

The New Human Environment

Demographers once postulated that some sort of biological mechanism must prevent fertility rates from remaining below replacement levels for long. After all, don't we all carry the genes of our Neolithic ancestors, who one way or another managed to produce enough babies to sustain human population? Birthrates might temporarily fall below replacement levels due to war, or plague, or economic upheavals. Demographers speculated as well that as general improvements in living conditions caused fewer infants and children to die, parents would gradually learn that they did not need to produce so many children to create their ideal family size. But demographers never dreamed that whole populations could go on for generation after generation with subreplacement fertility rates. Over time, birthrates would tend toward an equilibrium that would produce at least a stable, if not growing, population—or so demographers just had to believe.

In a broad Darwinian sense, it still may be true that human fertility rates will not remain below replacement levels indefinitely. Human populations with persistently low fertility will eventually fade away. If more fecund tribes or nations replace them, total human population

may remain stable over the long term, or even grow. Yet even this scenario is hard to square with the modern reality that, in region after region, across all cultures and religions, and under all forms of government, fertility rates are either already below replacement rates or tending in that direction. Between 1990 and 2000, every major region of the world, including Africa, Asia, Europe, Latin America, and North America, saw total fertility rates declining. Of all the countries in the world with above replacement level fertility, only two saw an estimated rise in the total number of children born per woman, and in both instances, the increase was barely more than zero: Suriname's total fertility rate increased by 0.17 children per woman, and Israel's by 0.01 children. The only other countries that saw their fertility rates rise during the 1990s, according to UN data, were already reproducing at well below replacement levels, and the amount of increase in their fertility was insignificant. France, for example, saw its estimated fertility rate rise from 1.71 children per woman to 1.76, while in Germany the average woman had an estimated 0.03 more children at the end of the decade than at the beginning—a change so slight that it could well amount to no more than statistical background noise.

The trend suggests that something in the human environment has profoundly changed. Anthropologists have shown time and again that in primitive societies, it is the most powerful and influential men who sire the most children. It was therefore also these men and their mates who disproportionately pushed their genes and ideas into the future. By contrast, in today's modern societies, studies show that materially successful men still have more sex, and more sexual partners, than their less fortunate peers, but produce fewer offspring.¹ Why?

As the World Turns

Some biologists now speculate that modern humans have created an environment in which the "fittest," or most successful, individuals are

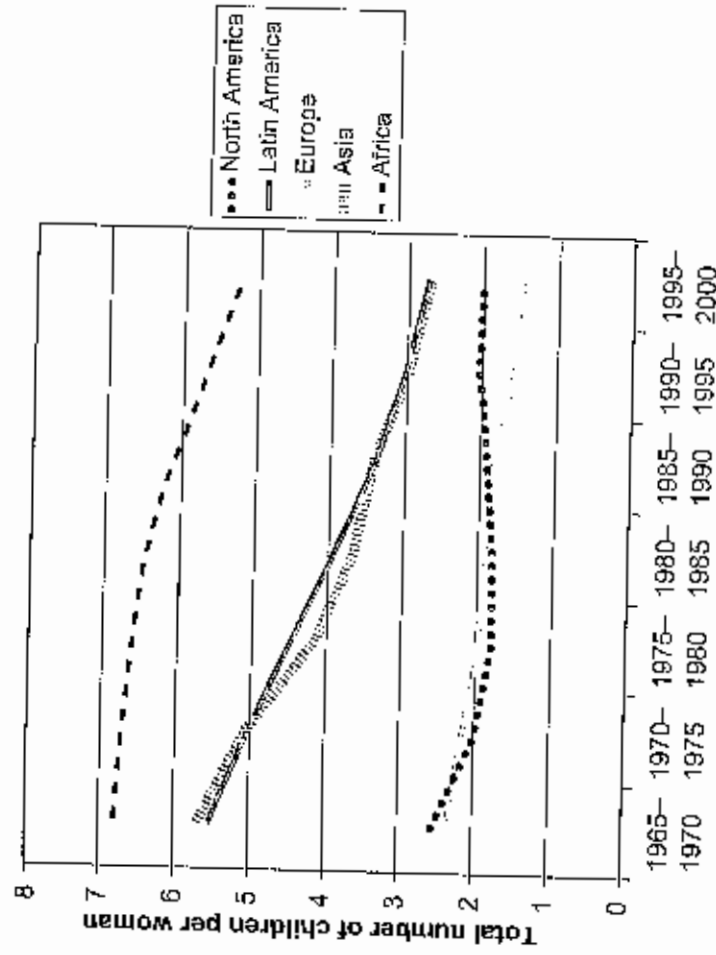


FIGURE 4.1 Fertility by Region

precisely those who have few, if any, children. As more and more of the human race finds itself living under urban conditions in which children no longer provide any economic benefit to their parents, but are rather costly impediments to material success, people who are well adapted to this new environment will tend not to reproduce themselves. And many others who are not so successful will imitate them.

Consider the example of Brazil's birth dearth. The last time most Americans bothered to look, Brazil was a youthful nation whose most pressing social problem appeared to be a growing army of glue-sniffing street urchins. But as Alexandre Kalache of the Pan American Health Organization observes, these street children are aging into street elders, leaving 30 percent of the population marginalized.² Today, Brazil

is aging 2.1 times faster than the United States, and 3.1 times faster than Holland.³ By mid-century, 18 percent of Brazil's population will be over 65, making it older than that of present-day Japan.⁴ Yet unlike these other countries, Brazil is still underdeveloped, and has few resources available to support its swelling older population.

What happened? Since 1975, Brazil's fertility rate has dropped nearly in half to just 2.27 children per woman.⁵ This Catholic country has never adopted a family planning program, so government pressure is not an explanation. Instead, studies of the phenomenon show that births have declined from one region to the next coincident with the introduction of television.⁶

Today, the number of hours a Brazilian woman spends watching *telenovelas*, or domestically produced soap operas, strongly predicts how many children she will have. These soaps, though rarely addressing reproductive issues directly, typically depict wealthy individuals living the high life in big cities. The men are dashing, lustful, power hungry, and unattached. The women are lichesome, manipulative, independent, and in control of their own bodies. The few who have young children delegate their care to nannies.

