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# Demographic Impact of Korean Reunification: Costs and Consequences for the North and the South

By Benjamin Michener

## I. INTRODUCTION

South Korea has industrialized at a remarkably fast rate, with per capita income rising from \$1,160 (Constant 2000 USD) to \$16,372 over only five decades according to the World Bank. This growth has been spurred on by a demographic dividend—a surge in working-age adults relative to the number of dependents, which has enabled high levels of investment and output growth. This dividend has now been exhausted; the demographic boon is becoming a demographic liability as members of older generations age and there are fewer children to take their place. South Korea faces three interrelated demographic challenges that will have significant economic and social implications. First, the population is rapidly aging, creating a high ratio of dependents to earners. Second, the population is shrinking. And third, South Korea has a skewed gender ratio within the younger generations, which will make it more difficult to rejuvenate the fertility rate.

While South Korea has responded to these demographic challenges by allowing entry to a growing number of foreign workers—as well as foreign wives—such stopgap measures are not a long-term solution. Large-scale immigration could alleviate all three of these challenges, but in a culturally, ethnically, and linguistically homogenous country such as South Korea, this is politically unfeasible. South Korea, however, is unique in that it is part of a divided country. Unlike other East Asian nations that are experiencing similar challenges, there is a pool of culturally, linguistically, ethnically homogenous people just waiting to join South Korea—the North Koreans.

A study of the impact of reunification has been notably absent from the literature on demographic change in Korea, with the noteworthy exception of a 1992 study done by Nicholas Eberstadt and Judith Banister. In 2008, however, North Korea conducted a second national census, which gives valuable information that was not previously available. This essay examines the potential demographic impact of a peaceful near-term reunification of the Korean peninsula, using data from this North Korean census.

### *Methodology*

Assumptions are that (1) reunification will occur relatively soon; (2) reunification will be peaceful; and (3) the North will be absorbed into the South (rather than vice versa). Because the North Korean census data is from 2008, South Korea's 2008 data is also used to make comparisons to that of the North, even though more recent data is available for the South. Only demographic impacts of reunification are examined. The economic and social costs of reunification have been studied in great depth elsewhere.

Another key assumption is that the census data provided by the North Korean government, a regime notorious for its deception, are accurate. Given the size and nature of the North Korean state, it is presumably better able to conduct an accurate and comprehensive census than other states at comparable levels of development. North Korea also accepted guidance from the United Nations in carrying out the 2008 census, employing methodology that met international standards. The primary concern about census accuracy is whether the state manipulated the data for political or security reasons. For example, the 1993 census did not include actively serving members of the military, which severely skewed the gender ratio and several other metrics. The United Nations' involvement in the 2008 census lends greater legitimacy to the 2008 census data.

## **II. DEMOGRAPHIC TRANSITION IN SOUTH KOREA**

South Korea has undergone the demographic transition from a high birth-rate/high death-rate country to a low birth-rate/low death-rate country. But unlike in other countries, South Korea's demographic transition has mirrored its rapid economic growth, which has amplified the benefits and consequences of this transition. In the first phase of demographic makeup, a preindustrial country has a high birth rate and a high death rate, resulting in a stable, low rate of population growth. A country enters the second phase of demographic transition as it industrializes, with improvements in nutrition and sanitary conditions leading to a drop in the mortality rate while the birth rate remains high. This causes a surge in population growth, which increases the child dependency ratio. Eventually, a country enters into the third phase of transition, in which the birth rate drops to the same level as the mortality rate. This results in low child and elderly dependency ratios, as there are few children being born and not many elderly to care for. The demographic bulge of working-age adults is the demographic dividend and this is when a country can experience rapid GDP growth. South Korea made great use of its opportunity to rapidly develop

but is now in the fourth phase of demographic transition, in which the bulge of working-age adults is aging and there are few youngsters entering the workforce to replace them. As a result, the dependency ratio will rise and the age profile of the population will rise dramatically.

