



September 2016

THE LONGEVITY ECONOMY

How People Over 50 Are Driving
Economic and Social Value in the US

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1. INTRODUCTION

\$7.6 trillion

Size of US Longevity Economy

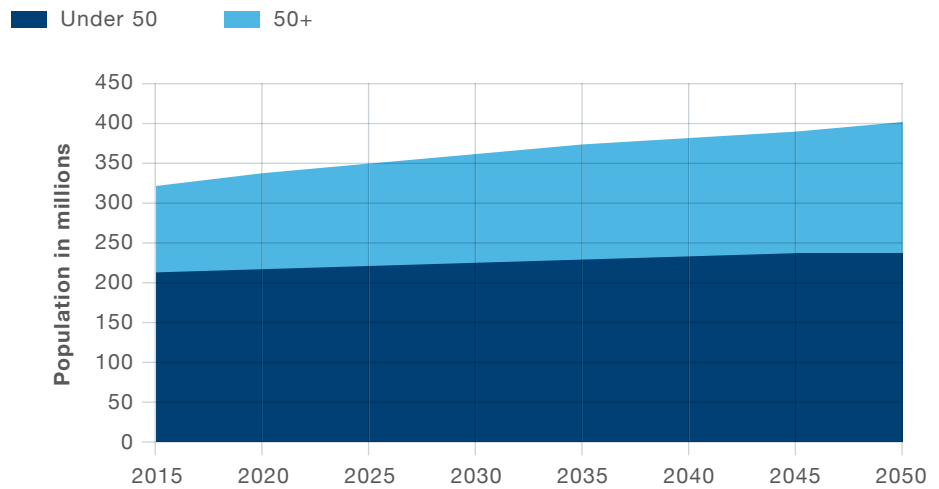
Productivity and spending by Americans 50 and older drive an outsized contribution to US GDP.

By 2015, there were more than 1.6 billion people in the world who were part of the 50-plus cohort. By 2050, this number is projected to double to nearly 3.2 billion people. Throughout the world the growth of this age group is having a transformative impact, economically and socially. The US alone is home to 111 million in the 50-plus cohort; they represent a powerful force that is driving economic growth and value. The contributions of this age group are collectively known as the Longevity Economy. It is the sum of all economic activity driven by the needs of Americans aged 50 and older, including both the products and services they purchase directly and the further economic activity this spending generates. The difference it makes is substantial; in 2015, the Longevity Economy fostered \$7.6 trillion in economic activity.

Participants in the Longevity Economy are as diverse as the population as a whole, comprising people from all regions, races, professions and pursuits, united only by their age. Collectively, they are very active in the workplace—staying employed for longer, earning wages, spending more money, generating tax revenue, and producing economic value for an extended period of time. They are also critical in driving entrepreneurship and investment, and as enthusiastic consumers of leisure activities. Beyond these economic contributions, people over 50 also account for the majority of volunteering, philanthropy, and donation activities in the US. Gazing into the future, the size of the 50-plus cohort that propels the Longevity Economy will continue to increase, fueling more growth and more value for several decades. Fig. 1, on the next page, depicts the projected growth of the 50-plus population and its increasing share in the US.

As its scale and impact grows, the Longevity Economy is busting myths about how aging affects the economy, and the country as a whole. This is most clearly seen in the way in which older people are continuing to participate in the labor market: By working longer, and continuing to earn and spend wages, older people are contributing more than ever to economic activity and helping to fuel economic growth long past what used to be the traditional retirement age. They are doing this, however, in ways that complement rather than compete with the contribution of their younger counterparts. Older people are not only extending their work lives but also working in new ways, and through their changing demands are helping to form and transform markets for goods and services. In

Fig. 1. Projected growth of the US population, 2015-2050



Source: Oxford Economics, US Census

this regard, the Longevity Economy is distinct in its consumer profile. Perhaps counter to the stereotype, people in the Longevity Economy are driving demand for and funding a multitude of new products and services, especially ones that adopt technological innovations.

The Longevity Economy is poised to become the driving force not only in the US, but in the rest of the world. As emerging economies develop and age they will look to the US and its Longevity Economy as a model for economic prosperity and innovation. In the spring of 2016, AARP commissioned Oxford Economics to update an economic contribution analysis of the Longevity Economy in the US, originally completed in 2013. This paper seeks to explore and explain these economic contributions and to highlight some important economic and social attributes of the 50-plus population.

2. UNDERSTANDING THE LONGEVITY ECONOMY



35%

Share of the US population made up of the 50-plus cohort.

This share is projected to increase to 40% by 2050.

Understanding the Longevity Economy begins with identifying the various attributes that comprise the 50-plus cohort, which provides critical insight into current and future expectations. The attributes covered in this section include demographics, wealth, and spending patterns—each an element of an economic and social mosaic. As lifespans increase in the US, the Longevity Economy’s size and complexity will become more central to economic and social policies.

2.1 CONSUMERS IN THE LONGEVITY ECONOMY

The growth of the Longevity Economy is stark. The 50-plus cohort comprised approximately 35 percent of the US population in 2015 and it crossed four generations:

- The GI Generation, born between 1901 and 1926
- The Silent Generation, born between 1927 and 1945
- Baby Boomers, born between 1946 and 1964, and
- Generation X (Gen X), born between 1965 and 1980—the youngest of whom turned 50 years old in 2015

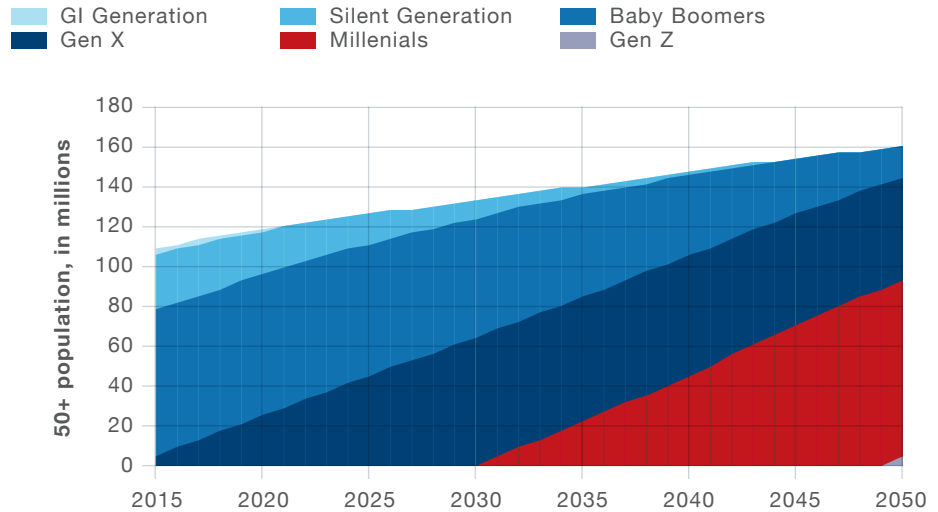
THE GENERATIONS

Generally accepted definitions of beginning and ending years of generations referenced in this report include:

- **GI Generation:** Born 1901–1926
- **Silent Generation:** Born 1927–1945
- **Baby Boomers:** Born 1946–1964
- **Generation X (Gen X):** Born 1965–1980
- **Millennials (Gen Y):** Born 1981–1999
- **Generation Z (Gen Z):** Born 2000–current

