A Geriatric Peace?

The Future of U.S. Power in a World of Aging Populations

Mark L. Haas

In coming decades, the most powerful states in the international system will face a challenge unlike any other experienced in the history of great power politics: significant aging of their populations. Due to steep declines in birthrates over the last century and substantial increases in life expectancies, all of the current great powers are growing older—in most cases at a substantial rate and extent.[1] By 2050 at least 15 percent of the citizens in these states will be over 65.[2] In Japan more than one out of every three people will be over this age. China alone in 2050 will have more than 329 million people over 65, which is equal to the entire current populations of France, Germany, Japan, and the United Kingdom combined.[3] As social aging progresses over the next half century, the populations in Germany, Japan, and Russia are expected to shrink significantly. Russia's population is already decreasing by nearly 700,000 people per year, and Japan, too, is currently experiencing absolute population decline.[4] Russia's aging problem is so severe that President Vladimir Putin asserted in 2006 that demography is "Russia's most acute problem today."[5] Global aging has key ramifications for the future of international relations. This article concentrates on the effects of this variable for the future of U.S. security.

Global population aging will influence U.S. foreign policies in five major

Mark L. Haas is Assistant Professor of Political Science at Duquesne University.

For their helpful comments on previous drafts of this article, the author thanks Clifford Bob, Stephen Brooks, Jacques Hymans, Paul Staniland, William Wohlforth, and *International Security*'s anonymous reviewers. The author is also grateful for a Presidential Fellowship from Duquesne University, which aided in the completion of this article.

1. The eight states I consider to be great powers, based on a combination of current and potential military and economic power, are China, France, Germany, India, Japan, Russia, the United Kingdom, and the United States.
2. United Nations, *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel?2, select variant: medium. Throughout the article, I use the medium variant of UN population projections to avoid what some might consider overly optimistic or pessimistic assumptions. Even the medium variant, however, anticipates a significant increase in fertility rates in states that currently have very low numbers in this area.
3. Ibid.
4. Ibid.; and Norimitsu Onishi, "Japan's Population Fell This Year, Sooner Than Expected," *New York Times*, December 24, 2005.
5. Quoted in C.J. Chivers, "Putin Urges Plan to Reverse Slide in the Birthrate," *New York Times*, May 11, 2006.

International Security, Vol. 32, No. 1 (Summer 2007), pp. 112–147

ways in coming decades. First, this phenomenon will be a potent force for the continuation of U.S. power dominance, both economic and military. Aging populations are likely to result in the slowdown of states' economic growth at the same time that governments face substantial pressure to pay for massive new expenditures for elderly care. This double economic dilemma will create such an austere fiscal environment that the other great powers will lack the resources necessary to overtake the United States' huge power lead. Investments designed to improve overall economic growth and purchases of military weaponry will be crowded out. Compounding these difficulties, although the United States is growing older, it is doing so to a lesser extent and less quickly than all the other great powers. Consequently, the economic and fiscal costs for the United States created by social aging (although staggering, especially for health care) will be significantly lower for it than for potential competitors. Global aging is therefore not only likely to extend U.S. hegemony (because the other major powers will lack the resources necessary to overtake the United States' economic and military power lead), but deepen it as these others states are likely to fall even farther behind the United States. Thus despite much recent discussion in the international relations literature and some policymaking circles about the likelihood of China (and to a lesser extent the European Union) balancing U.S. power in coming decades, the realities of social aging and its economic and military effects make such an outcome unlikely.[6]

Second, global aging increases the likelihood of continued peaceful relations between the United States and the other great powers. Studies have shown that the probability of international conflict grows when either the dominant country anticipates a power transition in favor of a rising state or states, or when such a transition actually takes place.[7] By adding substantial support to the continuation of U.S. hegemony, global aging works against either outcome from transpiring. An aging world therefore decreases the probability that either hot or cold wars will develop between the United States and the other great powers.

6. On this debate, see Stephen M. Walt, *Taming American Power: The Global Response to U.S. Primacy* (New York: W.W. Norton, 2005). I am referring to traditional "hard" balancing, which involves direct military power and threats, not "soft" balancing, which includes such actions as withholding cooperation from the hegemon, attempting to restrict the hegemon's freedom of action through entangling diplomacy in prominent international organizations, and economically aiding the hegemon's potential enemies. On this debate, see Robert A. Pape, "Soft Balancing against the United States," *International Security*, Vol. 30, No. 1 (Summer 2005), pp. 7–45.
7. Dale C. Copeland, *The Origins of Major War* (Ithaca, N.Y.: Cambridge University Press, 2000); and Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press, 1981).

Third, the effects of global aging will likely increase the United States' unilateral foreign policy tendencies. The aging problem in the other great powers is so severe that these states will have tremendous difficulty maintaining the extent of their international commitments. Consequently, when the United States engages in major international undertakings in the future, the other major actors in the system will be able to offer less help than they can today.

Fourth, although the United States is in better demographic shape than the other great powers, it, too, will confront massive new costs created by its own aging population. As a result, it will most likely be unable to maintain its current international position. Thus while the United States will be even more secure from great power rivalry than it is today, it (and its allies) will be less able to realize other key international objectives, including preventing the proliferation of weapons of mass destruction (WMD), funding nation building, engaging in military humanitarian interventions, and mitigating the effects of local security problems. Global aging, in short, is likely to result in a great power "geriatric peace," but this same phenomenon may threaten other important U.S. international interests, including by facilitating international conflict in non-great power relations.

Fifth, as the costs created by the United States' aging population grow, the saliency of neo-isolationist or "offshore balancing" grand strategies is likely to increase.[8] In a time of fiscal austerity brought on by social aging, these strategies are likely to become more compelling because they mesh with the need to reduce spending. An aging world therefore increases the likelihood that the United States will withdraw from the international system even more than budget constraints dictate.

Despite the great significance of global aging for the future of international politics in general and U.S. security in particular, little systematic analysis in the international relations literature has been dedicated to this subject. Most prominent analyses of great power politics and the balancing debate with regard to U.S. power, for example, either do not mention this issue or do so only in passing.[9] More generally, scholars have long recognized the importance of population to states' economic and military power, but no study analyzes in a comprehensive manner the effects of social aging on these relationships (until recently, significant population aging was not considered a likely outcome).

8. See Christopher Layne, "Offshore Balancing Revisited," *Washington Quarterly,* Vol. 25, No. 2 (Spring 2002), pp. 233–248.
9. For a partial exception, see Michael Mandelbaum, *The Case for Goliath: How America Acts as the World's Government in the Twenty-first Century* (New York: PublicAffairs, 2005), pp. 182–186.

There are a number of studies outside international relations scholarship that examine the scope and various effects of population aging; issues of international security, however, receive relatively little attention in these works.

This article seeks to fill these important gaps in the literature. My analysis is divided into five sections. The first section provides background information on the causes of global aging. The second and third sections examine the economic and fiscal costs created by this phenomenon and various means of paying these costs, respectively. In the fourth section, I explore the reasons why global aging is likely to prolong U.S. power dominance in relation to the other great powers. In the fifth section, I examine the potential costs for the United States' international interests created by an aging world.

Background: The Causes and Extent of Global Aging

Societal aging is a product of two long-term demographic trends: decreasing fertility rates and increasing life expectancies. Fertility rates are the average number of children per woman in a given country. For a state to sustain its current population numbers (assuming zero net immigration), fertility levels must be at 2.1 or higher. Today India is the only great power that meets this requirement (though the United States comes close), and most are well below this number and have been for decades (see Table 1).

While fertility rates in developed countries have plummeted, life expectancies have greatly increased (see Table 2).[10] Sixty-five-year-olds and over are, as a result, the most rapidly growing age group in the great powers today, and 80-year-olds and over are the fastest growing group within this population. As post–World War II baby boom generations around the world age, the number of senior citizens will grow dramatically in coming decades. Only major boosts in fertility levels or immigration rates (or some worldwide calamity) will prevent this otherwise inevitable rise in the number of elderly from resulting in significant increases in states' median ages. Rising fertility rates, however, would represent a reversal of a centuries-long trend in the industrialized world, and one that has existed in many states despite the presence of pronatalist governmental policies.[11] Immigration rates in the great powers for the

10. Russia is an exception to this trend among the great powers. For details why, see Nicholas Eberstadt, "Russia's Demographic Straightjacket," *SAIS Review,* Vol. 24, No. 2 (Summer–Fall 2004), pp. 9–25.
11. On the ineffectiveness of states' attempts to raise fertility rates, see Paul Demeny, "Policy Interventions in Response to Below Replacement Fertility," *Population Bulletin of the United Nations,* Nos. 40/41 (1999), pp. 183–193.

Table 1. Fertility Rates by Country

Country	Years 2000–05	When Went below Replacement
Germany	1.32	1970–75
Japan	1.33	1955–60
Russia	1.33	1965–70
United Kingdom	1.66	1970–75
France	1.87	1975–80
China	1.70	1990–95
United States	2.04	1970–75
India	3.07	2025–30 (projected)

SOURCE: United Nations, *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel=2, select variant: medium.

Table 2. Life Expectancy by Country (Both Sexes)

Country	Years 1950–55	Years 2000–05
Japan	63.9	81.9
France	66.5	79.4
United Kingdom	69.2	78.3
Germany	67.5	78.6
United States	68.9	77.3
China	40.8	71.5
Russia	64.5	65.4
India	38.7	63.1

SOURCE: United Nations, *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel=2, select variant: medium.

next fifty years would have to be orders of magnitude higher than historical levels to prevent population aging.[12] Aging in the most powerful actors in the system is, in short, a virtual inevitability (see Tables 3 and 4 for statistical details).

The Economic and Fiscal Costs of Global Aging

Population aging has a significant impact on states' economies. The two most important effects for the purposes of this article are, first, aging is likely to

12. For details, see United Nations Population Division, *Replacement Migration: Is It a Solution to Declining and Ageing Populations?* (New York: United Nations Secretariat, March 21, 2000), pp. 24, 26, http://www.un.org/esa/population/publications/migration/migration.htm.

Table 3. Percentage of Population over 65 by Country

Country	Year 1950	Year 2000	Year 2050
India	3.3	4.9	14.8
United States	8.3	12.3	20.6
Russia	6.2	12.3	23.0
United Kingdom	10.7	15.9	23.2
China	4.5	6.8	23.6
France	11.4	16.3	27.1
Germany	9.7	16.4	28.4
Japan	4.9	17.2	35.9

SOURCE: United Nations, *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel=2, select variant: medium.