### ***Population Growth***

Between 1955 and 1960, the population of South Korea grew an average of 3.39 percent per year. Fifty years later, between 2005 and 2010, population growth dropped to an average of 0.58 percent. The United Nations estimates that South Korea's population will begin shrinking within the next twenty years. Fifty years ago, the fertility rate (the total number of children a woman is expected to have in her lifetime) was 6.33, and there was concern that the population was growing too fast. The state implemented antinatalist policies to encourage smaller families; these policies included free birth control, withholding benefits for having three or more children, and sterilization incentives. By 1984, South Korea reached a fertility rate of 2.1, a rate at which a population holds steady. However, it was not until 2004—20 years later—that antinatalist policies were reversed. By this point, the fertility rate was 50 percent below replacement. Currently the fertility rate is about 1.29 children per woman. If the fertility rate does not rise soon, South Korea's population will begin to decline. At the current rate the population will begin to drop precipitously. If the fertility rate remains low (constant fertility), the population will rapidly drop. Only in the most optimistic estimate (high variant) will the fertility rate recover sufficiently to resume growth.

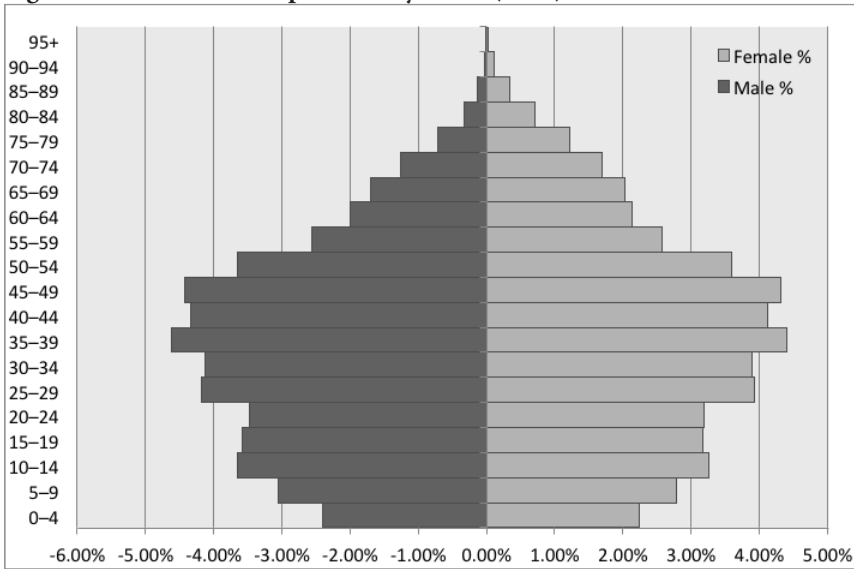
The South Korean government adopted a five-year plan to encourage larger families, setting a fertility-rate target of 1.7 by 2030. Maternity pay has been changed from a small lump-sum payment to 40 percent of pay, and employers are required to allow mothers flexible working hours. The government will pay for the school fees of second children, a potentially significant incentive in a country where the cost of education falls predominantly on the family.

### ***Aging Population***

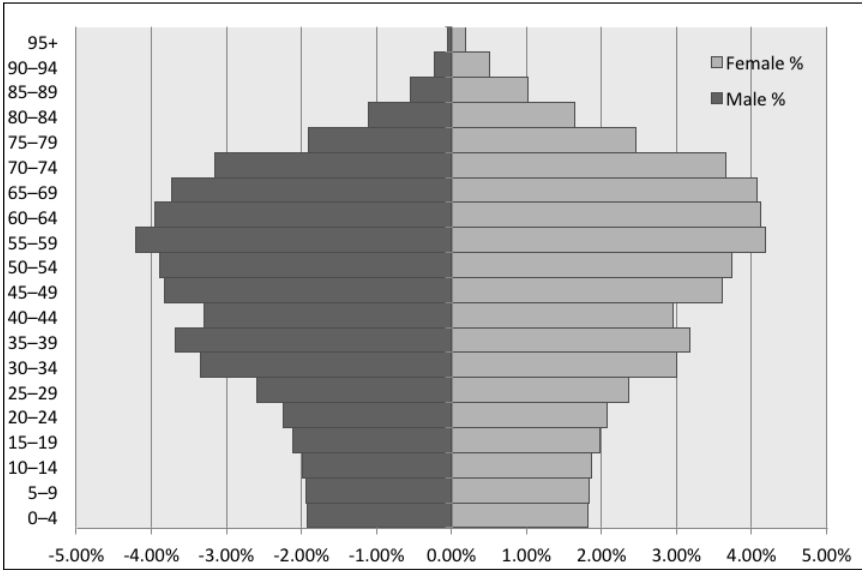
South Korea's population is rapidly aging. The average age in 2008 was 36.4 but is projected to be 51.8 in 2050. In 2008, 10.3 percent of the population was 65 or older, while 24 percent was under 20. By 2050, 38.2 percent of the population will be over 65, surpassing Japan as the oldest country in the Organization for Economic Cooperation and Development (OECD). The percentage under 20 will