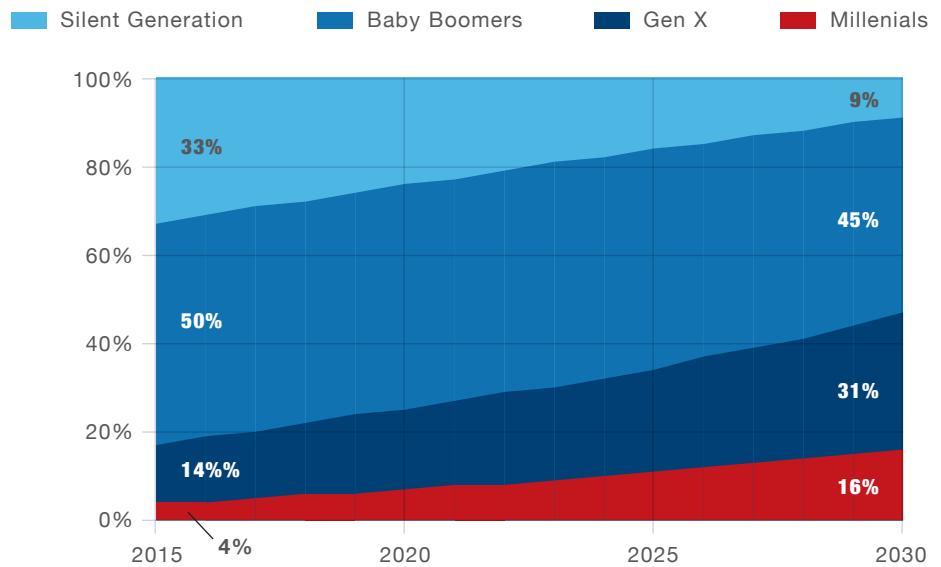
By 2050, Gen Xers and Millennials will become part of the 50-plus cohort, driving the Longevity Economy. The 50-plus cohort is projected to grow by 45 percent between 2015 and 2050, while the under-50 population expands by just 13 percent. As a result, the older cohort's share of the total population will reach 40 percent. As the size and productivity of this cohort increases over time, so will the economic returns.

Fig. 2. Changing generations in the Longevity population, 2015-2050



Source: Oxford Economics, US Census

Fig. 3. Changes in generational share of household wealth, 2015-2030

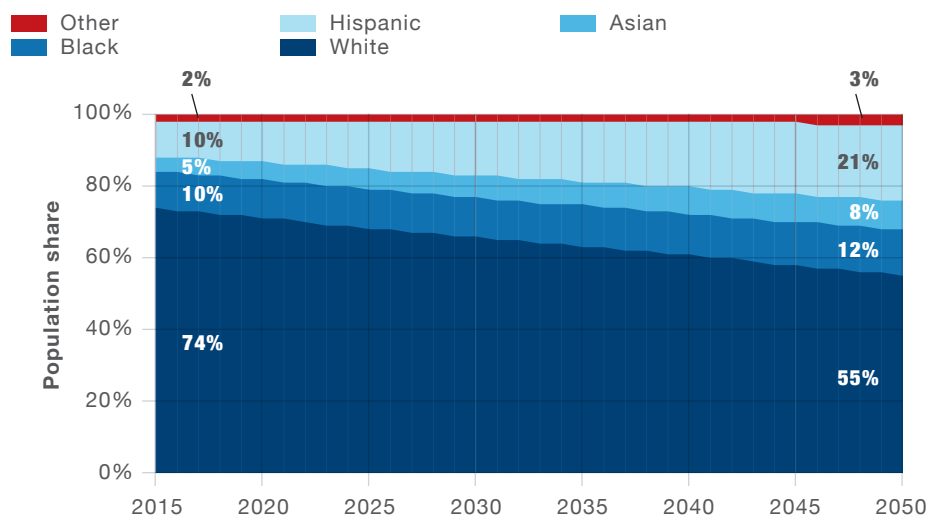


Source: Deloitte Center for Financial Services

The outsized economic value of the 50-plus year old group is largely powered by their share of wealth: 83 percent of US household wealth is held by people over 50. Access to credit and assets allows the group to spend more on goods, services and investments than their younger counterparts. As shown in Fig. 3 on the previous page, this relative strength in terms of household wealth is set to shift as the different generations age through 2030, with implications for wealth transfer, future spending and consumption patterns among the 50-plus contingent.

In terms of ethnic composition, it is noticeable that at present white people comprise the majority of those in the Longevity cohort, as shown in Fig. 4. However, shifting immigration and birth rates by race/ethnicity will redraw this picture over time. According to the US Census Bureau, by 2043, the majority of the US population will not be made up of people who identify as white. According to Pew Research, shifting demographics will alter the country's birth patterns, raise education levels in the foreign-born population and change electoral politics. The interaction between ethnicity and gender will also affect the Longevity Economy's demographic structure. By 2050, Black, Hispanic, Asian, and other non-white groups will make up 45 percent of the 50-plus cohort, compared with 26 percent in 2015. This changing composition will influence the types of goods and services that the 50-plus population consumes as well as investment and entrepreneurship activities that emerge from the Longevity Economy.

