Longevity Economics

Leveraging the Advantages of an Aging Society

THE GERONTOLOGICAL SOCIETY OF AMERICA®

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About The Gerontological Society of America and National Academy on an Aging Society

The Gerontological Society of America (GSA) is the oldest and largest international, interdisciplinary scientific organization devoted to research, education, and practice in the field of aging. The principal mission of the Society—and its 5,500+ members—is to advance the study of aging and disseminate information among scientists, decision makers, and the general public.

GSA's policy institute, the National Academy on an Aging Society, conducts and compiles research on issues related to population aging and provides information to the public, the press, policymakers, and the academic community. It publishes the quarterly *Public Policy & Aging Report* as well as a public policy e-newsletter.

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Executive Summary

An aging society is a fact for the United States, much of the developed world, and many developing countries. People are reaching traditional retirement ages with many years of expected life remaining and their functional capacity largely intact. Many of these people want to continue contributing to society through activities that are meaningful to the older adult and valued by others and society. As this longevity era develops, actions are needed now to address ageism and age discrimination, develop coherent policies and laws regarding retirement and pensions that recognize the reality of people living far past the historical retirement age of 65, and enhance the economic impact of older workers and retirees at the local, regional, state, and national levels.

By convening a workgroup of experts in this field, The Gerontological Society of America and Bank of America Merrill Lynch seek to concentrate on innovation and creative strategies as the United States looks for ways to leverage an aging society. Small changes can make a big difference in the lives of older Americans as well as the economic health of the nation, and multiple levers can be used to effect positive change in the Longevity Economy.

At the core of ageism is a stereotypical assumption that when people turn 65, they become dependent on others for financial assistance and direct care, grow frail and sickly, and end up residing in nursing homes for years. In fact, most older adults never need institutional care. Five general phases of aging are identifiable, from the active, engaged "go-go" older adult who is frequently still working to the "no-go" person whose physical and mental conditions require the advanced care available primarily in skilled-nursing facilities. The journey connecting these points—and their impact on economic systems in the United States—is the subject of this report.

Sizable numbers of older people are in the active "go-go" phase of aging. Many continue to work in their lifelong careers, have started consulting or contracting "olderpreneur" businesses, or have been rehired into new positions or even new careers. Overall, an estimated 22.4% of the 2016 U.S. workforce was aged 55 or older, and 22% of those aged 65 or older are expected to be in the workforce in 2026.

The majority of older people are in the "go-slow" or "slow-go" phases of life—a time when they enjoy their savings and generate substantial economic activity as consumers. In addition to an increased need for health care and personal services, these older adults may need new housing options or may need to retool their existing homes. Analyzed at the local or regional level (where outlays for entitlements such as Medicaid, Medicare, and Social Security are not a concern), older adults and their experience, knowledge, and contributions to society, wealth, and consumer purchases can contribute much to the economy.

Smaller numbers of older people are in the more infirmed "slow-slow" and "no-go" years, when limitations on their activities of daily living create a need for caregiving and health care services on a greater scale. At any given time, the percentage of older adults residing in institutional settings is in single digits, and just over one third of older adults ever spend any time in institutions. When they do, the average length of stay is only about 1 year.

Older people contribute to the Longevity Economy in three ways: as producers, as consumers, and through redistribution of wealth. These are distinct roles from an economic viewpoint. At older ages, producers may be employed in full-time or part-time positions, self-employed (consultants, contractors, freelancers, olderpreneurs), volunteers, or caregivers. To maximize the impact of older people, ageism must be eliminated and opportunities created in the workplace; older workers must be valued for the depth of their knowledge and experience, and for their dedication to the enterprise and desire to remain engaged with chosen careers. The benefits go both ways; studies show an association between continuing to work and better cognitive function in late middle-aged and older people.

Large numbers of older people provide unpaid volunteer services as well as caregiving for their loved ones and friends. Even at age 85, most people are able to handle the household activities of daily living just as well as they could in their 50s. Traditional measures of the economic impact of older people, such as the old-age dependency ratio, do not consider their substantial producer roles.

As consumers, older people may be traveling the world, financially supporting children of various ages or grandchildren, moving into new homes or making old ones more livable, or residing in congregate or care facilities. Increased health spending is an important part of this contribution; the proportion of gross domestic product devoted to health care will naturally increase as the population ages. But the older adult's economic impact does not end there. Products and services that enable older Americans to age in place are highly valued by Baby Boomers, including new technologies and advances in communication and transportation. Leisure and fitness are additional areas in which older people spend their money.

Those aged 50 years or older already make nearly 70% of contributions to charities, churches, and other philanthropic organizations, averaging $100 billion per year. Between 2007 and 2061, an estimated $58.1 trillion will be transferred by older Americans to heirs and charities. This has been termed "the largest wealth transfer in American history."

As the old-age dependency ratio reaches the range of 25 to 30 Americans aged 65 or older per 100 people aged 15 to 64 years, the United States will join several other countries in dealing with the stress that can result from too few workers to care for older parents, spouses, relatives, and friends. Some of the lessons learned and innovations implemented in countries such as Japan, Germany, and Singapore are important for the United States to consider now. Through innovation, planned action, increased productivity by older citizens through delayed retirement and re-employment, and recognition of the role of immigration in population growth and economic systems, these countries have developed unexpectedly strong economies despite their demographic challenges.

While the United States considers actions to address its changing demography, government and business leaders must realize that the danger is not in the population aging per se—rather, it is in lack of adaptation to a new demographic situation. Policy changes need to be debated and implemented now, including attention to the retirement age and tax policy, linking the retirement age to years of expected life, re-employment/re-contracting, education and skills building, wage and tax adjustments, and pension changes.

By leveraging an aging population in the longevity era, economic growth can be enhanced now and continued into the future. Demography is not destiny. The way people and countries respond to an aging society will determine the future.

Myths & Facts

MYTH

"When you pass 65, you go downhill quickly and end up living in a nursing home for years and years."

FACT

The 65-and-older population is anything but homogeneous. People are enjoying increasingly long lifespans as well as longer health spans—quality of life over the lifespan. Applying stereotypical thinking to this diverse group is ageism, a type of discriminatory thinking that needs to be eliminated.

The five general phases of aging model described in this report is a practical way of characterizing the functional capabilities of people as they age—regardless of their chronological age—and the types of residential facilities that tend to be appropriate as activities of daily living are affected by disease, accidents, aging-related changes such as decreased muscle mass or bone density, and frailty. In some, changes can begin in middle age. Others are just as active in their 90s as they were in their 50s.

As discussed throughout this report, the number of years of infirmity at the end of life has been minimized by currently available therapies for chronic diseases. People who reach age 65 can expect to live in relatively good health for years. The majority of those older than 85 are still able to handle the household activities of daily living as well as they could in their 50s (Lowsky, Olshansky, Bhattacharya & Goldman, 2014).

Only about one third of older adults (37%) are expected to ever be in any type of institutional facility, and the average length of stay is about 1 year (Joint Center for Housing Studies of Harvard University, 2014). In 2015, 1.5 million Americans aged 65 or older resided in institutional facilities, including 1% of those aged 65 to 74, 3% of people aged 75 to 84, and 9% of those who had reached age 85 (Administration on Aging, 2016).

Figure 1. Phases of Health, Activity, and Housing Options Among Older People

Phase	Health	Activities of Daily Living	Housing
 Go-Go Phase	Excellent	Few or no limitations	Community
 Go-Slow Phase	Very good	Some self-limiting situations (e.g., slow gait, vision, comprehension)	Community or congregate
 Slow-Go Phase	Good	Needs assistance with instrumental activities of daily living	Community or congregate
 Slow-Slow Phase	Fair	Critical limitations in instrumental activities of daily living	Community, congregate, or institutional
 No-Go Phase	Poor	Many limitations in instrumental and general activities of daily living	Institutional or home-based long-term care

ACTIVITIES OF DAILY LIVING

Instrumental

- Using the telephone
- Shopping
- Preparing food
- Performing housekeeping tasks
- Doing laundry
- Traveling independently or with another person
- Managing medications
- Handling finances

General

- Eating
- Bathing
- Dressing
- Toileting
- Transferring in and out of beds and chairs
- Maintaining continence of urine and feces

HOUSING

Community

- Home (owned or rented; may need barriers removed, assistive devices added, or other "livable" modifications)
- With relatives or friends
- Age-restricted communities
- Senior apartments
- Cohousing ("intentional neighborhoods")
- Home- or community-based long-term or hospice care

Congregate

- Independent or continuing-care retirement communities, some with selected services (e.g., transportation, food, laundry)
- Room and board facilities
- Assisted living facilities

Institutional

- Rehabilitation centers
- Subacute care facilities
- Skilled-nursing facilities
- Hospices

Sources: Harvey Jay Cohen, MD, Duke University Medical Center, personal communication (December 18, 2017); Ginzler (2009); Joint Center for Housing Studies of Harvard University, (2014).

Introduction

"Mary" is a 60-year-old schoolteacher in Missouri. During her more than 30 years in public schools, she has built up a nice nest egg. She is eligible for a pension through the state teachers' retirement system, but retiring is the last thing on her mind. With no siblings and no children of her own, the students have become her family. She enjoys socializing with the other teachers and showing the younger phys-ed teachers how tennis is really played. In short, despite her chronological age, Mary is a "go-go," an older person who is just as active and cognitively aware as those years her junior. She wants to work as long as her health allows.

With the populations of developed and developing countries around the world aging at a historic pace, the conventional wisdom has been that a large proportion of older people will be an economic drag on society. Stereotypes persist of those past retirement age as nonproductive citizens who are either spending their savings in fulfilling a "bucket list" or are too ill to care for themselves.

Nothing could be further from the truth.

As the United States and many other countries enter an era of longevity coupled with low birth rates for many population segments, change will be needed. The notion that older people become an economic burden on society may have been true in the past, and it could be true in the future if nothing is done. The reality is, though, that the population is aging. The choice we have is living with the status quo, retreating into fantasies of the past, or creating a new paradigm that will lead to better lives and optimal economic and social environments as the 21st century moves forward.

Ageism has been described as the last form of acceptable discrimination remaining in American society, and its inherent stereotypes and assumptions are based on the notion that one older person is pretty much like any other older person. As illustrated in Figure 1, five general phases of aging are identifiable, ranging from the active, engaged older adult who is frequently still working to the person whose physical and mental conditions require the advanced care available primarily in skilled-nursing facilities. The journey connecting these points—and their impact on economic systems in the United States—is the subject of this report.

As exemplified by Mary, many older people are in the go-go phase of aging, and sizable numbers of them can expect to remain active and engaged into their 80s and 90s. Broad generalizations about older people are simply not accurate. Not only are many people working well into their "retirement" years, they are able to continue contributing to economic growth, consumption of goods and services, and the tax bases of governments at all levels.

Unfortunately, too many people continue to frame aging using old stereotypes and assumptions about older people (see inside back cover). Most politicians, policymakers, pundits, and the media have not recognized the reality of changes in the way people are aging. As a result, people fear that traditional age-related education, work, consumption, and savings patterns among a larger aging population will, necessarily, lead to weak labor force growth and that this will result in slower overall economic growth and declines in living standards. Consequently, they view the demographic shifts as a potential crisis that will overwhelm social services, health care, and retirement systems across the globe.

This report seeks to focus on ways to support Americans as a newly recognized Longevity Economy becomes an increasingly important part of this nation's economic activity and overall fiscal health at the local, regional, and national levels. By convening a workgroup of experts in this field, The Gerontological Society of America and Bank of America Merrill Lynch seek to concentrate on innovation and creative strategies. Small changes can make a big difference in the lives of older Americans as well as the economic health of the nation, and multiple levers can be used to effect positive change in the Longevity Economy.

Within these pages, the available evidence on the impact of population aging on economics is reviewed, with attention to population trends and economic forecasts, economic opportunities in supporting older Americans as producers and consumers, and the range of key policy opportunities based on encouraging efforts in other established democracies around the world. **Across this narrative, the report challenges us all to cast aside previous misconceptions about older workers; recognize their significant value and the opportunities in supporting their longer working lives; and pursue multifaceted actions that will support workforce growth, higher consumer demand, and increased productivity.**

Longevity Economics: Complexities of an Aging Society

52% of U.S. GDP (page 14) or $7.6 trillion (page 10)

PRODUCER ROLES: OUTPUTS

Increase GDP by $442 billion by 2020 (page 10)

- Wages
- Self-employment
- Olderpreneurship
- Entrepreneurship
- Unpaid labor
- Caregiving: economic benefit of $78 billion (page 21)
- Volunteering: $1.4 trillion in value (page 21)

GOVERNMENT

- Medicare
- Medicaid
- Social Security

CONSUMER ROLES: PRODUCTS AND SERVICES

$4.6 trillion by 2032 (page 14) or $5.6 trillion in 2015 (page 23) plus jobs income (page 23)

- Health care: $4 trillion by 2032 (page 24)
- Entertainment
- Clothing
- Electronics
- Personal services
- Food and restaurants
- Travel: $40.6 billion in 2014 (page 24)
- Philanthropy and charitable donations: $100 billion per year (page 13)
- Real estate/wealth transfer: $58.1 trillion during 2007–2061 (page 22)

OLDER ADULTS/ EVERYONE

401(k)/IRA AND OTHER SAVINGS

$25 trillion in 2015 (page 22)

OTHER TAXPAYERS: INDIVIDUALS, CORPORATIONS, AND BUSINESS COMMUNITY

- Innovation
- Education
- Technology

GDP, gross domestic product; IRA, individual retirement account.