Table 4. Median Age by Country

Country	Year 1950	Year 2000	Year 2050
India	20.4	23.4	38.7
United States	30.0	35.3	41.1
United Kingdom	34.6	37.7	42.9
Russia	25.0	36.4	43.5
China	23.9	30.1	44.8
France	34.5	38.0	45.5
Germany	35.4	40.0	47.4
Japan	22.3	41.3	52.3

SOURCE: United Nations, *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel=2, select variant: medium.

slow a state's overall economic growth; and second, aging is likely to place substantial demands on governmental spending for retirement and health care and their related costs. The key implication for international security is that aging states will confront massive pressure, at a minimum, to forgo large-scale spending increases for programs unrelated to elderly care (including for technological investment and military programs), and at a maximum, to cut substantially existing discretionary spending.

THE SLOWING OF ECONOMIC GROWTH

There are a number of ways in which aging populations are likely to have a negative impact on states' economies. The primary problem is that as societies age, more people exit the workforce than enter it. A state's gross domestic product (GDP), in its most basic formulation, is a product of the number of

Table 5. Working-Age Population by Country (ages 15–64)

Country	Year 2000 (in thousands)	Year 2050 (in thousands)	Percentage Change
India	622,631	1,064,382	71
United States	187,822	245,243	31
United Kingdom	38,177	40,564	6
China	871,078	844,782	−3
France	38,559	36,067	−6
Germany	56,008	44,658	−20
Japan	86,574	56,861	−34
Russia	101,776	67,467	−34

SOURCE: United Nations (UN), *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel=2, select variant: medium.

NOTE: Working-age populations in Tables 5 and 6 are based on absolute numbers within this demographic group, not actual retirement ages. Because the average retirement age in most of the great powers is well below 65, changes in working age populations and support ratios are even worse in most cases than Tables 5 and 6 would indicate. See Sveinbjörn Blöndal and Stefano Scarpetta, "The Retirement Decision in OECD Countries," Working Paper, No. 202 (Paris: Economics Department, Organization for Economic Cooperation and Development, 1999), pp. 82, 90, http://www.oecd.org/dataoecd/36/30/1866098.pdf.

workers and overall productivity. As a country's workforce shrinks as more people enter retirement than enter the labor market, so, too, will its GDP unless productivity levels rise sufficiently to compensate for this loss.[13] Japan's and Russia's working-age populations (ages 15 to 64) are expected to shrink by 34 percent by 2050, Germany's by 20 percent, France's by 6 percent, and China's by 3 percent (see Table 5).[14] To prevent these workforce reductions

13. A study published by the Organization for Economic Cooperation and Development (OECD) predicts that reductions in the workforces in the EU and Japan due to population aging will result in nearly a 1 percent reduction in GDP growth per year from 2025 to 2050, ceteris paribus. See David Turner, Claudio Giorno, Alain de Serres, Ann Vourc'h, and Peter Richardson, "The Macroeconomic Implications of Aging in a Global Context," Working Paper, No. 193 (Paris: Economics Department, OECD, 1998), p. 47. According to another set of calculations, expansion in China's working-age population since the mid-1970s has added roughly 2 percent per year to Chinese GDP growth. Shrinkage in this demographic group will result in a loss of 1 percent per year from GDP growth by the 2020s. See Richard Jackson, "Population Aging in China: An Assessment of the Economic, Social, and Political Risks," paper prepared for the Eurasia Group China Task Force meeting, New York, New York, October 28, 2005, p. 4.

14. Despite being the second youngest of the great powers today (trailing only India), China is already experiencing labor shortages that are threatening its economic growth. These shortages are due in large part to the aging of China's population and reductions in the number of 15-to-35-year-olds. See David Barboza, "Sharp Labor Shortage in China May Lead to World Trade Shift," *New York Times*, April 3, 2006; and Howard W. French, "As China Ages, Shortage of Cheap Labor Looms," *New York Times*, June 30, 2006.

from translating into overall GDP decline, states' productivity must increase proportionally.[15] Although this is likely to be the case in most of the great powers, workforce contraction will still act as a substantial brake on economic growth in coming decades.[16]

Compounding the economic difficulties that aging societies are likely to experience is that significant social aging may limit productivity growth. If governments borrow money to pay for elderly welfare-care costs, interest rates may rise and crowd out investment. The elderly are also likely to be more conservative with their investments than younger people. The more risk averse a society's investment portfolio is, the less entrepreneurship that will be funded, and thus the lower the gains in productivity that should be expected. Finally, national savings rates may diminish in aging states as large numbers of seniors spend down their savings.[17] This outcome may lead to rising interest rates and ultimately to reduced rates of productivity growth.[18]

MASSIVELY INCREASING FISCAL BURDENS

Perhaps an even more important economic effect of social aging is the strain that it places on governmental resources. All the great powers' governments have made commitments to pay for portions of the retirement and health-care costs of their elderly citizens.[19] Social aging increases these obligations in two principal respects. First, the older a society is, the greater the number of retir-

---

15. An aging population does not necessarily translate into labor force reductions if people continue to work past 65. Most retirement ages in the industrialized world, however, remain well below this number, and people have been resistant to changing them. Among industrialized great powers, only Japan (34 percent) and the United States (18 percent) have more than 10 percent of men older than 65 participating in the labor force. In France only 2 percent of this age group does so, and in Germany only 5 percent does. OECD, *Labour Force Statistics* (Paris: OECD, 2006).

16. One study calculates that with shrinking workforces (based on the low variant of UN demographic projections) and a 1.5 percent growth in overall economic productivity per year (which is slightly higher than the European average during the last decade of 1.3 percent), GDP growth in the next forty years will average 1.25 percent in France, 1 percent in Germany, and 0.5 percent in Japan. "Baby Boomers' Poverty Trap," Lombard Street Research, *Monthly Economic Review,* September 22, 2003, available from Lexis-Nexis Academic. For context, from 1975 to 1985, the Soviet Union averaged less than 2 percent GDP growth. This rate is widely viewed as a key contributing factor to its eventual geopolitical collapse.

17. The Japanese government has already reported that national savings rates are down substantially from previous levels due to social aging and seniors' consumption of their savings. See "Savings Rate Slides as Population Ages," *Yomiuri Shimbun,* October 29, 2003.

18. On these points, see Robert Stowe England, *The Macroeconomic Impact of Global Aging: A New Era of Economic Frailty?* (Washington, D.C.: Center for Strategic and International Studies, 2002).

19. This is particularly true for the industrialized great powers (France, Germany, Japan, the United Kingdom, and the United States) and Russia, all of which possess universal welfare systems for elderly care (at varying benefit levels). The Chinese and Indian governments are formally committed to the welfare of a relatively small percentage of their elderly populations (roughly 15 to 20 percent). Even these percentages, however (which are likely to increase in the future), translate into very high numbers of seniors due to these states' huge populations.

ees and senior citizens for which a particular government is responsible. Second, the elderly, on average, require significantly more welfare resources (especially for health care) than working-age adults, and this trend only accelerates as the elderly age.[20]

The projected increases in governmental spending for the elderly in coming decades are sobering. By 2040 annual public benefits to the elderly (both pension and health care) as a percentage of GDP are predicted to rise by 15 percent in Japan (to an overall percentage of 27), by 13 percent in France (to an overall percentage of 29), by 10 percent in Germany (to an overall percentage of 26), and by 6 percent in the United Kingdom (to an overall percentage of 18).[21] In all the great powers, the ratio of working-age people to seniors is steadily declining (see Table 6). Because all these states' welfare systems rely heavily on "pay as you go" policies (meaning that current workers are taxed to support current retirees), this trend makes transfer payments to the elderly all the more burdensome.

These anticipated increases in welfare payments will add hundreds of billions of dollars, in real terms, to governments' annual expenditures for many decades. To give some perspective on their magnitude, consider the following: roughly thirty-five years from now, the annual amount of money that the great powers will have to spend on elderly care is going to increase, in real terms, many times what these states currently spend on their militaries. By 2040 Germany will have to increase its annual spending on elderly care more than seven times what it currently spends on defense. France will have to spend more than five times as much, and Japan more than fifteen times as much (see Table 7).

Paying for the Costs of Global Aging

There are only four principal ways to pay for the massive new expenditures required by states' aging populations: increased taxation, deficit spending, re-

20. For details, see Central Intelligence Agency (CIA), "Long-Term Global Demographic Trends: Reshaping the Geopolitical Landscape," July 2001, p. 27, https://www.cia.gov/cia/reports/Demo_Trends_For_Web.pdf; Richard Jackson, *The Global Retirement Crisis: The Threat to World Stability and What to Do about It* (Washington, D.C.: Center for Strategic and International Studies, 2002), p. 22; and Peter G. Peterson, *Gray Dawn: How the Coming Age Wave Will Transform America—and the World* (New York: Times Books, 1999), p. 45.
21. Richard Jackson and Neil Howe, *The 2003 Aging Vulnerability Index: An Assessment of the Capacity of Twelve Developed Countries to Meet the Aging Challenge* (Washington, D.C.: Center for Strategic and International Studies, 2003), p. 7. See also Peterson, *Gray Dawn,* p. 18; Organization for Economic Cooperation and Development, "Fiscal Implications of Global Ageing: Projections of Age-Related Spending," *OECD Economic Outlook,* June 2001, http://www.oecd.org/dataoecd/1/22/2085481.pdf; and Jackson, *The Global Retirement Crisis,* pp. 4, 84–91.

Table 6. Support Ratios: Working-Age Adults (Ages 15–64) per Senior Citizen (Ages 65 and Over)

Country	Year 1950	Year 2000	Year 2050
India	17.24	12.44	4.50
United States	7.83	5.35	3.01
Russia	10.49	5.63	2.62
United Kingdom	6.24	4.10	2.61
China	13.84	9.99	2.57
France	5.79	3.99	2.11
Germany	6.90	4.15	2.00
Japan	12.05	3.96	1.41

SOURCE: United Nations (UN), *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel=2, select variant: medium.

