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Commentary

Our Vanishing Ultimate Resource

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In Kamikatsu, on the Japanese island of Shikoku, officials have set up an agricultural cooperative whose members log on to computers daily to check the fluctuating prices of the produce that they grow. Then they go out and pick whatever is fetching the best price that day. Unusual, yes, but what's truly surprising about this cooperative is the average age of its members: 70. In a country where lots of folks retire at 60, Kamikatsu's residents are working well into their senior years--and they're doing so not only to buoy retirement earnings but also to energize the local economy. With nearly half of the town's residents 65 and older, the government realized that there simply wasn't enough of a traditional workforce available to build or staff most typical industries.

Kamikatsu shows in microcosm what Japan and several other nations now face--and what others soon will. For decades demographers and economists have watched the world's fertility rate plunge as countries grew wealthier and more urban. These days fertility rates in much of the industrialized world are far below replacement levels--that is, the number of kids that parents must have to replace themselves and adults who remain childless. Though the steepest declines happened first in wealthy countries like Japan, Italy, Germany and Spain, even many developing countries have seen their fertility rates head downward.

The demographic shift brings extraordinary new challenges. Economists are increasingly recognizing that the struggles of places like Japan and Italy to extricate themselves from economic slumps that began in the 1990s result in part from extreme "birth dearths" that have shrunk labor pools, dried up consumer spending and made businesses staffed by older employees more risk-averse. Decades of government efforts to reverse birth dearth have largely proved fruitless.

Yet one industrialized country resists the trend: America. True, the American fertility rate has also fallen in recent decades. But it has surged of late and now stands at population-replacement level, about 2.07 children per woman. That reality has led to projections of vigorous U.S. economic growth in the next half-century. What's behind the relative fecundity? A good guess is American-style free-market capitalism, which (despite recent economic woes) encourages long-term optimism, taxes less of parents' income and affords them easier mobility into and out of the job market than they'd find in more regulated economies.

News of a population bust might come as a surprise to many Americans. More than two centuries after English scholar Thomas Malthus argued that population growth exceeded the earth's ability to feed us--"The power of population is indefinitely greater than the power in the earth to produce subsistence for man," he wrote--the media continue to warn us about impending environmental catastrophe and mass starvation caused by an exploding human population. These Malthusian alarms persist even though the last 200 years have proved Malthus completely wrong. As the world's population shot up, starting around the time of the Industrial Revolution, worldwide standards of living rose in tandem. People proved far more resourceful in expanding food production, tapping new veins of natural resources and inventing technologies to accommodate a growing population than Malthus dreamed possible. When mass deprivation *has* occurred in modern times, it has invariably resulted from political tyranny and social chaos, not from an inability to derive enough resources from the earth.

Even as modern societies became more productive, something else happened that contemporary Malthusians have ignored: fertility rates began declining. In England the number fell from an average of nearly six children per woman in 1775 to 3.35 in 1875 to 1.96 today. In Germany the rate slumped from more than five children per woman in 1850 (earlier data aren't available) to 1.4 today; in Italy, from nearly five children in 1850 to 1.3 today.

The trend long went unnoticed because rising life expectancy kept populations expanding. But by the 1960s and 1970s more and more countries started seeing their birthrates sink beneath replacement levels. Today women in more than 60 countries, ranging from Austria, Canada and Poland to Japan, Singapore and South Korea, don't bear enough children to keep the population growing. In a handful of countries women average just one child over a lifetime, less than half the replacement rate. The fertility drop in many less developed countries hasn't dipped below replacement levels yet, but it's heading there fast. Over the last few decades Mexico's rate went from nearly seven children per woman to 2.3; Egypt's, from just under seven to 2.72; and India's, from nearly six to about 2.7.

What's behind the dwindling births? The chief factor is urbanization. Starting in the Industrial Revolution households began migrating from rural areas, where Johnny and Sally could work on the family farm to help make ends meet, to cities, where the modern economy made kids a financial burden, requiring them to spend more and more years in school to become employable. Nowadays it costs between $170,000 and $300,000 to raise a child through high school in the U.S. or Europe. And as urbanization has proceeded rapidly in many less developed countries--some 50% of the world's population now live in cities--fertility rates are collapsing everywhere. Also putting downward pressure on fertility rates is women's desire to work, which has delayed childbearing and thus narrowed their "fertility window."

