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WILL WE RETIRE LATER AND POORER?

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Will We Retire Later and Poorer?

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Journalists, economists, and people in government all discuss a Social Security crisis, asserting that the Social Security system will go bankrupt around 2041 unless a solution is found—or as early as 2029 in the high-cost scenario (see the SSA 2002 Annual Report). Solutions usually include financial fixes such as raising taxes, establishing private retirement accounts in which investors might earn more than government bond rates, or resort to other solutions that aim to increase savings or investment returns in preparation for the retirement of the baby boom generation on schedule at age 65 or 67. None of these ideas can work.

Rather than focus on the complexities of the various proposed solutions, let us consider for a moment a very simple model of the demographic conundrum we face, which we conceptualize in a fable:

Once upon a time, there was a family that lived on a remote tropical island. As no ships had come to visit, the family had to be self-sufficient. It grew its own food, made its own clothing, chopped wood for fuel, and even made medicines from roots and bark.

In the first generation on the island, there were two couples who had four children each. The children intermarried, and as their parents grew older, each couple took turns helping to take care of the old people. As the parents lived only a few years after they stopped working, this was a comfortable arrangement, especially since they had

saved up little trinkets—seashells, wood carvings, and semiprecious stones that they passed along to their children in exchange for the food, shelter, and care they received. The children just assumed something similar would happen when they grew old.

But other things happened along the way. The first thing was that each couple in the second generation had only two children. The second was that one of the family members found a new kind of bark that made wonderful medicines. This medicine had two amazing properties. The first was that it extended people's life spans by many years; the second was that it extended the years of vitality, so that a 65-year-old was often as vigorous and full of life as a 50-year-old of the previous generation.

When the second generation approached the age when their parents had stopped working, the conversation was a little different from the one 30 years before. Mother Charlotte remarked to her daughter, "I'd like to stop working next year, and I expect you will take care of me the way I took care of your grandmother." Daughter Sydney replied, "I'm happy to do my share, but you weren't the only one taking care of grandmother. You had brothers and sisters who helped. Besides, grandmother was very frail when she stopped working and lived only a few years. But with the new bark medicine, you are vigorous and strong, fully capable of working, and you will probably live for another 20 years. I'm not going to wait on you hand and foot for 20 years

when you can do your share. Why, if I did that, I would never have any leisure time.”

Mother Charlotte replied, “Well, surely I can compensate you. Remember your grandmother’s pearl necklace? And then there are the opals that I found and polished. How about if I give them to you? Only the necklace came to me, so this is twice what I got from my mother.” Daughter Sydney answered, “I do like the necklace and the opals, but they are not worth 20 years of work to me—maybe 15. Why don’t you keep working for another 5 years, and then I’ll agree to swap my taking care of you for the necklace and the opals.”

Mother Charlotte said, “But that’s not fair. Your father and I developed this new fishing net, which makes your life so much easier. You already have more leisure time than we did when we were your age.” Daughter Sydney replied, “Well, it made your life easier too. Besides, your parents came up with the new kind of boat that made it so much easier for you to get out to the fishing cove. Every generation comes up with something new. I hope I’ll be able to contribute something new and better to make my life and my children’s lives easier still.”

Mother Charlotte was upset. “I’ve saved this necklace and the opals all this time, and they seem to me worth 20 years. I supported your grandmother for 10 years, and only got the necklace. I’ll go talk to your brother Robin and see if he will agree to this arrangement.”

Daughter Sydney said, “Uh, he already has an arrangement with his mother-in-law. She agreed to work 6 years more. So, basically she’s getting about 14 years of support for her things. I thought I was being nice in offering you a year more than Robin’s mother-in-law got. It’s funny. Growing up, I always thought these necklaces and opals were so precious, but they can’t feed you or clothe you or take care of you when you are sick. Only people can do that.”

Several aspects of this fable resemble our current demographic situation in the U.S. As in the fable, we have had an unusually large generation, the baby boom, followed by a stabilizing in population, so that successive generations are no longer reliably larger than the generation they follow. Also, we too have enjoyed dramatic medical advances that have extended both our life expectancy and the quality of the health we experience in our later years. Today’s 65-year-old may have the vigor of a 50-year-old of earlier generations. These added years of life have led to a dramatic surge in the proportion of American population that is over 65. This proportion will nearly double again from 2010 to 2030 when the baby boom generation begins to turn 65.

Yet no one has yet seriously questioned whether the

retirement age really ought to be set at our typical 65. Instead people focus on financial fixes such as adding to savings or increasing the returns on our retirement savings. Yet can a closed society actually “save” for retirement?

In an early scene in the movie, *Casablanca*, a woman begs a jewelry dealer to give her more for her diamond ring so she can raise the money to buy passage out of Casablanca. “Couldn’t you make it a little more?” she asks. “Sorry,” he replies, “but diamonds are a drag upon the market.”

When are savings a glut upon the market? What does it mean for a society to save for retirement? It’s one thing if you save and I don’t, but is it the same if we all do it? Can we rescue Social Security by setting aside money in the form of stocks, bonds, or Social Security Trust Funds, or other forms of IOUs?

Retirees don’t actually consume money; they consume goods and services, and, as the parable suggests, we can never really be sure how much in the way of goods and services our savings will buy when we retire. Whether those savings are jewels, or stocks or bonds, or even cash, their purchasing power will reflect some rate of exchange, established through some form of negotiation. The price will be set by supply and demand.