Table 7. Predicted Public Benefits to the Elderly in Relation to Current Military Spending

Country	Predicted Increase in Public Elderly Care as a % of GDP, 2000–40	Predicted Total Public Commitments to Elderly as a % of GDP, 2040	Current Military Spending as a % of GDP	Ratio of Increase in Elderly Care to Current Military Spending
Japan	15.2	27.0	1.0	15.20
Germany	10.4	25.5	1.4	7.43
France	13.6	29.3	2.6	5.23
United States	11.0	20.3	4.0	2.75
United Kingdom	5.5	17.6	2.8	1.96

SOURCES: Projected increases in elderly care spending and total public commitments are from Richard Jackson and Neil Howe, *The 2003 Aging Vulnerability Index: An Assessment of the Capacity of Twelve Developed Countries to Meet the Aging Challenge* (Washington, D.C.: Center for Strategic and International Studies, 2003), p. 7. Military spending percentages are 2004 figures from Stockholm International Peace Research Institute (SIPRI), "The SIPRI Military Expenditure Database," http://first.sipri.org/non_first/milex.php.

ductions in benefits (including raising the retirement age), and spending cuts in other areas.[22] None of these solutions offers an easy way out of the monumental fiscal challenge that the governments of these states will face in coming years. Paying for hundreds of billions of dollars of new expenditures by raising taxes will not only be challenging politically, but perhaps self-defeating as

22. This assumes that large numbers of new workers are not added into the system through significantly rising fertility or immigration rates. States can also pay for the costs of social aging in the coming decades if productivity gains are high enough to create a sufficiently expanding economy. Trying to pay for the costs of aging through productivity growth, however, often has critical

large tax increases may suppress economic activity and thus governmental revenue. Paying for new social expenditures through additional taxation will prove particularly problematic for France, Germany, and the United Kingdom, where the tax burdens are already high (more than 30 percent of GDP).[23]

Deficit spending is also not a viable option to pay for the growing needs of the elderly, especially in the long run. First, the funds needed to care for the aged over the next thirty years are greater than the entire savings of the Group of Eight states.[24] Funding all projected old-age benefits by deficit spending would, as a result, consume all of the developed world's savings. Second, if the costs of social aging are paid for by deficit spending, the great powers will relatively quickly exceed a debt-to-GDP ratio of 150 percent, which until recently is roughly the highest level any developed country has reached in peacetime.[25] (For context, the United States' public debt accrued during World War II was 125 percent of GDP; Britain's was 200 percent).[26] Such high levels of debt, especially when they are occurring throughout the developed world and will continue for many decades, are likely to have significant negative economic consequences, most notably a major rise in interest rates and the consequent crowding out of investment.[27]

Solving the fiscal challenge created by social aging through benefit reductions will also most likely prove extremely difficult. Surveys conducted in 2005 have reported that 58 percent of U.S. workers older than 55 have accumulated less than $100,000 in savings.[28] The situation is even worse in Europe, where 56

---

flaws. Most public pension systems tie retirement benefits to wages. This means that as wages rise due to productivity increases, so, too, will obligations to the elderly. Higher productivity and thus higher wages also translate into higher medical care costs, which is a labor-intensive industry. Productivity growth thus increases the fiscal burden created by social aging while making it easier to pay for some of these costs.

23. For details, see OECD statistics from Jeffrey Owens and Mary Bennett, "An International Perspective on U.S. Tax Reform and OECD Work to Promote International Tax Standards," Tax Foundation/Congressional Staffers Briefing, June 5, 2006, http://www.taxfoundation.org/files/owensustaxreform-22060605.pdf.

24. CIA, "Long-Term Global Demographic Trends," p. 26.

25. For details, see Jackson and Howe, *The 2003 Aging Vulnerability Index,* p. 11. Japan's debt is already 158 percent of GDP. Central Intelligence Agency, *The World Factbook,* "Guide to Country Profiles," 2005 statistics, https://www.cia.gov/cia/publications/factbook/index.html.

26. Peterson, *Gray Dawn,* p. 72.

27. A 2004 study by Standard & Poor's predicted that Germany's debt could rise to 300 percent of GDP in coming years, primarily due to the effects of its rapidly aging population. This level of debt is associated with economies whose obligations are accorded junk-bond status in financial markets. David Smith, "Germany Heads for 'Junk' Status," *Sunday Times* (London), August 15, 2004.

28. Retirement Confidence Survey (RCS), "Saving for Retirement in America," 2005 RCS Fact Sheet, *2005 Retirement Confidence Survey* (Washington, D.C.: Employment Benefit Research Institute, 2005), p. 2, http://www.ebri.org/pdf/surveys/rcs/2005/RCS05.FS.No2.SavInAm.Final.24Mar.pdf.

percent of all households claim to have virtually no savings.[29] Seniors in China, India, and Russia are even less financially independent. A key implication of these low savings rates is that retirees are heavily dependent on their governments to maintain reasonable standards of living and health care.[30] In both France and Germany, for example, more than 60 percent of senior citizens' after-tax income comes from governmental spending of some variety. Among industrialized great powers, the U.S. government in 2000 provided the smallest percentage of income for the elderly, but even this number was nearly 35 percent.[31] Moreover, a significant percentage of the elderly in these developed states would be pushed into poverty if their governments cut benefits spending by only 10 percent. In both France and Germany, a 10 percent reduction in benefits would increase poverty rolls among the elderly by more than 5 percent.[32]

Thus although governments may be able to address the fiscal challenge created by social aging through outright benefit reductions, in many instances cuts in these areas will result in a significant diminishment in seniors' quality of life. This choice will be politically unacceptable for many governments, particularly in liberal states. Elected politicians will find it difficult to cut substantially the benefits of seniors, who are both a large segment of the population (and growing) and historically the most active age group at the voting booth. These facts no doubt explain elected leaders' hesitancy to reform in a major way social spending on the elderly despite a looming fiscal crisis, and why even modest efforts at change have frequently been unsuccessful. Proposed pension reform, for example, led to the collapse of the Italian government in 1995. The same year, the Dutch government was forced to repeal a law that cut retirement benefits after seniors voted to power a Pension Party, which was dedicated to protecting elderly welfare payments. In 1996 the French government's modest proposals to reduce pensions led to strikes and even riots, and contributed to the Socialists' ascension to power the next year. A similar outcome transpired in Greece in 2001. In the United States, President George W. Bush's efforts to reform Social Security after the 2004 election have contributed to his very low approval ratings, and talk on this subject has all but died in U.S. political circles.

The pressure against cutting seniors' retirement and health-care benefits is

---

29. Silvia Ascarelli, "Study Finds Europeans Are Poor Savers Who Don't Tend to Change Their Habits," *Wall Street Journal Europe,* June 28, 2001, quoted in Jackson, *The Global Retirement Crisis,* p. 43.
30. Peterson, *Gray Dawn*, p. 36.
31. Jackson and Howe, *The 2003 Aging Vulnerability Index,* p. 13.
32. Ibid., pp. 13, 16.

high in illiberal states as well, even though leaders in these regimes do not confront direct electoral penalties for such actions. For example, in January 2005 the Russian government cut benefits for 32 million pensioners. The decision was met by a series of large protests in more than a dozen cities throughout the country. In response, the Putin administration felt compelled to raise the pension rate by more than 8 percent for 40 million people.[33]

Similar events have transpired in China. China's attempts in 2002 to renege on promised benefits to retirees led to large-scale protests and riots, including in the major cities of Liaoyang and Daqing. The pressure from these protests was so great that the authoritarian Chinese government promised to extend pension benefits to an additional 50 million people.[34] In a white paper issued in 2004, the Chinese government asserted that social security "is an important guarantee for the social stability and the long-term political stability of the country."[35] Consistent with this thinking, China in 2000 created the National Social Security Fund. This institution is central to the Chinese government's efforts to pay off the unfunded pension liabilities that have been accumulated by state-owned enterprises, many of which have become obsolete due to governmental policies since the 1980s. By 2010 China wants to increase the fund's reserves to nearly $121 billion (largely through levying new taxes and selling state assets), which is more than six times 2004 levels.[36]

This analysis does not mean that states are incapable of cutting benefits to

33. Steven Lee Myers, "Mounting Discontent in Russia Spills into the Streets," *New York Times*, February 12, 2005; and "Pensions Raised in Russia for Almost 40 Million People," Itar-Tass news agency, April 1, 2006. Russia's leaders were able to reduce pension benefits in the early to mid-1990s by adopting highly inflationary monetary policies. Since this time, however, Russian pensioners have become increasingly assertive in the political arena, and pensions have been a significant issue in every Russian election since 1995. As a result, the Russian national government has repeatedly increased pension benefits since 1997, including passing a law the same year that indexed benefits to inflation. Andrea Chandler, *Shocking Mother Russia: Democratization, Social Rights, and Pension Reform in Russia, 1990–2001* (Toronto: University of Toronto Press, 2004), pp. 10, 72, 80, 95, 109, 119, 133, 137–138, 149, 151, 155.

34. Robert Stowe England, *Aging China: The Demographic Challenge to China's Economic Prospects* (Westport, Conn.: Praeger, 2005), pp. 89–90, 94; and Phillip Longman, *The Empty Cradle: How Falling Birthrates Threaten World Prosperity and What to Do About It* (New York: Basic Books, 2004), p. 55.

35. People's Republic of China (PRC), "China's Social Security and Its Policy," Social Security White Paper (Beijing: Information of the State Council of the PRC, September 2004), p. 2, http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN019944.pdf.