Fig. 4. Changing shares of race/ethnicity in the Longevity population, 2015-2050

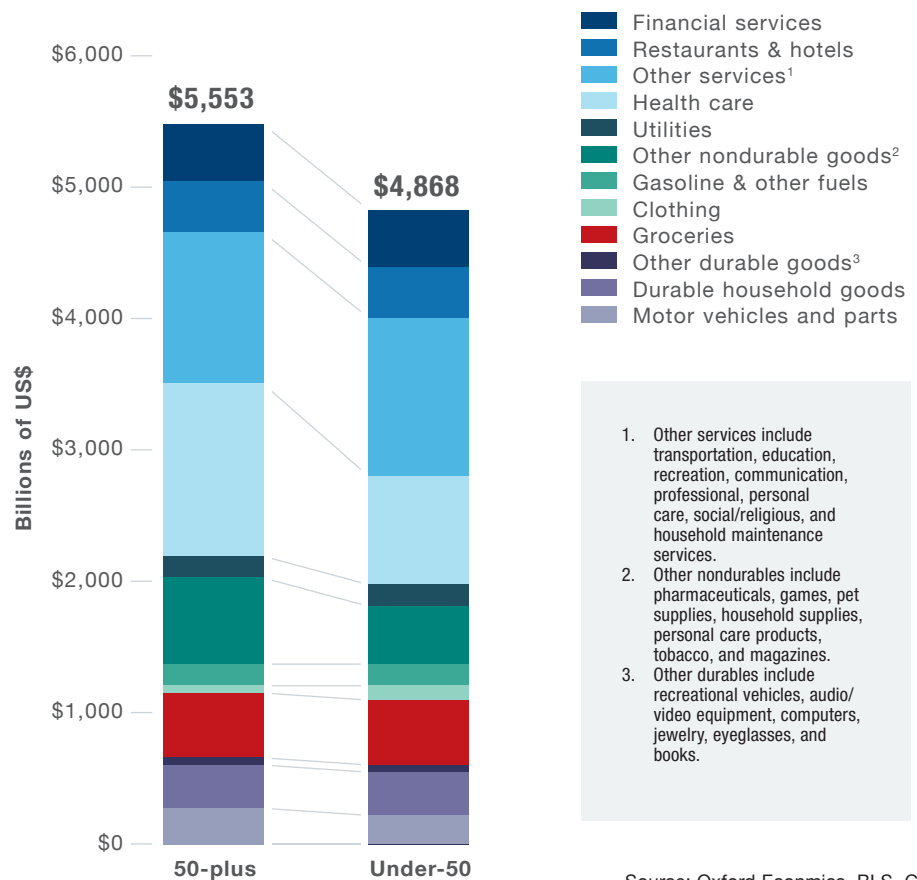


Source: Oxford Economics, US Census

2.2 HOW LONGEVITY IS DRIVING ECONOMIC VALUE

The economic impact of the 50-plus cohort is sizable and burgeoning. Over time, as its members live longer and grow in number, they will continue to fuel economic activity for far longer than previous generations. Our research shows that direct spending on consumer goods and services, including health care, by those aged 50 and over amounted to \$5.6 trillion in 2015. The under-50 population spent \$4.9 trillion during the same period.

Fig. 5. Spending patterns by age group, 2015



Source: Oxford Economics, BLS, CMS

Not only do those in the 50-plus cohort spend more overall than their under-50 counterparts, the 50-plus cohort accounts for a majority of the spending in several categories of goods and services, including: healthcare, nondurable goods, durable goods, utilities, motor vehicles and parts, financial services and household goods.

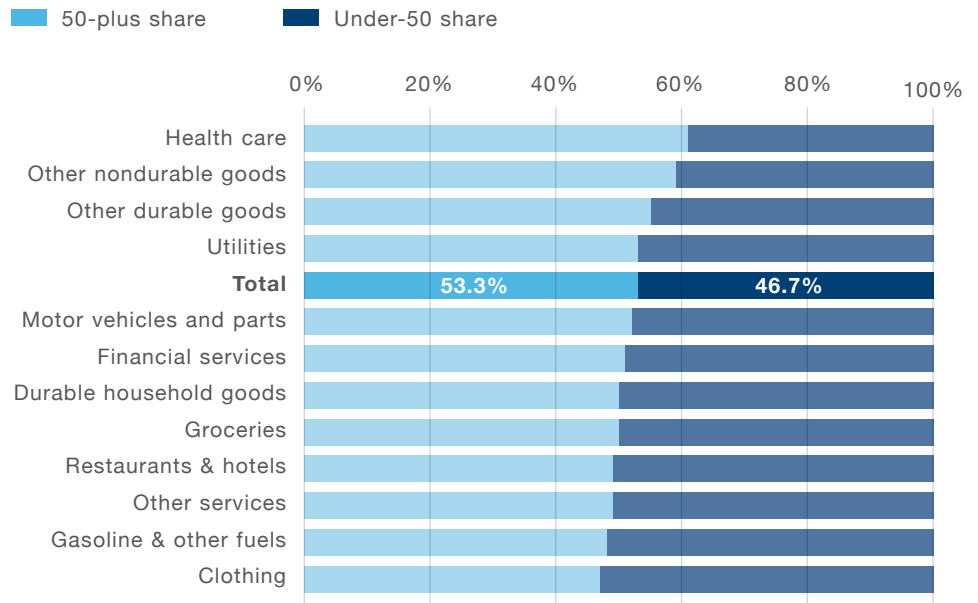


53%

Share of consumer spending generated from the 50-plus cohort.

This spending represents an outsized contribution relative to the 50-plus share of the total population.

Fig. 6. Share of consumer spending by the 50-plus vs. under-50 population, 2015



Source: Oxford Economics, BLS

With so much consumption and spending by the 50-plus cohort, it is no surprise that companies are investing in technologies that cater to the 50-plus demographic. For example, the 50-plus population is highly motivated by a desire to maintain independence and stay active while aging, and so savvy businesses and investors have been quick to develop new products and services to meet demand.

New technologies such as remote monitoring, smart homes, ambient computing and GPS tracking are just the tip of the iceberg. Increasingly, appliances, gadgets, software programs and sensors are connected via the Internet of Things. New technology that benefits all consumers often finds new uses among the 50-plus population. For example, smart phone apps remind people when to take medications as well as allow them to connect to loved ones.

With a good baseline understanding of the 50-plus population, we can begin to explore their economic footprint.

THE INTERNET OF THINGS AND LONGEVITY

By 2050, the US population aged 65 and over is expected to double its current size. The entrance of Gen X and Millennials reaching retirement age, increasing immigration and lengthening life expectancy will add more than 40 million people to this age group.¹ Its growth has spurred concerns about the provision and cost of healthcare going forward, at a time when healthcare spending, currently about 17 percent of US GDP, is the highest of any country in the world.² Enter the Internet of Things (IoT)—the network of connected, electronic devices able to transmit data in real time—and its transformative potential, offering a new market opportunity, social benefits and cost savings.

Seen in the context of IoT, the challenge of providing high-quality healthcare at lower cost becomes a major market opportunity, with venture capitalists reportedly investing \$18 billion in start-up healthcare businesses in 2015—a 350 percent increase from 2010.³ Such investments are broadly spread across the healthcare arena, from coordinating care services and improving clinical workflows to healthcare on the go (mobile health), smart homes, ambient assisted living (AAL) and the use of Big Data analytics.

The great interest in finding ways to help people stay healthy and live independently as they age has implications for the Longevity Economy. Not only do people want to remain in their own homes and communities, or minimizing moves to other living arrangements, but doing so has a major impact on wealth, since the cost of residential care can be prohibitively

expensive.⁴ Semico Research and Consulting found that median household wealth among the elderly is more than 1,000 percent greater for those who avoid staying in nursing homes than for those who stay in nursing homes for more than 180 days.⁵ This combination of a growing market, keen motivation to live at home and substantial wealth is creating a fertile investment landscape for companies and entrepreneurs looking to provide innovative ways to enable people to remain independent. In turn, this innovation brings both consumer and societal benefits.

In particular, IoT technologies are expected to bring considerable cost savings to the US healthcare system. Goldman Sachs projects over \$300 billion in annual healthcare system savings for chronic illnesses over the long run—the majority coming from remote healthcare monitoring that enables healthcare professionals to monitor patients at home, whether for chronic illnesses or post-surgical recovery.⁶ For example, new technologies such as Hexoskin, a shirt with sensors integrated into the fabric, permit remote biometric monitoring (e.g. cardiac, breathing, movement/cadence, etc.) through Bluetooth and a phone app. At present, information collected from the sensors is uploaded into a system that allows individuals to track physiological performance; however, early experiments also indicate that Hexoskin may facilitate remote monitoring/telehealth—in uses ranging from ambient assisted living (AAL) to sleep health.⁷ This reduces both public and individual healthcare costs, and is minimally intrusive for patients. Voice-activated, internet-connected technologies are also making significant headway in improving independence and ambient assisted living. Amazon's Echo, an internet-connected, voice-activated ambient computer, for example, connects day-to-day home activities and communication with the outside world. Currently, Echo allows caregivers to stay connected with those at home, while also assisting the latter with daily routines (e.g. giving medication reminders, compiling shopping lists, providing cooking instructions, playing audio

1 U.S. Census
2 Data from the World Bank
3 Amy Baxter, "CVCs Investing in Next Wave of Senior Care Solutions," *Senior Housing News*. 13 April 2016.