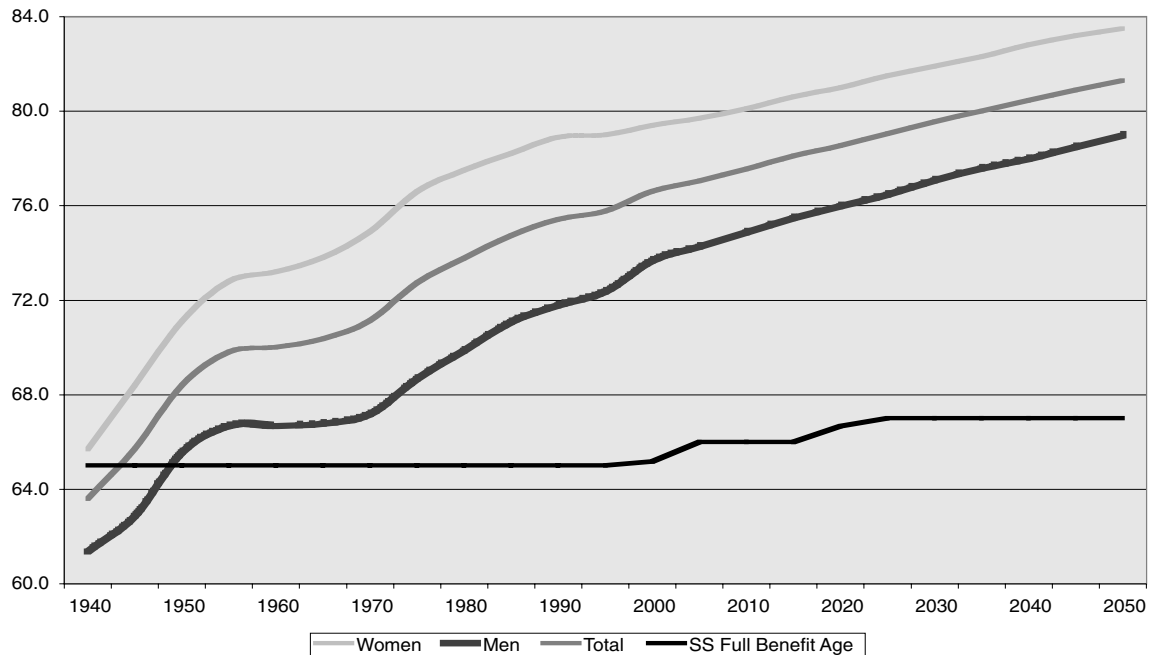
If there are many people willing to offer goods and services, the terms of trade will favor those who hold savings. If there are fewer people available to offer goods and services, more savings will have to be exchanged for a given amount of goods or services. These are the basic laws of supply and demand.

Much of the discussion about Social Security focuses on *dependency ratios*, the ratio of those who do not work and therefore depend on the work force for the goods and services that they want to consume relative to those who do work. Often this is simplified into a ratio of people over 65 to those under 65. The presumption is generally that an increase in the dependency ratio requires imposing higher taxes on the working population, unless there is a pool of money, a trust fund, that will supplement the required payments.

But perhaps this is the wrong way to think about the question. Suppose an increase in dependency ratios beyond some level is not possible? Suppose that at some point there are so few workers that they refuse to produce enough goods and services to support all the rest of the population? They might demand an increase in wages, or they might bid down the price they are willing to pay for financial assets. Either action would mean would-be retirees either face a lower standard of living in retirement, or reluctantly postpone retirement for a few years

EXHIBIT 1

Demographics of Living Longer—Life Expectancy 1940-2050



until they can afford to retire in the style they want.

Assuming many people choose the latter path, we can turn this analysis around to ask another question. How late must people retire, in order for dependency ratios to remain where they are today?

Why should dependency ratios remain roughly stable? Because of the law of supply and demand. Retirees must sell assets to pay for goods and services. If dependency ratios rise, this will put downward pressure on asset values and upward pressure on the goods and services that are sought by retirees (notably medical care). This drop in asset values and rise in prices will force retirees to defer their retirement plans, bringing the dependency ratio back down. Equilibrium may well be defined in terms of a stable dependency ratio, rather than a stable retirement age.

REVERSING THE DEPENDENCY RATIO EFFECT

A variety of exhibits tell an interesting tale.

Exhibit 1 shows how slowly we are allowing our Social Security system to adapt to the increase in life expectancy of recent decades. Between 1940 and 2040, life expectancy will likely have increased by about 17 years. Our political leaders have been allowing us to cling to the illusion that our children can retire only two years later than our great-grandparents. And we can retire just one year later than our grandparents.

The simple fact is that most people did not live to retire in 1940. Most of those who did survive to age 65 typically spent a brief retirement in failing health. Today the substantial majority survive to age 65; many maintain quite a good quality of life for many years after age 65.

Exhibit 2 shows how the demographics of the baby boom are playing out in the ratio of retirees to workers. Here we show the ratio of people over 65 to those who are between 20 and 65. As the boomers reached working age, the work force size surged nearly as much as the roster of people over 65.

The result: The simple dependency ratio of retirees to workers grew relatively slowly, although it still managed to almost double from 0.13 retirees per worker to 0.21 in the past 60 years. Now, with more baby boomers approaching retirement and with no new baby boom to bolster the work force in the next 30 years, this ratio is set to almost double again to 0.37 by 2035.

In Exhibit 3, we consider the simplest possible dependency ratio. Over the 20 years from 1980 to 2000, an average of 13% of the U.S. population was over 65. Suppose this is the “right” percentage for society to carry in retirement. Suppose that society has always been and will always be content to provide goods and services to the oldest 13% of the population. While we all might agree that this measure is too simplistic, it tells an interesting story.

Before 1967, those fortunate enough to have lived

EXHIBIT 2

Dependency Ratio—Retirees per Working Age Pension (Over 65/Age 20-65)