36. Office of Policy, "Recent Developments in Foreign Public and Private Pensions," International Update (Washington, D.C.: Social Security Administration, 2004), http://www.socialsecurity.gov/policy/docs/progdesc/intl_update/2004-10/2004-10.html. The more liberalization proceeds in China and Russia, the greater the difficulty these states' leaders will have in cutting funding for elderly care. To the extent that high levels of welfare spending on seniors is likely to inhibit significant increases in military expenditures, the United States has reason to support political liberalism in these states in addition to predictions based on democratic peace theory.

increase the viability of their welfare programs for seniors. In fact, all the great powers have successfully implemented some policies that are designed to reduce the magnitude of the financial obligations owed the elderly in coming years. Probably the most ambitious of these over the last decade took place in Germany and Japan. In 2004 these states indexed benefits to their country's dependency ratio (the number of retirees per working-age adult). As this ratio increases in coming years, social security benefits will automatically drop.[37]

Elderly welfare reform is thus possible. Nevertheless two key points remain true. First, none of the great powers, according to independent experts' analyses, have adopted policy changes that come close to eliminating the huge gap between anticipated expenditures for the aged in the great powers and resources set aside for these costs. The ratings agency Standard & Poor's, for example, in 2005 stated that all the industrialized great powers—France, Germany, Japan, the United Kingdom, and the United States—could have their credit ratings reduced to "junk status" if they do not adopt more effective measures to control the unfunded obligations owed to their aging populations.[38] Even the 2004 German and Japanese reforms, which are relatively ambitious compared with similar policies in most of the other great powers, remain inadequate to the task. Germany's reforms offset only one-quarter of the anticipated shift in this state's dependency ratio.[39] Even with Japan's most recent policy changes, expenditures on the elderly, according to the Japanese government's own calculations, will exceed contributions to the system by a wide margin.[40]

Second, policies ambitious enough to solve the fiscal problems created by social aging will tend to spur fierce political opposition that will work against their implementation. Many old-age welfare reforms implemented in recent years frequently postpone or avoid the highest costs of this problem. Germany, for example, in 2006 raised the official retirement age from 65 to 67, but this change is phased in gradually so that it fully takes effect only in the year 2029.[41] Japan's 2004 reforms that index benefits to dependency ratios are legislated to sunset in twenty years. Whether leaders have the political will to continue these reforms as their costs grow substantially in coming decades and

37. Richard Jackson, "The 'State of the Art' in Entitlement Reform: Lessons from Abroad," *Facing Facts Quarterly,* Vol. 2, No. 1 (Winter 2006), p. 2.
38. "S&P Says Aging Populations Could Hit G7 Ratings," *Financial Times,* May 28, 2005.
39. Jackson, "The 'State of the Art' in Entitlement Reform."
40. Richard Jackson, "Perspectives on Japan's 2004 Public Pension Reform," paper presented at the International Conference on Social Security Reform, Washington, D.C., February 24, 2006.
41. "German Cabinet to Up Retirement Age to 67 from 65 in 2029," AFX News Limited, February 1, 2006.

citizens have to pay the lion's share of them in the present and not the future remains to be seen.

The magnitude of the costs associated with social aging and the problems associated with governments trying to solve their difficulties through additional taxation, borrowing monies, or cutting benefits will most likely force politicians to make cuts in other discretionary spending. States will have to either transfer resources from existing expenditures or forgo major new spending initiatives, or both. Indeed, the costs of aging are likely to create such an austere fiscal climate in the great powers that there will be little room for politicians to begin substantial new spending in areas not related to the care of seniors.

Prominent international and financial organizations, including the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), the EU Commission, and Standard & Poor's, have repeatedly and explicitly agreed with this analysis in reference to key states in the system, particularly for France, Germany, and Japan.[42] For example, the OECD stated in 2005 that despite Japan's reforms, this state's acute aging crisis makes its "fiscal situation . . . clearly not sustainable. . . . Significant cuts in discretionary outlays" remain needed to stabilize Japan's public finances.[43]

Global Aging and the Continuation of U.S. Primacy

Population aging in the great powers will be a potent force for the prolongation of U.S. power dominance in the twenty-first century for three principal reasons. First, the massive costs and probable slowdowns in economic growth created by aging populations will inhibit the other major powers from increasing military expenditures anywhere close to matching U.S. defense spending; these factors are even likely to push many of these states to reduce their military expenditures from current levels. Second, with aging populations and shrinking workforces, the other great powers will have to spend increasing percentages of their defense budgets on personnel costs and military pensions

42. Andrew Taylor, "Aging Populations Threaten to Overwhelm Public Finances," *Financial Times*, October 11, 2005, p. 12; "Japan's Economy to Be Hit Hard by Aging Society: IMF," Kyodo News Service, September 23, 2004; "EU Commission Says Governments Must Lower Debt Levels to Cope with Aging," AFX News Limited, December 21, 2000; and "IMF Urges French to Mount Broad-Ranging Reforms," AFX News Limited, July 30, 2002.
43. Organization for Economic Cooperation and Development, "Economic Survey of Japan, 2005: Achieving Fiscal Sustainability," http://www.oecd.org/document/53/0,2340,en_2649_201185_34287541_1_1_1_1,00.html.

at the expense of purchasing the most technologically sophisticated weaponry. The more money that states spend on military personnel and pensions as opposed to weapons, the lower the likelihood will be of these countries challenging U.S. military dominance.[44] The third factor reinforces both of the previous points. Although the U.S. population is aging, it is doing so to a lesser extent and less quickly than those of the other great powers (even India's population, though it will remain younger than that of the United States for the first half of the twenty-first century, is aging significantly faster than the U.S. population). As a result, the pressures pushing for the crowding out of military spending in favor of elderly care and the increasing substitution of labor for capital within defense budgets will be considerably smaller for the United States than for potential great power competitors, to the great benefit of its relative power position in coming decades.

In 2005 the United States spent more than $478 billion on defense. This figure was nearly $290 billion more than the next largest military spender (China), and roughly equal to the combined military spending of China, France, India, Japan, Russia, and the United Kingdom.[45] Global aging significantly decreases the likelihood of potential competitors closing this huge spending gap.

The principal contention of this section is that there is likely to be a strong negative relationship between the magnitude of a state's aging crisis (the independent variable) and the level of its military expenditures (the dependent variable). With aging populations, governments will be under such pressure to pay for massive new expenditures for the elderly (and most likely in the context of slowing economic growth) that all other discretionary spending will likely be affected. High levels of aging crisis, at a minimum, are likely to be a powerful force inhibiting states from significantly increasing defense spending

44. Population aging, in other words, helps explain contemporary variations among the great powers in both defense spending trends and the relative amount of resources dedicated to different types of military expenditures (e.g., money for active personnel, pensions, or weapons purchases). Great powers that are currently experiencing high levels of aging crisis (France, Germany, Japan, and Russia) are either reducing their military spending levels, shifting more resources within their military budgets to personnel and pension costs and away from weaponry, or doing both. Great powers whose aging crises are either delayed for several decades (China and India) or comparatively low (Britain and the United States) are increasing their military spending levels or spending relatively more within these budgets (especially compared to France, Germany, Japan, and Russia) on weapons and research and development than on personnel and pensions, or are engaged in both activities.

45. Stockholm International Peace Research Institute (SIPRI), "The 15 Major Spender Countries in 2005," http://www.sipri.org/contents/milap/milex/mex_major_spenders.pdf. These figures are measured in terms of purchasing power parity.

and, at a maximum, will tend to result in reductions in existing levels of military expenditures.[46]

I define "aging crisis" by the following eight criteria that are designed to measure both the magnitude of the costs for elderly care confronting states and their ability to pay them. Is a state's fertility rate below replacement levels? Will at least one-quarter of a country's population be above the retirement age in 2050? Will a state's working-age population (ages 15 to retirement) decrease between now and 2050? Are a state's senior citizens highly reliant on their government to provide reasonable levels of welfare and health care? Does a state presently possess high levels of debt (more than 50 percent of GDP)? Are a country's overall tax rates already relatively high (more than 30 percent of GDP)? Finally, does a state currently possess a relatively low per capita GDP (less than $12,000)? In what follows, I provide an analysis of the aging situations in all the great powers and the likely effects of this variable on these states' military expenditures (see Table 8 for a synopsis of findings).

HIGH-CRISIS STATES OF THE NEAR FUTURE: CHINA AND INDIA

Based on the criteria elaborated in the previous paragraph, six of the eight great powers in coming decades will confront massive challenges created by their aging populations: China, France, Germany, India, Japan, and Russia. Five of these six states satisfy at least five of the eight criteria for identifying a high level of crisis. France and Germany meet seven, Russia and China six. India satisfies only four of these criteria, but scores so poorly in three of them (seniors' dependence on government, expected increases in elderly obligations, and current per capita GDP) that it merits inclusion into the high-crisis category.

I begin my analysis with the aging problems in China, which is the state most frequently mentioned as a likely balancer of the United States. Of all the great powers, China will face particularly severe fiscal challenges due to demographic trends. These challenges will begin to hit with substantial force in only ten to fifteen years, when China's large postwar baby boom generation begins to reach retirement age.

Rising longevity in China and the "one child policy," which has helped lower China's fertility to a current rate of 1.7, have made China a rapidly aging

46. If states are willing both to allow high levels of poverty among their seniors and to adopt conscription to keep down military personnel costs, then social aging need not dramatically affect defense expenditures. Politicians, though, will find these choices difficult to implement and maintain. Thus the most likely outcome created by high levels of aging is either a reduction or at most the preservation of existing power projection capabilities.

Table 8. Level of States' Aging Crisis

Country	Currently below Fertility Replacement?	25% of Population above Retirement Age by 2050?	Working-Age Population Decreasing by 2050?	High Senior Dependence on Government Welfare Spending?[a]	Significant Increases in Welfare Obligations by 2050 (above 10% GDP)?	High Current Levels of Debt (above 50% GDP)?	High Current Taxation Rates (above 30% GDP)?	Low GDP Per Capita (below $12,000)?
United States	X				X	X		
United Kingdom	X	X					X	
India				X	X	X		X
Japan	X	X	X		X	X		
Russia	X	X	X	X	X			X
China	X	X	X	X	X			X
Germany	X	X	X	X	X	X	X	
France	X	X	X	X	X	X	X	

SOURCES: Demographic data are from United Nations (UN), *World Population Prospects: The 2004 Revision Population Database* (New York: United Nations, 2006), http://esa.un.org/unpp/index.asp?panel=2, select variant: medium. Debt levels are from Central Intelligence Agency (CIA), *The World Factbook,* "Guide to Country Profiles," 2005 statistics, https://www.cia.gov/cia/publications/factbook/index.html. Taxation rates are based on OECD data. See Jeffrey Owens and Mary Bennett, "An International Perspective on U.S. Tax Reform and OECD Work to Promote International Tax Standards," Tax Foundation/Congressional Staffers Briefing, June 5, 2006, http://www.taxfoundation.org/files/owensustaxreform-22060605.pdf. GDP per capital levels are from World Bank, "GNI Per Capita 2005, Atlas Method and PPP," *World Development Indicators Database* (Washington, D.C.: World Bank, 2006), http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNIPC.pdf. For welfare obligation data and sources, see the body of the analysis.