4 An AARP survey found that 80% of seniors believe their current residence is where they will always live. AARP. *Ageing in Place: A state survey of live-ability policies and practices*. December 2011.
5 Semico Research & Consulting. *Ageing in Place: The Internet of Things for the Golden Years*. July 2013.
6 Goldman Sachs. *The Digital Revolution Comes to U.S. Healthcare*. June 29, 2015.
7 Tanvi Banerjee, P. A. (2015). *Evaluating a Potential Commercial Tool for Healthcare Application for People with Dementia*. Dayton: Kno.e.sis Center, Department of Computer Science and Engineering, Wright State University.

books, etc.). Echo can also do research and answer a multitude of questions, which has proved particularly useful in assisting dementia patients—as the system never tires. Echo’s software is learning new “skills” every day, including integration with smart home technologies such as Nest (thermostat) and Hue (Philips “smart lights”).⁸ Though the technology is still new, additional applications for voice-activated computer systems like Echo continue to be developed, and future adoption rates look promising.

However, it is not just in healthcare systems that strides are made to enhance healthy, independent living. Smart, integrated systems within the home are also increasing independence and safety, and reducing myriad costs (including energy, health, food, travel, communication, etc.). Take the smart refrigerator, for example—Samsung, LG and other brands have already rolled out sensor- and internet-connected fridges that communicate information about food to smart phones, so people and their caregivers can monitor shopping lists—or even order and pay for groceries.⁹ Advanced appliances can remind residents that items need replacing and even monitor eating habits and provide nutritional reminders—imagine

getting a text alert from your fridge telling you to restock the eggs and milk.

IoT has even extended into the bathroom. While smart toilets have existed for some time in Japan, adoption in the US has been relatively slow. IoT may change that. Sensors embedded in toilets can measure sugar levels in urine, blood pressure, heart rate, body fat and weight. The results can be sent to a doctor through the internet, enabling long-distance monitoring and charting of a person’s well-being. In fact, a 2013 survey conducted in eight countries found that 70 percent of people would be willing to have a smart toilet share their personal data if it meant lower healthcare costs.¹⁰ In a household of interconnected devices, one can even envisage your toilet communicating with your fridge, providing a feedback loop of nutritional adjustments and suggestions.

Although the Internet of Things remains relatively new, these examples demonstrate how its emergent technologies can spur investment. IoT has the potential to become a driver of value for the healthcare system, the taxpayers who fund it, and ultimately the patients who will be able to enjoy greater independence and mobility in their later years.

8 “Amazon Echo.” Wikipedia: The Free Encyclopedia. Wikimedia Foundation, Inc. Last updated (06 July 2016). Web. Date accessed (06 July 2016). https://en.wikipedia.org/wiki/Amazon_Echo.

9 <http://www.gizmag.com/samsung-family-hub-smart-fridge/41192/> and <http://www.cnet.com/news/touchscreen-refrigerators-and-talking-everything-at-ces-2016/>

10 Intel Healthcare Innovation Barometer conducted by Penn Schoen Berland: https://newsroom.intel.com/wp-content/uploads/sites/11/2016/01/infographic_barometer.pdf

3. THE ECONOMIC IMPACTS OF THE LONGEVITY ECONOMY

The spending of the 50-plus cohort reverberates through the economy, creating ripple effects that generate further economic activity. For example, as people in the 50-plus cohort make purchases at grocery stores, retail outlets, restaurants, healthcare centers, and so on, money ripples through these providers' supply chains. And the longer people remain in the labor market, the more they earn and have to spend. Some money leaks out of the economy to foreign producers, while some money is used to buy inputs for production, pay wages to workers and remit taxes to governments. Oxford Economics quantified this economic contribution nationally using an economic impact analysis, as described in the following box:

AN INTRODUCTION TO ECONOMIC IMPACT ANALYSIS

A standard economic impact assessment identifies three channels of impact that stem from an activity:

- **Direct effect.** Measures the economic benefit of the 50-plus cohort's spending and activities in the US.
- **Indirect effect.** Encapsulates the activity driven by the supply chain as a result of the procurement of goods and services from other businesses to support those providing goods and services to the 50-plus cohort.
- **Induced effect.** Captures the impact of workers spending their wages on domestically produced goods and services. This supports activity across the spectrum of consumer goods and services, and their supply chains.

In accordance with standard economic impact assessments, the impact of the Longevity Economy is measured using three key metrics:

- **GVA:** The gross value added (GVA) contribution to GDP,
- **Employment:** Employment (generally measure in terms of worker headcount), and
- **Income:** Wages and salaries earned by Longevity Economy workers supported by the spending of the 50-plus cohort.

All monetary impacts in this report are presented in current (i.e. non-inflation-adjusted) US dollars.

89.4 million jobs

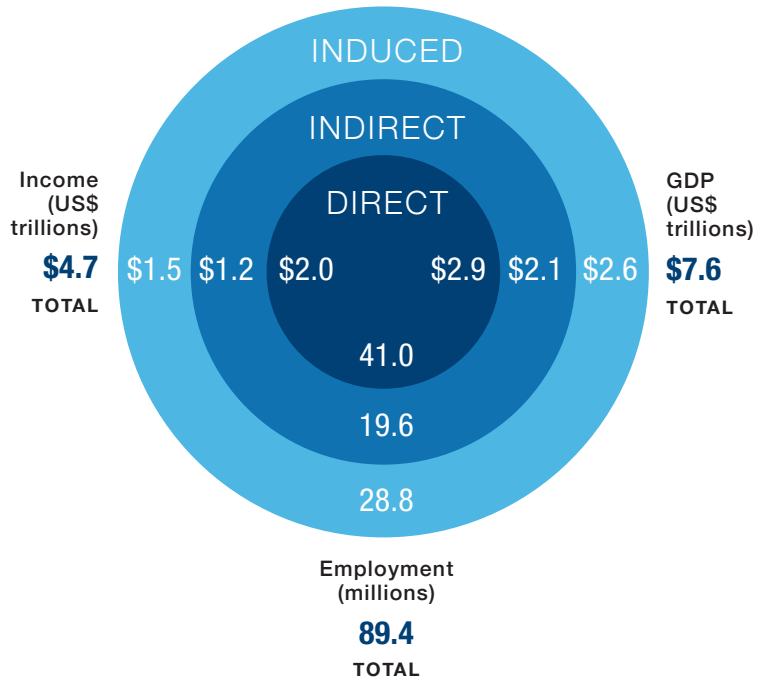
Supported by spending of the Longevity Economy.

This represents nearly 61% of all US jobs.

While spending by the 50-plus population amounted to \$5.6 trillion in 2015, the cohort's economic impact is broader than this. The contribution to GDP amounts to \$7.6 trillion when we add the economic effects of this direct spending as it circulates through the economy. It includes the economic value generated all along the supply chain and in the wider consumer economy as earned wages are spent. Overall, spending by people aged 50 and over in the US in 2015 supported more than 89.4 million jobs and over \$4.7 trillion in labor income. Some 61 percent of all US jobs and 43 percent of labor income was related to spending by the 50-plus cohort.

