it has over the past three decades.

Capital and Savings

In contrast to changes in the workforce, the impact of demographic change on growth through capital investments and savings is less widely recognized. But the magnitude of the effect could be no less dramatic, given clear evidence linking demographics and savings.

For example, recent research by Banerjee, Meng, and Qian (2010) shows that China's high savings rate is partly explained by low fertility and parents' need to save for their own old-age support. A simple life cycle model would predict increased savings when having fewer children. By examining cohorts of Chinese who had children when population planning policies began but before sex-selection technologies were available (that is, urban Chinese having children in the 1970s), Banerjee, Meng, and Qian (2010) show that up to one-third of the large increase in China's savings rates in the reform era can be explained by the demographic change to smaller families combined with reliance on children—particularly sons—for support in old age.

These forces help to explain why son preference remained strong, especially in rural areas, and translated into a large population imbalance once sex-selective abortion became widely available (although it is illegal in China). If parents of sons need to save less for old-age support, one might think that China's gender imbalance would reduce savings rates. But some analysts have pointed to another force keeping savings rates high: the need to pay a higher "bride price." One salient manifestation of China's imbalanced sex ratio is a dearth of young women in the marriage market. Wei and Zhang (2011) argue that the pressure on parents with a son causes those parents to increase their savings to improve their sons' relative chance of finding an appropriately talented and attractive wife. The pressure on savings spills over to other households and increases overall savings, despite the corresponding decline in the need for savings by families with daughters. Using both cross-regional and household-level data, Wei and Zhang (2011) find that the skewness of the sex ratio at birth can potentially account for up to half the actual increase in China's household savings between 1990 and 2007. This research links China's struggle to increase consumption with its efforts to address the forces driving parents to use sex-selective abortion to achieve the goal of having a son.

Can China reap what Mason and Lee (2006) call a "second demographic dividend" by saving enough to permanently increase the capital-to-labor ratio and raise living standards? Much will depend on how intergenerational transfers change and how generous China's safety net or social welfare state will be. China's current pattern of intergenerational transfers is distinctive: among the almost forty countries for which detailed transfer

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accounts have been estimated, China is the only country that funds the "life cycle deficit" (consumption exceeding income in youth and old age) entirely out of labor income (Lee and Mason 2011; Chen, Eggleston, and Li 2012). As noted, China's high savings rate partly reflects large precautionary savings to prepare for ill health, old age, and unpredictable family expenses. It will take time to build a more robust social safety net, develop financial markets, and undertake the other reforms necessary to limit precautionary saving and increase the domestic consumption share of China's economy (Eichengreen, Park, and Shin 2011).

Significant expansion of health insurance coverage and initiation of rural pensions are examples of the social policy responses that China has undertaken to prepare for this transition. But much remains to be done. For example, should China fully fund its pension system, despite its already high savings rate? Barr and Diamond (2010) instead recommend fully accountable notional accounts, expanding the contributory pension system to all large firms in both rural and urban areas, and introducing a nationwide, tax-financed "citizen's pension." Some researchers have begun to document how expanded medical insurance (such as the rural New Cooperative Medical Scheme) has increased household nonmedical consumption, suggesting a reduction in precautionary savings (Bai and Wu 2012). However, the health insurance schemes remain at a relatively low benefit level, with large disparities across urban and rural areas and among provinces.

Although reducing precautionary savings and increasing domestic consumption as an engine of economic growth are widely acknowledged goals for China's economy, a rapid decline in savings could also imperil China's future economic growth by jeopardizing the current basis of the financial system. China has been able to recapitalize its banking system repeatedly and cover massive and continuing nonperforming loans to its large state sector—now embodied in its massive national champions—by keeping interest rates low in the banking system and refusing to permit retail investors access to higher-interest bond markets. Instead, banks buy the bonds with the savings of citizens and pump the money into the financial system and state sector at low, fixed interest rates. This has been likened to a "pyramid scheme" by analysts of China's financial system, such as Carl Walter, and it is primarily the high savings rates and closed financial system that keep the economy afloat. It seems inevitable that this source of savings will decline considerably as the population ages, undermining China's financial health.