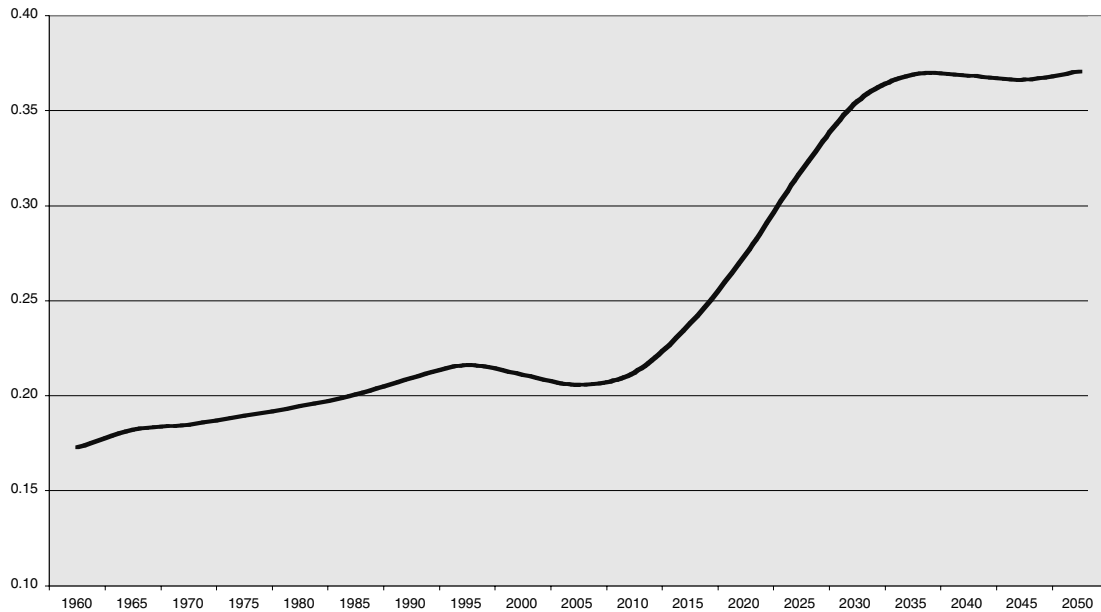
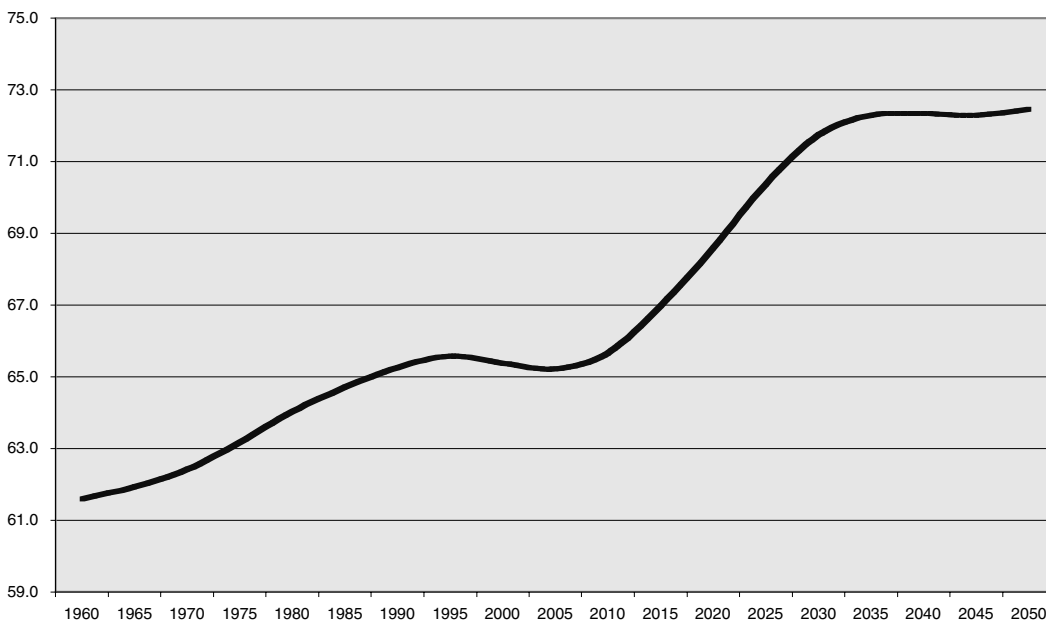


EXHIBIT 3

Retirement Ages for Fixed Retiree % of Population

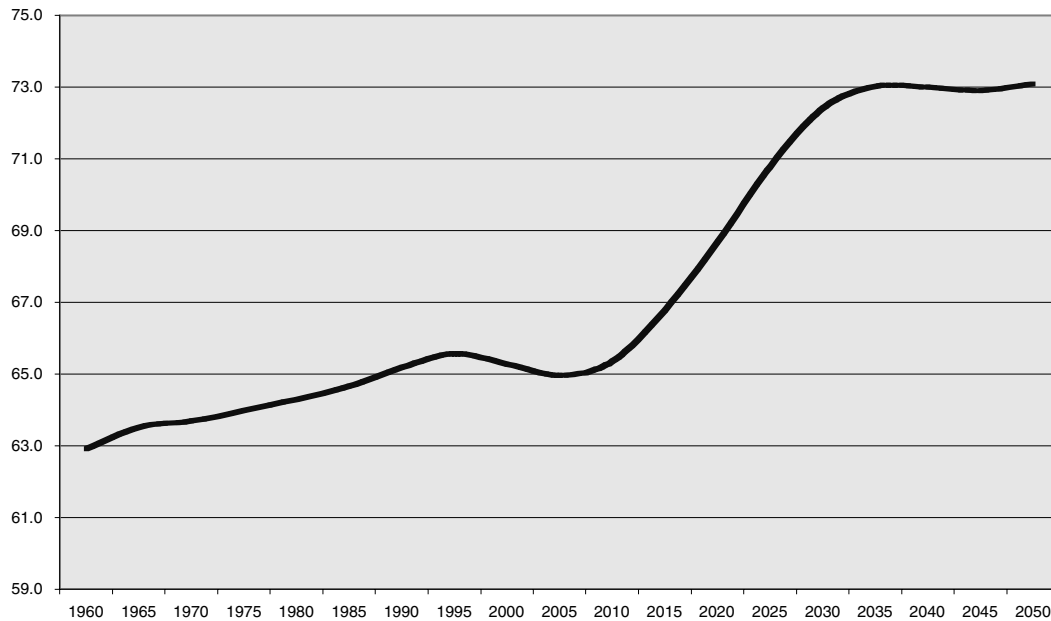


to age 62 could expect to retire. This may well be the basis for the early retirement option in Social Security. From 1980 through 2010, this simple dependency ratio would suggest a normal retirement age of 65, plus or minus a single year. But, as the number of people above age 65 soars in the years ahead, the perhaps socially acceptable retirement age would soar to 72 and beyond by the year 2035.