have dropped to 12.6 percent. A whopping 14.5 percent of the population will be 85 or older. South Korea's very favorable dependency ratio will deteriorate. As of 2009, every 100 South Korean workers had to support about 15 senior citizens. By 2050, there will be 72 senior citizens for every 100 workers. Old workers will retire faster than new workers enter the workforce. Between 2015 and 2020, the labor shortage for people 15 and older will nearly triple to 1,520,000 from 630,000. Figures 1 through 3 illustrate this rapidly changing population structure.

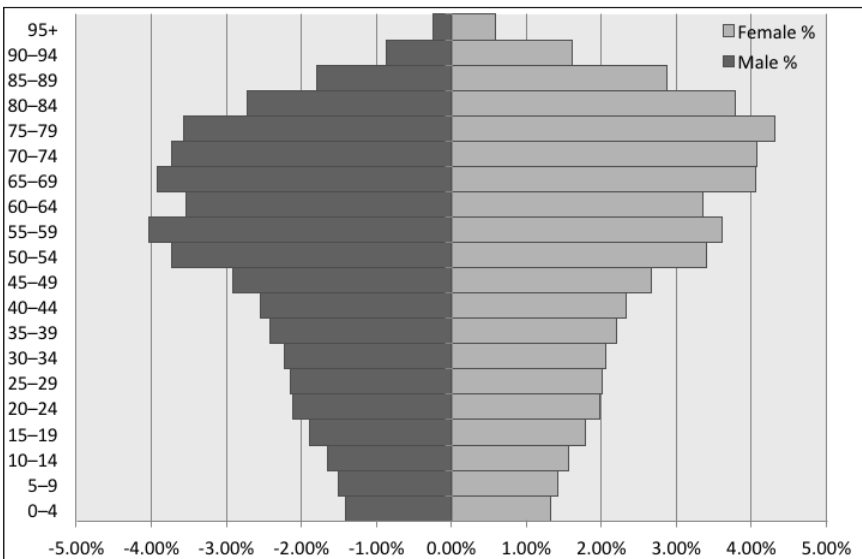
**Figure 1: South Korea: Population Pyramid (2008)**



**Figure 2: South Korea: Population Pyramid (2030)**



**Figure 3: South Korea: Population Pyramid (2050)**



South Korea has a more limited social security net for the elderly compared to other members of the OECD. South Korea also has one of the lowest rates of government spending as a percentage of GDP compared with other OECD nations. The largest shares of government spending go to defense and economic affairs, while a miniscule amount is allocated for social protection, the single-largest budget item for most OECD countries. The South Korean state similarly places a lower priority on health spending than other OECD members. As a result, the burden of caring for the elderly largely falls upon adult children. The positive side of this picture is that the state will be somewhat insulated from the double burden experienced by European countries, which have a declining number of taxpayers coupled with ever-increasing social security and health-care outlays. The downside is that the intergenerational transfers from working children to their parents could be much more significant. Statistical analysis by David Bloom, David Canning, and Jocelyn Finlay in 2010 found that each 1 percent increase in the old-age share of the population results in a 1.5 percent decrease in average annual economic growth rate over the subsequent five-year period.