The *telenovelas*, in other words, reinforce a cultural message that is conveyed as well by many Hollywood films and other North American cultural exports: that people with wealth, people with sophistication, people who are free and self-fulfilled, are people who have at most one or two children, and who do not let their roles as mothers or fathers dominate their exciting lives.

Demographers now put much emphasis on the role of imitation in driving fertility trends, since it is otherwise difficult to explain why fertility is falling so rapidly even in underdeveloped regions. "The great range of conditions under which fertility has begun to fall all over the developing world," notes Alaka Malvade Basu of the Harvard Center for Population and Development Studies, "and the most potent correlates of such decline—education, exposure to the mass media, exposure to the ideologies (rather than the material trappings) of modernization—strongly sug-

gest that the urge to control fertility and to have fewer children than one's parents comes largely from wanting to do what others do."⁷

God and Babies

So where will the children of the future come from? They will come disproportionately from people who are at odds with the modern environment—from people who don't "get" the new rules of the game that make large families an economic and social liability, or who, out of fundamentalist or chauvinistic conviction, reject the game altogether.

Mary Pride, a proud mother, Christian fundamentalist, and homeschool advocate has done the math:

Let's say Christians are 20 percent of the U.S. population. If each

Christian family had six children, and the humanists, feminist, and others kept on having an average of one (which is realistic considering how they feel about fruitful heterosexual marriage), then in twenty years there would be sixty of us for every forty of them. In 40 years 90 percent of America would be Christian! This is without outside evangelism. All we'd have to do would be to have children and raise them for Christ.⁸

The question is actually a bit more complicated than that. Some of those children "raised for Christ" might grow up to have other ideas, so some "outside evangelism" might still be necessary. Moreover, those present-day humanists and feminists Pride deplores won't all just die off in 20 years. First they will grow old, and through programs like Social Security and Medicare they will lay claim on Mary Pride's children and their brethren for support in retirement, with perhaps unhappy results.

But this much is sure: The uneducated have far more children than the educated, and the religiously minded generally have bigger families

than do secularists. In the United States, for example, fully 47 percent of people who attend church weekly say that the ideal family size is three or more children, as compared to only 27 percent of those who seldom attend church.⁹ In Utah, where 69 percent of all residents are registered members of the Church of Latter Day Saints, fertility rates are the highest in the nation.¹⁰ Utah annually produces 90 children for every 1000 women of childbearing age. By comparison, Vermont—the only state to send a socialist to Congress and the first to embrace gay marriage—produces only 49.¹¹

The Coming Mutation

Faith is increasingly necessary as a motive to have children. In the modern urban economy, children may provide pride, joy, and companionship, but so do pets, and their cost is much cheaper, particularly if you value your time highly. As we shall see in Chapter 7, the economic burden to parents of raising a typical middle-class child in the United States through age 18 now exceeds one million dollars in direct costs and forgone wages. In today's highly mobile societies, grandparents and other older family members are unlikely to help with child care. At the same time, the economy requires ever higher endowments of human capital, to the point that a professional woman is unlikely to have completed her education before her prime childbearing years are already behind her.

Yet despite their investment, parents receive an ever-diminishing share of the human capital they help to form in the next generation, thanks to programs like Social Security, which redistribute the next generation's income to parents and nonparents alike. Nor, thanks to the spread of education and the mass media, can parents (except perhaps for homeschoolers like Mary Pride) exert much influence over their children's values, as compared with parents in the past. No wonder, then, that the most educated and most materially successful mem-

If evolutionary biologists spotted such a pattern in any other species—say, a colony of penguins in which, for some reason, those males and females best able to feed themselves exhibited high rates of infertility—what would they make of it? They would pronounce that this colony is either on the road to extinction or on the threshold of a dramatic mutation.¹²

If human population does not wither away in the future, it will be because of a mutation of human culture. On our current course, more and more of the world's population will be produced by people who believe they are (or who in fact are) commanded by a higher power to procreate, or who just lack the foresight to avoid the social and economic cost of creating large families. Such a higher power might be God, speaking through Abraham, Jesus, Mohammad, or some latter day saint. Or it might be a totalitarian state. Either way, for better or for worse, such a trend, if sustained, would drive human culture off its current market-driven, individualistic, modernist course, and gradually create an antimarket culture dominated by fundamentalist values.

Seem far-fetched? Not since the fall of the Roman Empire has the world ever experienced anything on the scale of today's loss of fertility. As sociologist Rodney Stark demonstrates in his well-respected book on the rise of Christianity, at that time Christians had marginally higher birthrates than pagans and practiced less infanticide. They also enjoyed better life expectancy, most likely in part because, in tight-knit early Christian communities, those infected by the various plagues of the era were less likely to be abandoned. The resulting demographic advantage, Stark argues, slowly transformed a marginal Jesus movement into the dominant cultural force of the Western world, as Christian communities gradually out-bred and out-lived their pagan counterparts.¹³ Demographic conditions today suggest that a cultural transformation of similar proportions may be in store if secularists increasingly avoid the growing economic cost of raising children, while fundamentalists of all stripes do not.

Unlike in the past, however, today's loss of fertility is not caused by war, famine, plague, or some other passing catastrophe. Indeed, it is in

precisely those areas of the world where life is most safe and prosperous that children are scarcest. Thus, there appears to be no law of nature that limits how much human population may shrink in the future so long as modernity spreads. Within several centuries, if worldwide fertility approaches the levels already seen in most of the developed world, this alone could easily create enough negative population momentum to leave fewer people living on the entire planet than live in the United States today.¹⁴ Yet how long can modernity spread if it fails to reproduce itself?