[a] Answers to this question are based primarily on levels of personal savings and private pensions. Details and sources are provided in the body of the analysis.

society. By 2050 China's median age is predicted to be nearly 45, which will be one of the oldest in the world (the oldest country in the world today, Japan, has a median age of just under 43).[47] The ratio of working-age adults to elderly will shrink from just under 10 in 2000 to 2.5 by 2050.[48] China today has roughly 100 million citizens over the age of 65. In only twenty years, this number will double. Roughly thirty years from now, it is expected to triple.[49]

In relation to the other great powers, which had the benefit of achieving high levels of GDP per capita before growing old, China is particularly unprepared for the effects of social aging. Despite China's very high levels of economic growth since the 1990s, it will become the first country to grow old before becoming an advanced industrial state. Consequently, China will find it even more difficult to pay for its obligations to the elderly than will the industrialized great powers.[50]

China's work-retirement system beginning in the 1950s under Mao Zedong followed the Soviet model: workers in state-owned companies were promised fairly generous retirement benefits but received low wages.[51] As a result, most Chinese workers did not earn enough to accrue sufficient private savings to finance their retirements. Nearly 80 percent of Chinese urban households with individuals aged 55 and over today have less than one year of income saved, and only 5 percent have more than two years of income in savings.[52] Conse-

---

47. UN, *World Population Prospects.* China's aging dilemma is likely to be even more dire than some predictions indicate due to a problem of "surplus men" resulting from the widespread selection of male over female babies. According to some estimates, China in 2000 had more than 40 million fewer women than it would have had if sex ratios were determined naturally. The fewer women today, the fewer babies in the future, and thus the more quickly a society will age. India has a similar problem, with an estimated 37 million "missing women" in 2001. See Valerie M. Hudson and Andrea Den Boer, "A Surplus of Men, A Deficit of Peace: Security and Sex Ratios in Asia's Largest States," *International Security,* Vol. 26, No. 4 (Spring 2002), pp. 5–38, statistics from p. 9.
48. UN, *World Population Prospects.*
49. Ibid.
50. Even if China's economy continues to grow in coming decades at rates similar to those it has experienced in recent years, by 2035 its median age will reach the levels of France, Germany, and Japan today, but at GDP per capita levels significantly lower than these states currently possess. See Nicholas Eberstadt, "Growing Old the Hard Way: China, Russia, India," *Policy Review,* No. 136 (April–May 2006), http://www.hoover.org/publications/policyreview/2912391.html. Consequently, even though China's current taxation rates and deficit levels are low compared with those of the other great powers, when China's aging crisis hits with full force the country will, at best, confront similar economic and fiscal constraints as France, Germany, and Japan do today.
51. England, *Aging China,* pp. xiii, 50; and Longman, *The Empty Cradle,* p. 55.
52. Richard Jackson and Neil Howe, *The Graying of the Middle Kingdom: The Demographics and Economics of Retirement Policy in China* (Washington, D.C.: Center for Strategic and International Studies, 2004); England, *Aging China,* p. 69; and Noriyuki Takayama, "Pension Reform of PRC: Incentives, Governance, and Policy Options," paper prepared for the Fifth Anniversary Conference on Challenges and the New Agenda for the People's Republic of China, Asian Development Bank, Tokyo, Japan, December 5–6, 2002, p. 16.

quently, according to one expert on this subject, "the majority of the people in the People's Republic of China [will] be obliged to rely heavily on social security pensions after retirement."[53] Over the decades, however, the Chinese government, however, has set aside little money to pay for these obligations. Three-quarters of all Chinese workers are without any pension coverage, yet independent estimates have found a potential shortfall between China's governmental obligations to the elderly and saved assets to be as much as 150 percent of GDP (this is in addition to existing debt, which currently stands at nearly 30 percent of GDP).[54]

China has traditionally relied on the family unit to provide for elderly care in lieu of adequate public and private resources. Increasing rates of divorce, urbanization (and related migration),[55] and female workforce participation will, however, place significant strain on this tradition. Decreasing family size will prove especially problematic for preserving elderly welfare within the context of the family. Demographers refer to a rapidly growing "4-2-1" phenomenon in China, in which one child is responsible for caring for two parents and four grandparents.[56]

Given these facts, within fifteen years China's leaders will be faced with a difficult choice: allow growing levels of poverty within an exploding elderly population, or provide the resources necessary to avoid this situation. The Chinese government's assumption of the unfunded pension liabilities of state-owned enterprises reveals the political and moral pressure working for the latter outcome. This pressure to significantly expand and deepen China's welfare system will only grow as its aging crisis becomes increasingly acute in the decades to come. In this context, the crowding out of military and other discretionary expenditures will be likely.

In the next forty years, India will confront many of the same challenges that China will in this period. Although India will remain the youngest of all the great powers through the midpoint of this century, it is aging much faster than any of these other states. By 2050 India's median age is predicted to increase by 15.3 years from that in 2000 (23.4 years), which is a larger increase than in any

53. Takayama, "Pension Reform of PRC," p. 16.
54. England, *Aging China,* pp. 87, 89, 91; Longman, *The Empty Cradle,* pp. 55–56; Kong Jingyuan, "Implicit Pension Debt and Its Repayment," in Wang Megnkui, ed., *Restructuring China's Social Security System* (Beijing: Foreign Languages Press, 2002), p. 183; Gordon G. Chang, "The Pension Money Is Running Out: Social Security in China," *International Herald Tribune,* July 18, 2002; and CIA, *World Factbook,* 2005 statistics.
55. See Howard W. French, "Rush for Wealth in China's Cities Shatters the Ancient Assurance of Care in Old Age," *New York Times,* November 3, 2006.
56. Joe C.B. Leung, "Family Support and Community Services for Older Adults in China: Integration and Partnership," in Hyunsook Yoon and Jon Hendricks, eds., *Handbook of Asian Aging* (Amityville, N.Y.: Baywood, 2006), pp. 413–415.

other great power (and by a very wide margin in all cases except China).[57] At century's midpoint, India will possess more than 236 million people over 65, making it the second-oldest country in the world in this category, trailing only China. India today has more than 58 million people above this age, which is more than twice as many seniors in Japan and more than 1.5 times as many in the United States.

At the same time that India is aging rapidly, it is the least prepared of all the great powers to pay for the costs of elderly care (with the possible exception of China). A high majority of Indian seniors have little savings and consequently need substantial aid to maintain basic levels of health and welfare.[58] Surveys have consistently found that more than half of all elderly Indians are "fully dependent" on others for their economic well-being, and another 15 percent are "partially dependent."[59] Consistent with these numbers, 73 percent of all seniors in India are below or just above the poverty line.[60] Despite the great vulnerability of the elderly in India, almost no monies have been set aside for social welfare programs.[61] As poorly funded as India's elderly care system is today, this situation will only worsen in coming decades as the number of seniors, in both absolute numbers and as a percentage of the population, balloons.

Like China, India will grow old before becoming rich. A generation before the median ages in the European powers and Japan were over 35, these states' GDPs per capita were $6,000–$8,000 (at 2000 prices and exchange rates).[62] In roughly one generation from now, India will age to this level, but its GDP per capita in 2005 was only $720 (China's was only $1,740).[63] Even if India's economy grows at a robust rate of 5.5 percent per year for the next thirty years, it will be approaching the age levels of many of the great powers today, but with

57. UN, *World Population Prospects.*
58. H.B. Chanana and P.P. Talwar, "Aging in India: Its Socio-economic and Health Implications," *Asia-Pacific Population Journal,* Vol. 2, No. 3 (September 1987), p. 35.
59. Rajagopal Dhar Chakraborti, *The Graying of India: Population Ageing in the Context of Asia* (New Delhi: Sage, 2004), p. 273; and Indira Jai Prakash, *Ageing in India* (Geneva: World Health Organization, 1999), p. 9, http://whqlibdoc.who.int/hq/1999/WHO_HSC_AHE_99.2.pdf.
60. S. Vijay Kumar, "Economic Security for the Elderly in India: An Overview," in Phoebe S. Liebig and S. Irudaya Rajan, eds., *An Aging India: Perspectives, Prospects, and Policies* (Binghamton, N.Y.: Haworth, 2003), p. 47.
61. For details, see Chakraborti, *The Graying of India,* pp. 278, 280–281, 374; Chanana and Talwar, "Aging in India," p. 36; and World Bank, *India: The Challenge of Old Age Income Security,* Report No. 22034-IN (Washington, D.C.: Finance and Private Sector Development, 2001).
62. Eberstadt, "Growing Old the Hard Way," p. 12.
63. World Bank, "GNI Per Capita 2005, Atlas Method and PPP," *World Development Indicators Database* (Washington, D.C.: World Bank, 2006), http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNIPC.pdf.

"income levels almost an order of magnitude lower than those of Japan in the mid-1980s" (i.e., roughly twenty years before Japan's aging crisis became acute).[64]

In sum, in roughly forty years India will possess large numbers of poor, vulnerable seniors, but it will lack the resources necessary to address this problem without substantial sacrifice. Like China, India will be faced with a choice: allow very high levels of poverty among its seniors, or divert resources toward preventing this outcome by significantly expanding its welfare system. To the extent that India's leaders opt for this latter choice, the likelihood of India being able to increase significantly military spending is low.

China and India do, however, benefit from one major advantage in relation to many of the other great powers. Unlike Japan, Germany, France, and Russia, both countries will have several decades before they will be directly confronted with the full burdens of their aging populations. China's working-age population (ages 15 to 64), for example, will not peak until 2015, after which it is predicted to steadily decline. India will not become "officially" an aging society (based on the United Nations' definition of at least 10 percent of a state's population over the age of 60) until 2020.[65] These time lags are potentially important because they create windows during which China and India do not immediately face the trade-off between spending on the elderly or for defense. Significant increases in military spending in these states in these years are, as a result, more likely than in subsequent ones.

The argument that currently younger states such as China and India have time to balance the United States before their aging problems become fiscally overwhelming ignores, however, the fact that power is relative. To balance the United States, competitors must not only spend significantly more money on their militaries than they do presently, but spend significantly more than the United States will in coming decades. The United States' fairly advantageous demographic position, though, makes the likelihood of such an outcome low. Moreover, each year that goes by in which the United States' military lead remains roughly the same increases the odds of the continuation of U.S. hegemony. The closer that potential balancers of the United States come to experiencing the full effects of their aging crises, the more likely crowding out of military spending in favor of geriatric care will occur, and the more likely U.S primacy will continue.

64. Eberstadt, "Growing Old the Hard Way," p. 12.
65. UN, *World Population Prospects*.

HIGH-CRISIS STATES OF TODAY: FRANCE, GERMANY, JAPAN, AND RUSSIA

In contrast to China and India, which will not experience the full force of their aging crises for several decades, four of the other great powers are already experiencing substantial strains created by their graying societies. Japan currently has the largest elderly population of all the great powers: 20 percent of its citizens are over 65. Although Japan's seniors do not depend heavily on their government to maintain their health and living standards (relative to the other great powers), annual welfare benefits to the elderly are nevertheless expected to grow over the next three decades more than in any other industrialized power (15 percent of GDP).[66] The Japanese government's ability to pay for these costs is greatly handicapped: its national debt is currently an astronomical 158 percent of GDP, which is more than twice that of any other great power.[67] To pay for its obligations to the elderly, Japan will have to rely heavily on cuts in discretionary spending.