### ***Gender Disparity***

South Koreans have a long-held cultural bias toward raising boys, as the son traditionally cares for the parents in their old age and carries on the family name. Technological advances that allow parents to know the gender of their child before birth, combined with a preference for small families, mean that when parents are only having one or two children, they make certain they have a boy.

In the 1980s, many countries in Asia saw a rapid increase in the proportion of male births. By 1990, more than 115 South Korean boys were being born for every 100 girls. South Korea has since been able to reverse this trend and bring male/female births back to a more balanced ratio. Shifts in cultural gender preferences as well as South Korea's legal environment are credited for this change. However, because of this temporary imbalance there remains a generation of young men who distinctly outnumber their potential mates. In 2008, there were 110.8 boys for every 100 girls in the under-twenty age bracket. According to the *Korea Statistical Yearbook 2008*, there will be roughly 414,000 more men in their thirties than there are women of the same age by 2030.

This gender disparity in an already small generation will inhibit efforts to boost the fertility rate. Some men have taken the initiative to bring in a wife from abroad. In 2008 around 11 percent of all marriages were with foreigners,

mostly foreign women marrying Korean men. This has created tension in such a homogenous country, and the children of mixed marriages often face discrimination.

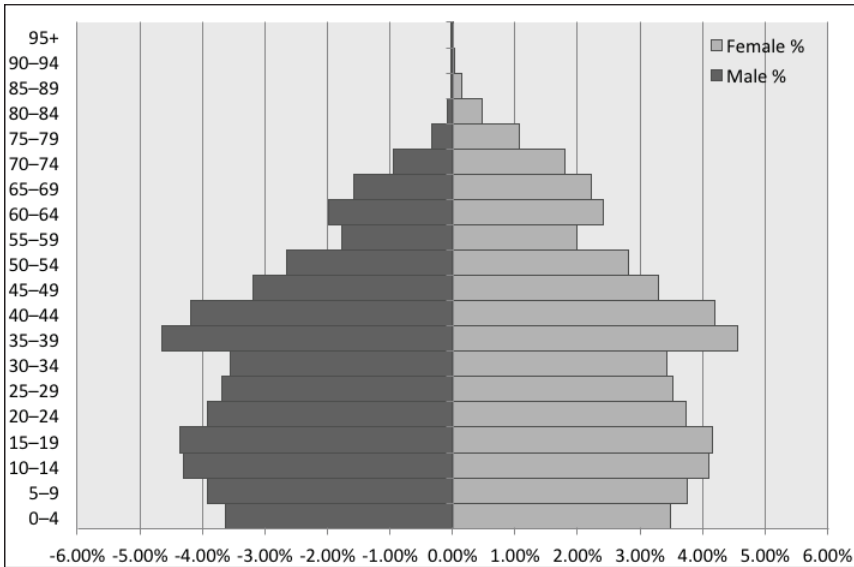
### ***Immigration***

Immigration would seem to be the obvious solution to all of these demographic problems. An influx of young migrants would create a more desirable dependency ratio by filling in the labor shortage. Some of these immigrants might also choose to find South Korean spouses, closing the gender gap. But this possible solution causes challenges because, besides being one of the most densely populated countries on earth, South Korea is also highly homogenous and insular, making immigration highly controversial. According to UN calculations in 2000, for South Korea to maintain an unchanging working-age population it would need 6.4 million immigrants (12.8 percent of the current population) between 1995 and 2050. South Korea has allowed entry to a growing number of foreign workers and foreign wives. The number of foreigners in South Korea rose from 270,000 in 1995 to 747,000 in 2005, which included 100,000 who entered for the purpose of marriage. But immigration is not a long-term solution. Immigrants to South Korea experience widespread discrimination. South Koreans lack experience coexisting with foreigners and some still believe that international marriages are “unnatural.” As a result, mixed-race Koreans have trouble finding regular work. According to Bum Jung Kim and Fernando Torres-Gil in 2009 more than two-thirds of mixed-race Koreans were unemployed and only 6 percent owned home. It seems likely that there will continue to be a high level of resistance to greater levels of immigration whatever the demographic need or economic argument. Perhaps an influx of North Koreans would be a more palatable alternative.