The resulting population dive will be breathtaking. Japan's population, projections say, will decline by about 21% over the next four decades. South Korea's population, which swelled by two-thirds over the last 40 years, is estimated to shrink by nearly 10% in the next 40. Europe's population will peak in about five years and contract by between 6 and 16% by 2050, led by big declines in Germany (down 14%), Italy (6%), Poland (16%) and Russia (22%).

Plunging birth rates will significantly slow population growth in many less developed countries as well. Mexico, which more than doubled, to 110 million people, over the last 40 years, could see flat population growth in the next 40. Thailand's population, which has grown by two-thirds since 1970, will probably increase by no more than 6% by 2050.

Demographers are scrambling to adjust their population projections, with little notice in the press. In the early 1990s United Nations researchers projected that the world's population would reach a maximum of 10 to 12 billion people (up from about 6.7 billion today). They subsequently scaled back that projection to 9.5 billion and then to about 9.1--adding, however, that it might be as low as 7.9. But the truth is that no one knows how this massive reversal will end. The U.N. demographers optimistically claim that the world's fertility rate, currently at 2.6 children per woman, will decline to replacement level and then stabilize. But there's no clear reason for that to happen; dozens of countries have seen their rates sink far lower. In his book *Fewer* Ben Wattenberg estimates that if the rate were to stop at 1.85 births per woman, the world's population could shrink to 2.3 billion by the year 2300.

Shrinking fertility rates are producing rapidly graying societies. More than 20%of Japan's population, for instance, is now 65 or older, and by 2050 that figure will rise to an astonishing 40%. Germany's over-65 population has increased from 15% in 1980 to 20% today and is expected to reach one-third of the population by 2050. The less developed countries are again following the pattern. China's 65-and-over population will rise from 8% today to nearly a quarter of the country by 2050. Mexico's will increase from 7% to 22%. In fact, say demographers, we're seeing something unprecedented in less developed countries: populations getting old before they get rich. Places like Iran and North Korea, where fertility rates have nose-dived below replacement levels, are aging even before they develop modern institutions to participate in the global economy.

Since economic growth depends strongly on an expanding population--something poorly understood until recently--aging countries' economies face serious problems. As late as the 1960s Malthus-influenced neoclassical economists believed that population growth reduced a society's standard of living by dividing up the same "pie" into smaller and smaller slices. Economists have gradually come to understand, however, that in industrialized countries, population growth spurs productivity growth. This is partly because economies of scale and specialization of labor boost output per worker. Studies have found that an industrialized country whose population doubles can expect per-worker output to increase by 20%. Fertility decline may initially boost economic performance in less developed countries because having fewer children frees up resources but over time the effects of a shrinking population will prevail everywhere.

Further, economists have recognized that what's essential to wealth creation is human creativity, not natural resources. Famously disputing the neo-Malthusian warnings of Paul Ehrlich, author of the 1968 best-seller *The Population Bomb*, economist Julian Simon called people the "ultimate resource." Human beings, he observed, discovered how to convert oil, coal and uranium, which had sat worthless in the earth for eons, into energy. "The most important economic effect of population size is the contribution of additional people to our stock of useful knowledge," Simon noted. A growing population streams young workers into the labor market, and they are usually the most daring, entrepreneurial and even knowledgeable and inventive (successive generations of workers in industrial countries have typically been more educated than their predecessors). "Those who fear overpopulation share a simple insight: People use resources," Harvard economist Greg Mankiw wrote in 1998, summing up the argument. "The rebuttal to this argument is equally simple: People create resources."

Japan shows what happens when a country begins losing its ultimate resource. The country's economic misfortunes, which began in the early 1990s after decades of post-World War II growth and have persisted with little relief, often get blamed on the bursting of the country's real-estate bubble, government support of banks laden with bad loans, and a highly regulated and uncompetitive domestic economy. But as years went by and the Japanese economy failed to cycle out of its downturn, observers gradually realized that something even deeper afflicted it: not enough people. Japan was stuck in "the world's first low-birth recession," in the words of sociologist Yamada Masahiro.