One does not have to assume a world decimated by bioterrorism or nuclear war to see how drastically global culture may shrink and mature in the twenty-first century. Modernity is not only a major cause of falling fertility, it is a major cause of premature death. In the developing world, for example, death rates for noncommunicable diseases related to Western lifestyle, such as cancers and heart attacks induced by smoking and obesity, are already an even higher source of mortality than infectious diseases such as HIV, malaria, and TB—causing half of all deaths in places such as Mexico, China, and the Middle East.¹⁵ By the year 2020, such diseases of affluence are expected to account for seven out of every ten deaths in lower-income regions. With the spread of global trade and travel, and with the rise of densely populated megacities throughout the developing world, many experts now predict the reemergence of global pandemics on the scale of the plagues of the Middle Ages.¹⁶

Those who reject modernity thus seem to have an evolutionary advantage, whether they are clean-living Mormons, or Muslims who remain committed to comparatively large families, or members of emerging sects and national movements that combine pro-natalism with antimaterialism. The question we must then embrace is, how can the modern economy, the modern welfare state, and modern principles of equality be sustained in a world in which the threat of population loss becomes ever more apparent?

5

People Power

How long will global fertility rates continue to fall? "Please, for at least as long as I'm around," the man in the street may answer. Isn't the world already overpopulated? Wouldn't there be less pressure on natural resources, more room at the beach, fewer screaming tots on planes, less crime, less traffic, less global warming, less war, if only there were not so many human beings?

Slower world population growth certainly offers many benefits, some of which have already been realized. Many economists believe, for example, that falling birthrates made possible the great economic boom that occurred first in Japan, and then in many other Asian nations beginning in the 1960s. As the relative number of children declined, so did the burden of their dependency, thereby freeing up more resources for investment and adult consumption.¹ In East Asia, the working-age population grew nearly four times faster than its dependent population between 1965 and 1990, freeing up a huge reserve of female labor and other social resources that would otherwise have been committed to raising children.²

The general improvement in America's economic performance since the 1970s has also probably been due in part to the era's slowing rate of

Fading Nations

In 1907, William Randolph Hearst's *San Francisco Examiner* published a two-part Sunday supplement which warned that "the Yellow Peril is here." Hearst was hardly alone in his prediction that "Japan May Seize the Pacific Coast."¹ Those who did not fear outright invasion feared being out-bred. "We are threatened with an overproduction of Japanese children," warned the *Literary Digest* a few years later. "First come the men, then the picture brides, then the families. If California is to be preserved for the next generation as a 'white man's country' there must be some movement started that will restrict the Japanese birthrate in California."²

From the late nineteenth century onward, Asia's rapid population growth has struck fear in American hearts and inspired harsh measures, including denying U.S. citizenship to Chinese immigrants beginning in the 1870s, to contain the "Asian hordes." During this period, Asia's population was not only swelling, but was getting younger, with half of the population of Japan being under age 22 by the time of the attacks on Pearl Harbor.³

How different it is today. Fertility rates in Asia have reached such low levels that population loss is inevitable throughout much of the

region. Desperate to preserve the nation's identity, the government of Singapore now has its own official matchmaking service, the Social Development Unit, which sponsors American-style speed dating, in which singles have a series of seven-minute encounters in hopes of finding their soul mate.⁴ In Japan, where the annual number of births has fallen nearly in half since the 1960s, the government allocated nine billion dollars in 2003 for child-care leave, including a special new program that pays dads who take time off to help raise kids.⁵

"Parasite Singles"

Of all nations on earth, Japan today provides the best object lesson on how difficult it is to maintain prosperity once the supply of youth drops beneath a certain tipping point. From reading the popular business press, you would easily get the impression that the bursting of Japan's "bubble economy" in the late 1980s had nothing to do with demographics. Instead, conventional wisdom offers a standard litany of explanation centered on the supposed defects of Japan's political and financial systems. The country's politicians are in the grip of special interest groups. Its bankers are incompetent, or in bed with cronies and producer cartels. Lavish farm subsidies lead to inefficient use of land and extreme housing shortages. All these factors have certainly played a role in Japan's economic decline, but they don't add up to an explanation. After all, Japan is no more ridden with cronyism and special interest group politics than it was in the prosperous 1970s and 1980s. So what changed?

The answer is the structure of Japan's population, which is now among the oldest on earth. In Japan, as in any country, a growing population of young adults has historically been a major source of expanding production and consumer demand. Members of this age group are typically busy acquiring and furnishing new homes and apartments and buying major appliances, as well as spending money

on their children. Any growth in the labor supply comes almost exclusively from members of this age group. Yet between 1980 and 1990, Japan's population aged 25 to 44 declined by 7 percent.⁶ Moreover, an unprecedented share of this age group decided to remain single and continue living with their parents, thereby further depressing consumer demand.

Meanwhile, even as Japan's supply of children and young adults was shrinking, its supply of middle-aged people (45–64) was swelling by a massive 42 percent.⁷ Middle age is a time of life when people typically have the cost of acquiring a home and raising a family largely behind them, and when they start using more and more of their income to save toward retirement, particularly in a thrifty culture like Japan's. So it happened that the combination of a rapidly growing middle-aged population and shrinking supply of youth caused Japan to experience what Yamada Masahiro of the Tokyo Gakugei University has called the world's first "low birth rate recession."⁸

To be sure, government policies and problems in Japan's banking system also played a role in compounding the effects of falling fertility and population aging. But demography alone is enough to explain why today the country suffers from a massively excessive savings rate, anemic consumer demand, and slow economic growth. Moreover, as we will see in Chapter 9, even Japan's reluctance to reform its financial institutions, and its decline as a fount of new technology, may be intrinsically related to the increasing conservatism and risk aversion that comes with an aging population. As Paul Hewitt, deputy commissioner for policy at the U.S. Social Security Administration, concludes:

Herein lies a mortality tale for the rest of the developed world. Between now and 2020, the European Union and, to a lesser extent, the U.S. will see lifecycle effects strikingly similar to those ravaging Japan. To be sure, rigidities in Japan's capital and labor markets make it a special case. But the technology sector blowout exposes our own growing vulnerability to bubbles.⁹