Creating a New Economy Based on Longevity

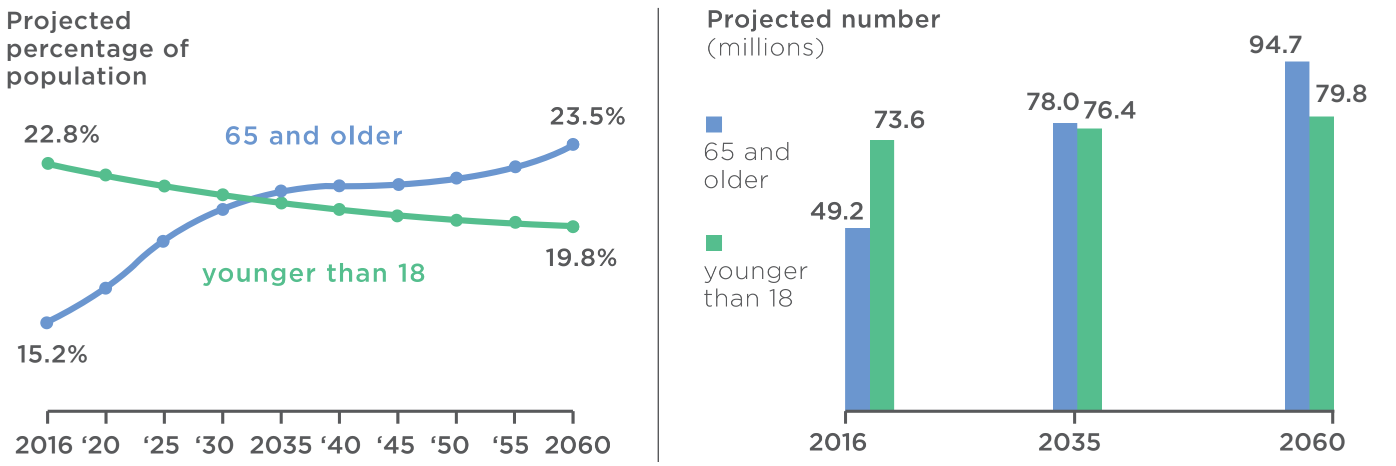
"Joe" retired at age 72 from an active medical practice in New York City after cardiovascular disease and osteoarthritis began slowing him down. For the first few years, he enjoyed travel and leisure activities with his wife of 50 years. But after losing her to cancer, Joe has been down and has had trouble navigating the city and cooking meals for himself. His daughter finally convinced him that it was time to move to suburban Westchester County with her and her family. Now adapting to a more "go-slow" phase of aging, Joe is enjoying writing a column in a national medical magazine, consulting to medical practices on how to determine their value to health systems, walking on the sidewalks of the quiet residential streets, playing with the grandkids, eating home-cooked meals with those he loves, and volunteering as a "standardized patient" at a medical school, where he helps students learn how to perform physical assessment of people with heart conditions and arthritis.

Population aging, fueled by declining birth rates and increases in life expectancy, is a megatrend that will continue in the United States and many other countries for the next several decades. Worldwide by 2050, the number of people 50 years of age and older is projected to double, and people aged 65 years and older will outnumber children 15 years and younger for the first time in human history (United Nations Human Rights Council, 2016). In the United States, the older adult population (65 years and older) is projected to become larger than the group younger than age 18 years by 2035 (Figure 2) (U.S. Census Bureau, 2018a).

The doubling of our lifespans in the past century and a half is one of the most remarkable success stories in human history; notably, one third of children now being born are expected to live to age 100 and beyond (Anzilotti, 2017). Progress was

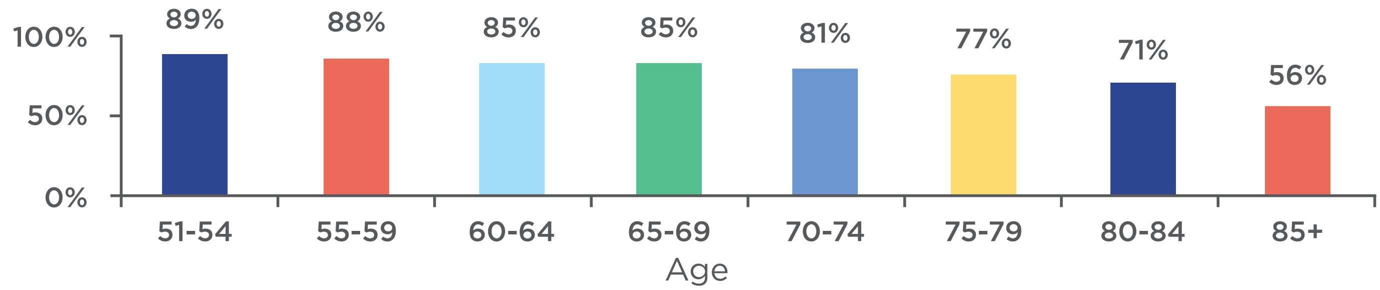
Figure 2. Projected Number of Children and Older Adults in the United States, 2016 to 2060

For the First Time in U.S. History Older Adults Are Projected to Outnumber Children by 2035



Source: U.S. Census Bureau (2018a).

Figure 3. Proportion of U.S. Population With No Health-Related Limitations on Work or Housework



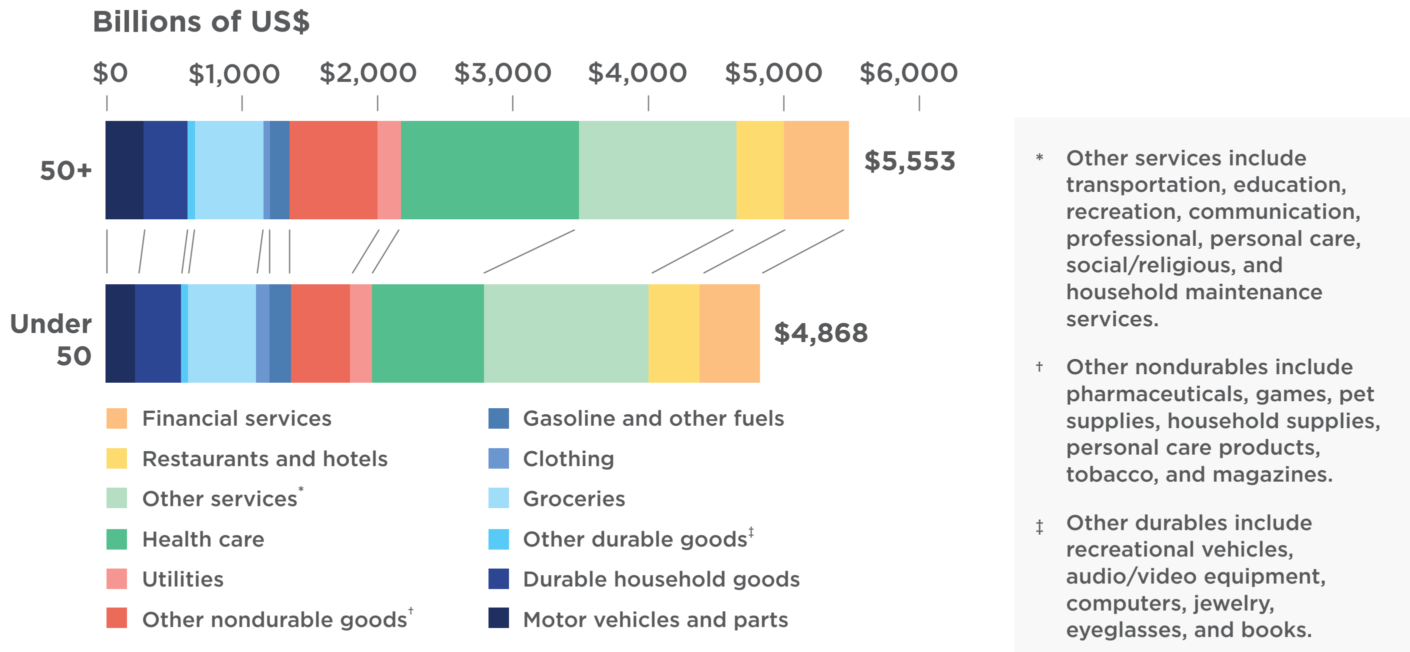
Source: Lowsky, Olshansky, Bhattacharya, & Goldman (2014). Copyright © The Gerontological Society of America.

initially achieved through better care during childbirth and infancy (reducing both maternal and infant mortality) and control of diseases of childhood through immunizations and antibiotics. In recent decades, age-adjusted death rates from the two most common causes of death among Americans—heart disease and cancer—have declined, although these remain the most common causes of death (Centers for Disease Control and Prevention National Center for Health Statistics, 2017).

For the aging society, the important metric is years of expected life for those at advanced ages (usually age 60 or 65) and the quality of those added years. Large numbers of people are living in good health far past traditional retirement age. Especially when combined with lower birth rates in the United States and many other countries, this trend creates many concerns for a nation, ranging from whether there will be enough younger people to form a military to how a smaller Sandwich Generation of middle-aged adults will manage to take care of their aging parents as well as their own children. Decisions made now and in coming years will determine what the future will be like (United Nations Human Rights Council, 2016).

Generalizations made about age-specific functional limitations are often incorrect (Bloom, Canning, & Fink, 2010). One study showed that more than one half of people who reach age 85 have no health-based limitation on work or housework (Figure 3) (Lowsky, Olshansky, Bhattacharya, & Goldman, 2014). Many types of work no longer require the physical strength and agility of younger workers; in an information society with an aging population, the cognitive and physical demands of the workplace

Figure 4. Spending Patterns by Age Group—United States, 2015



Americans aged 50 years or older are the predominant purchasers of goods and services in the United States, despite the emphasis on younger consumers by advertisers and marketers. Overall, older Americans spent nearly $5.6 trillion in 2015 and were the major purchasers in several categories: health care, nondurable goods, durable goods, utilities, motor vehicles and parts, financial services, and household goods.

Source: From AARP & Oxford Economics. (2016). *The Longevity Economy: How people over 50 are driving economic and social value in the US.* Copyright © Oxford Economics Ltd. Adapted with permission.

are many times a better fit for older workers and consistent with their desires to stay active professionally.

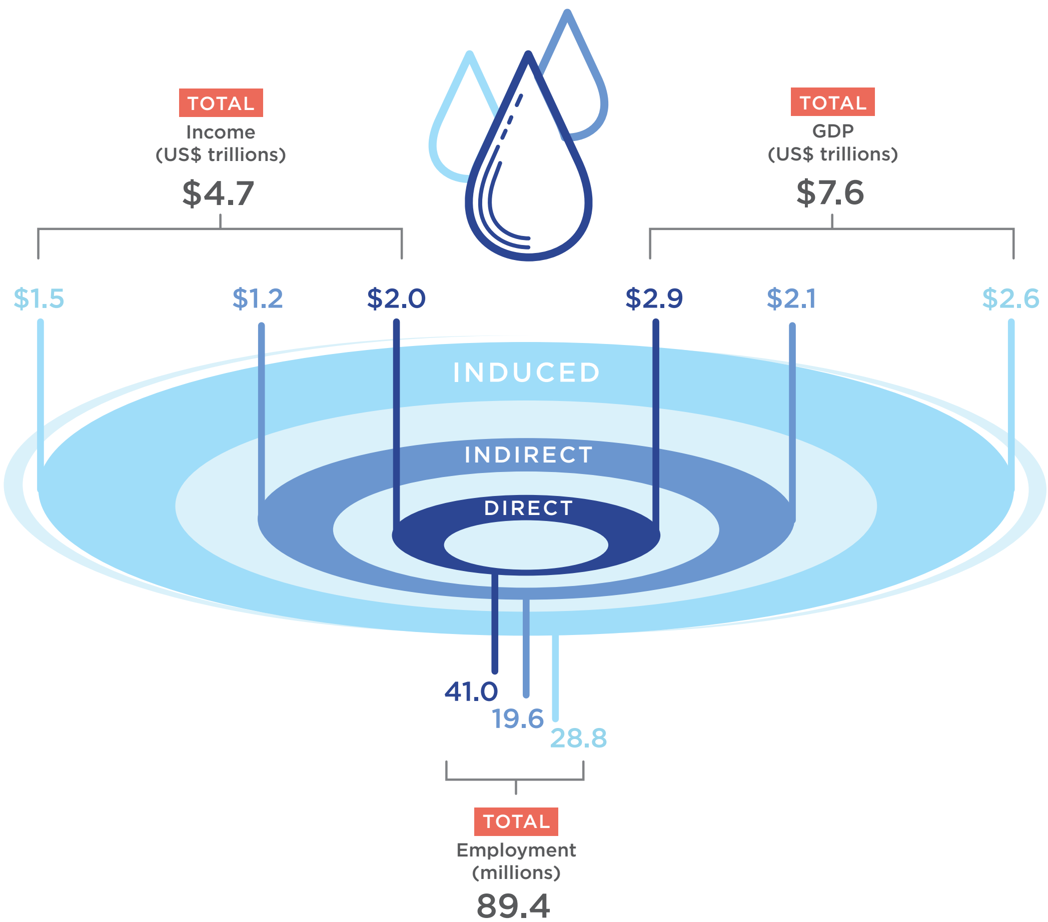
With such capabilities, we need to consider the enormous financial contributions older people can make to our national economy; the significant levels of experience and expertise they have that can fuel progress in our workplaces; and the newly extended and deep relationships possible between grandparents and grandchildren. Older people are a resource in our society, and the important role they can play in the workplace, the home, the community, and the economy must be recognized (Neal & DeLaTorre, 2016).

New patterns of behavior among older people—such as a greater interest in alternative work arrangements and self-employment along with more active retirements—are demonstrable evidence of healthy adaptation to a changing world. In the end, limiting ourselves to a one-dimensional assessment of the aging population forecloses on enormous opportunities. With today's older person having higher education levels and improved health status, and the availability of less physically demanding jobs and increases in labor-saving technologies, older workers are—and will continue to be—a significant part of the workforce as well as a source of higher and broader consumer demand. Aging workers are likely to be the segment of the population that drives increases in gross domestic product (GDP), not the opposite.

In fact, they already are.