### **III. DEMOGRAPHIC CONSEQUENCES OF REUNIFICATION**

Reunification of the Korean peninsula would have enormous economic, political, and social consequences for all Koreans. Demographic consequences would be less dramatic though perhaps still significant. North Korea, though geographically large, has about half the population of the South, and thus the overall change in demographics would be somewhat muted. Furthermore, North Korea has paralleled many of South Korea’s demographic shifts, though they have not been as dramatic.

**Figure 4: North Korea: Population Pyramid (2008)**

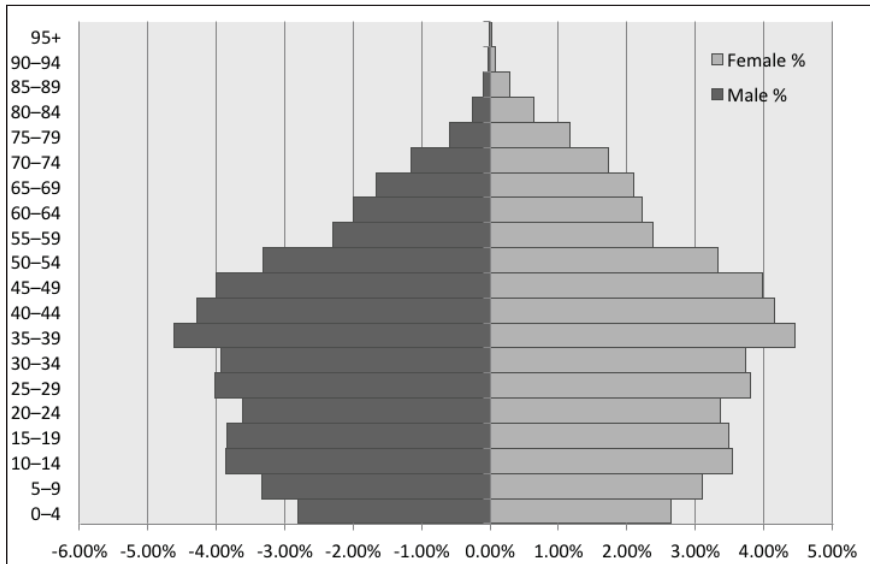


***Will a United Korea Be Younger?***

Comparing data from the 2008 North Korean census with South Korea’s census data for 2008 produces a mixed picture. North Korea is also an aging population. The portion of North Koreans aged 65 or over is 8.72 percent, only slightly smaller than the 9.28 percent of South Koreans over 65. However, those currently 65 or older are not the issue. The real concern is thirty years from now, when the baby boomer generation of workers—now in their 30s, 40s, and 50s—have retired.

Here, the picture is slightly rosier. The percentage of the population aged 35–64 will drop by more than 1 percent, while the percentage of the population under 20 will rise by more than 2 percent. These are not huge numbers, but they no doubt improve the outlook for South Korea, given the scope of the demographic problems the country is facing. Figure 5 illustrates the demographic pyramid for a unified Korea, which is slightly more evenly distributed than that of South Korea. The South Korean population in their 40s and 50s make up a greater share of the total population than they would in a unified Korea. A Unified Korea, by contrast, has a larger percentage of the population under 25 years of age.

**Figure 5: Unified Korea: Population Pyramid (2008)**



***Will the Fertility Rate Rise?***

In contrast to South Korea, which for many years actively tried to slow its population growth, the North Korean government, at least publicly, encouraged people to have large families in order to narrow the gap with the much more populous South. North Koreans, however, like their southern neighbors, prefer smaller families, and North Korean defectors have said that government clinics readily provide birth control. As a result, the growth rate in the North is not significantly different than that in the South. In 2008, the South Korean population was growing at 0.31 percent, with a fertility rate of 1.2. A closer look reveals that North Koreans have a higher crude birth rate than South Koreans: 14 per 1,000 women compared to the latter's 9 per 1,000 women. The two countries' population growth rates are more or less the same because North Korea has twice the crude death rate as the South: 10 per 1,000 people compared to the South's 5 per 1,000 people. The crude death rate can reflect the quality of health care as well as the age structure of the population. Because the percentage of the elderly population in the two Koreas is similar, it can be assumed that lower quality health care is the cause of the higher North Korean death rate. Infant mortality rates estimated by the World Bank confirms this: South Korea has an under age 5 infant mortality rate of 5 deaths per 1,000 births, similar to other