This simplistic measure can be improved. As the fraction of the population above age 65 soars, the fraction below age 65 tumbles. And with no baby boom since roughly 1962, there is not much of a pipeline of new people entering the typical 20–65-year-old working age population. This points toward a more useful dependency ratio: the ratio of retirement-age people, above 65, to

EXHIBIT 4

Retirement Ages for Fixed Retiree/Working Age Ratio



working-age people, aged 20 to 65. Over 1980–2000, this ratio averaged 0.21. This means that there were almost four working-age people, between 20 and 65, for each person over 65.

In Exhibit 4, we assume that society can comfortably carry this dependency ratio. In order to maintain it, society would have accepted retirement at age 63 back in 1960; would accept age 65 (plus or minus a year) until 2012; and will require people to work past age 70 by 2023.

The working population supports not only our retirees but also children, which leads to a second dependency ratio of how many dependents each worker must support, the *aggregate dependency ratio*. A worker can support more retirees if there are fewer children to feed, and vice versa. This ratio is shown in Exhibit 5.

While the proportion of retirees in the population has grown slowly but surely over the past 40 years, the proportion of the population in its working years has steadily risen, because the number of children per working-age person was falling more than twice as much as the number of retirees was rising. The baby boomers were coming into the work force, and there were suddenly fewer young people to support. This may well have contributed fuel to the massive bull market of 1975–1999. This ratio hits bottom in 2010, and is expected to continue soaring through the middle of the coming century.

In Exhibit 6, we convert a static aggregate dependency ratio into a corresponding retirement age, with one important adjustment. The goods and services consumed by the average retired person amount to roughly three times the goods and services consumed by the average child. Indeed, the aggregate expenses associated with the average youth barely match the medical expenses alone of the average retiree above 65.

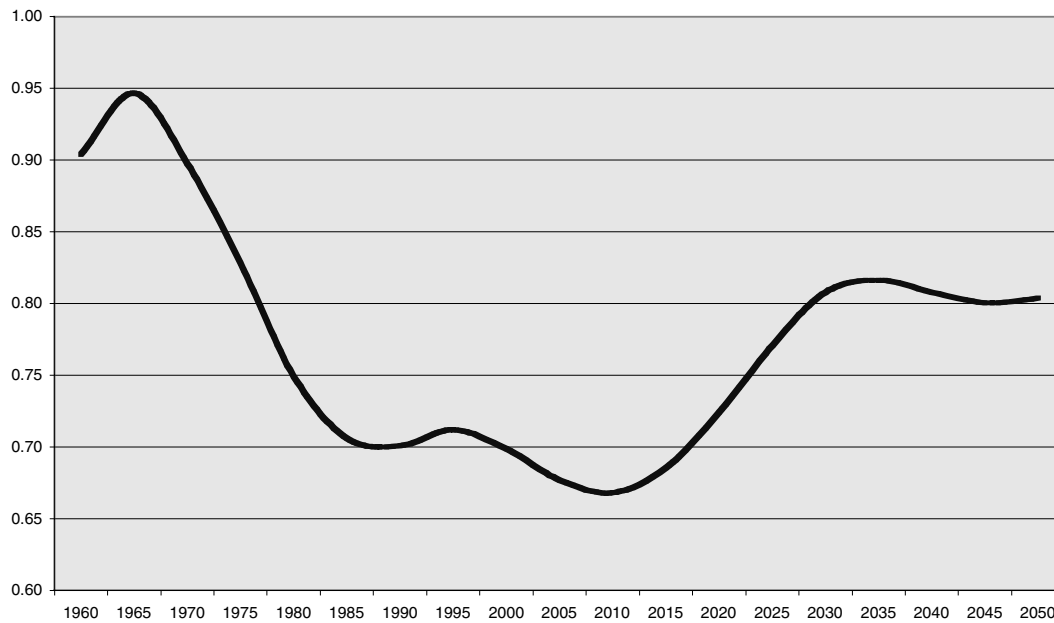
If we count the dependency cost of each child at one-third that of the retirees, and convert that adjusted dependency ratio into a socially acceptable retirement age, we get the results shown in Exhibit 6. In order to hold this adjusted dependency ratio constant, our boomer generation will see the normal retirement age rise by eight years, from 64 to 72, between 2009 and 2035.

Each of these dependency ratios makes two errors. First, each assumes there is only one dependency ratio that matters. Second, each assumes that neither society, nor retirees, nor the capital markets will look into the future. As a consequence, each exhibit suggests that the problem of deferring retirement plans is not going to start until after 2010, and won't be a serious issue until perhaps 2020.

We believe society responds to multiple demographic pressures. We think the two dependency ratios that are most important are the ratio of retirees to workers and the adjusted dependency ratio that takes account of children,

EXHIBIT 5

Dependency Ratios—Total Dependents per Working-Age Person [(Under 20 + Over 65)/Age 20-65]



assuming one-third the social burden of retirees. Society will have a natural concern about *both* the ratio of retirees to workers and the overall ratio of dependents to workers, adjusted for the lower burden of young people.

Exhibit 7 takes the average of the retirement ages indicated by these two important dependency ratios (gray line). The average shows a surprising stability, *during a time retirement age expectations were also very stable*.

In the black line, Exhibit 7 “looks ahead” at the average for the two ratios over the next 15 years.¹ This is in recognition of the fact that the capital markets generally anticipate possible future economic conditions, and the fact that prospective retirees should be expected to look ahead to economic conditions that may prevail for their remaining years. This model effectively 1) holds the average of the two dependency ratios constant, and 2) averages these ratios across the next 15 years.²

We now see in Exhibit 7 a very steady normal retirement age of 65, plus or minus a single year, from 1950 until 2005. Then, the retirement age soars past 70 by 2018, and reaches 73 by 2050.

The implication of our analysis is that, unless society can tolerate far higher dependency ratios in future decades than in the past, the normal age for retirement is going to rise. This advance in retirement ages is likely already under way, and may be quite rapid.

We make a tacit assumption that support ratios are

fixed. Clearly, they are not. But we think there is a stronger basis for believing that support ratios cannot change radically than for believing that the retirement age is fixed at 65 years old. Suppose longevity keeps rising so that people live 100 years. Is it practical to imagine that people will work 40 years to retire for the remaining 35 years? The question answers itself.