The keys to tapping this resource lie with the business community, thought leaders, and policymakers who must cast aside misconceptions about older workers, recognize their significant value as producers and consumers in today's economy, and focus on long-term investments in innovation, education, and technology. The primary danger of our shifting demographics may not be population aging itself but, rather, failure to adapt our current systems and embrace new strategies

Figure 5. Ripple Effects of the Longevity Economy—United States, 2015



This graphic illustrates the three channels of economic impact of activities as defined by Oxford Economics: *direct* effects are the economic benefit of a cohort's spending and activities; *indirect* effects capture activity in the supply chain driven by direct procurement of goods and services; and the *induced* effect represents the impact of workers spending their wages on domestic goods and services. The specific figures shown are for Americans aged 50 years or older. The impacts of the Longevity Economy are measured using three key metrics: the gross value added to the gross domestic product (GDP), worker head count in the employment pool, and wages and salaries earned by Longevity Economy workers as a result of the spending of those aged 50 years or older.

Source: From AARP & Oxford Economics. (2016). *The Longevity Economy: How people over 50 are driving economic and social value in the US.* Copyright © Oxford Economics Ltd. Adapted with permission.

Myths & Facts

MYTH

"We won't have enough younger workers to support the aging population."

FACT

The "old-age dependency ratio" (the number of people aged 65 years and older per 100 people in the 15- to 64-year-old group) is typically cited when pointing to the problems of having an increasing ratio of older to working-age people in a population. However, these ratios traditionally count everyone over 65 as "dependent," despite the fact that almost 20% of this age group is now an active part of the labor force ("Age invaders," 2014) and many more could work if they chose to or if the availability of Social Security did not lead them to stop doing so (Coile, Milligan, & Wise, 2016). By 2026, 22% of people aged 65 or older are expected to be in the workforce (U.S. Bureau of Labor Statistics, 2017).

Traditional old-age dependency ratios also do not consider intergenerational wealth transfer. People are having children at later ages, and adult children may be living with parents. Thus, many older people—the so-called "dependents"—are actually providing financial support to their adult children (Pitt-Catsouphes, McNamara, & Sarkisian, 2014).

Recognizing the flaws in traditional ways of measuring old-age dependency, the World Bank in 2015 began circulating an alternative framework, the "adult dependency ratio," which simply measures those inactive versus active in the entire population of those aged 15 years and older. This shift enables consideration of changes in work habits of older adults and assumes future rises in the retirement age. This new ratio remains constant much longer than the traditional old-age dependency ratio (Koettl, 2015; Farrell, 2016).

(Börsch-Supan, 2014; Lindland, Fond, Haydon, & Kendall-Taylor, 2015). Indeed, as the 15- to 64-year-old share of the population shrinks, harnessing the skills and experiences of older Americans will become not just a desirable outcome, but an economic necessity.

As shown in Figures 4 and 5, the economic impact of the Longevity Economy in the United States (the sum of all products and services purchased directly by people aged 50 years and older as well as the induced and indirect economic activity this spending generates) is a remarkable $7.6 trillion (AARP & Oxford Economics, 2016). Further, economists estimate that increasing the number of older workers, combined with productivity-enhancing investments, could increase U.S. GDP by $442 billion (Erfurt, Peppes, & Purdy, 2012).

Building on the emerging Longevity Economics field, this report offers some promising pathways forward. It seeks to drive a positive shift in the public conversation about aging that will lead to the adoption of innovative strategies. It also highlights the many enablers and levers that can be used to take full advantage of population aging.

$78 billion

the 2017 economic benefit of services contributed by Americans 55 and older

PART I: The Economic Advantages of Aging

Still active and quick mentally, "Clara" is having fun at 85. She lived at home alone for a decade after her husband died at 73, doing well once she adjusted to a new life of mentoring new employees at the Chicago company she headed until her retirement at age 70. She's still the life of the party at social events with her many colleagues and friends in the community. Her health is good, but she has slowed down considerably over the past couple of years. She has Uber or Lyft to do the driving for her, but getting in and out of cars and SUVs has become a chore. And she's never found cooking for one to be all that exciting. Recognizing that she's moving into the "slow-go" part of life, Clara is looking at moving into a senior community facility where several of her friends have settled. Living there will provide the mix of independence, communal meals, and group activities that she feels she needs at this point.

While economists may disagree about the consequences, there is no arguing about the fact that the population—in the United States and in other developed nations around the world—is aging. An older population is sometimes described in terms of expected lifespans from birth. But that is only part of the equation—especially given the current opioid and obesity epidemics that are increasing mortality during middle age (Rudd, Aleshire, Zibbell, & Gladden, 2016). For assessing the needs of an older population, important metrics are years of expected life for those reaching the traditional retirement age of 65, the proportions of younger people who can expect to reach the age of 100, the different profiles in health that will affect the quality of people's extended lives, and how advances in technology and medical science may contribute to advancing both the quality and the quantity of life.

Aging Trends

Seventy years ago, just over half of all Americans who reached 21 could expect to live to 65. Today, men who retire at 65 can expect to live 17 more years; women will live longer (Berkman, Börsch-Supan, & Avendano, 2015). Children who are born today will live even longer than that, with life expectancy increasing by nearly 2 years per decade (Bank of America Merrill Lynch, 2017). Those born in 2011 have a 30% chance of living to their 100th birthday (Anzilotti, 2017).

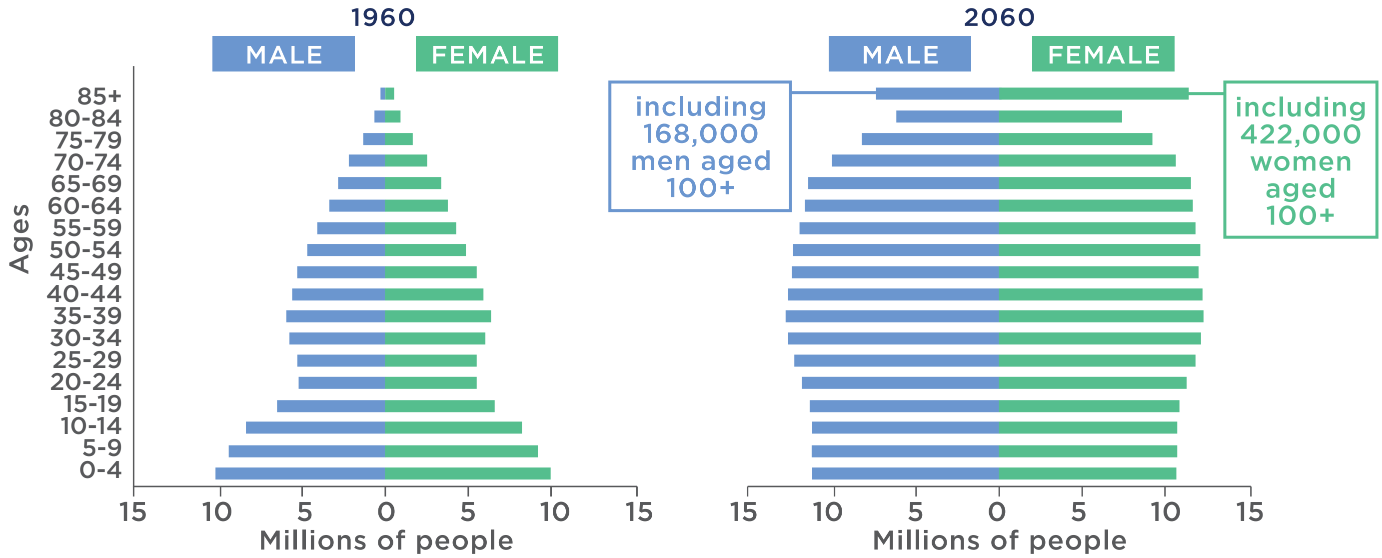
These figures translate into a doubling of the worldwide number of people over age 50 by 2050; the 1.6 billion people aged 50 or older in 2015 will grow to 3.2 billion. In the United States today, 10,000 Baby Boomers turn 65 every day (Bank of America Merrill Lynch, 2017); the 111 million people in this age group (35% of the population) in 2015 will grow by 45% by 2050, with Generation Xers and Millennials starting to turn 65 in 2030. During this time period, the number of people younger than 50 will expand by only 13% (AARP & Oxford Economics, 2016).

Such dramatic changes in the age makeup of the world's population are being driven by large differences in fertility during baby-boom and baby-bust periods (A. Börsch-Supan, personal communication, 2017) and advances in medicine, healthier workplaces, less strenuous work, better hygiene, and for many, healthier food. These and other factors have dramatically decreased infant mortality rates, increased overall life expectancy, increased later-life expectancy, and improved management of chronic diseases that become more important in advanced age (Centers for Disease Control and Prevention National Center for Health Statistics, 2017). Unless these trends change, the result will be a doubling of the ratio between people aged 65 and older and those aged 15 to 64 in many countries over the next 85 years (Clements, Dybczak, & Soto, 2016).

As this demographic upheaval occurs worldwide, the U.S. population is expected to grow from 320 million in 2015 to 390 million in 2050 and 447 million in 2100. Projected birth rates and life expectancies are expected to continue changing the age mix of the population from the traditional pyramid shape of the past to a pillar as shown in Figure 6 (United Nations, 2017) (U.S. Census Bureau, 2018b).

The decade of the 2030s will be a particularly transformative

Figure 6. From Pyramid to Pillar: A Century of Change in the Population of the United States



Source: U.S. Census Bureau (2018b); Vespa, Armstrong, & Medina (2018).

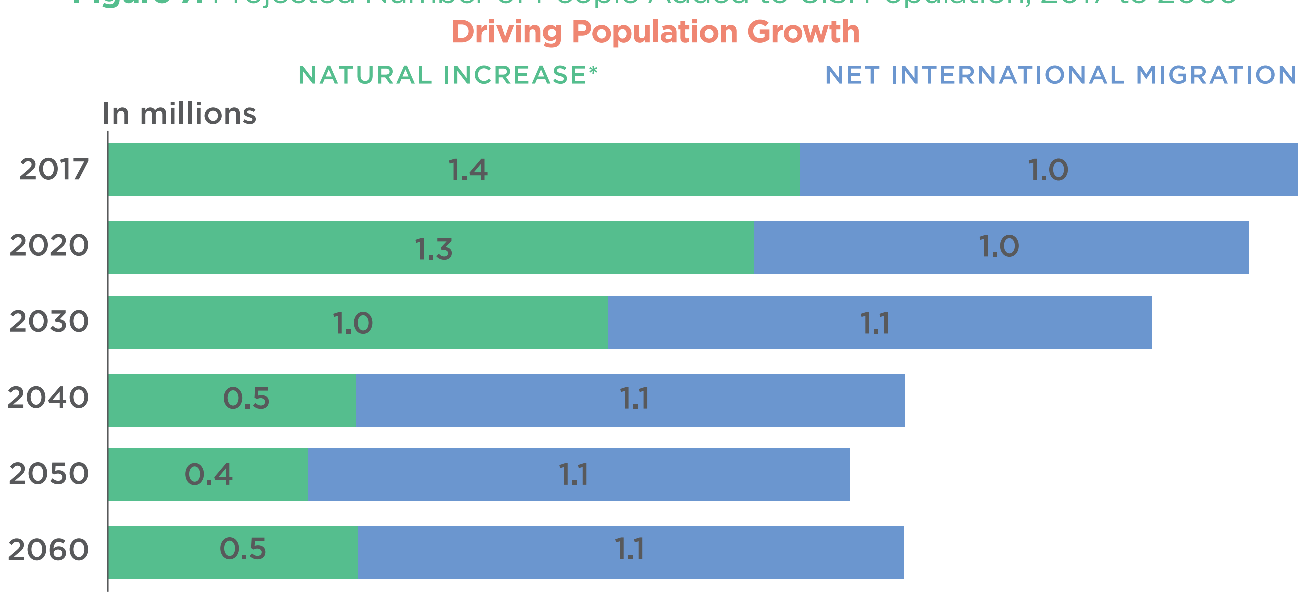
one for the United States, the U.S. Census Bureau has predicted (Vespa, Armstrong, & Medina, 2018). The birth rate will continue to decline, and in the 2030s, population growth will be driven more by net migration than by an excess of births over deaths (Figure 7). For the first time in American history, the number of older adults will exceed the number of children (Figure 2).

Aging: Crisis or Opportunity?

What effects will aging of the population have in the United States and around the world? That depends on how one looks at aging. Is 60 the new 50? Will an increasing number of people be allowed by employers to continue working past the traditional retirement age of 65? Can we reframe people's assumptions about older people and thereby have some control over how an aging population is defined and understood (O'Neil & Haydon, 2015)?

The trends in aging are viewed as a potential crisis by some (Clements, Dybczak, & Soto, 2016). Early-wave Baby Boomers met a world that was constantly unprepared for them, with new schools, homes, and other facilities needing to be built

Figure 7. Projected Number of People Added to U.S. Population, 2017 to 2060



* Natural increase is the number of people born into the population after subtracting the number of people who have died (i.e., births minus deaths).

Source: U.S. Census Bureau (2018c).

(Carneval, 1983). As this wave now enters its eighth decade, will the same thing happen? The undeniable bulge in the number of older people born in 1946 through 1964 could overwhelm social services, strain health care systems, and deplete retirement coffers. Economic growth could slow and living standards decline. The rural-to-urban migration and young adults moving far from home carry the potential to exacerbate these problems by limiting the availability of close relatives who can provide security as the Baby Boomers age (Bloom, Canning, & Fink, 2010).

To be sure, longer lives, though desirable and beneficial in so many ways, will also require longer financial support. And even with current trends toward later retirement, the postponement may not be long enough to fully offset the growth in the relative size of the population past 60. As a result, young workers—including the Generation Xers born in 1965 through 1981 and the large Millennial generation, 75 million people born in 1982 through 2000—will likely face additional burdens in supporting the consumption of older Americans (A. Börsch-Supan, personal communication, 2017).

That said, these realities do not necessarily or irrevocably constitute a crisis. Analysis of the health capacity to continue working at older ages has shown that many Americans have the ability to work longer (Coile, Milligan, & Wise, 2016). Further, the "crisis" view of population aging relies in large measure on the false assumption that people will follow the same age-related education, work, consumption, and savings patterns they previously have (Bloom, Canning, & Fink, 2010).

In addition, many core components of the crisis view are readily refuted. In sidebars throughout this report are several crisis-creating assumptions with myth-busting relevant facts and trends that tell the real story.