Whether Japan's low-birth-rate recession becomes a low-birth-rate depression, one cannot know for sure, but it is hardly reassuring to learn that fully a third of the Japanese population will be over 60 within a decade. The growth in Japan's elderly population is so explosive that its finance minister, Masajuro Shiokawa, has proposed, in all seriousness, exporting retirees to the Philippines. "Japan is aging and there are so few people to care for them," Shiokawa lamented in the summer of 2003. "There are so many young people in the Philippines."¹⁰

The idea is perhaps not as daft as it seems, given Japan's intolerance for immigration, but it is no panacea. Already, the increasing seniority of the Japanese workforce is undermining the country's industrial competitiveness by raising average wages. Between 1980 and 2000, change in the age structure of the population alone added about \$741 to the annual cost of retaining a male worker, whose average age is now about 10 years older than in the 1980s.¹¹ Nearly all economists agree that by the end of this decade, Japan's savings rate will plunge as Japan becomes a society dominated by elders spending down their nest eggs. Meanwhile, the cost of pensions and health care are likely to be so large that Japan will no longer have sufficient capital left to lend or invest abroad, which could well leave debtor countries like the United States highly vulnerable.

Through the mechanisms of the global financial system, a low-birth-rate depression in one major country could easily create a financial contagion that spreads to every nation, regardless of its demographic profile. Forewarnings of such a scenario came in 1998, when Brazil's overburdened pension system contributed to a panic that roiled financial markets around the world, and in 2002, when Germany's burgeoning budget deficits breached the targets set by European Union policymakers and set off a steep decline in European equity prices. Konrad Adenauer, the Federal Republic's first chancellor, once remarked that Germany would always be able to afford generous unfunded pensions because Germans would always have children. He did not realize, any more than did policymakers in Japan, how dangerous it was to take mothers for granted.¹²

When the Japanese bubble first burst, most Western observers were shocked, and predicted a quick rebound. The country, after all, ex-celled, and still does, in the quality of its workforce and in its technological prowess. While the energy crisis of the 1970s sent the United States and Europe into recession and prolonged stagnation, Japan continued to thrive, despite having no energy resources of its own. Yet those who thought that Japan's industrial efficiency would lead to boundless prosperity could have avoided their error by looking beneath the surface of Japanese family life.

Young Japanese were beginning to assume new social roles. In the middle of the 1970s, surveys showed that almost 80 percent of respondents, male or female, old or young, agreed with views such as "Women would do better to marry," or "Men should work, and women should stay home." By the 1990s, only 40 to 60 percent of Japanese still clung to these attitudes.¹³ Among the young, marriage rates dropped precipitously and a new social type emerged: the *parasaito shinguru*, or "parasite singles," as many Japanese commentators call them.

According to stereotype, a typical *parasaito shinguru* is a young career woman who lives rent free with her parents. Dressed in designer clothes and jewelry, she frequently travels to Europe, New York, or Thailand with girlfriends for shopping or vacation, always staying at the best hotels and resorts. Those who are more sympathetic to such young women say that they avoid marriage because, under Japanese custom, they would become responsible for caring for their husband's aging parents as well as their own.¹⁴ Others note that young Japanese are burdened by high taxes and extraordinary real estate prices that put traditional marriage and family beyond reach. The rigors of the Japanese education system, which drive many parents to enroll their children in expensive cram courses, also raises the economic cost of parenthood, and perhaps erodes its joys as well. Tellingly, among Japanese women with children aged 0-14, only 9 percent report deriving pleasure from child rearing, as compared with 40 to 70 percent in other industrial countries.¹⁵

Still other commentators blame young Japanese men for a loss of self-interest.

cities today: throngs of humanity crammed into tenements or camped out in railroad stations, armies of unemployed youths prowling for work. No wonder most people in China and around the world still believe that overpopulation is the country's biggest problem, and why so many foreign companies believe that China will supply them with an inexhaustible source of low-cost labor. Today, for the first time in its history, even college graduates in China are having trouble getting jobs, which only strengthens China's allure to companies seeking a quality workforce at a reasonable price. Way down Mexico way there's a great sucking sound in the air these days. It is not the sound Ross Perot once warned would be made by U.S. jobs rushing south of the border. It's the sound of Mexican jobs speeding off to China in search of lower wages.

But beneath the surface of ordinary life in China, a more profound truth is unfolding. The consensus among Beijing's population experts is that the average woman in China today bears somewhere between 1.5 and 1.65 children, whereas 2.1 are needed to replace the population. The total fertility rate in some large cities such as Shanghai, Beijing, and Tianjin is among the lowest that has been recorded in a sizeable population (around 1.13).¹⁸ There is still population momentum left over from the days when Chairman Mao Zedong urged citizens to help build the country by making babies, but the momentum is fast fading. China's labor pool (persons aged 15–60) currently is expanding by 12.1 million workers a year. But this rate of increase will slow to 6.2 million a year during the second half of the decade before essentially flattening out during the 2010s and declining rapidly thereafter, according to projections by the State Family Planning Commission of China.¹⁹

Meanwhile, the population of elders will be exploding. By 2040, according to official estimates, 26 percent of China's population will be 60 or older, giving China an age structure similar to Florida's today.²⁰ Increasingly, China is becoming what demographer Xiaochun Qiao calls a "4-2-1" society, in which one child must support two parents and four grandparents.²¹ Chinese writer Lin Ying observes: "Whereas

marriage partners. Whatever the explanation is for the phenomenon of *parasaito shingara*, there is no doubt that it is widespread and rising. In 2001, Japan's Youth Research Institute asked schoolgirls around the world their opinion of the statement "Everyone must get married." Only 12 percent of Japanese schoolgirls agreed. By contrast, 78 percent of American schoolgirls affirmed that marriage is for everyone.¹⁵

Given such circumstances, it is hardly surprising that Japan has among the lowest fertility rates on earth—just 1.4 children per woman.¹⁷ Despite suffering two nuclear attacks and the near total destruction of all its major cities during World War II, Japan was able to rebuild itself into the world's preeminent industrial power by the 1980s. Its subsequent experience shows, however, that national power and prosperity ultimately depend not just on efficient factories, powerful memory chips, and driven office workers, but on the intimate decisions that individual men and women make when they stare into each other's eyes and ask, "Should we make a baby?"