Fig. 7 illustrates how the \$5.6 trillion in spending rippled through the economy in 2015. The combination of direct, indirect and induced effects creates a continuous cycle of money rippling through the US economy.

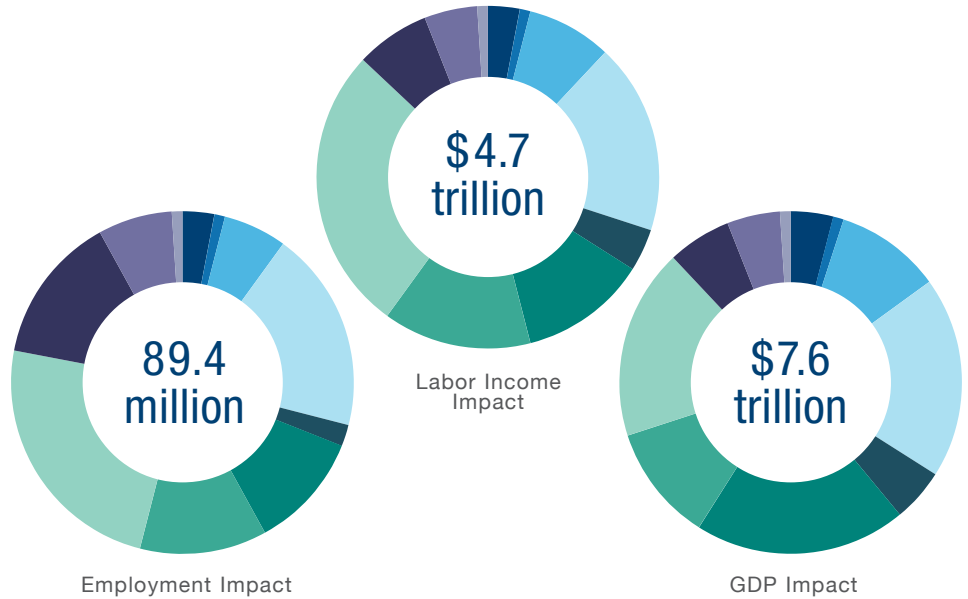
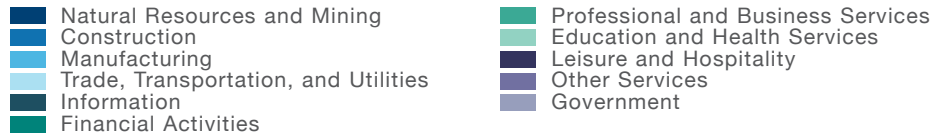
Fig. 7: Breakout of Longevity Economy ripple effects from spending, 2015



Source: Oxford Economics, IMPLAN

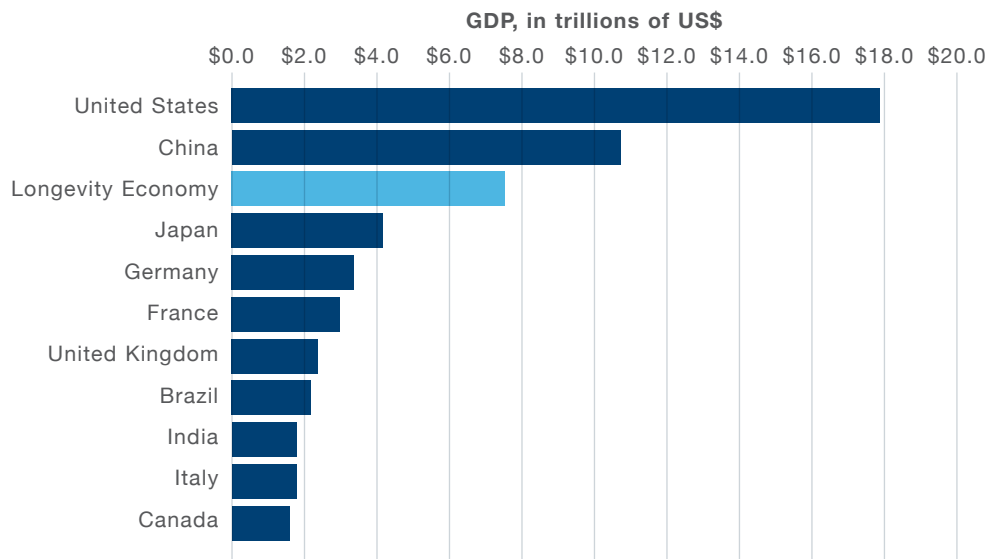
The impact of spending by those in the Longevity Economy is felt in a wide range of industries all across the US. Disproportionately, it affects education and health services; financial activities; and trade, transportation, and utilities. The impact on jobs is more concentrated in high-employment sectors, including leisure and hospitality. This reflects the lower productivity and salaries generally prevalent in these industries. Therefore, wage expenditures by the 50-plus cohort support relatively more jobs.

Fig. 8. Longevity impacts by sector, 2015



Source: Oxford Economics, IMPLAN

Fig. 9. The Longevity Economy on a global scale, 2015*



* Nominal (non-inflation-adjusted) GDP
Source: Oxford Economics

Fig. 8 breaks out the economic value, jobs and income that accrue to various sectors within the US economy. The leisure and hospitality sector, for example, accounts for just over six percent of the GDP impact, but for nearly 14 percent of the jobs impact.

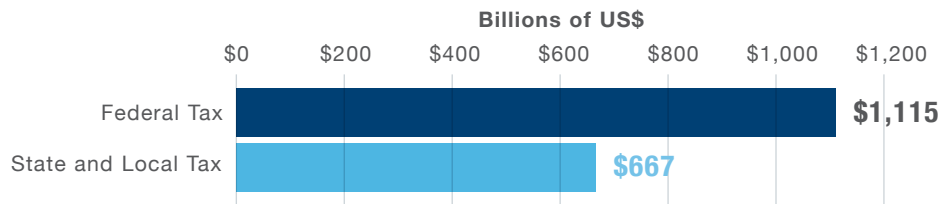
The amount of value driven by the 50-plus cohort in the US is huge, even viewed on a global scale. If the US Longevity Economy were to stand alone, it would, in GDP terms, be the third largest economy in the world—behind only the US and China and nearly \$3.5 trillion larger than Japan.

3.1 THE LONGEVITY ECONOMY’S TAX CONTRIBUTION

All the economic activity described in this study (quantified as GDP) and all the employment related to the Longevity Economy generate not just income, jobs and wealth but also taxes. These include taxes on consumer and supply-chain purchases of goods and services; employment taxes on salaries of workers employed directly or indirectly as part of the Longevity Economy; and taxes on the corporate profits of companies serving and run by the 50-plus cohort.

When summed together, approximately \$1.8 trillion in federal, state and local taxes were attributable to the Longevity Economy in 2015—about 34 percent of federal tax revenue and 41 percent of state and local tax revenue collected in the US.¹¹ Fig. 10 summarizes the taxes generated by the Longevity Economy.