The Longevity Economy Is Driving Growth

The evidence that population aging can bring substantial opportunities for growth is all around us. While it is true that older people are more likely to be recipients of Social Security and other pensions, many individuals pay more in income taxes on 401(k) and other tax-advantaged savings than they receive in governmental benefits. Overall, the Longevity Economy is complex, large, and integral to the financial health of the United States and many other developed countries.

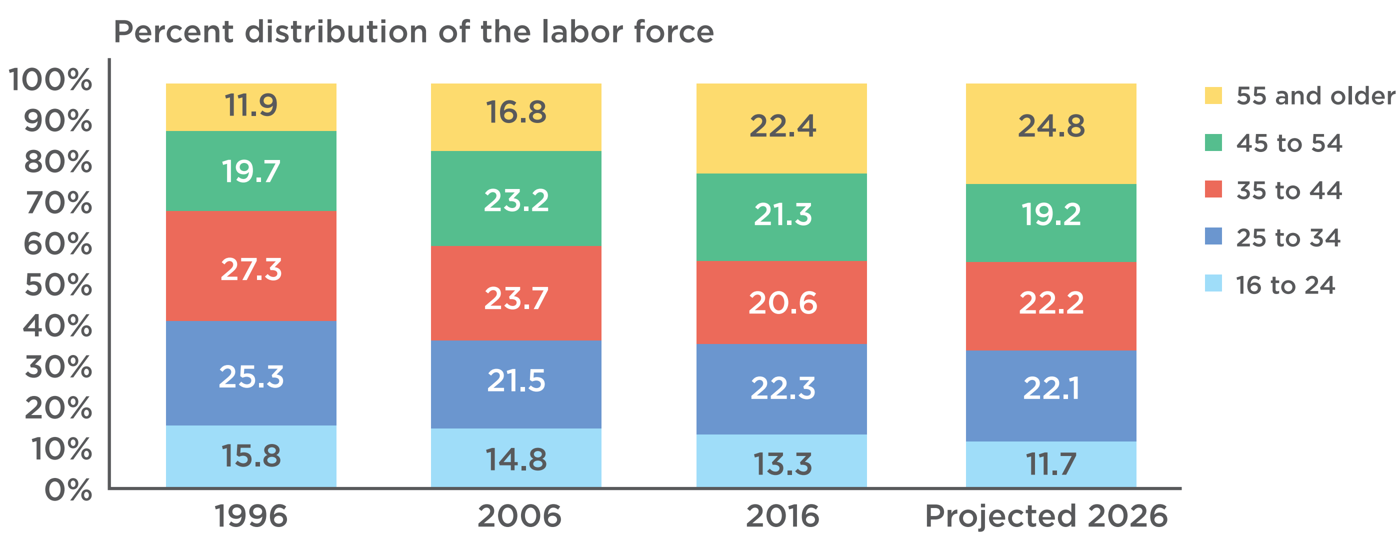
In the United States, the combination of an aging population and higher participation of older people in the workforce is increasing the proportion of workers aged 55 or older (Figure 8). The 65 and older group was the fastest growing segment of the civilian labor force in 2006 to 2016, with 3.9% growth. The U.S. Bureau of Labor Statistics (2017) estimates that 21.8% of all Americans aged 65 and older will be in the labor force by 2026, up from 12.1% in 1996.

Working with AARP, Oxford Economics (2016) found that older Americans are an outsized source of charitable giving. Nearly 70% of individual charitable donations come from people aged 50 or older, for a total of almost $100 billion per year.

$100 billion

the total amount per year of individual charitable donations that come from people aged 50 and older

Figure 8. U.S. Labor Force Share, by Age Group



Source: U.S. Bureau of Labor Statistics. (2017).

In the United Kingdom, studies have quantified the relative economic role and burden played by older generations and found that tax payments, spending power, caring, and volunteer efforts of people aged 65 or older contribute almost £40 billion more to the economy than they receive in state pensions, welfare, and health services (Hill, 2017).

In addition to quantifying the current benefits derived from the Longevity Economy, the future contributions are likely to be even more significant:

52% of U.S. GDP

By 2032, the Longevity Economy is projected to reach slightly more than one half (52%) of U.S. GDP (AARP & Oxford Economics, 2016).

$4.6 trillion

By 2032, consumer spending by Americans aged 50 and older will increase by 58% (to $4.6 trillion), compared with only 13% growth in spending for people ages 25 to 50 (AARP & Oxford Economics, 2016).

$422 billion

Growing the number of older workers in the labor force, while adding productivity-enhancing investments, could increase U.S. GDP by $442 billion by 2020 (Erfurt, Peppes, & Purdy, 2012).

At the local or regional level, planners are realizing just how economically helpful older adults are. The Atlanta Regional Commission, for example, recently calculated that 1,000 new residents aged 65 and older in its 20-county area each year through 2040 would bring the region a $7.8 billion increase in its GDP—compared with an increase of $2.6 billion for younger adults with less wealth and making lower salaries. This is particularly useful information for Atlanta, as it has the fastest growing older adult population among major cities in the United States. Older adults bring wealth and knowledge to the area, and up to one fourth of them continue to work and contribute to the area's GDP. They generally do not have children who would swell the ranks of the local school systems, and the local governments are not affected by outlays for Medicare, Medicaid, or Social Security (Atlanta Regional Commission, 2016).

Similar analyses are being conducted in other U.S. cities, and efforts are underway to create more age-friendly communities that will retain older adults already living there and attract new residents to the area. Making cities walkable, neighborhoods safe, public transportation accessible, and parks and other outdoor spaces pleasant are all factors that older people value (Neal & DeLaTorre, 2016). In addition, the generations following the Baby Boomers value walking and biking, both for health and primary modes of transportation. Investing in this infrastructure now will serve cities and towns well in the future (National Association of Realtors & Portland State University, 2015).

These trends are a critical base on which to build. As economists from across the spectrum of views on this topic have noted, demography is not destiny. It is the way people and countries respond to our new economic and demographic realities that will determine the future.

PART II: Supporting Older Americans in Key Roles

"Robert" lives at home with his wife of 75 years, "Annie." Until he broke his hip at age 95—while cutting the grass!—he walked the streets of the college town in Mississippi where he was a dean for nearly a half century, regularly participated in alumni events, and began doing most of the grocery shopping as Annie's mobility and dexterity declined. Now 98, Robert is looking at an assisted-living facility with the capability for Annie and him to "age in place," eat with other residents, and get help with medications and housekeeping. The "slow-slow" phase of aging is not where he imagined himself and his wife, but Robert knows it's time to use some of their financial resources to move into a safer place where they can get help with daily life.

The evolving field of Longevity Economics involves many people, organizations, and institutions working to develop useful approaches to harnessing the full potential of our aging population. Viewed through an economic lens across the lifespan, people play roles of "producers" and "consumers" at various points and in different ways. People start working at different ages, and they leave the workforce at various points in their lives and for many different reasons. At older ages, producers may be employed in full-time or part-time positions, self-employed, volunteers, or caregivers. Consumers may be traveling the world, supporting children of various ages or grandchildren, moving into new homes, or residing in care facilities. People are enjoying their "extra years of life" not at the end but what Moen (2016) termed an "encore adulthood" that is "somewhere around 55 to 75, as the infirmities associated with being elderly are postponed."

Given those realities, stereotypes and assumptions about individuals are of little use as people reach age 50 and beyond. Facts are important; stereotypes mislead. Population statistics can show what is happening at the macro level, and governments and employers can respond with adjustments to retirement and pension systems that provide flexibility for an aging workforce with the options of retiring earlier, working longer, and contributing in many different roles. Continuing to work in one's chosen field can be very beneficial to some as they age; others may not be able to handle the physical or cognitive demands as their health and functional abilities decline.

Older Americans as Producers

In considering the roles that older people can play in the American economy, it is useful to reflect upon the effects an aging workforce has already had in the workplace. As demographic and economic factors have already created a workplace where a variety of blue-collar and white-collar jobs are filled by older workers, adaptations have been made to maximize productivity and job satisfaction. Managers have learned to deal with workers from multiple generations, each with its own set of influencers, values, motivators, and views on employment.

The aging worker has produced a number of innovations in the workplace. One well-known example is from a BMW production plant in Germany. Recognizing that the average worker's age would be 47 by 2017, the company consulted with workers and made 70 small but impactful changes in design and equipment as well as modifications to work practices related to health care, physical preparation, and scheduling. The result has been a 7% improvement in productivity while absenteeism has fallen to 2% (Loch, Sting, Bauer, & Mauermann, 2010). Such innovations are needed based solely on the general aging of the workforce to more of a middle-aged bulge than one centered on young adults.

Moving beyond a graying workforce, those aged 55 or older are objectively the fastest growing segment of the American workforce (Bank of America Merrill Lynch, 2017). Just as some U.S. Supreme Court justices are in their 80s, many other leaders at all levels of government are well past 65. While previous generations may have viewed their 50s and early 60s as their most productive and financially rewarding years, older Americans view their 70s or 80s as ages for making some of their greatest contributions.

In addition to continuing to work for their previous employers, many older workers are "retirees"—those who have left their previous position but have begun working elsewhere, in either full-time or "bridge jobs" that will lead to retirement, or have started businesses or consulting firms. Overall, nearly one half of today's retirees work, have worked, or plan to work during their retirement; 7 in 10 Americans who will soon "retire" say they plan to work in retirement. The point here is that a new paradigm is needed that allows for options of consuming

Myths & Facts

MYTH

"Older workers will displace younger workers."

FACT

Often described as the "lump of labor" theory, the fear of workforce displacement has been deployed many times in discussions of the effects of population change on employment. People thought women entering the workforce would displace men, or various immigrant groups would displace American-born workers. In each instance, the theory has been disproven because it derives from a faulty analogy, in which the nation's workforce is compared with a small enterprise that has a limited and fixed number of clients with a fixed demand for the product. Indeed, a small enterprise like this is boxed into a fixed amount of output, and therefore can only employ a fixed lump of labor. However, these characteristics and outcomes do not apply to a large national economy (Börsch-Supan, 2014).

Numerous studies (including cross-national comparisons) have demonstrated that higher rates of employment among older adults positively correlate with higher employment for younger workers (Anzilotti, 2017; Berkman, Börsch-Supan, & Avendano, 2015; Börsch-Supan, 2014). Strikingly, countries with high rates of early retirement have higher unemployment rates and lower employment of the young (Börsch-Supan, 2014).

As labor force participation rates among younger people decline (because of increased enrollment in postsecondary education and less part-time work while in school), older workers act as a cushion against potential labor shortages (AARP & Oxford Economics, 2016).

and producing, not just "postponing" a full (and permanent) retirement (Bank of America Merrill Lynch, 2017; Lain, 2016).

Data show that many retirees would return to the workforce if the right opportunity came along. In the 2015 American Working Conditions Survey, 56% of retirees aged 50 or older—including 40% of noncollege graduates and nearly 60% of college graduates—expressed this opinion. In addition, the survey showed that 40% of currently employed workers older than 65 had "retired" at some point (Maestas, Mullen, Powell, von Wachter, & Wenger, 2015).

In short, older adults are playing a substantial role as producers in our economy and making real contributions that more than pay for their levels of consumption as measured by services and benefits directed at retirees and older people. Let's consider some of the myths, challenges, and realities they face in the workplace—or in finding new professional homes as older people.

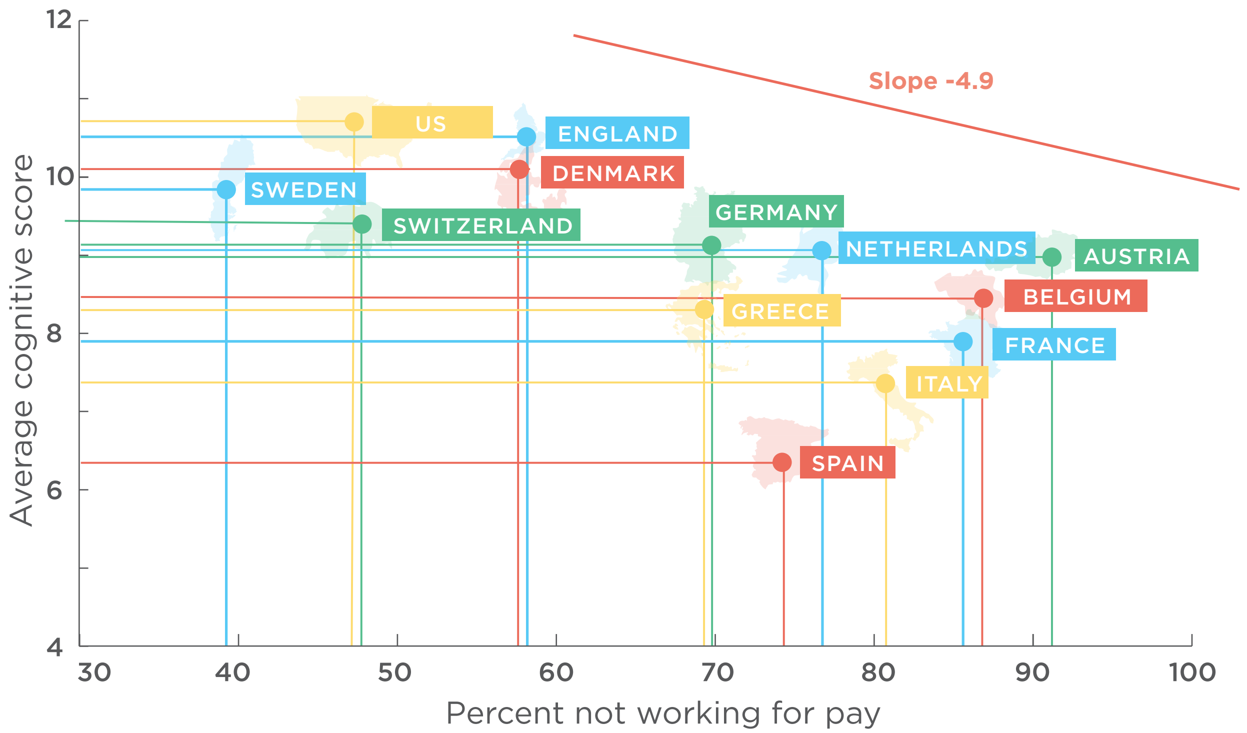
Countering Ageism and Assumptions in the Workplace

From outright discrimination to inaccurate stereotypes, older workers must run a gauntlet to be hired, retained, and/or advanced in some settings. When the facts are recognized, managers and coworkers at companies large and small can operate under a realistic view of the opportunities provided by older workers and set up systems needed to maintain productivity and engagement of an aging workforce.