4-2-1 Societies

Since the 1990s, conventional wisdom has shifted from holding up Japan as the world's most ascendant nation to predictions that China will become the new economic powerhouse of the twenty-first century. But once again, those who are shrewd enough to look beyond current industrial trends and examine the conditions of family life know that China is in deep trouble. If current rates of economic growth were to continue, the output of the Chinese economy would indeed rival that of the United States by 2020. But before China can emerge as a true economic powerhouse, it will have to contend with a demographic challenge even more severe than that currently facing Japan.

The reality of China's birth dearth is hard to square with what any casual observer will see on the streets of the country's fast-growing

the now-developed countries first got rich and then got old, China will first get old."²² By contrast, the Asian "tigers"—South Korea, Taiwan, Singapore, and Hong Kong—all had become moderately developed countries before they began to age rapidly.

These projections assume that birthrates will rise by 30 percent in the future, instead of continuing the downward trend now seen nearly everywhere in the world. If China's birthrates remain unchanged, notes Robert Stowe England, a China expert for the Center for Strategic and International Studies in Washington, D.C., China will join the ranks of Japan, Germany, Russia, Italy, and Spain—countries that stand to lose 20–30 percent of their populations over the next 50 years. If the U.S. Central Intelligence Agency is correct in its estimate that China will have 10 to 15 million HIV/AIDS cases by 2010, the loss of population could be greater still.²³

As alluded to in Chapter Two, China also faces a worsening "shortage" of women, or "surplus" of men, if you like. The scarcity of women has already fostered a brisk trade of women sold into marriage or slavery, as well as a flourishing prostitution industry. This in turn has led to a pandemic of venereal disease, including a mounting incidence of HIV/AIDS and chlamydia, which causes infertility in about 8 percent of women who contract it.²⁴ By 2015, assuming just a mild spread of the HIV virus, new AIDS cases in China could erupt at a pace of nearly 100,000 per month, according to estimates by demographer Nicholas Eberstadt.²⁵

In some major provinces, such as Hainan and Guangdong, the surplus of male over female infants exceeds 30 percent.²⁶ By 2020, the number of unattached young men in China could reach 33 million.²⁷ The few other examples in history of societies in which sex ratios became imbalanced in this way—third century Rome, for example, or the American Western frontier in the mid-nineteenth century—tended to be highly volatile and violent.

Though one might think that the social status of women, and of feminine values, would improve when many suitors have to compete

for each bride, the opposite appears to be true. As Rodney Stark has observed, a shortage of women creates a situation in which women are "enclosed in repressive sex roles as men treat them as 'scarce goods.' Conversely, to the extent that females outnumber males . . . women will enjoy relatively greater power and freedom."²⁸

Even if China can manage its surplus of unmarried men, it is still woefully unprepared for the coming wave of elderly. The first problem is a legacy of communism. In the 1950s, Mao established an elaborate employee benefit system as part of what he called the "iron rice bowl." Following the Soviet model, workers in state-owned enterprises received low wages, but generous promises of future pensions and postretirement health care benefits. Unfortunately, as has happened in many capitalist countries as well, no money was put aside to defray the future cost of these promises. As workforces aged or were downsized, huge legacy costs thus emerged.

The government has tried at times to get out of paying the benefits it has promised to laid-off workers and retirees, but it has been met with large-scale protests and riots, most notably in the northern cities of Liaoyang and Daqing in 2002.²⁹ Political stability requires that the government pay these benefits at least in part. Indeed, in response to the riots, Labor Minister Zhang Zuojin in March 2003 promised to expand the number of people covered by the pension system from 100 to 150 million, and to double the number of people with medical insurance.³⁰ Yet even before such expansions in coverage, the debts of the country's social security system, which covers only a fraction of the population, exceeded 145 percent of its gross domestic product.³¹ In other words, the entire labor force would have to commit 100 percent of its output for nearly a year and a half just to pay off the pension debts the country has already accrued, and still the vast majority of the country's citizens would be left with no provision for their own retirement. In comparison, writing off all the bad loans in China's technically insolvent banking system would require "only" 20 percent of the gross domestic product.³²

The fragility of China's banking system heightens its vulnerability to aging. The U.S. is also threatened by a retirement crisis, but at least a substantial portion of Americans have actual savings or are covered by private pension plans that contain actual assets, such as stocks or real estate. In 1997, China took the advice of the World Bank and created individual retirement accounts for younger workers, similar to 401(k)s in the United States—a good idea, except that in practice each worker's account amounts to little more than a bookkeeping entry. Contributions do not go for investments in the real economy, but wind up being spent by local social security bureaus to pay benefits to current retirees. If the population were not aging, the system might work just fine. But with fewer and fewer workers available to support each retiree in the future, it amounts to a Ponzi scheme.

Even if workers try to save on their own for retirement, their investment options are hardly attractive: either invest in an illiquid stock market wracked by scandals, or in an insolvent banking system offering returns below inflation. Since 1997, a fledgling private life insurance industry has emerged, but the average Chinese citizen still has little hope of being able to save enough on his or her own to provide for old age.

Adding enormously to the challenge of China's population aging is the rapid disappearance of the traditional extended Chinese family in which several generations lived under one roof. The massive migration of some 100 million, mostly young people from the interior parts of the country to coastal cities, is leaving behind millions of aging parents. China's social security system never extended to the country's rural population, so most of these elders receive few if any health and pension benefits, let alone formal nursing-home or long-term care. At the same time, the breakup of the extended family often leaves young urban women unable to draw on the help of older relatives in raising their children, making the effective cost of childbearing extremely high.