developed economies. North Korea's rate is more than six times higher: 33 deaths per 1,000 births, ranking it below Nicaragua and Vietnam. In the event of reunification, it is not unreasonable to expect that South Korea could utilize its superior resources, technology, and medical know-how to drive down the North Korean infant mortality rate relatively rapidly to a level closer to that of South Korea, and thereby lowering the overall crude death rate. This would cause a jump in the population growth rate, presuming that the North Korean birth rate did not simultaneously drop to the South Korean level. This is a fairly safe bet considering that birth rates—when birth control measures are freely available—are tied to decisions made within the family based on cultural norms and economic circumstances. The North Korean birth rate would probably drop over time, but presumably much slower than the death rate (perhaps over a generation), producing a tiny demographic dividend.

### ***Will There Be a Gender Divide?***

While North Korea's population growth has slowed much like South Korea's, and both countries are aging, the North differs from the South in that its population has not developed a gender disparity. The reasons for this are uncertain. It could be that no gender bias exists. Communist regimes are known to promote gender equality and, as the state provides pensions and health care for the elderly, parents may not feel that they absolutely need a son. It is more likely, however, that North Koreans lack the means to determine the gender of a fetus and/or abort unwanted female children. The net effect is that North Korea has a balanced gender ratio. This will not close the gender gap in a unified Korea but will shrink it as a percentage of the total population.

### ***Internal Demographic Changes***

While the overall demographic picture will not change much post-reunification, there may be huge demographic shifts within the peninsula. For example, though the overall population density of a unified Korea would be lower than that of South Korea, it is likely that many North Koreans, even if enormous resources are spent developing and creating jobs in the North, will move to the South in search of jobs and better economic opportunities, as it had happened after German reunification. As a result, the population density in the South, particularly in the major cities, could easily rise, while the North would become comparatively depopulated, leaving areas populated heavily by the elderly, as is increasingly the case in rural Japan. Thus, cities like Seoul may acquire a relatively young population and achieve a relatively balanced demographic structure, while

rural areas and cities in the North may find themselves aging faster than would have otherwise been anticipated. Similarly, if North Korean women begin seeking South Korean husbands—who, besides being more familiar with the capitalist system, are better educated and wealthier than their North Korean counterparts—then the gender imbalance in the South may be exported to the North. Reunification could lead to a younger, more populous, and gender-balanced South and a depopulated, aging, and gender-imbalanced North. South Korea would effectively export its demographic problems to the North.

### ***Integration Prospects***

The speculation that reunification will mitigate some of South Korea's demographic problems is also contingent on the assumption that North Koreans can be integrated into South Korean society and its economy. If North Koreans cannot acquire the right skills, or have trouble coping with high-stress capitalist work environments, then they will not be able to fill the holes in the workforce; rather, they will be an additional burden on the system. Similarly, if the cultural gap between the two societies is too large, South Korean men may remain out of luck in the marriage market. There are already signs that the South is having trouble integrating the recent influx of North Korean defectors. During the Cold War, defectors were rare; they were also well educated and usually had left the North for ideological reasons. They were treated as a valuable resource by South Korea and given state jobs. However, since the end of the Cold War, and with the food shortages that have beset the North, defections have rapidly increased from a few dozen a year to a few thousand. As of early 2012 there are more than 23,000 North Koreans living in the South, most of whom have arrived in the last ten years. They are not ideological defectors but economic refugees from the lowest classes of North Korea. The South Korean state provides them with some financial resources and training, but a high percentage remain unemployed or relegated to undesirable 3D (dirty, difficult, dangerous) jobs. More than 80 percent receive welfare because they are unable to acquire a regular job or earn so little that they still qualify. They went from being poor in a society of the poor to being poor on the fringe of a rich society.