Important to note is that many older people have always wanted to work longer but were moved out of their positions through early retirement incentives, mandatory retirement ages (which still exist in physically challenging fields such as law enforcement and aviation, but also with respect to small businesses, managers, and senior decision makers), or discrimination. The reasons are many. Employers believe that older workers cost more—their salaries are often higher, and their per-capita health care costs are higher. Human resources (HR) and senior leaders often believe that older workers do not respond to the incentives used to motivate the company's workforce—the promise of promotions, raises, and job-enrichment and skills-building programs used to boost morale.

Like many myths, there is some truth in those views, but overall they are built on perception rather than fact. As recounted in *Managing the Older Worker* (Cappelli & Novelli, 2010, p. 40), the per-employee cost of medical claims is higher for workers older than 50 years of age—1.4 to 2.2 times higher than

Figure 9. Cognition by Percentage Not Working for Pay, 60- to 64-Year-Old Men and Women, Weighted



In this study, the rate of decline in cognitive function as the percentage of the people not working was –4.9. The cognitive score was based on the average number of 10 words recalled by participants.

Source: Rohwedder & Willis (2010).

workers in their 30s or 40s, according to a 2005 AARP study conducted by Towers Perrin. However, the older workers often have fewer dependents, and this in many cases makes their overall health care costs lower than for younger colleagues.

Similarly, it is true that older workers are motivated by different factors than younger workers. The same Towers Perrin study, which included 35,000 employees at midsized and large U.S. companies, found older workers more motivated to exceed expectations than younger workers. This concept of employee engagement—employees' willingness to contribute to company success through discretionary activities such as working longer hours, being dedicated to the company, and putting more energy into their jobs—correlated with lower staff turnover and better company performances (Cappelli & Novelli, 2010, p. 106).

What factors produce this increased employee engagement among older workers? That's where HR assumptions are correct; it is not generally the prospects of promotion, earning more money, or the fear of being fired. Older people are often past the big economic tasks of buying homes and raising families, and they may have a substantial nest egg growing for retirement. Instead, they are more focused on the limited number of years of full employment they have remaining, and thus relying on extrinsic rewards to motivate them is a mistake (surely, relying on those factors alone is not good management for any employee) (Cappelli & Novelli, 2010, pp. 118–120).

What do older workers want? Flexibility, security and stability, independence and autonomy, service and dedication, cash compensation, benefits, and pure challenge are the factors uncovered in a RetirementJobs.com survey of job seekers over age 50. The most reassuring aspect of this list is that these are the things that all workers want in an employment situation. Things do not have to be different for older workers; employers just need to recognize the differences in motivators at various points across the years of employment (Cappelli & Novelli, 2010, pp. 121–122).

Education and use of technology are other areas in which misperceptions can exist. Older Americans are now much better educated than they once were. Assumptions that they are less able to use computers, smartphones, and other newer technologies are unfounded. Many young people abandoned Facebook when their parents began using it so much, while older adults use the medium commonly. The two innovators most associated with computer and handheld technologies—Steve Jobs of Apple and Bill Gates of Microsoft—were born in 1955; Gates will turn 65 in 2020. Older people with access to the internet can easily go online to study new content from languages to rocket science presented in innovative formats. The bottom line: People with a high school diploma or more have great potential to work productively between ages 55 and 74 (Berkman, Börsch-Supan, & Avendano, 2015; Burtless, 2013).

Associations have been found between cognition and continuing to work. Studies have shown that workers in countries with lower mandatory retirement ages tend to "mentally retire" earlier than do those in countries where people retire later (Figure 9). However, it is important to recognize the reasons that workers retire based on laws and culture in different countries; people in poor health or having early cognitive dysfunction are more likely to retire, creating a bias toward better health among people who keep working (Berkman, Börsch-Supan, & Avendano, 2015; Rohwedder & Willis, 2010).

A number of studies provide supportive findings for hiring and retaining those of advanced age. The "go-go" older worker is generally healthy, and data show that older workers have lower risks of unplanned turnovers (29% for those 50 and older compared with 49% for those younger than 50) (Hewitt, 2015). Older nonretirees have lower unemployment rates than any other age group, at less than 4% (AARP & Oxford Economics, 2016).

In an extensive study of a German car manufacturer with plants in Asia, Europe, and the United States (conducted over 4 years and based on more than 1.5 million worker-days), researchers found that average productivity actually increased in those workers who remained employed up to age 65 (Börsch-Supan & Weiss, 2013).

> "Even in a work environment requiring substantial physical strength...decline with age is compensated by characteristics that appear to increase with age and are hard to measure directly, such as experience and the ability to operate well in a team when tense situations occur, typically when things go wrong and there is little time to fix them.... Older workers' competence is their ability to avoid especially severe errors.... Young workers' productivity decreased over the four years of the observation period while the productivity of the older workers increased. The age productivity profile has thus over time become more favorable for the old" (Börsch-Supan & Weiss, 2013, pp.5-6, 20-21).

Older people who want (versus need) to keep working often intend to do so as long as they are able and are allowed to continue. In today's world, a variety of innovations makes an extended work life more possible, including alternative work arrangements, availability of public transportation and advances in self-driving vehicles and ride-sharing services, and the information/knowledge focus of many jobs (AARP & Oxford Economics, 2016).

Self-employment is another attractive option for older workers to maintain their productivity—including, in many cases, consulting to their former employers. This option is discussed below in the "olderpreneurship" section of this report.

These trends beg the question of value. After all, longevity with a company does generally translate into higher wages. Between 1985 and 2010, real labor earnings of 60- to 64-year-old workers increased 54%; for 65- to 69-year-old workers it increased 164%; for 70- to 74-year-old workers it tripled. By comparison, average labor earnings for 35- to 54-year-old workers went up only 14% during that time (Burtless, 2013).

Companies will reach different decisions on whether the salaries paid to these older workers are cost-effective, but many find the institutional knowledge, commitment to the enterprise, and low absence rates of older workers well worth the pay. A number of businesses use mentoring and advisory strategies to take full advantage of older workers' years of experience on the job. More than half (54%) of employers in one survey had put in place various training programs aimed at knowledge transfer across age cohorts; 33% used mentoring programs and 26% used job shadowing (AARP & Oxford Economics, 2016). In just two examples, IBM is giving all of its new employees "connection coaches" and then more formal mentors once the employee has been on the job for a while; similarly, Xerox matches younger, new employees with older and more experienced ones (AARP & Oxford Economics, 2016).

Performance-based compensation independent of age is another option that helps in addressing this issue—one that many think will become more common (Kuenen et al., 2011).

Businesses in the United States and around the world are recognizing the significance of population aging combined with work context changes. Nearly 40% of company executives in one survey said they see the aging of the population as a business opportunity, and only 11% assessed it primarily as a challenge or risk (Kuenen et al., 2011). To maximize the economic advantage, we must continue to develop and implement innovative strategies that support older Americans in both paid and unpaid work.

Workplace Innovations

A useful framework for thinking about the wide range of workplace innovations that can attract and retain older workers is to focus on the concept of "workability," where productivity is the result of maximizing the fit between the talents and competencies of workers with job tasks and the work environment. The European Network for Workplace Health Promotion describes the situation this way: "A longer working life can only be promoted if special conditions of occupational safety and health, work organisation and learning in the company are created" (Morschhäuser & Sochert, 2006). In the United States, The Center on Aging & Work at Boston College has built out this concept as "quality employment," identifying eight specific dimensions (Center on Aging & Work at Boston College, 2014; Pitt-Catsouphes, McNamara, & Sweet, 2015):

- Fair, attractive, and competitive compensation and benefits.
- Opportunities for development, learning, and advancement.
- Wellness, health, and safety protections.
- Workplace flexibility, autonomy, and control.

Myths & Facts

MYTH

"Older workers are less productive."

FACT

The belief that older workers are less productive is based on common assumptions about declining health and physical capacity for strenuous work. These assumptions derive from easily measured and trackable biometric variables (such as muscle strength, sight, and organ function) whereas equally important attributes (such as experience and the ability to deal with different kinds of people) are harder to measure. Ease of measurement creates a bias toward biometric factors, which do tend to decline with age, and away from strengths that older people tend to have in the workplace (Börsch-Supan, 2014; Morschhäuser & Sochert, 2006).

Similarly, some aspects of cognition (such as memory and reaction speeds) slow with age, but "crystallized intelligence" (such as access to vocabulary, facts, and procedural knowledge) tends to stay steady or even increase as people age into their 70s and 80s (Belbase & Sanzenbacher, 2016).

On the individual worker level, productivity has been shown to increase up to the age of 65, even in work environments requiring substantial physical strength (Belbase & Sanzenbacher, 2016; Börsch-Supan, 2013; Börsch-Supan & Weiss, 2013). Another study showed higher rates of inventive activity in countries with older societies. In 33 countries between 1960 and 2012, inventive activity was at its peak in countries with dependency ratios similar to those in Japan and Germany at the turn of the 21st century (Irmen & Litina, 2017).

Another factor that counters this false assumption is the substantial "compression of morbidity" seen in the United States and other developed countries as people are able to manage chronic diseases over an expanded lifespan and therefore minimize the duration of functional disabilities and frailty. While living longer, people are also healthier longer, partly because the interventions used to manage chronic illnesses also keep them in better health. Longer life expectancy is not associated with longer infirmity (Berkman, Börsch-Supan, & Avendano, 2015; Börsch-Supan, 2014).

- Opportunities for meaningful work.
- Promotion of constructive relationships at the workplace.
- Culture of respect, inclusion, and equity.
- Provisions for employment security and predictabilities.

There is abundant literature about workplace practice innovations for employees at different stages of employment ranging from recruitment and onboarding, to training, leadership development, and promotion, to transitions from the organization (including but not limited to retirement). Myriad examples illustrate the ways in which businesses are innovating both to keep older people on their rolls and to maximize the advantages they bring to the job.

Aiming to retain older workers, many businesses have increased their focus on employee well-being. In New York, Consolidated Edison offers an elder-care referral service and career-long training to retain workers with decades of knowledge and connections with key agencies ("Old, smart and productive," 2005). CVS Caremark's "Snowbirds" program enables employees to transfer to warmer climates during the winter months. In addition to meeting the needs of employees, CVS Caremark found that the older staff related well to the company's customer demographic in those locations (Kuenen et al., 2011).

Given the extent to which seniors gravitate toward alternative work schedules, businesses are experimenting with flexible work arrangements that can maximize the benefits older employees bring to production and the bottom line. MITRE's "Reserves at the Ready" program brings retirees back to work on a part-time, on-call basis (Erfurt, Peppes, & Purdy, 2012). SSP Stainless

XEROX | CVS CAREMARK | SSP STAINLESS STEEL FITTINGS | DELOITTE | CONSOLIDATED EDISON | MITRE | BON SECOURS HEALTH SYSTEM

Steel Fittings has instituted a program called "Silver Eagle" that supports people who no longer want to work full-time but are not ready to retire completely. Flexible hours and scheduling allow the company to retain and target extra production help as needed, while also transferring knowledge to less-experienced workers ("America's aging population," 2016).

Another area for innovation pertains to how pensions and retirement financing are managed and staged. Bon Secours Health System in Richmond, Virginia, uses a variety of arrangements to let employees continue working after they start receiving pension benefits. These include working up to 24 hours per week after reaching age 65 and starting to collect pension benefits (Manyika et al., 2015). Phased retirement is another example of "partial retirements," which have been incorporated in a "mass career customization lattice" at Deloitte that recognizes changing social mores, personal preferences, and the need to retain knowledgeable workers of all ages (Benko & Weisberg, 2007) and which have been implemented with mixed results in the federal government (Lunney, 2016).

HR innovations can be very effective in supporting longer working lives. For example, instead of trying to accurately forecast labor needs 2 to 3 years in advance, HR requirements that are planned 5 to 10 years in advance can focus on "job families" and required skills. Other changes in HR mindsets need to build on the reality of an older workforce and the need to keep people engaged beyond the typical retirement age (Kuenen et al., 2011):

- Investing in older workers to maintain their productivity through training, workplace adaptations, and internal transfers.
- Recognizing the shift of careers from upward to horizontal, such as into an advisory capacity, or downward as people want to contribute in less demanding positions.
- Creating performance-based compensation structures that are independent of age.

For more ideas on how these changes in the workplace can enhance retention of older people, access The Center on Aging & Work at Boston College database on "Innovative Practices" (http://www.bc.edu/research/agingandwork/employer/executiveCase.html). The Center and AARP have also developed a toolkit to support employers in crafting and sustaining a multigenerational workforce. The toolkit (http://virgo.bc.edu/employerbenchmarking) includes instruments for workplace self-assessment and strategic options in areas such as compensation, continued work, flexwork, intergenerational relations, recruitment, security, and training and development.

Supporting "Olderpreneurship"

In addition to being an employee or contract worker, being "in the workforce" can mean being self-employed, as an entrepreneur, small business owner, or one-person-shop consultant. Across all of these arrangements, senior entrepreneurship—sometimes referred to as "olderpreneurship"—is on the rise:

- In 2013, approximately 600,000 people aged 50 and older were engaged in early-stage entrepreneurial activity (Cox, Henderson, & Baker, 2014).
- Among more than 1.5 million entrepreneurs worldwide between the ages of 18 and 80, people between ages 50 and 80 are more likely to be self-employed than their younger counterparts (Uzialko, 2017).
- People in their 50s and 60s start businesses at nearly twice the rate of those in their 20s, and they have higher startup survival rates (AARP & Oxford Economics, 2016; Cox, Henderson, & Baker, 2014). One in three businesses in the United States was started by someone 50 or older (AARP & Oxford Economics, 2016).
- While only 28% of startups by younger people last longer than 3 years, for seniors the success rate is 70% (AARP & Oxford Economics, 2016; Cox, Henderson, & Baker, 2014).
- A 2017 report on global trends in entrepreneurship from 2009 through 2016 concludes that those over the age of 50 are especially important to economies where the population is aging, older entrepreneurs are still contributing to the system, and these older people are less likely to strain state resources or impact the labor market (Uzialko, 2017).