The size of Japan's workforce population peaked in the mid-1990s; since then, it has been shrinking--and aging. At Matsushita Electric Industrial, now Panasonic, for example, the age of an average worker increased from 31 in 1980 to 41 in 2002. This graying has caused a significant slump in Japan's once-vaunted productivity. Older workers' experience can be valuable, but they tend to be less productive than their younger counterparts because they generally work fewer hours, are more costly to employ (since their seniority-based wages are higher) and aren't as adaptable or as up-to-date technologically. Japanese productivity (as measured by worker output per hour), once the envy of the industrialized world, is now just 70% of America's and below the average of the 32 countries that make up the Organization for Economic Co-operation and Development (OECD).

As aging Japanese workers poured ever more of their earnings into retirement accounts, consumer spending suffered. Between 1990 and 2000 average Japanese household spending actually shrank, once adjusted for inflation. While savings can lift an economy by providing more capital for business investment, Japanese producers viewed the increasing savings and the falling consumption as a sign of population stagnation, and they stopped investing at home, instead expanding in overseas markets like the U.S.

Japan's economic doldrums seem semipermanent. Japan's economy grew by a paltry 10% in the 1990s, or less than 1% a year, after averaging inflation-adjusted gains of 40 to 50% per decade during the 1970s and 1980s. After a brief growth spurt from 2004 through 2007 Japan's economy has again contracted, is smaller today than it was a decade ago and "will contract in size from now on," Japanese economist Akihiko Matsutani predicts.

Italy is another country where a rapidly falling birthrate has helped undermine prosperity. Like most industrialized countries Italy enjoyed a brief postwar baby boom, with its population increasing by 15% from 1950 to 1970. Despite occasional political turmoil and the stereotype of Italians as desultory workers, the economy ignited in the mid-1970s just as the first members of this baby boom were entering their adult years, and grew fourfold between 1975 and 1990. In 1987 the country celebrated the *sorpasso*, its economy's surpassing of the U.K.'s in size. But the celebration was short-lived, for the early 1970s were also the beginning of a steep and persistent drop in the Italian fertility rate, which declined by 50% in just 20 years, to 1.2 births per woman by 1990.

Not coincidentally the '90s saw Italy fall into a long economic funk. The birth dearth cut into Italy's working-age population and severe labor shortages ensued. When Franco Tosi, a manufacturing company, tried opening an auto-parts operation in Legnano in northern Italy in 2001, it couldn't find enough workers to staff the 1,500-person effort, even though the economy had been drifting for several years, and huge crates of supplies sat unopened. Italian officials estimated that the country faced a labor shortage of 100,000 to 160,000 workers throughout its northern industrial region.

A social-security crisis also looms, presaging similar problems in other industrialized countries. A full 22% of Italy's population is now on a pension, one of the highest rates in the world, and the country devotes 15 percent of its gross domestic product to pensions--more than any European nation. Retirement not only robs the workforce of needed laborers but also depresses household consumption because retirees almost invariably spend less than workers do. In Italy, the average adult 35 or younger spends the equivalent of $2,813 per month on living expenses; an adult 65 or older spends only $1,924. The situation will only worsen: by 2020, Italy will have just two working adults for every retiree.

The economic impact of fertility decline is most noticeable in Japan and Italy, but other countries are feeling it, too. Sweden was one of the first wealthy nations to see births fall below replacement level, where they've stayed for four decades except for a brief resurgence in the early '90s. As Sweden's population has aged--18% of Swedes today are over 65 and retired, compared with 14% in 1970--the country's economic performance has languished, with its once-formidable growth rate falling well below the OECD average over the last two decades. Entrepreneurialism--which is highest among workers aged 25 to 34, studies show--has especially suffered: Only one of Sweden's 50 largest companies was created after 1970; the country now has the lowest self-employment rate in the OECD; and the number of entrepreneurs has declined by almost 9% since 1995, notes Johan Norberg, a senior fellow at the Cato Institute.