For now, China's rapidly falling fertility and rapid urbanization is a boon to the economy. With fewer children to feed, clothe, and edu-

cate, there are more resources available for investment and adult consumption. At the same time, when young people move from primitive farms to factories, their productivity rises enormously.

But both trends obviously have their limits as sources of economic growth—and if taken far enough, start working against the prospects for prosperity. Depopulation of the countryside leaves behind masses of dependent elders stranded in dying towns and villages. And although a falling birthrate may at first leave more resources available for adults to enjoy, soon enough there are fewer and fewer productive workers and consumers as well. The world does not have much experience with population aging of the scale or speed China is soon to experience, but the country that comes closest to matching it is Russia, which is hardly reassuring.

Mother Russia's Empty Cradle

The fall of the Soviet empire provides another object lesson on the hazards of population aging. The Soviet system obviously had many faults, including excessive military spending, corruption, and an inefficient command-and-control economy. Still, it is important to remember that the Soviet Union performed well by many measures throughout much of the Cold War. Its economic growth rate from 1950 to 1960, though exaggerated by Soviet propaganda, still rivaled that of the United States. Russians enjoyed a higher life expectancy than Americans into the late 1950s. And of course, the country was capable of pulling off technological marvels. On October 4, 1957, when the Russians launched the first artificial satellite from the Baikonur Cosmodrome in Kazakhstan, Americans were thrown into a panic. *The New York Times* declared that the United States was "in a race for survival." Lyndon B. Johnson, majority leader of the Senate, said, "Soon, they will be dropping bombs on us from space like kids dropping rocks onto cars from freeway overpasses."³³

During this period the Soviets had a high fertility rate compared with many European countries—a fact that Soviet officials cited as an example of the advantages inherent to a socialist society. But during the 1960s, the Russian family began to break apart. The marriage rate dropped by 19 percent, the divorce rate doubled, and the number of Russian babies born each year declined by 34 percent.³⁴ By 1964, Soviet women no longer produced enough children to replace the population.

Fertility rates fell continuously through the 1970s. Concurrently, Soviet society aged and stagnated. The virtual birth strike staged by Soviet women no doubt deeply embarrassed the regime, which was fond of lecturing the rest of the world about the socialist utopia it had created for mothers and children. "Our country's experience in resolving the question concerning motherhood and childhood is of great international significance," proclaimed Nikolay Aleksandrovich Tikhonov, chairman of the Council of Ministers, in a 1979 speech. "It shows that socialism alone is capable of ensuring a happy childhood, lavishing care on mothers and creating all the conditions which make it possible to combine production and public activity with the commitments of motherhood."³⁵

But Soviet women did not agree. It is hard to know what exactly caused the continuing decline in fertility rates during this era. One proximate cause was certainly the stunning rise in abortions. By the 1970s, Russian women had a lifetime average of four abortions.³⁶ Other likely candidates include the large migrations from farms to cities and the acute housing shortages faced by young couples. Also, low fertility around the world is strongly correlated with high rates of educational attainment and workforce participation among women, which the Soviet system had achieved. More subjectively, these were dispiriting years in Soviet life, when real living standards were declining and men were increasingly turning to alcohol. But whatever the reasons, the effects of the birth strike were soon obvious, and deeply threatening to the regime.

In just one decade (1965 to 1975) the percentage of Russians under age 15 dropped from 30 to 23 percent.³⁷ Significantly, the loss of youth

was concentrated in the core of the empire, the Russian Republic. Soviet demographers projected that ethnic Russians would become a minority group by 2000, while Muslims' share of the population would rise from 14 to 25 percent by the turn of the century.³⁸ Alarmed by the trend, Soviet leaders began pronouncing in the late 1970s against loss of morals and the decline of the family. "Our common responsibility for the country's future requires us to strengthen the family, to elevate the prestige of motherhood and to increase the demands made on the parents as to how their children are growing up," announced Politburo ideology chief Andrei Kirilenko at a Kremlin rally in 1979.³⁹

By the early 1980s, with the birthrate continuing to slip, the Soviets launched a host of pro-natalist policies, included partially-paid maternity leave, special housing, tax breaks, and other public benefits for families with three or more children. Women over 55 who had raised five or more children were given special pensions, as well as the usual "Motherhood Medal," awarded to highly fertile women. It was a last-gasp effort to avoid a demographic meltdown, and it did not work. In retrospect, we can see that these policies persuaded many Russian women to have their children earlier, but not to have more children.⁴⁰

With fewer workers in the pipelines, and ever more retirees, the cost of pensions skyrocketed, reaching 6 percent of all budgeted state expenditures by 1986. By 1991, nearly one in five Russians was receiving a pension, with pension levels set between 50 and 100 percent of the recipient's best year of wages.⁴¹ No reserves stood behind these pension obligations, which meant that the system, had it endured, would have put crushing burdens on younger workers. By 1995, there would be only 2.8 workers available to support each retiree, down from 4.96 in 1959.⁴²

Indeed, the demographic pressure on the Soviet system was even more intense than these numbers suggest. As Russian demographer Anatoly G. Vishnevsky points out, the decline in fertility among ethnic Russians was unprecedented in Russian history and deeply destabilizing to its political system. "In the course of many centuries," notes

Vishnevsky, "Russia has typically sent population beyond the limits of historical Russian territory. Centrifugal migration flows were the condition *sine qua non* of the colonization of new regions of the Russian and Soviet empire."¹³

That is for sure. For four centuries, the Russian Empire expanded at an average rate of some 55 square miles per day, fueled by rapid population growth.¹⁴ By 1900, Russian women were still bearing, on average, more than seven children in a lifetime. But by the end of the Soviet era, they averaged just 1.7. As a result, Russia, along with the other Slavic republics, was aging more rapidly than either the Caucasus or Central Asian republics. As demographer Cynthia Buckley has pointed out, this meant the demographic future of the Soviet regime, had it survived, would have been one in which non-Slavic workers (mostly Muslims) would be supporting primarily Slavic pensioners.¹⁵ In other words, the Soviet Union would not only have been divided by deepening ethnic and religious differences, but by generational conflict as well. Population aging did not seal the fate of the Russian people, but it defined the realm of the possible, which did not include sustaining the empire.