An estimated one fourth of new entrepreneurs are Baby Boomers aged 55 to 64. As today's olderpreneurs, they use their experience, financial stability, and extensive networks to build strong businesses that follow in the tradition of others who made their most famous marks when launching their businesses later in life: Colonel Harland Sanders of Kentucky Fried Chicken (age 62), Mary Kay Ash of Mary Kay Cosmetics (age 45), Charles Flint of IBM (age 61), Amadeo Giannini of Bank of America (age 60), and Bernie Marcus of Home Depot (age 50) (St. Pierre, 2017; Bressler, 2017).

BANK OF AMERICA | IBM | HOME DEPOT | KENTUCKY FRIED CHICKEN | MARY KAY COSMETICS

Olderpreneurs have a number of needs that could be addressed through changes in laws and policies and by educational organizations. Those who leave employee positions before becoming eligible for Medicare often face challenges finding affordable health, dental, life, disability, and long-term care insurance with good coverage and benefits. Olderpreneurs who are doing well in their businesses as they turn 70 could prefer not to begin mandatory distributions from 401(k) and other self-directed accounts.

On the education side, programs such as those offered by Elizabeth Isele and colleagues at the Global Institute for Experienced Entrepreneurship can be very useful to older adults in launching and growing successful businesses. Offerings include the Global Summit Series and the Experience Incubator (Global Institute for Experienced Entrepreneurship 2018). AARP also has online resources to support olderpreneurs and contribute to their success.

Supporting Unpaid Work

Unpaid work is often understood in two categories: volunteerism and caregiving. Both types of work are highly prevalent among older Americans and have real market value equivalencies. It is true that older adults are more likely than younger adults to need caregiving, but the reality in today's world is that a 65-year-old "go-go" may be volunteering in one or more organizations or providing care to a 90-year-old "slow-go" parent.

Almost 25% of Americans aged 55 and older volunteer in some capacity, collecting and distributing food, fundraising, and providing professional or management assistance to nonprofits. The Corporation for National and Community Service (2017) reported that more than 21 million Americans aged 55 and older contributed more than 3.3 billion hours of service in their communities with a yearly economic benefit of $78 billion.

The potential value of senior volunteerism as the population ages is vast. A Merrill Lynch retirement study found that over the next two decades, retiring Baby Boomers alone will donate an estimated 58 million hours of volunteer time, creating $1.4 trillion in value (AARP & Oxford Economics, 2016). In addition to its real economic value, senior volunteering has also been shown to have positive social and health effects on the seniors themselves, potentially reducing the costs associated with their own health care (Carr, Fried, & Rowe, 2015).

One well-studied example of this is the Experience Corps, through which seniors volunteer time in schools with young children. Experience Corps operates in 23 cities and became affiliated with AARP in 2009. The program has shown significant results for individual students, school climate, as well as for the older volunteers themselves. Creating more opportunities for such mutually beneficial volunteerism by older Americans will pay real dividends (Carr, Fried, & Rowe, 2015).

Caregiving—specifically to family members, including grandchildren, parents, parents-in-law, adult children with disabilities, and spouses (Figure 10)—is often overlooked as a productive activity, but the market value of this unpaid work can be quite high. In the study by Age Wave in partnership with Merrill Lynch, released in late 2017, the family caregiving economy was estimated to total $740 billion each year. This includes $500 billion for the unpaid time of caregivers, $190 billion in out-of-pocket costs covered by the caregivers, and $50 billion in lost productivity (e.g., time away from work for direct care, taking loved one to medical appointments) and health costs (for the caregiver) borne by employers of the caregivers (Age Wave & Merrill Lynch, 2017).

Financial caregiving is often needed by older people, the Age Wave/Merrill Lynch study shows. In addition to covering costs as mentioned above, financial caregiving involves paying bills from accounts of the loved one, monitoring their financial accounts, handling their insurance claims, filing their taxes, and managing their investments. Overall, 92% of caregivers help in one or more of these ways, but 49% of financial caregivers lack the legal authorization to do so (Age Wave & Merrill Lynch, 2017).

Savings, Philanthropy, and Wealth Distribution

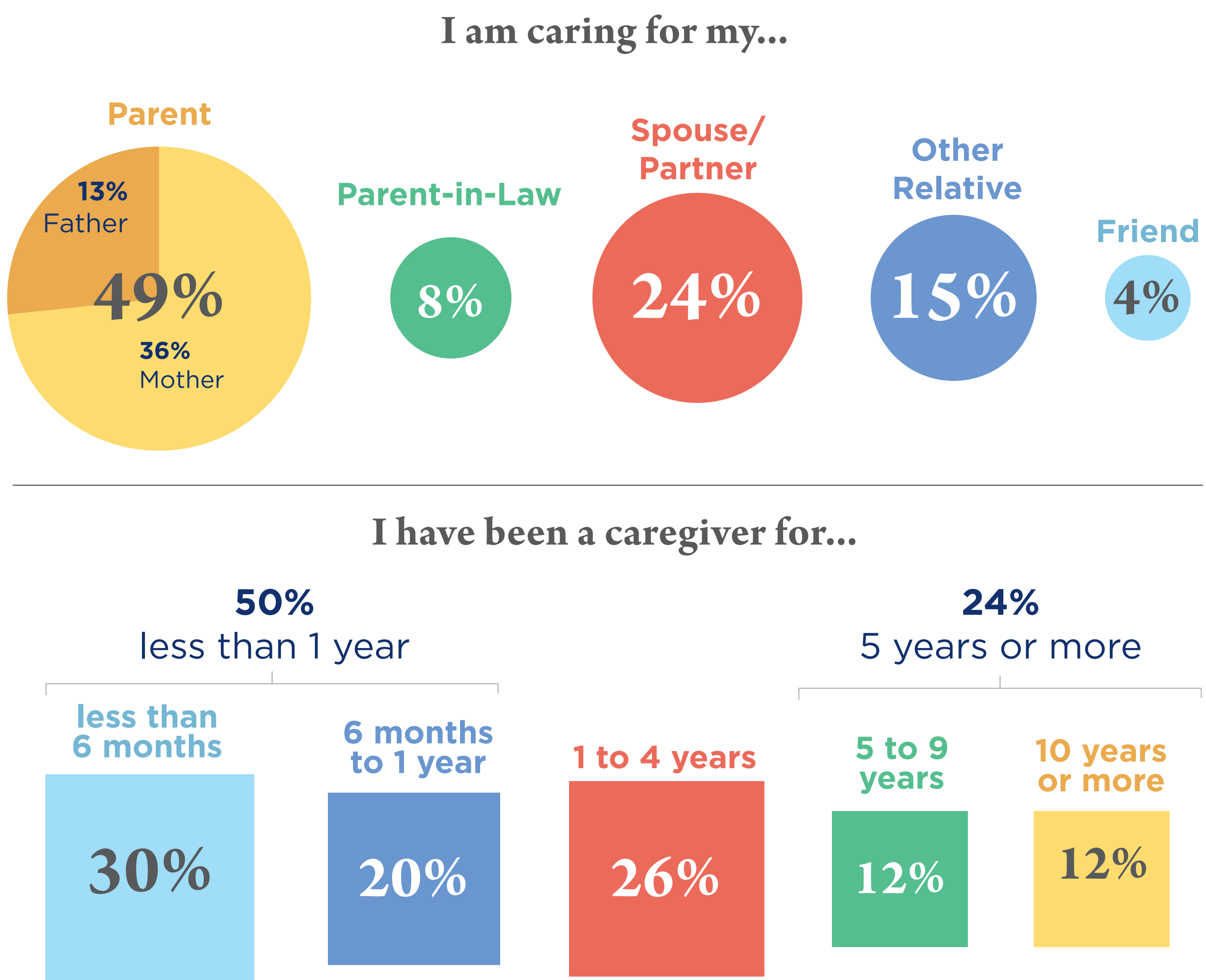
Older people contribute in another very important way to the Longevity Economy: They are significant owners of productive capital. Held in 401(k), IRA or Roth IRA, or other types of retirement accounts, their savings are important sources of capital that funds businesses through investments in stocks, mutual and equity funds, and other instruments. The value of all American retirement assets was estimated at $25 trillion in 2015 (Thornton, 2015).

Older people also own property and other assets that will be passed on to heirs or charities when they die. Indeed, 83% of household wealth in the United States is held by people older than 50, and what is not donated during retirement is generally transferred to descendants. The Center on Wealth and Philanthropy at Boston College has forecast $58.1 trillion in transfers (to charity or descendants) between 2007 and 2061 in what it termed "the largest wealth transfer in American history" (Havens & Schervish, 2014).

People such as Bill and Melinda Gates have already transferred substantial portions of their wealth into philanthropic organizations. The Gates Foundation is the largest philanthropic organization in the world, with an endowment exceeding $40 billion. It is using proceeds from this corpus to fund medical research that is making a meaningful difference in the lives of people around the world (Gates Foundation, 2017).

As well-known Baby Boomers begin creating such legacies, the millions of other Americans with well-funded retirement plans may wish to leave a portion of their wealth to foundations and charities that are dedicated to causes in which they believe. Those organizations that adapt their development activities to

Figure 10. Unpaid Caregiving—United States, 2017



Caregivers for 5 years or more are likely to be:

- Spousal caregivers
- Caring for someone with Alzheimer's disease/dementia or memory trouble
- Financial caregivers

Source: Age Wave & Merrill Lynch (2017); National Alliance for Caregiving & AARP Public Policy Institute (2015).

$58.1 trillion

the forecast in transfers (to charity or descendants) between 2007 and 2061

capture such donations could easily see their endowments grow substantially. For instance, a $1 billion corpus could be created by as few as 1,000 members of a professional organization who each donated $1 million of their wealth to its foundation. This would move the 501(c)3 organization into the upper echelons of charitable organizations.

Older Americans as Consumers

Aging Americans' need for consumer goods and services constitutes a sizable percentage of total U.S. consumption demand. More precisely, direct spending on goods and services (including health care) by people aged 50 and older was $5.6 trillion in 2015, compared with $4.9 trillion spent by people younger than 50 (AARP & Oxford Economics, 2016).

$5.6 trillion

the direct spending on goods and services (including health care) by people aged 50 and older in 2015

While senior spending supported nearly 90 million jobs and more than $4.7 trillion in labor income—61% of all U.S. jobs and 43% of all labor income (AARP & Oxford Economics, 2016)—there are economic complexities to consider. Older Americans do not produce all that they consume, leaving it to those younger than 50 to supply the excess in production, a potential burden. In addition, although the population older than 50 represents a huge and growing market for goods and services, part of the demand is fueled by public transfers (e.g., Medicare and Social Security) that are paid for by taxes on younger workers. The growing size of those transfers, and the consequent impact on younger workers, are of concern to some economists.

$4.7 trillion

in labor income that senior spending supported

People aged 50 and older account for a majority of spending in several consumer categories, including health care, nondurable goods, durable goods, utilities, motor vehicles and parts, financial services, and household goods (Figure 4) (AARP & Oxford Economics, 2016). Within these markets, older Americans have distinct spending patterns that not only present compelling market opportunities but can extend their productive years by improving their quality of life.

Products and Services That Enable Aging in Place

Most older adults want to remain in their communities and be both independent and active as they age. Products and services that support these objectives—from smart homes to GPS tracking—have found a sizable market among older Americans (AARP & Oxford Economics, 2016; Lee, 2017). From an economic perspective, this spending contributes to a virtuous cycle: seniors' median household wealth is more than 10-fold greater if they can avoid the need for long-term nursing care; this improves their quality of life while enabling them to continue spending into the general economy (AARP & Oxford Economics, 2016). A wide variety of innovative products are aimed at helping older adults stay in their communities.

Ford has used technology to better understand the physical limitations of older drivers and to design cars that are more comfortable and more functional for this population. Ford's testing innovation—a "Third Age Suit" that simulates physical limitations that compromise putting on seatbelts, opening car doors, and hitting the right button on infotainment screens—is also being used by other industries such as Kimberly-Clark. Other car companies, including Subaru and Toyota, are also testing clutter-free designs and looking for ways to make cars safer and reduce injuries for older drivers when crashes occur (Kuenen et al., 2011; Naranjo, 2017).

Cars and other modes of transportation are changing in other ways that could benefit older adults. In addition to the possibility of fully autonomous cars (called level 4 in the industry) in coming years, currently available vehicles from Volvo have level 2 features such as self-driving capabilities in specific situations, rollover mitigation systems, back-up cameras, responsive cruise control, stay-in-lane features, self-parking, and emergency braking when obstacles are detected. The company's goal is no deaths by 2020 (Adams, 2017).

Ride-sharing and other transportation-related services are also central to aging in place. "Lift Hero" connects seniors with drivers (many of whom are training to become doctors) who not only transport them, but help identify additional needs. "Circulation" provides nonemergency transport for patients needing to see a doctor; it is integrated with Uber's app and hospitals' electronic records (Anzilotti, 2017). The "Ride Connection" is a Portland, Oregon–based nonprofit group that helps with "mobility management" for older people and those with disabilities (Tortorello, 2017).

Voice-activated products that foster independence and the ability to age in place are increasingly popular among older adults; MedMinder (an automated dispensing system that reminds people to take their prescribed pills) and Amazon's Echo are two examples (AARP & Oxford Economics, 2016;

Anzilotti, 2017). Robotic devices for communication, housekeeping, and nursing tasks show promise, as do electronic monitoring systems, integrated health and medical records, and biotechnology advances such as monoclonal antibodies, cancer vaccines, and artificial muscle (Kuenen et al., 2011).