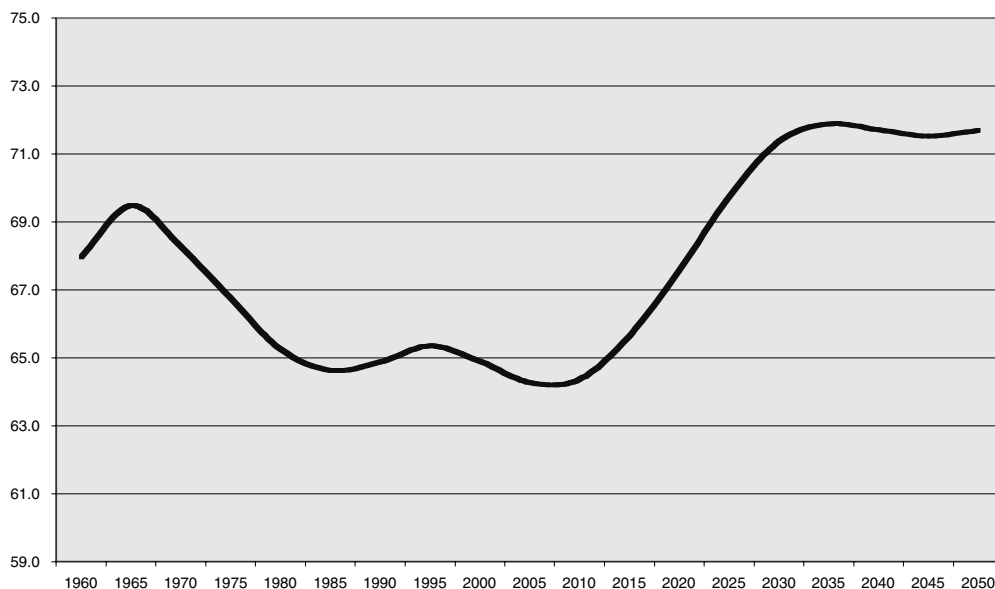
The way society can and likely will impose a stable support ratio is simple supply and demand. More sellers of assets and more non-productive buyers of goods and services should reduce asset values and raise the values of goods and services to a new market-clearing *relative* price. This change in the real value of assets (compared to the price of the goods and services that retirees may wish to consume) can be sharp enough to force support ratios to be stable. If the benefits of improved productivity are shared equally between workers and retirees, the market-clearing price of assets and of goods and services should lead to support ratios that are very nearly constant.³

If society needs people to retire later, and if poor real returns are necessary to force people to defer their retirement age, can society make this happen? Yes, with the basic laws of supply and demand.

If younger workers are scarce, they will have more bargaining power and can increase their real wages. With fewer people of an age to accumulate assets, asset prices fall, giving workers a bigger piece of the economic pie.

EXHIBIT 6

Retirement Ages for Fixed Adjusted Dependency Ratio



If retirees are common, they will bid up service wages, medical costs, and prices for some other goods and services. With many sellers of assets, asset values fall, giving retirees a smaller slice of the pie.

Through this mechanism, real returns from financial investments can be low enough to induce the necessary number of people to delay retirement and bring the proportion of workers to retirees into balance. This has the potential to be a significant negative influence on investment returns over the next quarter-century.

IMPORTANCE OF BIRTH YEAR

Exhibit 8 takes the analysis two steps farther. Suppose the normal retirement age in 2005 is 66 years old. Then, people born in 1939 can retire at age 66. Suppose the normal retirement age in 2020 is 71 years old. Then, people born in 1949 can retire at age 70. So, if the retirement age rises by 5 years in a 15-year span, the retirement age rises by 5 years *in just a 10-year difference in birth year*. Life expectancy doesn't rise by five years in every decade, not by a long shot. So, we can infer that people born in 1939 can enjoy a retirement that lasts nearly five years longer than those born just ten years later.

Exhibit 8 clearly shows the generations born between 1910 and 1940 as the winners of the demographics lottery, with an average of 16 to 18 years of retirement for those

who made it to age 65. They not only enjoyed the benefits of a huge increase in life expectancy, but also created enough baby boomers to support them in their sunset years.

The generations before 1910 generally didn't make it to age 65; those who did could (perhaps) enjoy a reasonably long retirement. Generations from 1950 to 1990 will have to work longer, and will therefore have fewer years of retirement (about 12 years, if they make it to age 72 or more).

Generations born after 1990 will have still fewer years of retirement, and will have to work longer still, unless current demographic projections are wildly wrong. This all happens well after 2050, however, and thus is beyond the scope of our immediate research.

WHAT OF SOCIAL SECURITY?

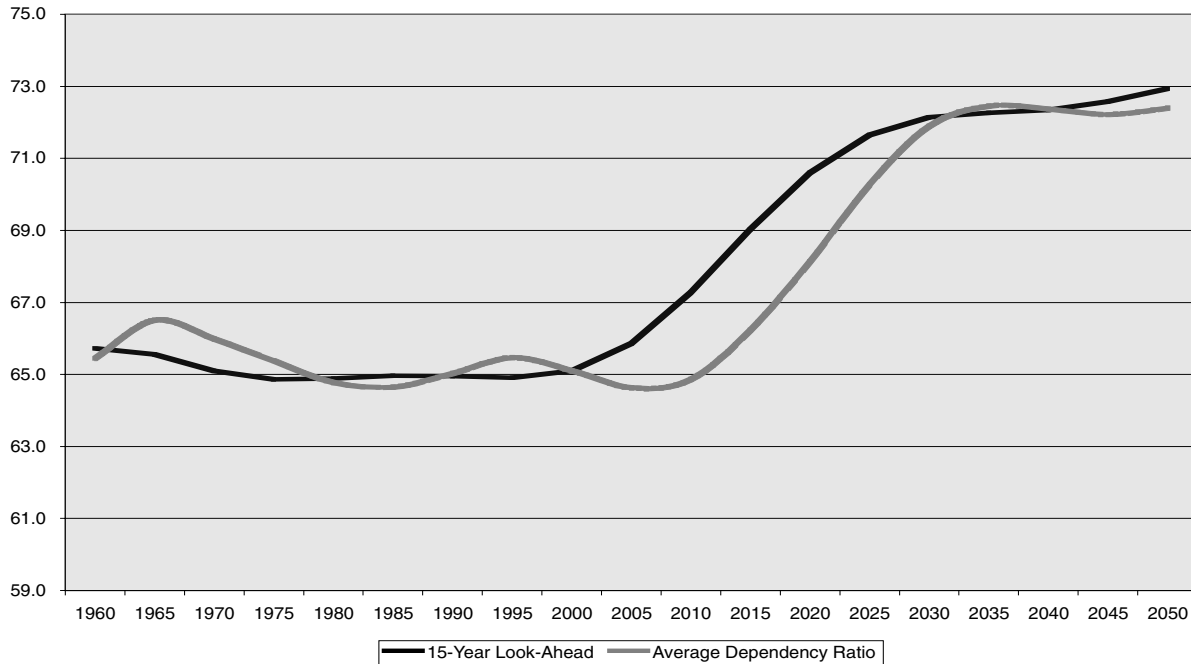
All we have written flies in the face of most conventional wisdom. Unfortunately, we think the conventional wisdom about retirement planning and Social Security is wrong. There are a number of myths about Social Security that need to be challenged.