Multi-factor Productivity, Social Stability, and Governance

Growth slowdowns are almost always productivity growth slowdowns: Eichengreen, Park, and Shin (2011) find that historically, the largest proximate determinant of a slowdown in output growth has been a slowdown in the growth rate of total factor productivity (or multi-factor productivity). Many forces impinge on multi-factor productivity; the stability and predictability of markets and governance are lynchpins. Discontent with widening disparities in China could undermine this fundamental foundation of growth. Most observers, including China's top leadership, agree that continued development requires China to address social inequalities that could undermine social stability. Less well understood is how adjustment to demographic change is inextricably intertwined with the evolution of social and economic institutions (Aoki 2011; Eggleston and Fuchs 2012).

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Consider, for example, the nexus of demographic change and urbanization. Rural China has served as a safety net for millions of migrant workers, who would return to their rural homes during economic downturns, such as in the early 1990s and during the financial crisis of 2008, when urban job opportunities linked to manufactured exports shrunk. With the advance of urbanization, what will happen when this safety net of land has disappeared? This raises an important question about the capacity of the Chinese society (and its central and local governments) to absorb economic fluctuations in the future and the specter of social dislocation that has occurred in other developing countries.

Moreover, high sex ratios imply fewer married men, and marriage has been conjectured to be a socializing force contributing to stability. Using the provincial variation of the implementation of the one-child policy, Edlund et al. (2007) find that during the period of 1988–2004, a 0.01 increase in the sex ratio increased violent and property crime rates by 3 percent, suggesting that the increase in excess males may account for up to one-seventh of the overall increase in crime during that period. Research on cross-province and cross-border marriages in China reveals the tensions and potential for crime associated with those expedients as well.

Demographic forces heighten tensions in China's families and therefore have significant implications for the social context of future growth. One aspect of this tension is the question of old-age support and long-term care for the elderly. Smaller families have reduced the availability of family care for the Chinese elderly, which challenges the traditional norm and raises tensions within families. China's pattern of internal migration, with its "floating population" of more than 200 million staffing factories, depends on families being able to arrange care for the elderly and the children: the "left behind" population in rural areas. Prior research has found that sons and their wives play a more important role in providing financial and instrumental support to their aging parents than daughters and sons-in-law (Lee, Parish, and Willis 1994; H. Yang 1996), and most elderly co-reside with at least one of their adult sons (Silverstein, Cong, and Li 2006). Given the absence of general social security and community service systems in rural China, the need for financial and instrumental support for the elderly overwhelms the capability of adult children who are themselves single children. With no siblings to share the burden, the younger generation faces not only increased expenses, but also decreased earnings opportunities from migration. To care for elderly parents-in-law and young children, one spouse (usually the woman) stays home, and the long separation contributes to the recently increasing divorce rate in rural China.

Traditional intergenerational relationships are under pressure. For example, as research by Silverstein, Cong, and Li (2007) has shown, the elderly often pay their children's migration expenses and take care of their grandchildren—making it possible for the children to work away from home and earn money to support them later. This pattern resembles a long-term strategic investment. However, Song and Li (2008) point out that this "implicit contract" between the elderly and their adult children cannot be enforced. They find that sons who leave their natal families but remain in the same village are likely to shirk the responsibility of elderly parent care. Unsurprisingly, the elderly may provide more support to the children they are living with in order to affirm the old-age support agreement. In addition, migration itself weakens family ties, undermining the social norm of caring for elderly parents. To ease the

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pressure, the Chinese government initiated a pension system for rural citizens in sixty-two counties in 2009, with coverage slated to expand, and has developed plans to expand the nursing home industry. But it is still an open question how exactly this is going to work. For example, who will provide the long-term care for the urban elderly? The metropolises like Beijing and Shanghai already have 18 percent or more of their populations over age sixty. But if rural residents move to the cities as caregivers, their own parents are left unattended.