Faced with the inescapable math of fertility decline, many countries have tried to address its economic consequences. The most common policy change has been to reduce the size of the welfare state, especially through adjustments to pension systems, which aren't sustainable as the ratio of workers to pensioners declines. The European trend until recently was for workers to retire earlier and earlier, even as life expectancy grew. The labor-force participation rate of people aged 55 to 64 in the European Union is just 48%, compared with 64% in the U.S. Countries with some of the gravest population problems also have the lowest rates of participation. In Italy, for instance, only 36% of 55- to 64-year-olds are in the labor force.

Austria, France, Germany and Italy are among the countries that have already pushed back their average retirement ages and cut benefits for early retirees. Sweden has gone further, revamping its pension system to resemble the partly privatized Chilean model, which bases a worker's retirement income on the contributions he makes to his pension account over a lifetime. French and Italian workers initially fought some of these changes but eventually accepted them: The reality of fertility decline and aging populations has become unavoidable in Europe. Demographer Paul Hewitt has even argued that it heralds "the end of the postwar welfare state."

Unfortunately getting people to work longer won't solve countries' fertility-related economic difficulties, even if it will have a modest impact on pension spending. The Japanese, for instance, already boast a nearly 70% labor-force participation rate for those aged 55 to 64. But because of the country's extreme birth dearth, by mid-century the average Japanese would need to work until age 83 to keep a constant ratio of workers to retirees. Europeans would need to work until their late seventies.

That's why some nations have also sought to lift fertility levels through natalist policies. After France's population stopped growing in the 1930s, the country introduced the first such program--regional associations that promoted traditional family values--and the Vichy government kept the effort going, even under Nazi occupation. The worldwide fertility decline that began in the 1970s sparked new natalist experiments. Sweden introduced paid parental leave of one year in 1980 and then extended it to 15 months in 1989. Austria offered year-long maternal leave, paying a woman up to 40% of her working earnings. Other governments have tried tax credits and even direct payments to parents.

At best these policies have had only a short-term, marginal effect on fertility rates. Sweden's fertility rate bounced back after the country introduced its aggressive natalist policies, rising from 1.65 in 1984 to 2.1 in 1991. But the rate then slumped rapidly, falling to 1.5 by the decade's end. Norway, which introduced similar policies, saw its fertility rate stay almost flat over a 20-year period. Austria's rate never rose in response to its policies and currently hovers at 1.4. The problem, many observers believe, is that countries can't afford to offer sufficient benefits to get families to have more babies. "One might say that $1,000 a year is not anywhere near enough to raise a child," writes Wattenberg. "How about $10,000? Or a million dollars? Sooner or later it would work; too bad there is not that kind of money around."

Increased immigration doesn't seem to be the answer. For starters, immigration has a very small impact on long-term population trends, even in countries with relatively high levels of migration. In a recent National Bureau of Economic Research study, four economists estimated that immigration over the last 40 years in Austria, whose population is 10% foreign-born, has added less than 1 percentage point to the share of the population that is working-age. Many immigrants, it turns out, quickly adopt the fertility patterns of their new country.

There are exceptions, such as France, where North African Muslim immigrants have retained high fertility rates. A study of birthrates among the French in the 1990s found that immigrant women from Morocco, Tunisia and other North African countries had a fertility rate of nearly three. But the unemployment rate among the foreign-born in France is twice the rate of native-born French (by contrast, in the U.S. the foreign-born unemployment rate is roughly the same as the native-born rate). Nor have the children of the foreign-born in France proved successful at integrating into the French economy. In many North African neighborhoods in France, 30 to 40% of 15- to 24-year-olds are unemployed.

Seeking solutions, a few policy experts have begun looking more closely at the U.S. After a big drop in the mid-1970s America's fertility rate bounced back and has remained relatively stable, near replacement level--a 30-year-plus pattern that astounds European observers. For a time demographers explained the difference between the U.S. and other industrialized countries by observing that America's population was more diverse, with more recent immigrants who had more children. But fertility levels among native-born white Americans also remain higher than among native-born Europeans, and the U.S.'s overall fertility outpaces that of other countries with a high percentage of foreign-born residents.