France and Germany confront similar problems. Although neither is as old as Japan is currently, both states presently face a daunting fiscal challenge created by their aging populations. Over the next thirty years, annual spending on elderly care is expected to rise by nearly 14 percent of GDP in France and by more than 10 percent of GDP in Germany. In both states, seniors rely heavily on their government for retirement support, and both will be hard-pressed to pay for this support without significant cuts in discretionary spending, given that tax and deficit rates are already high (see Tables 7 and 8).

Russia also currently faces substantial demographic challenges that, in one prominent scholar's estimation, "may be fairly characterized as severe, dramatic, and even critical."[68] In addition to a declining workforce, an exploding retirement population, an underfunded pension system, and low levels of financial independence among seniors,[69] Russia confronts a demographic challenge unlike any of the other great powers: significant, long-term retrogression in the nation's overall health. The deterioration of the health of Russian citizens has resulted in a substantial decline in life expectancy since the 1960s and will no doubt retard economic expansion. In the context of slowing economic growth and fewer, less healthy working-age adults, Russia's government will have difficulty preserving reasonable levels of welfare for its aging

66. Jackson and Howe, *The 2003 Aging Vulnerability Index,* p. 7.
67. CIA, *World Factbook,* 2005 statistics.
68. Eberstadt, "Russia's Demographic Straightjacket," p. 9.
69. For details, see Cynthia Buckley and Dennis Donahue, "Promises to Keep: Pension Provision in the Russian Federation," in Mark G. Field and Judyth L. Twigg, eds., *Russia's Torn Safety Nets: Health and Social Welfare during the Transition* (New York: St. Martin's, 2000), p. 265.

population without significant cuts in other spending, including for economic development and defense. As Nicholas Eberstadt puts it, "The specter of a swelling population of elderly pensioners dependent for support on an unhealthy and diminishing population of low-income workers suggests some particularly unattractive trade-offs between welfare and growth. Should Russian resources be allocated to capital accumulation or to consumption for the unproductive elderly? Given Russia's population structure, the question cannot be finessed."[70]

The aging crises in Japan, Germany, France, and Russia are already influencing defense spending in these states. In December 2004 Japan cut military spending by 3.7 percent from the average of the previous five budgets. The cuts were engineered by finance ministry officials "who demanded more social spending for Japan's rapidly aging population."[71] This trend continued the following December, when the defense budget was reduced by another 0.9 percent to help pay for the "growing burdens [resulting] from an aging population."[72] In fact, the Japanese government has stated that over the next decade, general expenditures will have to be cut by 25 to 30 percent "to cope with inevitable increases in social security–related spending given the nation's rapidly aging population."[73]

In February 2006 the EU Commission warned Germany that it had to cut substantially discretionary spending across the board "to cope with the costs of an aging population." Germany's finance minister, Peer Steinbrueck, speaking on behalf of the government, agreed with this analysis and promised to put the commission's recommendations into practice.[74] This thinking continues a policy that Germany has followed over the last decade of "letting defense spending languish . . . while investing in social welfare programs instead." Even in the post–September 11 world, "cutting social programs or raising taxes to buy weapons is considered [in Germany] politically impossible."[75]

---

70. Eberstadt, "Growing Old the Hard Way," p. 11. It may seem paradoxical that Russia is rapidly aging at the same time that life expectancy is declining. This is not an error: population age is much more a product of fertility than mortality rates.
71. James Brooke, "Japan's New Military Focus: China and North Korea Threats," *New York Times,* December 11, 2004.
72. "Japanese Government Approves Smaller FY2006 Budget," Xinhua news service, December 24, 2005.
73. "30% Cut in Spending Needed to Balance Japan's Finances in 10 Years," Japan Economic Newswire, May 16, 2005; and "Government Eyes 25% Spending Cuts to Balance Finance in FY 2011," Japan Economic Newswire, January 18, 2006.
74. Aoife White, "EU: Germany Must Stick to Spending Cuts to Reduce Budget Deficit by End of 2007," Associated Press, March 1, 2006.
75. Craig S. Smith, "German Military Ranks as NATO Laggard," *International Herald Tribune,* March 19, 2003.

Germany's defense spending has decreased every year since 1999 (with the exception of 2002 when it increased by $100 million over 2001). Among the great powers, Germany spends the second lowest amount of money on the military as a percentage of GDP (roughly 1.4 percent), trailing only Japan (roughly 1 percent).[76]

French military expenditures as a percentage of GDP have remained virtually constant since 2000 (roughly 2.5 percent of GDP) and have decreased relative to the years preceding this one.[77] Moreover, momentum is building for absolute cuts in this area. The EU, OECD, IMF, and other prominent organizations have explicitly warned France that current levels of spending, including on the military, cannot be sustained in the face of rising costs of geriatric care. Influential French leaders have affirmed this position. In 2006 the French president requested the creation of a new body, the Public Finance Guidance Council, which is led by the prime minister and the minister of the economy, finance, and industry. The primary purpose of the council is to reduce France's national debt, which has grown significantly in recent years due in no small measure to increasing costs for elderly care. The council's primary policy recommendation is to reduce to a substantial degree expenditures "of all public players."[78] If the mandate of the Public Finance Guidance Council is acted upon, France's military budget is likely to diminish in future years.

Of all the currently high-crisis aging states, Russia seems to exhibit the weakest relationship between social aging and reductions in military spending. Russia's military expenditures have increased every year since 1998 (a total of $11 billion in real terms).[79] A high percentage of this increase, however, has been to pay for the rising costs of military pensions. Russia, in fact, spends significantly more on military retirees than on either weapons procurement or military research and development. From 2001 to 2006, spending on military pensions rose from 30,651 to 130,545 billion rubles. This increase in pension outlays was nearly 15 percent of the growth in total defense-related expenditures in this period, and almost 38 billion rubles more than increases in weapons purchases.[80] Thus despite the growth in Russia's overall defense ex-

76. Stockholm International Peace Research Institute, "SIPRI Military Expenditure Database," http://first.sipri.org/non_first/milex.php. Unless stated otherwise, military spending figures from both SIPRI and NATO sources include spending on military pensions.
77. Ibid.
78. Office of the Prime Minister, France, "1st National Conference on Public Finance," press release, January 16, 2006, http://www.premier-ministre.gouv.fr/en/information/latest-news_97/1st-national-conference-on_55114.html.
79. SIPRI, "SIPRI Military Expenditure Database."
80. International Institute for Strategic Studies (IISS), *The Military Balance, 2002–2003* (London:

penditures in recent years, it, too, is likely already experiencing the crowding out of spending for weapons, research, and active personnel in favor of elderly care, in this case for seniors within the military.

BRITAIN: AGING GRACEFULLY

The United Kingdom shares many key demographic characteristics with China, France, Germany, Japan, and Russia. It, too, has a fertility rate that is well below replacement level and by century's midpoint will have one-quarter of its population past the retirement age (though unlike these other states, Britain's working-age population will be larger in 2050 than it is today). The United Kingdom thus should be categorized along with these other powers as an aging, if not old, society.

By virtually all accounts, however, Britain is better poised to address the challenges created by its aging society than are China, France, Germany, Japan, and Russia.[81] Thanks to various pension reforms begun in the 1980s and comparatively low health-care costs, spending on the elderly in Britain is expected to increase in the next four decades by less than 6 percent of GDP, which is by far the lowest growth of any of the great powers.[82] Moreover, Britain's national debt is 43 percent of GDP, which is the lowest of all the industrialized great powers.[83]

With regard to military spending, Britain over the last decade has exhibited similar patterns and levels (as a percentage of GDP) as France.[84] The United Kingdom, however, possesses two important advantages in this area relative to the other European powers. These advantages are tied to the level of states' aging crises. First, Britain spends roughly one-third less than France and Germany on personnel costs as a percentage of the overall military budget. This fact allows Britain to purchase more of the most advanced weaponry

IISS, 2002), p. 276; and International Institute for Strategic Studies, *The Military Balance, 2006–2007* (London: IISS, 2006), p. 152.

81. Jackson and Howe, *The 2003 Aging Vulnerability Index;* Peterson, *Gray Dawn,* pp. 68–69; and Jackson, *The Global Retirement Crisis,* pp. 55–57.

82. Jackson and Howe, *The 2003 Aging Vulnerability Index,* p. 7. Probably Britain's most important pension reform occurred in the early 1980s, when pension benefits were decoupled from wages. Thus when individuals earn more due to productivity gains, they are not promised proportionally higher retirement benefits. In this system, government revenues increase more than retirement obligations. On health care, only Japan spends less per capita than Britain among the industrialized great powers. Organization for Economic Cooperation and Development, "Total Health Expenditure Per Capita, U.S.$ PPP," *OECD Health Data, 2006,* http://www.oecd.org/dataoecd/60/27/35529803.xls.

83. CIA, *World Factbook,* 2005 statistics.

84. For details, see SIPRI, "SIPRI Military Expenditure Database."

available. Second, and relatedly, Britain's military pension costs, as a percentage of total defense expenses, are relatively small (roughly one-third as small as this percentage in France, for example), which allows it to dedicate relatively more of its military budget to weapons purchases and salaries of active personnel.