Nondiscriminatory social policies that empower women can work to correct distortions stemming from China's rapid demographic change. For example, the research mentioned earlier by Banerjee, Meng, and Qian (2010) found that in cities with less of a gender gap in wages, parents of daughters saved about the same amount as parents of sons, even though parents elsewhere tended to rely on sons more than daughters for elderly support, and saved more themselves when they had daughters. This research suggests that as women's socioeconomic position improves, forces underlying son preference may weaken. The traditional reliance on male children for elderly support will no doubt undergo further erosion in China as the elderly receive increased financial support from migrant daughters (Li, Jin, and Feldman 2011) as well as from pensions.

In a related line of research, Sun (2011) has shown that China's 2001 divorce law, by enabling women to leave unhappy marriages, has helped to alleviate China's "too many boys" problem. The 2001 divorce law reduced divorce costs, especially for women, by granting the right to divorce and claim damages in the case of domestic violence and extramarital relationships and by securing women's property rights upon divorce. Sun (2011) shows that after the implementation of the divorce law, the average sex ratio at birth of the second birth after a firstborn girl declined from 2.3 to 1.2 boys per girl. She therefore concludes that the improved legal rights increased women's welfare within marriage and allowed them to avoid having sex-selective abortions, which harm women's physical and psychological health.[1] Similarly, Porter (2013) shows that when women are scarce in the marriage market, they appear to gain bargaining power at home, providing less help to parents-in-law and more help to the women's own parents.

Finally, and perhaps most importantly, we have argued that demographic change will fundamentally challenge the conventional governance structures in China. Efforts to impose a bureaucratic solution to the intertwined social challenges China faces will almost inevitably stoke tensions between the society and the state. In both urban and rural areas, expansion of the bureaucratic state may become the central target of popular contention. Other scholars, such as Wang Feng, have argued that the "China model" so far is based on fast growth and a much faster extraction of resources by the government, so that a growth slowdown threatens stability by making it much harder for the government to deliver on its promises.

[1]Much other research has discussed how policies can alleviate China's gender imbalance. Das Gupta, Chung, and Li (2009) argue that sex selection, mainly through prenatal ultrasound B sex screening and induced abortions, can be reduced by education, economic growth, and mass media campaigns, as evidenced by the experience of South Korea and others. However, Almond, Edlund, and Milligan (2009) find a slightly but significantly skewed sex ratio among Chinese immigrants in Canada, and argue that policy cannot completely balance the sex ratio because it is deeply rooted in Chinese culture.

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Uncertain Prognosis

As many have noted, the aging of China's population will alter the dependency ratio, reduce the available labor force, and therefore drive wages up. Few would dispute that these changes are likely to reduce China's high growth rates. But it is less widely known that population aging, interacting with gender imbalance and rapid urbanization, may also imperil financial and social stability as well as profoundly challenge China's traditional methods of governance. Although analysts have not yet incorporated gender imbalance into formal macroeconomic models of economic growth, recent research using micro data shows how gender imbalance is affecting the economy in many fundamental ways.

We argue that demographic change probably *will* slow China's rise, but its long-run impact almost surely will be manifest as a consequence rather than a cause of slower growth. In other words, China's rise will slow—only partially thanks to raw demographics—and then demographic changes will loom large in the ability of Chinese society to adjust. The most likely scenario is that per capita GDP growth will slow perceptibly within the next five years, for a host of reasons related to China reaching middle-income status and facing greater challenges in continuing the high growth of multi-factor productivity as the economy runs out of surplus rural labor and converges on the technological frontier. Demographic change will then shape almost every aspect of how China copes with a slowing rate of economic growth, and may play a decisive role in the future social stability of China, with spillover effects for the region and the rest of the world.

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