While some reasons for North Koreans' failure to integrate into the South are well understood—such as low levels of human capital in the North, poor health, and discrimination of northerners by southerners—other reasons are more complex and difficult to address. For example, North Koreans have little social capital (low levels of trust, lack of family ties, no social network among South Koreans or among other North Koreans); as a result, they are not exposed to

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new job or business opportunities and have no network they can rely on in times of need. Social connections are a key to success in a capitalist society, but North Korean refugees lack such ties. In interviews, North Koreans are unlikely to state that they trust anyone in South Korea. They also tend to avoid living or working with other North Koreans. Most avoid any contact whatsoever with their fellow defectors, yet they also fail to join or participate in South Korean social organizations. According to a 2005 survey by the Information Center for North Korean Rights, “isolation and loneliness” was the second-greatest problem that North Koreans living in the South encountered after financial issues. Many of these problems may be specific to defector, and so will not necessarily apply to the North Korean population as a whole in the event of reunification. However, after several generations of living in one of the world’s poorest and most oppressive countries, it is certainly possible that certain social pathologies may have developed that will make integration into South Korean society difficult.

Still, there are also signs that integration will not be impossible. The availability of inexpensive and relatively unskilled North Korean workers may bring to the North the low-skilled assembly jobs that South Korean firms have outsourced to China. North Koreans are likely to be just as capable as the rural Chinese migrants who currently work in these Korean-owned factories. They also speak Korean, which mitigates problems that may arise from language barriers. According to Byun Ha-jung at Hyundai Asan, North Korean workers at the Kaesong Industrial Complex are 90 percent as efficient as their South Korean counterparts. The Kaesong model—of South Korean capital, technology, and managers combined with North Korean labor working good, full-time jobs—may lead the way to integrating North Koreans into the South’s economy after reunification. Another positive sign of integration is the recent surge of marriages between female North Korean defectors and South Korean men, driven by specialized matchmaking services. Assuming that the matchmakers are credible in their reporting, as many as 1,000 North Korean women have married South Korean men out of the roughly 20,000 defectors (men, women, and children) in the South.

#### **IV. CONCLUSIONS AND POLICY IMPLICATIONS**

Low fertility rates leading to low population growth and population aging have important policy implications for the countries undergoing this demographic transition, such as South Korea. When considering its policy options, South Korea must take into account the effects of reunification. The possibility of reunification should be likened to disaster preparedness: reunification is not

necessarily imminent—or even likely in the near term—but there is certainly a chance that it could occur at any time, potentially with little or no warning. As a result, South Korean officials need to craft policies that are “reunification-friendly”—policies that will survive the reunification process until adjustments can be made to reflect the new reality. For example, if the two Koreas reunify, any given South Korean social welfare program could see its enrollment rise abruptly by 50 percent or more without a commensurate increase in revenue, which could become a budgetary nightmare without a well thought-out plan. Though there is pressure in any aging society for the government to provide more assistance to the elderly, any effort to do so in South Korea should take into account the implications of reunification so that, when it happens, the program will remain fiscally viable.

Similarly, the South Korean government needs to do more to prepare for the reintegration of North Koreans. Current programs to integrate North Korean defectors and refugees—such as a twelve-week crash course in South Korean residency and lessons on how the market economy functions are encouraging, but more needs to be done. If South Korea cannot integrate 2,000 refugees a year, what chance does it have of successfully integrating 24 million? Something as small as providing mentors to new arrivals to educate, inform, befriend, and act as an advocate could go a long way to tie newcomers to the South Korean society. Charitable organizations like the International Rescue Committee and Catholic Charities do this for refugees in the United States; the same could be done through either the state or civil society in South Korea.

In comparing the demographic data and trends of the two Koreas to assess the impacts that reunification may have on the populations, this essay finds two groups of contradictory pressures: in the South, reunification will create a younger population, a higher population growth rate, and a more even gender ratio; whereas in the North, reunification will likely lead to a larger pool of elderly citizens without a social safety net, a drop in total population, and greater gender disparity. Reunification can bring positive benefits to the South, but the North may need to bear the cost. If sufficient preparations are not made to ensure that the two states are reintegrated in a fair and balanced manner, then Korea may remain two separate societies even after they unify into one country.



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