AGING IN THE UNITED STATES: BAD, BUT BETTER THAN THE REST

Like the other great powers, the United States is an aging society. Consequently, it will face many of the same economic and fiscal burdens. According to one estimate, U.S. public obligations to the elderly for pensions and health care are expected to rise by 11 percent of GDP by 2040, to an overall level of roughly 20 percent of GDP.[85] David Walker, comptroller general of the General Accountability Office, stated in 2005 that the United States faces "a demographic tsunami" that "will never recede."[86] The Congressional Budget Office projects that by 2015, spending on the elderly will total almost $1.8 trillion, which is nearly half of the anticipated federal budget.[87] Health-care costs, in particular, are the United States' biggest problem with regard to social aging. The United States spends more than twice as much per capita in this area than any other industrial great power (though it ranks forty-fifth in the world in life expectancy).[88] According to conservative estimates, absent reforms, the costs of Medicare alone will be at least $2.6 trillion in 2050, in real terms, which is roughly the size of the current U.S. federal budget.[89]

Despite these expected cost increases, the United States is in significantly better shape to address the challenges created by its aging population than are the other powers (with the possible exception of Britain). In a study funded by the Center for Strategic and International Studies that ranks developed states by both the magnitude of the aging crisis confronting them and governments' ability to pay for it, the United States and the United Kingdom are the only great powers considered to be of "low vulnerability" in these areas. The authors of the study deem the United States' aging crisis to be roughly one-third as severe as that confronting Germany and Japan, and one-fourth as severe as the one France will face.[90] Even authors who concentrate on the substantial

85. Jackson and Howe, *The 2003 Aging Vulnerability Index,* p. 7.
86. Quoted in Richard Wolf, "A 'Fiscal Hurricane' on the Horizon," *USA Today,* November 14, 2005.
87. Jonathan Weisman, "Aging Population Poses Global Challenges: Health Care, Other Rising Costs to Strain Budgets in U.S. and Abroad," *Washington Post,* February 2, 2005.
88. OECD, "Total Health Expenditure Per Capita"; and CIA, *World Factbook,* "Guide to Rank Order Pages," 2007 statistics.
89. Wolf, "A 'Fiscal Hurricane' on the Horizon."
90. Jackson and Howe, *The 2003 Aging Vulnerability Index,* pp. 19–20.

costs of the United States' aging problems note that these problems are "mild" compared with those in other powers, which have it "far worse" than the United States.[91]

The United States is currently the youngest of all the Group of Eight nations. Because it has the highest fertility and immigration rates of all these countries, it will maintain, even strengthen, this position in coming decades. In 2050 the United States' median age will be the lowest of any of the great powers except India, in most cases by a substantial extent (see Table 4). (China's median age will surpass the United States' by 2020, and India is rapidly gaining on the United States in this area.) Perhaps most important, while the working-age populations in all the other great powers (once again except for India) are predicted by 2050 to either decline (China, France, Germany, Japan, and Russia—in the case of the last three, precipitously) or increase modestly (Britain), this demographic group is expected to increase by 31 percent in the United States (see Table 5).[92]

The United States' relatively youthful demographics will help greatly with the fiscal challenges created by social aging. The United States' growing labor force over the next fifty years will contribute to an expanding economy, thereby providing the government with additional revenue without having to increase taxes, borrow more money, or cut other spending. In addition, the United States has a relatively well funded pension system (especially in relation to China, France, Germany, India, and Russia);[93] its public welfare commitments to the elderly are relatively modest compared with those of other industrialized powers;[94] its citizens work many more hours per year and significantly later in life than the average individual in the other powers;[95] and

91. Laurence J. Kotlikoff and Scott Burns, *The Coming Generational Storm: What You Need to Know about America's Economic Future* (Cambridge, Mass.: MIT Press, 2004), pp. 35, 17. See also ibid., pp. 1, 39, 100–101. These authors rely heavily on a 2002 study commissioned by the U.S. Treasury Department that calculates the present value of the unfunded senior care liability in the United States at an astronomical $51 trillion, $44 trillion of which is for Medicare. Ibid., pp. 65–71, 163. Most other studies put these figures much lower, though they remain extremely high.
92. These projections are based on the continuation of current U.S. fertility and immigration rates. Neither should be taken as inevitable, however. The spread of antinatal cultural values, such as secularism, materialism, and individualism, may push down U.S. fertility rates toward those exhibited throughout the rest of the industrialized world. Furthermore, not only is the U.S. political climate becoming more hostile to immigration, but population aging in the industrializing world, including Latin America, is resulting in fewer emigrants from these countries.
93. In 1999 the United States' funded pension assets totaled 84 percent of GDP, which is one of the highest percentages in the world. Germany's funded pension assets at this time totaled 7 percent of GDP, and France's 5 percent. See Maureen M. Culhane, *Global Aging: Capital Market Implications* (New York: Goldman Sachs, 2001), p. 14.
94. For details, see Peterson, *Gray Dawn*, pp. 79–80; and Richard Jackson, *Germany and the Challenge of Global Aging* (Washington, D.C.: Center for Strategic and International Studies, 2003), p. 3.
95. See Sveinbjörn Blöndal and Stefano Scarpetta, "The Retirement Decision in OECD Countries,"

its tax burden is low compared with those of other powers.[96] Again, these facts do not mean that the United States will escape the fiscal burdens created by social aging or that this phenomenon will not create negative ramifications for U.S. security. Rather, as burdensome as the public costs of aging will be for the United States, the public benefits owed to U.S. seniors as a percentage of GDP (i.e., pensions and health care) will likely remain substantially lower than in most of the other great powers (see the third column in Table 7). Moreover, the United States will be better positioned to pay for these costs than almost all the other major actors in the system. As a result, global aging will be a powerful force for the continuation of the relative power dominance of the United States.

Increasing Money for Military Personnel, Not Weapons

The crowding out of military and economic development spending for increased care for the elderly is not the only way in which social aging is likely to affect global power distributions. Social aging is likely to push militaries to spend more on personnel and less on other areas, including weapons development and procurement. This is important because no nation will be able to challenge U.S. military dominance without the ability to wage highly technologically sophisticated warfare.[97] When states are forced to spend more of their military budgets on personnel than on research, development, and weapons procurement, the odds of continued U.S. military primacy increase substantially.

The oldest of the great powers are already devoting significantly more resources to military personnel than to weapons purchases and research. Over the last ten years, both France and Germany have dedicated nearly 60 percent of their military budgets to personnel, which is almost double the proportion in the U.S. budget. Germany spends nearly 4 times as much on personnel as on weapons procurement, France, Japan, and Russia roughly 2.5 times more. The

---

Working Paper, No. 202 (Paris: Economics Department, OECD, 1999), pp. 82, 90, http://www.oecd.org/dataoecd/36/30/1866098.pdf; and Organization for Economic Cooperation and Development, "Gross Domestic Product in OECD Countries, at Constant Price, in Millions of National Currency," *OECD Productivity Database*, July 2005, http://www.oecd.org/dataoecd/30/13/29860000.xls, "Average Hours Worked" tab.

96. See Owens and Bennett, "An International Perspective on U.S. Tax Reform and OECD Work to Promote International Tax Standards."

97. See Barry R. Posen, "Command of the Commons: The Military Foundation of U.S. Hegemony," *International Security*, Vol. 28, No. 1 (Summer 2003), pp. 5–46.

Table 9. Percentages of Military Budgets Dedicated to Personnel and Weapons Purchases

Country	Personnel Costs (% of Military Budget)	Weapons Purchases (% of Military Budget)	Ratio
China	32.5	33.9	0.96
United States	33.2	25.7	1.29
India	58.6	41.4	1.42
United Kingdom	39.1	24.5	1.60
Japan	44.0	18.5	2.38
Russia	44.9	16.7	2.69
France	58.1	21.3	2.73
Germany	59.3	15.1	3.93

SOURCES: Sources for NATO powers and Russia: NATO, "Table 5: Distribution of Total Defence Expenditures by Category," *NATO-Russia Compendium of Financial and Economic Data Relating to Defence* (Brussels: Defence Policy and Planning Division, 2005), p. 9, http://www.nato.int/docu/pr/2005/p05–161.pdf. Sources for Japan: "Defense Budget Slips 1% to 4.86 Trillion Yen," *Japan Times,* December 21, 2004; and Japan Defense Agency, "Defense: Let's Consider It—To Maintain Peace" (Tokyo: Ministry of Defense, 2004), p. 12, http://www.mod.go.jp/e/index_.htm. Source for China: People's Republic of China, "Chapter IV: Defense Expenditure and Defense Assets," White Paper on National Defense, 2004, http://www.fas.org/nuke/guide/china/doctrine/natdef2004.html. Source for India: GlobalSecurity.org, "Military Budget," http://www.globalsecurity.org/military/world/india/budget.htm.

NOTE: Figures for France, Germany, India, United Kingdom, and United States are for 2005. (For India, I substitute "revenue expenditures" for personnel costs and "capital expenditures" for weapons purchases. These categories are more comprehensive than desired, but the bulk of the expenditures in each are for personnel and weapons costs, respectively.) Figures for Japan and Russia are from 2004. Figures for China are from 2003.

United States, in contrast, dedicates only 1.29 times more money to personnel than to weapons purchases (see Table 9 for more statistics and sources).[98]

Social aging is a key cause of increasing military personnel costs for two main reasons. First, as societies age, more people exit the workforce than enter it. Increasing numbers of retirees in relation to new workers are likely to create labor shortages relative to previous levels of employment. The result of this trend will be increased competition among businesses and organizations—including the military—to hire workers. Consequently, if states' militaries want to be able to attract and keep the best employees in vital areas of operation—especially those in high-technology fields who usually have the most employment options and can command high salaries in the private sector—they are going to have to pay more to do so. If militaries do not in-

98. Personnel spending in these ratios includes pension costs.

crease their outlays for personnel, their effectiveness will diminish. A 2006 report endorsed by EU defense ministers made precisely these points. The report states that "the aging of Europe's people will lead to fierce competition for young and skilled workers," which will "inevitably" lead to rising military personnel per capita costs if European forces are to remain effective.[99] Similarly, to keep military salaries on par with wages in its expanding economy, China (even though its armed forces are conscripted) has had to raise military wages sharply in recent years (an 84 percent increase for officers and a 92 percent increase for soldiers from 1992 to 2002). In fact, according to the Chinese government, rising personnel expenses are the most important factor behind the growth of the Chinese defense budget in the last decade.[100]

A second factor that is increasing states' military personnel costs at the expense of weapons procurement is the aging of the militaries themselves. The great powers' pension obligations to retired military personnel are considerable. In Russia's 2006 budget, more than 130.5 billion rubles, or more than 12 percent of total defense-related expenditures, were dedicated to military pensions. This figure represents roughly 35.5 billion rubles more than was spent on weapons purchases, and approximately 37.6 billion rubles more than on military research and development.[101] Twenty-two percent of France's defense budget goes to pensions.[102] According to China's government, rising pension costs are the second most important reason for increases in military spending in the last decade (after pay increases for active personnel).[103] Even India, despite having the youngest population of all the great powers, currently spends almost 15 percent of its defense budget on pensions.[104]

Growing pension costs for military retirees are important for international

---

99. European Defence Agency, *An Initial Long-Term Vision for European Defence Capability and Capacity Needs* (Brussels: European Defence Agency, 2006), p. 6, http://ue.eu.int/ueDocs/cms_Data/docs/pressdata/EN/reports/91135.pdf.
100. People's Republic of China, "Chapter IV: Defense Expenditure and Defense Assets," White Paper on National Defense, 2004, http://www.fas.org/nuke/guide/china/doctrine/natdef2004.html; and People's Republic of China, "Chapter IV: National Defense Building; Defense Expenditure," White Paper on National Defense, 2002, http://www.china.org.cn/e-white/20021209/.
101. IISS, *The Military Balance, 2006–2007,* p. 152.
102. Industry Canada, International Market Research Report, http://strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr125657e.html, 2004 statistics.
103. PRC, "Chapter IV: Defense Expenditure and Defense Assets."
104. Girja Shankar Kaura, "Defense Gets Rs 6,000-cr Hike," Tribune News Service, February 28, 2006. Consistent with the preceding analysis describing the relatively low level of Britain's aging crisis, the United Kingdom spends less than 8 percent of its total defense budget on pensions. Ministry of Defence, *The Government's Expenditure Plans, 2002–2003 to 2003–2004,* July 2002, p. 20, http://www.mod.uk/NR/rdonlyres/011F6D00-DA90-4B1C-84EA-789073F83287/0/gep_0203to0304_cm5412.pdf, 2003–04 statistics.

power relationships because these expenditures, which are not one-time costs but ones that governments will have to pay every year for many decades, do nothing to increase states' power-projection capabilities. Every dollar spent on retirees is one less dollar that can be spent on weapons, research, or active personnel. Consequently, every dollar spent in this area by the other great powers increases the likelihood of the continuation of U.S. primacy.