In Germany and Japan, supermarkets have supported local shoppers with adaptations such as brighter lighting, shelves fitted with steps, magnifying glasses on shelves and carts, and emergency call buttons. The companies saw significantly higher revenues and greater customer satisfaction (Kuenen et al., 2011).

Given the health-related risks of social isolation, information and communication technologies (ICT) and social media such as Facebook are of potential benefit, but results thus far have been somewhat mixed. In a systematic review of 25 studies published between 2002 and 2015, including four described as "rigorous research," the authors report that results for loneliness were inconclusive and that while most studies were positive, some yielded nonsignificant or inconclusive results. "Future research should identify who among elderly people can most benefit from ICT use in reducing social isolation," the investigators concluded. "Research on other types of ICT (e.g., mobile phone–based instant messaging apps) should be conducted to promote understanding and practice of ICT-based social-isolation interventions for elderly people" (Chen & Schulz, 2016).

Health Care Spending (and Savings)

As life expectancy has increased, causes of death have shifted from infectious diseases and acute illnesses to chronic diseases and degenerative illnesses (Bank of America Merrill Lynch, 2014), many of which are manageable outside of health care settings with the proper supports. Not surprisingly, these trends have been a boon to the health market, which is developing services and products that enable telemedicine, remote monitoring, and improved access to care and information. Mobile clinics and other health care access innovations are being adapted for older people. Examples include low-cost ambulance services such as the Riders for Health program in Africa, and increased telephone or internet access to doctors such as Medicall in Mexico, MeraDoctor in India, and HealthTap in the United States (Bloom et al., 2015).

The mobile health market in the United States, which was estimated to be approximately $2.1 billion in 2011, is expected to continue growing at rates of more than 20% per year and to reach $20 billion per year by 2020 (AARP & Oxford Economics, 2016). Overall, health care consumption by older Americans—including home-based and self-administered supports—is predicted to reach $4 trillion by 2032, nearly 79% of total U.S. health care spending (AARP & Oxford Economics, 2016). Much of this cost is undoubtedly borne by younger people in the form of federal and state spending for Medicare and Medicaid, but older adults pay for portions of the care through out-of-pocket expenditures and premiums for secondary health insurance coverage.

$4 trillion

the predicted amount of overall health care consumption by older Americans (including home-based and self-administered supports) by 2032

In the end, innovative health care products provide a double boost to the economy—both in the money spent on them and in savings on averted future health care costs. Goldman Sachs projects long-term health care system savings of more than $300 billion from remote health care monitoring products (AARP & Oxford Economics, 2016).

Leisure and Fitness

With increased resources and mobility, older adults are increasing their spending on travel, entertainment, and dining out. Expenditures for leisure activities are greater than for other age groups. U.S. households headed by people aged 65 and older spent an estimated $40.6 billion on travel-related activities in 2014, an increase of nearly 35% from 2010, even while the number of these households rose by only 19% over that period (Weinswig, 2016).

$40.6 billion

the estimated amount U.S. households headed by people aged 65 and older spent on travel-related activities in 2014

As with health care innovations, spending for fitness activities has the double benefit of economic impact along with positive effects on health and well-being. With proper aerobic and resistance exercise, a variety of chronic diseases can be better managed. Studies of better cognition in those who exercise have been mostly positive (Northey, Cherbuin, Pumpa, Smee, & Rattray, 2017; Angevaren, Aufdemkampe, Verhaar, Aleman, & Vanhees, 2008).

PART III: Moving Forward

"Marie" was a homemaker as a young adult. Later she took a factory job in Ohio, and she retired right on schedule at 65 in 1985, just as self-directed retirement accounts were getting started. Still, when she looked at her finances when her husband died in 1993, she thought she had enough income and savings to navigate through the few years she had left. That was before she lived on her own until age 85, when the onset of Alzheimer's disease led all too quickly to the "no-go" phase of life. Medical and caregiver expenses added up; a reverse mortgage supplied funds but consumed her home's equity. When Marie was about to move in with her only child, the daughter died of an opioid overdose. Consequently, Marie's only choice was an Alzheimer's care unit in a skilled-nursing facility, which she could barely afford with a combination of Medicaid and Social Security before her death in 2009. It was a sad ending to what had been a beautiful life for many years.

This brief report illustrates the complexity of the macroeconomics of a historical aging of the human population. Increases in life expectancy combined with low fertility rates are producing an older population in most countries worldwide. Medical advances that led to the increased lifespans have also compressed the period of declining functional abilities and morbidity that precede the decline into frailty and death. These trends challenge myths and misinformation about older people, their wants and desires, their abilities to contribute well past retirement ages that were set when far fewer people lived that long, and assumptions about the effects of increasing old-age dependency ratios (the number of people aged 65 years or older per 100 people in the 15- to 64-year-old age range) on GDP and other measures of countries' economic health. A low old-age dependency ratio indicates a young population; when the figure reaches 25 or 30, economic stress is possible as a result of too few workers supporting a large population of older people.

For the United States, the old-age dependency ratio will reach the 25 to 30 range as the last of the Baby Boomers turn 65 at the end of the 2020s, and it will continue climbing as those in later generations age (Figure 11). Lawmakers in the 1980s had the foresight to delay the retirement age for Social Security; it is now gradually increasing to 67 years based on birth year. However, the increase in years of life remaining at age 65 has increased in the interim, and stronger and more creative actions are needed to maximize the Longevity Economy and prepare for a society with a large older population.

The time to take action is now. As policies, expectations, and incentives are debated in the United States, the experiences of three countries in particular are relevant. As the 21st century dawned, both Japan and Germany reached the old-age dependency ratios that the United States will experience in a few years. Singapore has undergone rapid aging, moving from an aging society to a super-aged one in less than three decades. Through innovation, planned action, increased contributions by older citizens, and increased immigration and fewer trade barriers, these countries have developed surprisingly strong economies despite the demographic challenges. Their experiences illustrate well the fallacies of some myths regarding an aging society and point to realities that should be recognized when ideas for policy changes are considered.

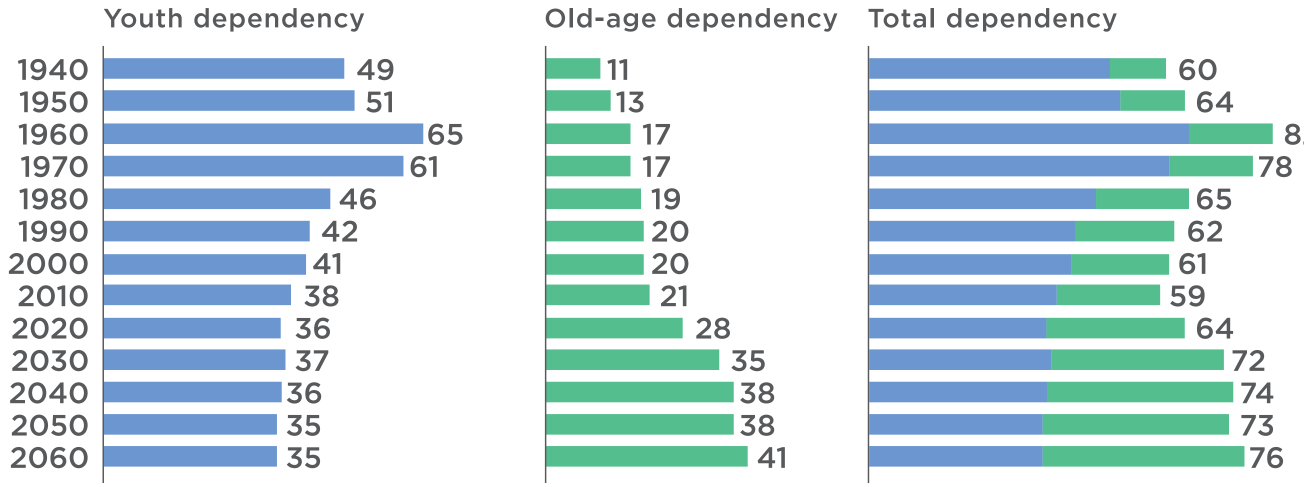
Japan: Some Changes, But Cultural Ties Bind

In the post–World War II period, Japan recovered remarkably from the effects of many years of conflict and a crushing defeat punctuated by dropping of two atomic bombs on its cities. By 1973, Japan had doubled its share of the world's GDP to 7.8% (more than China or India) and was the leading economic power in East Asia (Okamoto, 2014).

Since then, a number of factors have reduced Japan's standing on the world economic stage. Pertinent to this analysis are the effects of an increasing life expectancy (now at 84) and a very low birth rate in Japan. The population is shrinking, with more deaths than births, and the country has declined to open its

Figure 11. Dependency Ratios for U.S. Population During 1940 to 2010 and Projected Ratios for 2020 to 2060

By 2020, there are projected to be two dependents for every three working-age adults.



Defenitions used in this analysis: Youth dependency ratio = (population under 18/population aged 18 to 64) * 100
Old-age dependency ratio = (population aged 65 or older/population aged 18 to 64) * 100

Source: Vespa, Armstrong, & Medina (2018).

borders to more immigration as a way of dealing with an old-age dependency ratio that reached 25 at the beginning of the 21st century and is now in the 40 range (Okamoto, 2014).

The official retirement age in Japan is being increased gradually; now at 62, it will reach 65 in 2025. Some companies, including Honda, have already changed their mandatory retirement age to 65 (Rodionova, 2016). France, Ireland, Germany, Greece, Sweden, Taiwan, and the United Kingdom have also recently raised the retirement age or built incentives to delay retirement (Bloom, Canning, & Lubet, 2015; Manyika et al., 2015). Italy, Spain, and the Netherlands have linked the statutory retirement age to life expectancy ("Age invaders," 2014), and in France, the private sector has linked the retirement age to life expectancy.

Despite economic disincentives, many Japanese workers are remaining employed past the traditional mandatory retirement age of 60. Previously, workers' salaries were cut drastically as they turned 60 and became eligible for pensions. Now, the government has instituted rules that require companies to employ workers through the age of 65 if they wish to continue working. However, they still must "retire" at 60 and return under a "continuous employment" policy at a much lower salary. Thus, Japanese policies continue to favor younger workers and a productivist welfare state—despite one fourth of citizens being older than 65 (Ujikane, Kuwako, & Schneider, 2016; Higo & Klassen, 2017).

Why do older Japanese continue working if the economic incentives are so low? Salaries at age 61 are approximately one fourth less than before the worker turned 60. Many need to do so financially because pensions are being delayed as the retirement age increases. Others want to work because they recognize the decreased risk of cognitive and other health declines if they keep working (Ujikane, Kuwako, & Schneider, 2016; Tomioka, Kurumatani, & Hosoi, 2017).

Retirees can find part-time jobs through a public–private partnership, the Silver Center Workshops. This program offers low-paying jobs—only about $400 to $500 per month (in U.S. dollars)—in low-skilled areas such housecleaning, park maintenance, and bicycle repair (Jaffe, 2016).

In light of Japan's challenges and immigration policies, the Trans-Pacific Partnership agreement could be particularly beneficial to the country's economy. Expectations in Japan are that a trade-growth strategy will improve its economy as well as those of its trade partners. The country has continued to excel in the creativity arena, despite its labor challenges. Japan remained in second place in science and engineering article output in 1989 and 2009, and stayed third in the world regarding patents granted by the U.S. Patent and Trademark Office. Other Asian countries increased their rankings during this time period, especially China and Korea as well as Taiwan and India (Okamoto, 2014).

Other initiatives in Japan include supplementation of family care of older adults with a universal social long-term care insurance system, encouragement for women to re-enter the workforce, and a "robot revolution" that will incorporate automation extensively to counter the effects of a declining workforce (Bremner, 2015).

Germany: High-Tech Strategy Innovations

Germany, another country defeated in World War II, is today a world economic and political power, one that has taken specific changes to address the challenges of an aging society. Through incisive reforms, Germany has emerged as the heart of the European Union, both economically and some would say politically. Yet its population is aging rapidly and reached an old-age dependency ratio in the 25 range only a couple years after Japan. Germany is proof that a country can implement reforms and turn around despite an aging population.

Germany has taken steps to keep its aging workforce on the job longer, and it has been able to take advantage of the open borders of the European Union to attract immigrants. While immigration has become the focus of strong emotions and political reactions on the continent, the economic impact of those who have moved onto German soil has been pronounced.

The country's "high-tech strategy" innovations have guided Germany since the policy was put into place in 2014. As shown in Figure 12, the strategy focuses on five core elements that build on an innovative, digital, health-focused, environmentally conscious society to drive innovations in the workplace, fight diseases, and create an intelligent and capable transport infrastructure. The country intends for these changes to support development of new products, services, and ideas; changes in tax policy are driving an increase in the numbers of innovative startups. Among the forward-looking projects launched during a recent legislative period were "better health via effective prevention and healthy diets" and "living an independent life well into old age" (Federal Ministry of Education and Research, 2014).

Another initiative in Germany is the raising of the retirement age. Between 2012 and 2029, the federal retirement age is gradually increasing from 65 to 67, with the goal of increasing the size of the working-age population. Germany has also increased financial assistance to families with children, subsidized child care, and reformed immigration policies (Federal Ministry of Education and Research, 2014).

"Initiative 50 Plus" is another German innovation designed to increase participation of older workers in the labor pool. Implemented in 2007, this program provides training and lifelong learning to older people and compensates older workers who accept positions with lower salaries through a temporary benefit (Spross, 2010).

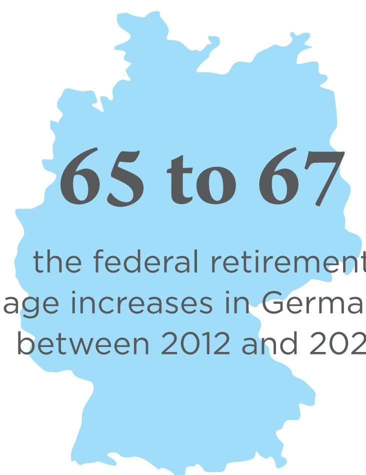
Although policy and practice changes like those in Germany and Japan do not come without effort (or sometimes controversy), these countries have demonstrated that the challenges are not insurmountable. And, with higher fertility and more labor and product market flexibility, the United States is even better positioned than Japan and the European Union to capitalize on such changes (P. Cappelli, personal communication, 2017).