Today, a vicious combination of low fertility and diminishing life expectancy within the shrunken boundaries of the Russian Federation has become a huge obstacle to the country's future. As demographer Nicholas Eberstadt has noted, "Russia's health profile no longer remotely resembles that of a developed country."¹⁶ By now Russian men live shorter lives than Indian men did in the 1970s. With deaths exceeding births by well over half, current projections show Russian population will fall by 29 percent by 2050.¹⁷ In order to preserve the current ratio of workers to retirees, Russia would have to either raise the average retirement age to 73, or import 308 million immigrants by 2050, which would leave native Russians a minority group constituting only 27 percent of the population.¹⁸ President Vladimir Putin has spoken about the problem in apocalyptic terms, telling his government "we are facing the serious threat of turning into a decaying nation."¹⁹

Europe's Eclipse

Shortly after World War II, a special commission assembled by Britain's King George VI issued a lengthy report on the implications of Britain's falling birthrates. The commission noted that during the Industrial Revolution, "the proportion of the world's population living in Europe increased considerably," and that this "was accompanied by a more than proportionate increase in the relative importance of European civilization." The commission went on to note that "The increase in population provided both a motive for, and a means to, the development of the modern techniques of production, trade and communications on which present day European standards of living are based, for it provided both an expanding market and an expanding labour supply."²⁰ The Royal Commission strongly encouraged measures to encourage more births as a means of preserving the empire, but by then Britain had lost its demographic momentum, due not only to falling birthrates, but also to its tremendous casualties during two world wars. The collapse of the British Empire came soon afterwards, for the sufficient reason that Britain no longer produced enough people to occupy and rule its teeming colonies.

Today, most European countries have already passed a demographic tipping point that virtually assures not only rapid population aging, but also absolute population decline. In Spain, for example, the cohort now in its infancy (ages 0-4) is more than 42 percent smaller than the cohort now in its prime reproductive years (ages 30-34).²¹ What will happen when this tiny younger generation reaches adulthood? In order to replace all members of the previous generation, each female would have to bear close to four children, as compared to the average 1.15 children produced by their mothers. Since this hardly seems likely without an extraordinary transformation in both cultural values and in the economic cost of children, the native population of Spain is all but fated to decline rapidly throughout at least the first half of this century. Together with Italy, Spain is experiencing the lowest fertility rates ever seen in recorded history.²²

According to demographer Massimo Livi-Bacci, never in the past—not even after the plagues of the 1300s, or the slaughter of the last two world wars—has Europe's ability to renew and sustain its population been more compromised by a dwindling supply of youth.³² The United Nations projects that Europe as a whole will lose 3.2 million in population between 2000 and 2025. In the following ten years, the population will decline by more than 11.3 million. After 2025, population loss continues compounding. Even after assuming a 33 percent increase in fertility rates over today's levels, the UN projects a loss of 28 million Europeans in just the 2040s.³⁴

Already, Europe's population has become so old that it is highly vulnerable to environmental threats that in the past would have been far less lethal. In France, for example, where already 16 percent of the population is over age 65, a heat wave during the summer of 2003 caused a stunning 11,000 deaths. Dehydrated bodies, most of them elderly, overwhelmed morgues and the country's deficit-ridden health care system, forcing a soul-searching national debate over what had happened. Some critics blamed families for leaving elderly relatives alone at home while they took August vacations; others blamed France's 35-hour workweek for causing a shortage of health care personnel. "These dramas again shed light on the solitude of many of our aged or handicapped citizens," said President Jacques Chirac.³⁵ They also shed light on the future of aging societies, in which a working-age population must devote more and more resources to care for the increasing number of frail elders.

If European fertility rates remain unchanged, the only European countries that will avoid population loss by 2050, according to UN projections, are France, the United Kingdom, Ireland, and Luxembourg, and even these countries will face rapidly aging populations. Without an increase in its fertility rate, France's working-age population (15–64) will decline by more than 9 percent by 2050, while its elderly population will increase by 79 percent.³⁶

The financial implications are staggering. In Europe there are currently 100 million people of working

age. By 2050, on present demographic trends, there will be 75 pensioners for every 100 workers. In Spain and Italy the ratio of pensioners to workers is projected to be one to one. Since in most major European countries pensions are financed out of current revenues, tax rates will have to soar if benefits are not cut. The Deutsche Bank calculates that average earners in Germany are already paying around 29 percent of their wages into the state pension pot, while the figure in Italy is close to 33 percent.³⁷

The social implications are also staggering. By mid-century, if current trends continue, Europe will be a society in which most adults have few biological relatives. In Italy, almost three-fifths of the nation's children will have no siblings, cousins, aunts, or uncles—only parents, grandparents, and perhaps great-grandparents.³⁸ Even among immigrants, families with more than one child are becoming increasingly rare throughout Europe. Among foreign-born women living in Germany, for example, the total fertility rate had dropped to just 1.51 children by 1996, as compared to 1.39 among the native born.³⁹

Leading minds in Europe today believe that the Continent's salvation from population aging and decline depends in large measure on attracting more women into the workforce. An extraordinary European Council meeting in 2000 adopted a ten-year plan that calls on Greece and Italy, for example, to increase their percentage of working women from 40 to 60 percent.⁴⁰ But what would such a shift mean for future fertility rates?