Myth #1: Payments made by each of us for Social Security are an investment in our own individual future retirement, and a failure to deliver on the promise of retirement is a government breach of public trust.

We would agree with the latter, but not with the former. Social Security payments *are not* investments in our

EXHIBIT 7

Retirement Ages Averaging Both Retiree and Adjusted Dependency Ratios



future retirement; they are transfer payments. They cannot be otherwise, because the food each of us will eat and the car each of us will drive when we retire is not being saved for the future with our Social Security contributions today; all this is funded by transfer payments that may or may not be at our disposal when our own retirement dates arrive. One of the naive ideas of the second half of this century is that our Social Security contributions are an investment in our own future retirements. They aren't. Basically they are a transfer payment from the workers to the non-workers.

When Social Security was founded, it was a program to keep the elderly from poverty and to promote consumption during the demand failure associated with the Great Depression. Funding these transfer payments by contributions was made more palatable by promising workers that they too would benefit from the system when they grew old.

Such a promise was easier to keep when there were few retirees; at the time the Social Security system was founded, not half the population even reached 65. It is a much harder promise to keep when there are proportionally more retirees, and medical advances have allowed them to live much longer after retirement. It should not be surprising if workers demand that the older population help address this imbalance by delaying retirement by a few years.

Myth #2: The Medicare and Social Security trust funds will be in deficit in a handful of years unless we prefund them through increased taxes or earning higher returns on the Social Security Trust Fund.

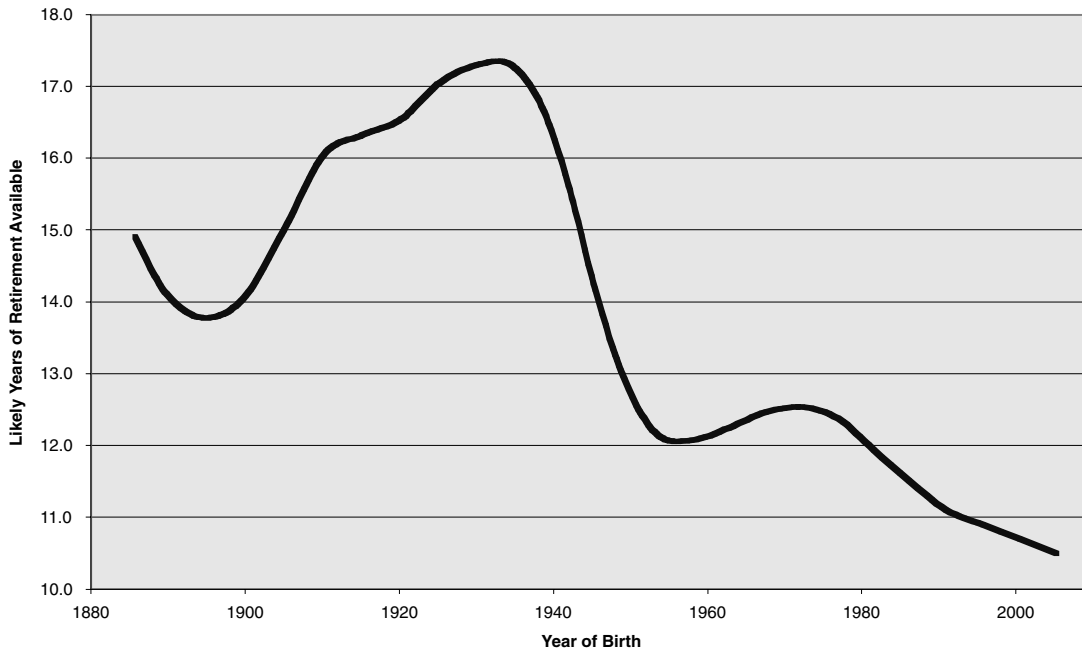
Prefunding the Social Security and Medicare "trust funds" is basically irrelevant. Prefunding, underfunding, or overfunding all matter a great deal for the employees of a corporate pension sponsor; they matter far less for a national retirement or medical care system. The essential fact here is that both Social Security and Medicare are mechanisms to transfer goods and services from those who produce them to those who don't.

If growing longevity brings us to a point where there are 1.5 workers for each retiree, then those 1.5 workers must produce the goods and services consumed by 2.5 individuals, plus any children they may have, *regardless of prefunding or underfunding of any Social Security trust fund*. Some analysts forget that money is simply a mechanism by which goods and services are transferred from seller to buyer. Even if the trust fund were massively overfunded, this would not make any difference in how many workers are required to produce the goods and services for each retiree.

It seems counter-intuitive to claim that prefunding makes no difference. Why wouldn't it help for society to save a large amount invested in stocks, bonds, or some other financial asset? Well, what are these financial assets,

EXHIBIT 8

Years of Retirement Assuming 15-Year Look-Ahead Dependency Ratios



other than a mechanism for transferring wealth from companies (if the trust funds were invested in stocks) or debtors (in the context of Treasury debt, this means taxpayers) to asset holders?