Singapore: Responding Thoughtfully to a Rapidly Super-Aged Society

How can a country move from a relatively young population to a super-aged society in only 27 years? In 1999, just 7% of Singaporeans were older than 65 years of age. Rapid increases in life expectancy and a plummeting birth rate will make that figure 20% by 2026. As the country's leaders realized this rapid aging was occurring, they became concerned about everything from how to maintain a military to making Singapore a "nation for all ages" (Boon, 2015).

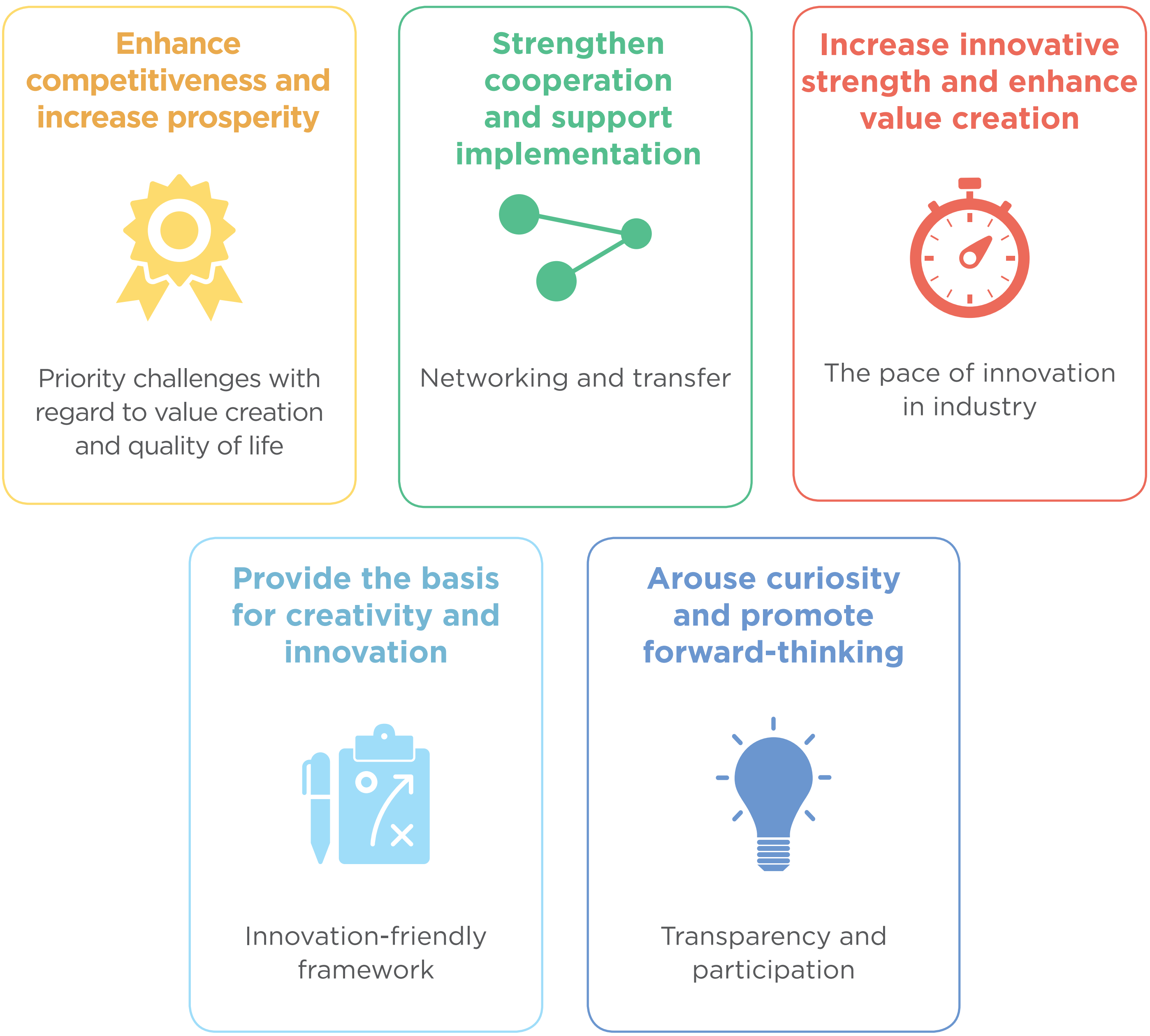
Unlike the reticence in Japan to take stronger actions in reaction to a rapidly aging society, leaders in this city–state have moved quickly to minimize adverse effects. Singapore has developed a 70-item initiative, "The Future of Aging," with the intent of taking positive actions in 12 areas: health and wellness, learning, volunteerism, employment, housing, transport, public spaces, respect and social inclusion, retirement adequacy, health care and aged care, protection for vulnerable seniors, and research (Singapore Ministry of Health, 2016).

Legislation that took effect in mid-2017 encourages older workers who want to



stay employed to do so. Employers must offer re-employment contracts to eligible employees at age 62, and these must be renewable every year up to age 67. If a company is not able to offer a position to an eligible employee, the new law requires the company to transfer the obligation to another employer or offer a one-time assistance payment. The new law supports employers in tapping into a growing pool of older workers; incentivizes voluntary re-employment of workers aged 65 or older through a 3% offset of the employee's monthly wages; raised the re-employment age from 65 to 67; and removes the option of employers cutting employees' wages at age 60 (Ministry of Manpower, 2017a; Ministry of Manpower, 2017b).

Figure 12. Core Elements of Germany's High-Tech Strategy



Source: Federal Ministry of Education and Research (2014).

Policy Opportunities for the United States

Similar to the experiences of other countries that are tackling many of the same challenges, the United States has a number of policy options that could ensure that the fastest-growing segment of our population has what it needs to be maximally productive in the Longevity Economy. Some are labor market reforms targeted specifically to older workers, while others seek to address a broader spectrum of issues. A combination of policies is likely to yield the best results, including attention to the retirement age and tax policy, linking the retirement age to years of expected life, re-employment/re-contracting, education and skills building, wage and tax adjustments, and pension changes (Börsch-Supan, 2013).

Many countries have used changes in tax policy to support older workers and make them more attractive to employers. Japan has the lowest implicit tax rate (direct taxes and policies that create other disincentives such as inflation) on extending working life, and 75% of people aged 60 to 64 are still working there. (In the United States, only 60% of people aged 60 to 64 are working.) Italy and the Netherlands, by contrast, have higher implicit taxes and lower rates of senior workforce participation. Australia has introduced a number of tax incentives, including a "work bonus," to make extended working lives more attractive, and Sweden is replacing seniority with performance clauses in public-sector wage arrangements (Manyika et al., 2015). The current or a future Congress should look at the use of U.S. tax law to incentivize older workers to remain employed and their employers to implement aging-friendly policies.

The age at which people receive full pensions (Social Security in the United States) is another policy area to be explored. As a result of legislation in the early 1980s, the age at which Americans are eligible to receive the full Social Security benefit is rising gradually to 67 based on the birth year for Americans born in 1938 through 1959. If life expectancy and years of remaining life at age 65 continue to increase, outright indexing of the benefit or the age when full coverage is available should be revisited for those in the United States. Norway recently made adjustments to its pension system to account for increases in life expectancy. New cohorts of older people will receive a pension derived from the accumulated entitlement divided by a life expectancy indicator (Bloom, Canning, & Lubet, 2015).

A related concept that should be revisited is de-emphasizing the concept of a fixed retirement age. The United States—like most countries around the world—incentivizes retirement between the ages of 60 and 65, despite new demographic realities (Bloom, Canning, & Lubet, 2015). Although under certain circumstances some people may need to retire earlier, as this report has demonstrated, most can work longer (Coile, Milligan, & Wise, 2016). A flexible retirement system with early exit routes that are governed by a mixture of incentives and disability pathways would help deal with these differences and increase work opportunities for those who can take advantage of them (Börsch-Supan, 2014).

> "A combination of policies is likely to yield the best results, including attention to the retirement age and tax policy, linking the retirement age to years of expected life, re-employment/re-contracting, education and skills building, wage and tax adjustments, and pension changes

If adapted to current realities of an aging population that contributes to economic growth past age 65, the old-age dependency ratio is another tool that could be used to make economic assessments and drive policy development. The present framework offers a static view of aging that does not reflect the extent to which today's older Americans are fully engaged in the workforce. Fortunately, a tool like this is quite mutable. A dependency ratio indexed, for example, to life expectancy or to actual work activity levels among adults would make our economic forecasts less dire and, importantly, would increase our ability to craft policy responses that reflect current realities.

Re-employment is another area needing policy attention. Many companies retain negative perceptions of older workers (Manyika et al., 2015) that do not reflect what has been proven about their ability to contribute to the workforce. In addition, employers may see older workers' higher wages as a problem. Not surprisingly, long-tenured older workers who lose their jobs thus often have difficulty securing re-employment—a clear example of age discrimination. Workers ages 25 to 54 have a re-employment rate of 73%, compared with a rate of 60% for people ages 55 to 64 and only 27% for people over 65 (AARP & Oxford Economics, 2016). Policy approaches in this area would include supporting continued or renewed employment options for older adults and providing tax or other incentives to employers who bring older adults into their workforces. The nation could also benefit from an extended discussion about incentives and program models for new approaches to training that would provide older adults with competitive skills so that they become more attractive to employers.

Several legislative proposals in the 115th U.S. Congress address the needs of older Americans, including ones focused on caregivers, recognition of caregiving as "deemed wages" under Social Security, improvements in protection against age discrimination, and keeping older adults safe from financial exploitation.

In addition, activities and initiatives related to the older workforce are possible in the U.S. Senate Special Committee on Aging, the U.S. Department of Health and Human Services' National Plan to Address Alzheimer's Disease, state securities protection legislation, and the Paid Family Medical Leave Insurance Act in Nebraska.

The Time for Action Is Now

With the reality of an aging society now upon us, actions are needed to find or create new ways of enhancing and expanding the Longevity Economy. Older people want to keep contributing to the world, and the assumptions of the past are no longer valid. Decidedly, we need to learn how a world with large numbers of older citizens can best function.

Experts estimate that increasing the number of older workers, while also making productivity-enhancing policy changes and investments, could increase U.S. GDP by as much as $442 billion by 2020 (Erfurt, Peppes, & Purdy, 2012). Merely tweaking our current systems and policies will not get us there (Bloom et al., 2015; Zissimopoulos, Goldman, Olshansky, Rother, & Rowe, 2015). As one of our Longevity Economics Workgroup members summarized it: "The main danger of population aging is the lack of adaptation to a new demographic situation and not population aging itself" (Börsch-Supan, 2014).

This view is shared by many economists and researchers in the field who maintain that Americans can choose the shape of the country's future by determining how our institutions and policies respond and adapt to the changes ahead (Berkman, Börsch-Supan, & Avendano, 2015). All of this leads to the question: As a nation, are Americans prepared to leave such enormous resources and benefits on the table? If not, the time for action is now.

Working with the business sector, thought leaders, and policymakers across the country, The Gerontological Society of America and Bank of America Merrill Lynch will work to undo misconceptions about the aging population and trumpet the significant value older Americans bring to our economy. Together, we can forge a path that will allow us to create a new paradigm that will ensure a better future for an aging world.

"

Americans can choose the shape of the country's future by determining how our institutions and policies respond and adapt to the changes ahead

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Key Resources

Aging and the Macroeconomy: Long-Term Implications of an Older Population
National Academy of Sciences, 2012

Finances in Retirement: New Challenges, New Solutions
Bank of America Merrill Lynch, February 2017

Global Growth: Can Productivity Save the Day in an Aging World?
James Manyika, Jonathan Woetzel, Richard Dobbs, Jaana Remes, Eric Labaye, and Andrew Jordan
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Silver Cities: Realising the Potential of Our Growing Older Population
Ed Cox, Graeme Henderson, and Richard Baker
IPPR North, December 2014

The Euro Area Workforce Is Aging, Costing Growth
Shekhar Aiyar, Christian Ebeke, and Xiaobo Shao
IMFBlog, August 17, 2016

The Impact of Aging on the Global Economy
Jan Willem Kuenen, Joris van Osselaer, Kilian Berz, Christopher Kaye, Alison Sander, Wouter-Jan Schouten, and Miki Tsusaka
The Boston Consulting Group, December 13, 2011

The Longevity Economy: How People Over 50 Are Driving Economic and Social Value in the US
AARP and Oxford Economics, September 2016

The Seven Myths of Population Aging: How Companies and Governments Can Turn the "Silver Economy" Into an Advantage
Julika Erfurt, Athena Peppes, and Mark Purdy
Accenture, February 2012

Thematic Investing: The Silver Dollar—Longevity Revolution Primer
Bank of America Merrill Lynch, June 2014

What Are the Economic Implications of Ageing Populations?
Ben Franklin
World Economic Forum, October 2015

The Realities of an Aging Society

What's Out	What's In
Silver tsunami	**Longevity Economy**
Silver/senior/geriatric anything	**We're just like you—only more experienced**
Living on Social Security	**Paying taxes on work income and 401(k) distributions—sometimes more than you get from Social Security**
Retiring at age 65	**Re-employment policies and lifelong learning programs**
Forced retirement	**Phased retirement**
Computer illiteracy	**Tech-savvy older people—hey, Baby Boomers invented a lot of the technology consumers use**
Children taking care of parents	**Parents helping with adult children and grandchildren**
Older people set in their ways	**Older people innovating, creating, and participating in flexible systems**
"Live while you're dead"*	**"Die while you're living"***

* From the lyrics of the song *Growing Older But Not Up*, by Jimmy Buffett, who by the way will be touring in 2018 at age 71. His estimated earnings in 2017 were $50.5 million, according to a *Forbes* profile (2017).

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