Fig. 10. Longevity tax contributions, 2015



Source: Oxford Economics, IMPLAN

¹¹ Calculated taxes *do not* include estate taxes. The calculation is derived from Longevity Economy’s spending on goods and services within the US and subsequent income taxes collected on wages/salaries.

4. LONGEVITY IN THE WORKPLACE

This section takes a closer look at employed 50-plus workers, specifically revealing labor force participation rates, which occupations older workers hold and their education levels.

Individuals 50 and older are still very actively engaged in the workplace. Those who haven't retired show lower unemployment rates—at less than 4 percent—than any other age cohort. Furthermore, the growth of the 50-plus population suggests that an increasing number of older adults will remain in the workplace, producing goods and services, earning and spending their income and fueling further economic activity as a result.

There's a long-held myth about increasing age and decreasing productivity—that perhaps older workers are not as quick, agile or capable as their younger counterparts. While this may hold true in a few specific occupations, data suggest that the worker productivity does not diminish with age. In many cases, productivity may actually increase—even at advanced ages. The reason: Older workers tend to be active in industries that are more knowledge-intensive and less physically demanding. Workers who remain in the labor force in such roles and sectors therefore tend to be more highly educated and productive than their younger counterparts.

A study by the Brookings Institution, for example, found that wages—a common measurement of productivity—for advanced-aged workers have not diminished, but rather increased over time.¹² It also found that workers between 60 and 74 years old earned a higher hourly wage than workers aged 25 to 59.¹³ As stated in the report, the false impression of diminishing productivity “may

¹² Burtless, Gary. The Impact of Population Aging and Delayed Retirement on Workforce Productivity. Center for Retirement Research at Boston College. Working Paper. May 2013.

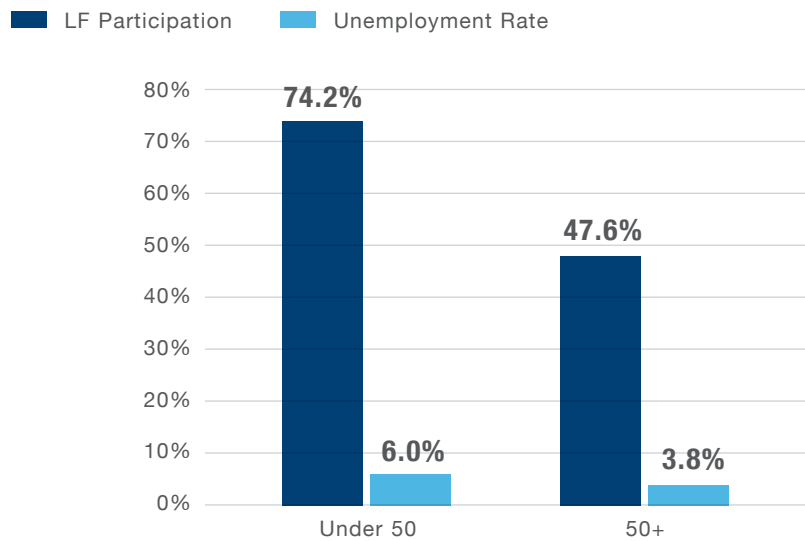
¹³ Ibid

be fueled by the perception that the aged are less healthy, less educated, less up-to-date in their knowledge, and more fragile than the young. While all these images are accurate to some degree, they do not necessarily describe the people who choose to remain employed at older ages.”¹⁴

4.1 THE LONGEVITY LABOR FORCE

In 2015, about 52 million people in the 50-plus cohort were participating in the US labor force. Although the 50-plus population has a lower unemployment rate than the under-50 population, the labor force participation rate for the 50-plus population is also relatively low, indicating that many older workers drop out of the workforce if employment opportunities don't arise. Fig. 11 shows labor force participation rates for both cohorts, along with each group's unemployment rate.

Fig. 11. Labor force participation and unemployment rates, 2015



Source: Oxford Economics, BLS

While declining labor force participation overall has been a recent concern in the US, the Bureau of Labor Statistics projects that participation rates among the over-50 population will rise over the next several years. Numerous studies suggest labor force participation by those over 50 will increase as more older workers find they either are not financially prepared for retirement or simply

14 Ibid

want to keep working. Though individuals over 50 may have various reasons for working longer, collectively they make a pronounced difference, and the overall evidence is clear that their extended engagement with work leads to gains in national productivity and growth. In fact, as labor force participation declines among younger people—who are enrolling in post-secondary education in increasing numbers and doing less part-time while in school—older workers have helped cushion a potential labor shortage that might otherwise have threatened business productivity.

A common perception is that older workers are squeezing out younger workers within the labor market, forcing younger workers into careers with little upward mobility—the aptly named “lump of labor fallacy.” Fortunately for everyone, the evidence says otherwise. Evidence from BLS is pronounced: Long-tenured older workers who lose their jobs have difficulty securing employment that allows them to save for retirement in the post-recession economy. In January 2016, the re-employment rate was 60 percent for workers aged 55 to 64 and only 27 percent for those over 65, compared with 73 percent for workers 25 to 54.¹⁵

Further evidence from the Federal Reserve Bank of St. Louis suggests that older workers face higher rates of long-term unemployment than younger cohorts. Researchers found that long-term unemployment among workers aged 50 to 64 increased from 26 percent in 2006–2007 to 50 percent 65 and older, long-term unemployment rates rose from 19 percent to 49 percent during the period, the largest percentage point increase of all age cohorts.¹⁶ These statistics are not consistent with a picture in which older workers are crowding out younger ones.

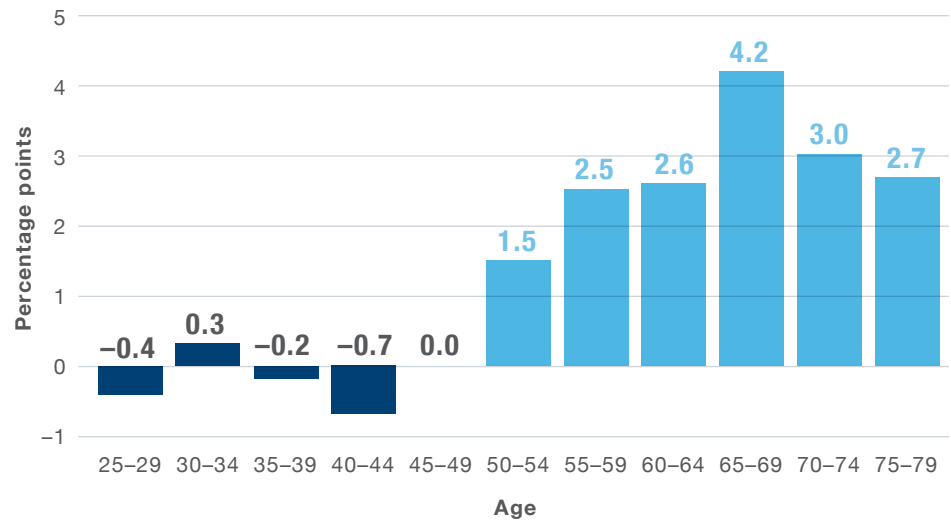
On the contrary, older workers add value to the economy, boosting growth and creating jobs rather than taking them. A recent study in the UK for the Department of Work and Pensions found that real GDP would increase by 3.25 percent per year if older workers remained active in the workforce for an extra three years. The report also found that higher employment rates among older workers actually benefited younger generations, as older workers had more money to spend—thus creating more jobs.¹⁷

15 <http://www.bls.gov/news.release/disp.t01.htm>

16 Monge-Naranjo, Alexander and Sohail, Faisal. (2015). Age and Gender Differences in Long-Term Unemployment: Before and After the Great Recession. St. Louis: Federal Reserve Bank of St. Louis.