Of all the major fiscal effects created by global aging, however, military pension expenditures may be the area of greatest relative weakness for the United States (other than health-care costs).[105] The United States today spends more than $40 billion on military retirement.[106] These costs alone would make it the seventh largest military spender in the world.[107]

Still, despite the enormity of the United States' military pension obligations, the two powers that are probably most likely to have openly hostile relations with it in coming decades—Russia and China—are in even worse shape. As discussed, Russia currently dedicates more than 12 percent of its defense-related expenditures to military pensions, which is significantly greater than what the United States spends on pensions in its defense budget (roughly 8 percent).[108] Compared with China, the United States currently has approximately 700,000 fewer active-duty personnel.[109] Thus China's military is likely to be responsible for the pensions of many more individuals than is the United States' military, thereby hindering Chinese leaders' attempts to close the military gap with it. Over the last decade, China has substantially increased its pension payments to veterans, even while recognizing that these obligations came at the expense of weapons purchases.[110] Very likely a key reason for this choice is part of an ongoing effort by China's political leaders to keep a powerful domestic group happy so as to maximize the chances of domestic stability. As one expert on this subject puts it, "To maintain satisfaction in the ranks, the [Chinese] military more often than not has [followed the credo]: 'First secure a living, second secure equipment' *(yibao shenghuo, arbao zhuangbei)*. Hence, those who are worried about China's force modernization may take some

105. Cindy Williams, "Making the Cuts, Keeping the Benefits," *New York Times,* January 11, 2005.
106. Office of Management and Budget (OMB), "Historical Tables," *Budget of the United States Government: Fiscal Year 2007* (Washington, D.C.: Government Printing Office, 2006), Table 11.3, 2006 statistics, http://www.whitehouse.gov/omb/budget/fy2007/pdf/hist.pdf, p. 228.
107. SIPRI, "The 15 Major Spender Countries in 2005."
108. Overall military spending for the United States is from OMB, "Historical Tables," 2006 statistics, p. 78.
109. IISS, *The Military Balance, 2006–2007,* pp. 398, 400.
110. Solomon M. Karmel, "The Maoist Drag on China's Military," *Orbis,* Vol. 42, No. 3 (Summer 1998), pp. 375–386.

comfort in the fact that much of China's defense budget continues to be wasted on 'army surplus' [i.e., high personnel and pension costs]."[111] The more China ages in the coming decades, the higher these "surplus" costs will become, to the great benefit of the continuation of U.S. hegemony.[112]

A Great Power "Geriatric Peace," but High Costs for U.S. Interests

The preceding analysis demonstrates how global aging creates considerable security benefits for the United States. In the context of slowing economic growth, shrinking military expenditures, and increasing substitution of labor for capital within these budgets, no state or combination of states will be able to overtake the United States' position of economic and military dominance.

The same factors that help to preserve U.S. primacy also increase the likelihood of continued peace between the United States and the other most powerful states in the system. Numerous studies have shown that power transitions, either actual or anticipated, significantly increase the probability of international conflict. By implication, the continuation of U.S. hegemony supported by the effects of global aging will decrease the probability of either hot or cold wars developing with the other powers.

The effects of aging in the great powers are not all positive for U.S. security, however. First, the negative impact of their aging populations on the other powers' economic growth and military spending is in some respects a double-edged sword for U.S. interests. On the one hand, these outcomes will mean that no state will possess sufficient resources to challenge U.S. primacy. The same factor, though, will also reduce the amount of economic or military aid that other states will be able to contribute toward the realization of common international interests. Instead of increasing burden sharing with key allies, the United States will have to pay for even more of the costs to realize its international goals than it does today.

As the United States' allies become less active in the international arena, U.S. unilateralism will likely grow. To the extent that unilateral policies foster resentment and feelings of mistrust over the nature of states' intentions, as nu-

111. Ibid., p. 386.
112. The RAND Corporation predicts that by 2025, China will be spending 1.6 times as much on personnel than on weapons and military research and development, and 44 percent of its total military budget on the former. Keith Crane, Roger Cliff, Evan Medeiros, James Mulvenon, and William Overholt, *Modernizing China's Military: Opportunities and Constraints* (Santa Monica, Calif.: RAND, 2005), pp. 233–234. China currently spends roughly one-third of its budget on personnel, which is slightly less than the percentage dedicated to weaponry.

merous scholars have asserted, the United States' international position will become doubly burdensome.[113] Not only will the United States have to bear an increasing percentage of the costs necessary to advance interests that are common to the great powers, but these very policies are likely to create additional problems due to the animosity and suspicion that unilateralism tends to foster.

Second, while the United States should expect less international aid from its allies, it, too, is likely to experience the slowing of economic growth and the crowding out of military expenditures for elderly care. Although the scope of the aging crisis confronting the United States is smaller than in all the other great powers (with the possible exception of the United Kingdom), this does not mean that this challenge is trivial.

To pay for the massive fiscal costs associated with its aging population, the United States will in all likelihood have to scale back the scope of its international policies. The current U.S. position of unprecedented power allows its leaders to pursue highly extensive international military, economic, and humanitarian commitments.[114] The economic effects of an aging population will likely deny even the United States the fiscal room necessary to maintain the extent of its current global position, let alone adopt major new international initiatives. In the face of the exploding costs for elderly care, the crowding out of other spending will occur even for the richest country in the history of the world.

An important consequence of the United States' aging problem and the fiscal constraints it will create is that neo-isolationist foreign policy strategies are likely to become more compelling for U.S. leaders in coming decades than they would be in the absence of these conditions. The salience of these strategies will increase because they mesh with the need to reduce spending. If isolationist strategies come to dominate U.S. decisionmaking circles, the United States may end up retreating from the world even more than the burdens created by its aging population dictate.

The preceding analysis points to a paradox for U.S. security in an aging world. Because the other great powers are aging faster and to a greater extent than is the United States, thereby creating a more austere fiscal environment in these other states than the United States, the latter's currently dominant power position in relation to the other great powers will be preserved. Yet, because the United States, too, will experience many of the negative economic effects of

113. For details and sources, see Pape, "Soft Balancing against the United States."
114. For extensive analysis of the United States' global interests and policies, see Mandelbaum, *The Case for Goliath.*

an aging population, its absolute military power will likely decline from its current position. As a result, the United States (and its allies) will be less able to dedicate significant resources to preventing WMD proliferation, funding nation building, engaging in humanitarian interventions, and pursuing various other costly strategies of international conflict resolution and prevention.

Global aging may help to make the twenty-first century a particularly dangerous time for U.S. international interests. Although this article has concentrated on population aging in the great powers, the same phenomenon is likely to affect much of the world at some point in this century. In fact, the aging problem in many developing states is likely to be as acute as for the industrialized countries, but the former also suffer from the huge disadvantage of growing old before growing rich, thus greatly handicapping these states' ability to pay for elderly care costs. If the strain on governments' resources caused by the costs of aging populations becomes sufficiently great, it is not difficult to imagine either an increased probability of wars to acquire resources or the creation in these countries of "failed states." (Failed states are countries whose governments do not possess the capacity to provide for citizens' basic needs.) These countries are prime targets to become both breeding grounds and safe havens for international terrorists.[115] While global aging may be helping to create more failed states than ever before, the United States and its allies will have significantly fewer resources at their disposal than they do today to address adequately this problem, potentially to the great detriment of these states' security.

Conclusion

The world is entering an unprecedented demographic era. Never before has social aging been as pervasive and extensive an issue as it will be in coming decades.

Both the opportunities and challenges for U.S. security in an aging world are substantial. The United States' aging crisis is less acute than in the other great powers, and its ability to pay the costs associated with this phenomenon is significantly better than most of these states. These facts, however, should not disguise the magnitude of these costs for the United States nor lull U.S. leaders into inaction on this critical issue. The more the United States maintains its enviable demographic position (compared with the other great powers) and rela-

115. Francis Fukuyama, *State-Building: Governance and World Order in the 21st Century* (Ithaca, N.Y.: Cornell University Press, 2004).

tively superior ability to pay for the costs of its elderly population, the more it will be able both to preserve its own position of international power dominance and to help other states address their aging (and other) problems when it is in U.S. interests to do so. A critical implication of these facts is that such domestic policies as means-testing Social Security and Medicare payments, raising the retirement age to reflect increases in life expectancies, maintaining largely open immigration policies to help keep the United States' median age relatively low, encouraging individual behaviors that result in better personal health, and perhaps above all restraining the rising costs of its health-care system are critical international security concerns.[116] A defining political question of the twenty-first century for U.S. international interests is whether U.S. leaders have sufficient political will and wisdom to implement these and related policies. The more proactive U.S. leaders are in minimizing the scope of its aging population and the costs associated with it, the more protected U.S. international interests will be. To ignore these costs, or even to delay implementing various reforms designed to limit their size, will jeopardize the level of global influence and security that the United States enjoys today.

116. For studies that provide extensive policy recommendations to minimize the burdens of social aging, see Longman, *The Empty Cradle;* Peterson, *Gray Dawn;* and Kotlikoff and Burns, *The Coming Generational Storm.*