Demographers have also speculated that the higher fertility rate is a function of America's being a more religious country, reasoning that those who engage in organized religious activity favor larger families. One survey found 46% of Americans attending religious services regularly, compared with just 4% of Japanese, 7% of Swedes and 16% of Germans. Yet fertility rates have remained stable in the U.S. even as they have plummeted in religious fundamentalist countries like Iran and Jordan, as well as in developing countries like Mexico, where rates of religious attendance remain higher than in America.

Faced with these contradictions, some scholars are now positing the distinctive nature of the U.S. economy and its labor market as a principal reason why Americans are having so many kids. "In general, women (and couples) are deterred from having children when the economic cost--in the form of lower lifetime wages--is too high," wrote economists Francesco Billari, José Antonio Ortega, and Hans-Peter Kohler in a 2006 study. "Compared to other high-income countries, this cost is diminished by an American labor market that allows more flexible work hours and makes it easier to leave and then reenter the labor force."

In Japan and many European countries with low fertility rates, government policies and cultural pressures on businesses make it difficult and expensive to lay off workers, instead promoting virtual guarantees of lifetime employment and early retirement. That, in turn, makes it harder to rehire those who have taken a break from work. Women are left with a difficult choice: either work full-time continuously and remain childless, or take time off to raise children and derail future employment opportunities. In Japan 70% of women who leave the workforce to have a child never return. In low-fertility countries like Italy, Spain and Greece, 40 to 50% of women are no longer working by 50. Over 70% of American women are still in the workforce at that age. In America employers and workers have also proved far more innovative in designing work schemes that afford parents better reentry into the job market, including flex-time arrangements. One study found that in over 30% of families in America in which both parents work, one parent is not working the traditional nine-to-five schedule.

Some countries have tried to compensate for rigid labor markets by enforcing parental-leave policies that require companies to rehire mothers (and occasionally fathers) who've taken time off to have a child and by providing parents with state-subsidized child care when their leave expires. But while such policies do encourage women to work, they're enormously expensive and hurt economic growth. Norway spends an astonishing 2.7% of its gross domestic product on subsidized day care. Partly as a result, Norway and other Northern European countries with aggressive natalist policies are among the most heavily taxed in the developed world. Levies on the average worker amount to 44% of earnings in Norway and 48% in Sweden, compared with 29% in America. And high taxes put downward pressure on fertility by diminishing the disposable earnings that couples might choose to spend on child rearing. One study of Europe's plush pension systems, which require payroll taxes of up to 20% of earnings in some countries, found that the most expensive plans have probably diminished fertility rates by up to 1.6 children per couple.

The result of these disparities is a dramatically different demographic and economic future for the U.S. than for the rest of the industrialized world. While other developed countries shrink and age, America's population will grow by one-third through 2050, projections say. The working-age population in America will expand by some 45 million people even as it contracts by 100 million people in Europe and by 10 million in Japan. The economic boon to the U.S. could be significant: Population growth has accounted for one-half to two-thirds of annual GDP growth in the industrialized world since World War II, according to Hewitt. By contrast, a shrinking population will cut Japanese and European economic growth by an average of nearly 1% annually by 2020, economists estimate. Shifting demographic patterns could also sharpen the American edge in innovation and entrepreneurship, as the pools of highly educated workers shrink in Europe and Japan and population growth shifts to areas of the world where education levels don't match America's.

There are a few worrying trends. The massive debt that the U.S. has piled up during the current economic crisis and the lavish new entitlement programs that Washington is considering could drive taxes much higher, depressing economic growth and potentially sending fertility rates tumbling. And a disturbing fact embedded in our high birthrate is that 35% of all American children are now born to single mothers--and the percentage is growing. Extensive research shows that children raised in single-parent households don't do as well in a range of areas, from school to work, and any sizable decrease in academic achievement or work-participation rates would erode the advantages of a growing working-age population.

Nevertheless the U.S. faces a far less challenging task in maintaining its demographic balance in coming decades than most countries do. And the likely benefits of that stability will far outweigh many of the short-term economic concerns currently dominating headlines.

Steven Malanga is the senior editor of City Journal and a senior fellow at the Manhattan Institute. He is the author of The New New Left. Adapted from the Winter issue of City Journal.

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