17 Altman, Ros CBE. A New Vision for Older Workers: Retain, Retrain, Recruit. Report to Government. March 2015.

Fig. 12. Projected change in labor force participation rates by age group, 2015 to 2024



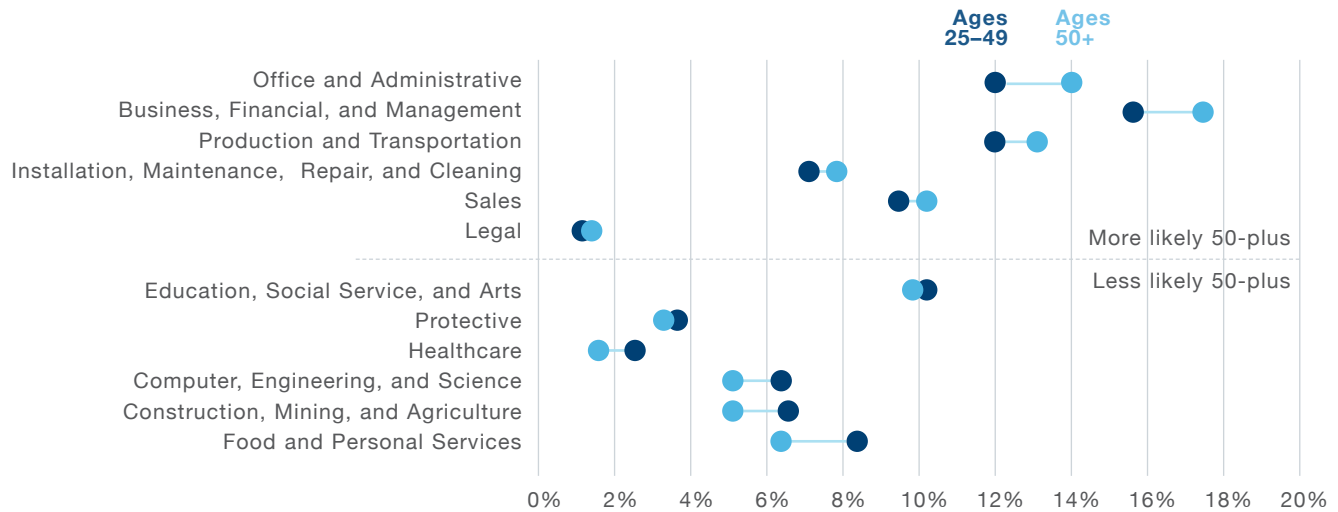
Source: Oxford Economics, BLS

4.2 THE MANY OCCUPATIONS OF THE LONGEVITY WORKFORCE

Although older people are increasingly working longer, those who do so exhibit different employment patterns from their younger counterparts. Overall, younger and older workers are generally working in similar occupation categories—in sectors such as education and social services—but there are also some notable differences. For example, workers aged 25 to 49 are more likely than older workers to be employed in food and personal-service occupations, as well as construction, mining and agriculture. In the main, this is because of the physical demands of these types of jobs; for people who have formed careers in those industries it is simply often not a practical option to continue long past traditional retirement age. By contrast, workers in office and administrative occupations, as well as sales, business, finance, and management are more likely to continue to work when they are 50 and older.

Unsurprisingly, research shows that older Americans who work past traditional retirement age in the kinds of knowledge-intensive occupations mentioned above tend to be more highly educated, thereby maintaining higher levels of productivity. Our analysis shows that older workers, especially those over 65, are much more likely to have a graduate degree (i.e. master’s or greater)

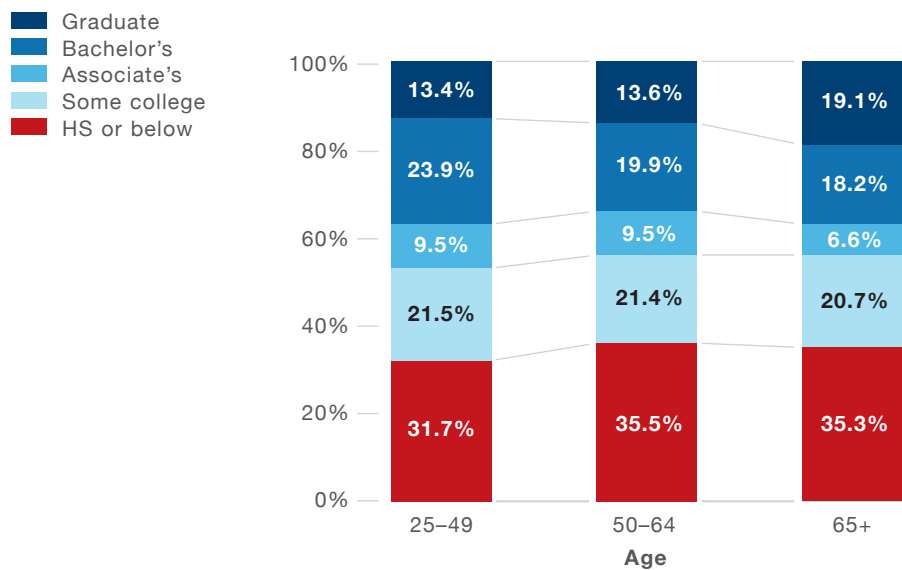
Fig. 13. Distribution of worker occupations by age, 2014



Source: Oxford Economics, American Community Survey

than workers 25 to 64 years old. About 19 percent of employed workers over 65 have a graduate degree, compared with about 13.5 percent of employed workers under 65. Combined with the less physically demanding nature of their occupations, this allows older workers to remain in the labor force longer.

Fig. 14. Educational attainment of employed workers by age, 2014



Source: Oxford Economics, American Community Survey

HOW PATTERNS OF WORK ARE CHANGING WITH LONGEVITY

The US and the world are entering a unique period in history where demographic shifts indicate that the workforce will begin to shrink. Keeping older workers productive may be a way to offset the declines in labor supply that are soon expected to hit. Headlines about the increasing age of the workforce frequently paint a picture of impending doom, with messages like “Shortages Loom as Most-In-Demand Group of Workers Ages,”¹⁸ “Labor Report: Worker Shortage Begins as Baby Boomers Retire,”¹⁹ “Concerns Grow over Workforce Retirements and Skills Gaps.”²⁰ However, with the oldest Baby Boomers slated to turn 70 this year, the fast-approaching workforce cliff increasingly appears to be a slope. This is because Baby Boomers do not seem to be sticking steadfastly to a “retire at 65” mentality, but rather are choosing to remain in the labor force for longer. This unprecedented shift raises important issues for US businesses and the economy as a whole.