Among Western European countries it is true that those in which large numbers of women are in the workforce, such as Sweden, currently have higher fertility rates than those in which gender roles are more traditional, such as Italy. Even among conservative politicians, this reality has prompted the thought that, as Britain's shadow secretary of state for work and pensions, David Willetts, has proclaimed, "feminism is the new natalism."⁴¹ Build more day care centers, offer more generous maternity leave, create more part-time jobs, and otherwise make it easier for both men and women to combine work and

However, there are good reasons to be skeptical. Through generous pro-natalist policies (tax write-offs for parents, paid parental leave, and state-sponsored day care), Sweden, for example, did manage in the 1980s to move its fertility rate barely up to replacement levels. But during the 1990s fertility fell dramatically, to just 1.54 children per woman by 2000.⁶² At the same time, marriage became rare in Sweden, with the annual number of marriages dropping from 109,000 in 1989 to just 39,895 in 2000.⁶³ Meanwhile, as in other Scandinavian countries, the rate of illegitimacy soared, to the point that, by 1995, more than half of all Swedish children were being born out of wedlock.⁶⁴ Indeed, if there is any single reason why the more traditional Catholic countries of southern Europe have lower fertility rates than the Scandinavian northland, it is probably because in countries like Spain and Italy, being a single mom still carries significant stigma. In Italy, only 8 percent of children are born out of wedlock.⁶⁵

Achieving higher rates of fertility and higher rates of female workforce participation would indeed be a great boon for Europe's aging economy, especially if it did not lead to large increases in the numbers of children being raised by single parents. But is this vision really obtainable? As Richard Jackson of the Center for Strategic and International Studies notes, "Even as more women go to work, they are expected to have more babies."⁶⁶ Nor has the European Commission considered how much the female labor force participation rate would push up budgets for long-term elder care, most of which, in Europe as elsewhere, is today provided informally and for free by women.

Even after assuming no further significant declines in birthrates, the United Nations projects that the population of Sweden, which currently is the fifth oldest of any nation, may shrink by as much as 13 percent between 2000 and 2050.⁶⁷ Realizing its peril, Sweden, unlike most other Western European countries, has courageously scheduled significant future cuts in its public pension system and added a supplementary system of mandatory and funded individual retirement accounts. Imitating Sweden's once-generous cradle-to-grave welfare

Europe does still have a considerable labor supply it could tap, at least theoretically, to help close its deficit of young people. Across Europe, only 39 percent of men aged 55 to 65 still work, according to the Organization for Economic Cooperation and Development. These early retirees are beneficiaries of extremely generous pension and disability systems that were designed to ease older workers out of the workforce to make room for the young. Now, not only are these early retirees living far longer than expected, but also the supply of younger workers is shrinking. Raising retirement ages would seem the obvious reform.

Yet in large measure because of the high taxes required to pay for the pensions of those already retired, the youth unemployment rate in many European countries is in the double digits, and in nations where the populations are the oldest, such as Greece, Spain, Belgium, and Italy, more than a fifth of all younger workers are unemployed. Thus, even though raising retirement ages might seem like an obvious countermeasure to population aging, it is not necessarily achievable politically. In both France and Italy, proposed pension reforms caused governments to fall during the 1990s, and with each passing year a higher proportion of the voting population is receiving a pension. In the summer of 2003, after weeks of strikes and street protests, France did at last manage to pass a modest pension reform, but it funds only a third of its likely pension deficit through 2020.⁶⁸

The former Communist countries of Europe at least have the advantage that their old pension schemes have already collapsed, allowing for some significant pension reforms. But a combination of dwindling fertility rates and comparatively little ability to attract new immigrants (or prevent emigrants) means that population throughout many former Warsaw Pact nations is already falling. Among the least fertile nations on earth are Armenia, where the average woman gives birth to 1.02 children; the Czech Republic, with a total fertility rate of 1.11; and Slovakia, Latvia, and Slovenia, which each have a fertility rate of 1.2. Latvia's rate of native population growth has already

number of births in Poland was just half what it had been in 1983, and it was no longer sufficient to offset the decline in population caused by death and emigration.⁵⁹

Some voices on the Left in Europe have imagined that population aging and decline will actually work to empower workers. In an article for the *New Statesman*, Anthony Browne predicts that

A declining population—and this is why businesses fear it—will involve a gradual but significant redistribution of power from the owners of capital to the owners of labor. A declining workforce puts those who work in a far stronger position—and for those marginalized in the workforce, it can have a very dramatic effect. Companies will be forced to train the unskilled, provide family-friendly policies to retain women and to entice the elderly to stay on rather than forcing them out. People who own properties will have to rent them out at lower rates, while those who rent can choose bigger places to live.⁶⁰

These are pleasant thoughts, but they do not bear scrutiny. If they did, younger workers, particularly in rapidly aging countries like Germany, Japan, Italy, and Spain, would be enjoying rising real wages and falling unemployment, instead of being mired in a generational depression. European labor movements would be successfully pushing to expand the welfare state instead of fighting rearguard street actions against cuts in both social benefits and labor protections demanded by socialist governments.

In the abstract, gradual population decline may seem a pleasing prospect, until one remembers that it is inevitably accompanied by rapid population aging. To meet the swelling cost of supporting a growing population of older voters, governments must either raise taxes on the young, or cut their current and future benefits, or both. Meanwhile, businesses have many ways to respond to a shrinking domestic labor supply short of raising wages, all of which are abundantly in evidence

across Europe today. Faced with a shrinking or slow-growing domestic market, businesses may cut investment plans. Or they may respond with automation, or by shifting to foreign labor, either by moving jobs overseas or pressing their home government to allow more immigration. Under all these scenarios, workers in an aging society are more likely to lose their jobs than to be able to make a striking blow against capitalism.

Then, too, Europe doesn't face the prospect of gradual population decline; it faces the prospect of rapid and compounding loss of population unless birthrates soon turn upward. Like population growth, population decline operates on a geometric curve that compounds with each generation. If Europe's current fertility rate of around 1.5 births per woman persists until 2020, this will result in 88 million fewer Europeans by the end of the century.⁶¹ To adopt a somewhat poignant metaphor: If Europe were a woman, her biological clock would be rapidly running down. It is not too late to adopt more children, but they won't look like her.

Japan, China, Russia, and the European nations have all experienced a succession of violent societal upheavals in the twentieth century, ranging from war and famine to brutal social engineering. Yet the ultimate force behind their undoing is now present in virtually every nation: the persistent fall of fertility rates and rapid population aging that comes with a breakdown in family life.