If the trust fund owns Treasury bonds, then the net assets of the trust fund represent little more than a debt obligation *owed by the taxpayers to the taxpayers*. To the extent that foreign investors own Treasury securities, the net assets may also represent to a small extent an international debt obligation.⁴ For the most part, though, this is a debt owed by the broad U.S. populace to the broad U.S. populace, approximately weighted in proportion to the extent that individuals pay or expect to pay taxes. The converse holds true if the trust fund is in deficit, in effect owing more securities than it owns. But these too will be owed by U.S. taxpayers to U.S. taxpayers.

Myth #3: If only the trust fund could invest in something other than Treasury bonds, things would be much better.

This might work somewhat for a small economy like Singapore, which does have a prefunded national retirement portfolio, as Singapore will to a great extent be seeking to transfer goods and services from *foreign* markets to Singaporean retirees. It is less relevant for more self-contained economies such as the United States or the ultimate self-contained economy, the world as a whole.

Basically, investing the Social Security trust fund does not change the fundamental reality that a certain number of workers must produce the goods and services required by the workers themselves, plus a certain number of non-workers (retirees and other aid recipients).

What if Treasury bonds are replaced by an enormous index fund or individual accounts? Then, instead of transferring bond coupons from working taxpayers to the trust portfolio to the retirees, money is transferred from working taxpayers, to the dividends and earnings of their employers, to the trust fund, to the retirees. No matter how large these assets grow, they must be exchanged for goods and services. Workers who will supply the goods and services so greatly in demand will either raise the price of those services or reduce the price they are willing to pay for stocks and bonds until the system is in balance.

The *ownership* of equities introduces a potentially significant capital markets disruption, but it has little impact on the basic wealth transfer mechanism. Privatizing Social Security will ensure a variation of outcomes among holders of private accounts (much like replacing defined-benefit plans with defined-contribution plans), but it does not change the overall picture.

As the noted economist and writer on the economics of retirement, John Shoven [2000] observes:

It doesn't take a financial genius to figure out that there are only two options to solve the Social Security solvency problem: promised benefits can be reduced or contributions to the system can be increased. . . . That the government can't solve a serious financial problem by borrowing from the public and buying stocks shouldn't surprise anyone.

Myth #4: As the Social Security system moves from 6.0 workers per retiree (1950) to 3.0 workers per retiree (2000) to 1.5 workers per retiree (in the year 2050), the system will go broke.

The Social Security system won't go broke; it *will* change. The simple fact is that 1.5 workers per retiree is a guaranteed formula for intergenerational conflict. Therefore, it will not happen; something will have to give.

At some stage, the 1.5 people producing the goods and services for each retiree will force changes in the rules to restore a ratio of workers to retirees not far from today's ratio. People will retire later. To the extent that people have prepared for this eventuality well in advance, the adjustment will be smoother, both for the would-be retirees and for their children and grandchildren.

The whole panoply of controversies relating to Social Security, whether invested in Treasury bills or equities, and whether the Medicare fund is over- or underfunded, matters little when compared with the simple fact that, as Social Security and Medicare are nothing more than mechanisms for transferring goods and services from those who work to those who don't, there cannot be enough money in either system to permit the boomers to retire on schedule.

As the Social Security system approaches *de jure* bankruptcy, it would be sensible for us to acknowledge that the real bankruptcy is an ethical bankruptcy of pretending, for political purposes, that transfer payments are actually an investment that each of us makes in our own individual retirement. The sooner the baby boom generation wakes up to the fact that it cannot expect to retire at 65 and live off other people's work for 20 years, the better people can plan, and the less disruptive this shift will be to American society.

SOLUTIONS AND INVESTMENT IMPLICATIONS

We have argued that prefunding the retirement of the baby boom generation makes no difference *in the aggregate*. This does not obviate our responsibility to prepare for our own retirements. If you save more than Mr. Jones next door, you can retire earlier or with a better lifestyle than Mr. Jones.⁵

But, if you and I and Jones and all the rest of the baby boomers all save half of our income until we retire, this has no impact on a fundamental reality. In retirement we will consume goods and services produced by people who are working at that time. The more retirees there are, and the more assets they have, the less those assets will fetch in order to procure the goods and services that the retirees want. Conversely, the fewer workers there are, the more the goods and services that they produce will fetch when they are sold to a growing number of retirees.

We believe the only solutions involve increasing the number of workers relative to the number of retirees. Increased immigration is one tool that can help to accomplish this, and it will probably be part of the solution. But, the extent of immigration necessary to make much of a difference is immense—almost 120 million working-age immigrants *with no dependents* would be needed over the next 30 years to bring the system into balance. Immigration may be part of a solution, but the retirement age must increase inexorably for most Americans. How is this likely to be accomplished?

One way to raise the retirement age is by fiat. We have estimated that the retirement age would have to rise by about seven years to maintain the same dependency ratios that we have seen from 1980 to 2000. The average of our scenarios projects the retirement age rising to 72 over the next 20 years, assuming no dramatic increases in longevity.

As the oldest baby boomers are now approaching 60, Congress could gradually phase in an increase in the retirement age, so that those closer to retirement would see the normal Social Security retirement age increase just a little, while younger baby boomers would have 20 years to adjust to the fact that their working lives will be several years longer than their parents'.

Interestingly, a combination of poor investment returns and rising prices for goods and services can accomplish the same thing as boosting retirement by fiat, albeit without giving advance warning to would-be retirees. If people experience poor returns in their retirement savings portfolios, they will conclude they can't afford to retire and will extend their working life for a few years to bring their finances into balance.

To some extent, this is already happening. Many people who anticipated retiring in the next few years are putting it off due to the poor returns in the stock market since early 2000. Others, already retired, are returning to work. Privatizing Social Security can actually boost the retirement age, without anyone in today's Congress or

administration having to take the blame.

It is possible that the worst impact on assets won't occur until 2011, when the first of the baby boomers hit retirement age and start selling assets, or when the system goes into negative cash flow in 2017.⁶ We might actually wish for this to occur earlier. If it occurs later, then more people will be surprised with the unpleasant news that they cannot retire, and others who have already retired may face a severely diminished income at a time when going back to work might not be much of an option. After all, it is easier to stay employed at 65 than to find a job at 75.

An increase in the risk premium for the investing work force and a period of poor returns starting now ironically help the boomers, who will have longer to prepare for the inevitable fact that retiring at 65 is not going to be possible for the majority of them.

The political debates over Social Security and retirement will no doubt continue. We could inject our opinions about privatization and reforming the way the government accounts for the Social Security surplus, but we would add little that is new. Our focus is on the fact that the way the debate has been framed is wrong. All stripes of elected officials want to avoid being accused of cutting Social Security benefits, because they are afraid of the wrath of the current generation of retirees. But there is no pressing need to cut the Social Security benefits of current retirees in order to secure the future of the system.

There *is* a pressing need to recognize that the only solution to the coming demographic crisis is to take steps to increase the number of future workers relative to future retirees. Immigration can play a role, but almost certainly we will need to raise the average age at which people retire. The age at which one becomes eligible for Social Security benefits (excluding disability) should rise, about two years per decade, to about 72 by 2030.

Telling the truth about this *now* will permit the boomer generation to adjust expectations gradually, rather than having an entire generation find itself bitterly disappointed in old age. To the extent that people depend on retirement savings to support them, we can reasonably expect that those savings may compound at lower rates than they have in the past, as market returns will also play a part in signaling to people that they must delay their plans to retire, well beyond age 65.

It is a bitter pill to swallow, but sooner or later Americans will realize there is no avoiding the demographic implications of a disproportionately large generation attempting to retire at once.

The picture may be even a bit worse than we've

described. We have made two tacit assumptions, both of them doubtful. First, we assume that the working elderly deliver the same productivity as younger workers, and that there is no productivity difference in workers, whether age 30, 50, or 70. This is undoubtedly true of many septuagenarian workers, but surely not all.

Second, we assume that retirees consume about the same as workers. Not true: Retirees consume more. Our economy of some \$10 trillion of gross domestic product produces some \$1.4 trillion in health care, of which the elderly consume approximately 80%, plus \$8.6 trillion in other non-government goods and services. If the elderly consume a proportionate share of the latter, then their overall consumption is quite substantially higher than the average worker's.

This would imply that retirees consume \$1.1 trillion of the \$1.4 trillion in medical costs. Assuming that they constitute 13% of the population and consume no more than the average of the workers and youth in the population, they consume \$1.1 trillion of the \$8.6 trillion in other goods and services. This suggests that retirees consume 22% of non-government GDP, almost twice the per capita share consumed by workers and youth.

As the elderly represent a growing share of the population, this means that the consumption-adjusted dependency ratios will rise, even if retirement ages rise enough to keep the various dependency ratios that we examine unchanged. This is one of the main reasons we are pessimistic support ratios can rise materially from current levels.

Either the level of benefits drops, forcing people to work longer, or the age of retirement increases so that the length of retirement is slightly shortened. People will need time to prepare for this, so any solution needs to help them get ready for this brave new world.

We need to face these facts now. Whether this is achieved by increasing the retirement age or by partial privatization that makes part of the benefit variable rather than fixed makes no difference. The important thing is for us all to realize there is no free lunch that either side of this debate can offer.

The good news is that this generation will live longer and be healthy longer than any generation that preceded it—extending our working lives a few years is a small price to pay for being able to live so much longer.

CONCLUSION

There is no Social Security crisis. The simple fact is that, as people live longer, people will have to work

longer. The trouble is that those paying into Social Security have been led to believe it is like a prefunded pension fund. It is not; Social Security is a *transfer payment* from taxpayers to recipients, and no amount of overfunding can change that basic fact.

In the end, the United States will not be able to cope with 1.5 workers producing the goods and funding the retirement for each retiree, and the system will be forced to adjust. If the adjustment is not made through formal changes to the Social Security retirement age, market forces will bring about the same result. The laws of supply and demand will ensure that most people do not have enough money to retire in the style they would like at age 65. Retirement at 65 will no longer seem a natural right, but rather a luxury for those who have planned ahead.

Perhaps those in office will find the courage to help people face these facts by establishing a plan to gradually raise the age at which one can receive full Social Security benefits. Perhaps instead part of the benefits will be tied to market returns, with the result that poor asset returns will accomplish the same goal. Either way, the facts remain the same.

We have all benefited tremendously from the medical discoveries that have extended our lives by nearly 14 years since 1940. There is a price we will have to pay, which is that we will all have to work a little longer as well. Given a choice between retiring at 65, with a 60% risk that we die before then, as our great-grandparents did in 1940, and retiring at 72, with a 60% chance of living to enjoy retirement, we prefer the latter. Wouldn't you?

ENDNOTES

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¹This "look-ahead" line averages the raw line for current data and for data 5, 10, and 15 years ahead, thereby suggesting a socially acceptable retirement age, based on look-ahead over the span that most people will be most concerned about upon retirement.

²It makes very little difference whether we look ahead 10 or 15 or 20 years. To be sure, the rise in the normal retirement age starts 2.5 or 5.0 years later if we use 15 or 10 years of look-ahead, but otherwise the curves are nearly identical.

³If we want to be really provocative, we could as easily argue for support ratios to fall as to rise.

⁴Interestingly, when it comes time to sell the assets in the 12st fund, it would be a good thing if foreign investors were

not already holding large amounts of our paper. They currently do hold a large amount of U.S. Treasury securities, partially as a result of the very large trade deficit we run.

⁵Some employers will allow or encourage employees to save at a much more aggressive rate. The typical 401(k) allows employees to save 6% of salary, with a 3% match. At First Quadrant, our own 401(k) allows employees to save 10% of salary and bonus, with an 8% match. We have near-100% participation at the maximum rate. If an employee's retirement is funded at 18% of income, rather than at 9% of income, those who plan ahead and save more aggressively than the average for their generation may well be able to retire before 65, while their contemporaries retire after 70. That's an *immense* difference.

⁶Or as early as 2013, in the high-cost scenario in the SSA 2002 annual report. An extensive references list is available from the authors on request.

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