First is the question of whether this prolonged workforce engagement adds value. In this context, it is salient that those who remain in the workforce after 65 tend to be better educated on average than the prime working-age population (25-54 years old). This implies that workers who stay in the workforce past the age of 65 tend to be highly skilled, which has important and positive implications in terms of meeting the needs of the “knowledge economy.”

Further evidence suggests that productivity does not typically

diminish with age, even for those who stay engaged in the workforce past standard retirement ages.²¹ In part, this reflects the educational levels of those working past the age of 65, as discussed above, which means they are more likely to be in knowledge-intensive rather than manual jobs. This is further supported by the Brookings Institute study mentioned earlier in this section, wherein workers aged 60 and 74 years old have higher wages than younger workers.²²

Second is the oft-asked question of whether prolonged workforce engagement among older workers simply takes jobs from Millennials. By staying in the workforce are older citizens “blocking” access to jobs for younger workers? The evidence suggests that as the US emerges from the Great Recession, longer workforce engagement does not appear to be crowding out jobs for younger people.²³ The number of jobs is not remaining static. At the same time, some Boomers are of course retiring, thereby creating demand for replacement workers. The unemployment rate among young workers in the first quarter of 2016 shows that youth unemployment is near its pre-Great Recession low,²⁴ suggesting that intergenerational employment is not a zero-sum game. Indeed, 10-year projections indicate about 3.5 million new jobs and replacements will be created annually.²⁵ As the US economy expands and some Baby Boomers retire, entry-level job opportunities are therefore opening up for Millennials as current job holders move up through the ranks.

A related challenge, on the contrary, seems to be how to address reduced labor force participation and increased turnover among young workers, who often delay entrance into the workforce in pursuit of higher education, thereby making it harder for employers to find qualified candidates.²⁶ For example, a Society for Human Resource Managers (SHRM) Foundation report notes that “the population of younger workers with the education and skills to replace Baby Boomers is not large enough—or growing fast enough—to make up

- 18 Wright, J. (2013, Mar 7). *America's Skilled Trades Dilemma: Shortages Loom As Most-In-Demand Group Of Workers Ages*. Retrieved Jul 15, 2015, from Forbes: <http://www.forbes.com/sites/emsi/2013/03/07/americas-skilled-trades-dilemma-shortages-loom-as-most-in-demand-group-of-workers-ages/#32f48f004545>
- 19 Baumann, L. (2015, Aug 31). *Labor report: Worker Shortage Begins as Baby Boomers Retire*. Retrieved Jul 15, 2016, from The Washington Times: <http://www.washingtontimes.com/news/2015/aug/31/labor-report-worker-shortage-beings-as-baby-boomer/>
- 20 Minton-Eversole, T. (2012, Aug 9). *Concerns Grow over Workforce Retirements and Skills Gaps*. Retrieved Jul 15, 2016, from SHRM: <https://www.shrm.org/ResourcesAndTools/hr-topics/talent-acquisition/Pages/WorkforceRetirementandSkillGaps.aspx>.

- 21 Gobel, Christian and Zwick, Thomas. *Age and Productivity: Sector Differences*. De Economist. March 2012, Volume 160, Issue 1, pp 35-57
- 22 Burtless, Gary. *Is an Aging Workforce Less Productive?* Brookings Institution. June 10, 2013. <http://www.brookings.edu/blogs/up-front/posts/2013/06/10-aging-workforce-less-productive-burtless>.
- 23 Munnell, A.H. and Wu, A.Y. *Are Aging Baby Boomers Squeezing Young Workers out of Jobs?* Center for Retirement Research at Boston College. October 2012. Number 12-18.
- 24 U.S. Bureau of Labor Statistics – Current Population Survey (Labor Force Statistics Q12006-Q12016, 20-24 years old cohort)
- 25 U.S. Bureau of Labor Statistics 2014-2024 Occupation Employment Projections
- 26 U.S. Bureau of Labor Statistics – Current Population Survey (Labor Force Statistics Q12006-Q12016, 20-34 years old cohort).

for the older generation's departure.²⁷ This raises the issue of generational knowledge transfer—the communication and imparting of experience and information to younger workers who will eventually replace outgoing older workers. A survey of nearly 370 general managers and C-level executives (an average age of 52 years old) conducted by the American Management Association emphasized the substantial knowledge gap that older employees leave behind, which cannot be replaced by simply hiring a couple of additional college grads.²⁸ This is further complicated because the short duration of Gen Xers and Millennials' average tenure in a job (about 5 years for Xers and 2 years for Millennials)²⁹ often does not provide a long enough period for institutional knowledge transfer.

To help combat generational knowledge gaps, some companies have implemented programs such as mentorships. IBM, for instance, gives all employees a “connection coach” before their first day, and once an employee has been in a role for a while, he or she is assigned a formal mentor.³⁰ Likewise, younger employees at Xerox are matched with those higher up to learn about possibilities for growth and development within the firm, and to learn from someone who has been in an entry-level function before.³¹ An employer survey by SHRM further evidenced that about 54 percent of respondents had implemented training and/or cross-training programs to facilitate knowledge transfer between older and younger workers—33 percent implemented mentoring programs and 26 percent had job shadowing.³² In this context, older workers staying on longer might be part of the solution to ensure knowledge-transfer occurs even if their younger counterparts don't come on stream until a little later than might formerly have been the case. Therefore, the younger generation does not appear to be losing out to older workers, and might instead benefit from their prolonged workforce engagement in the long term.

There are other ways in which the 50-plus workforce is

changing. For example, in order to continue earning income later in life, older workers are taking increased advantage of alternative working arrangements and the opportunities for enhanced flexibility that new technologies have opened up for workers all across the economy.

Often this is called the “gig economy”—a contractor-style arrangement wherein workers are not permanently employed by a single employer, but operate more like entrepreneurs and receive earnings from contract work. Still, they do, in the main, tend to stick with fairly traditional roles within this new arrangement. In 2015 Uber indicated that approximately 25 percent of their drivers were aged 50 or over, while approximately a quarter of Airbnb's hosts were also aged 50 plus. Recent research suggests that the probability of 55–75-year-olds engaging in alternative work arrangements has increased to nearly 24 percent—up from 14.4 percent 10 years ago.³³

Other spillover benefits also accrue as a result of longer 50-plus cohort labor force participation. A recent study from Oregon State University suggested that working longer may lead to a longer life. Data indicate that healthy adults who work one year past 65 have an 11 percent lower risk of death—irrespective of demographics or lifestyle.³⁴ A study of French workers by the US National Library of Medicine-National Institutes of Health found that working longer improved health and delayed the onset of dementia.³⁵ In the US, where dementia is expected to cost the nation \$236 billion in 2016—with Medicare and Medicaid covering nearly 70 percent of the payments³⁶—longer engagement in work activities might lead to substantial public health savings, in addition to enhancing economic productivity.

Ultimately then, as the US and global economies transform and demographics shift over the next several decades, our view of the aging workforce will also change. This view should not be negative. The evidence strongly points to the benefits of older workers remaining in the workforce, especially with regard to economic productivity and health.

28 SHRM Foundation's Effective Practice Guidelines Series. *The Aging Workforce: Leveraging the Talents of Mature Employees*. 2014.

29 American Management Association. *Strategies for Dealing with the Challenges and Opportunities of America's Aging Workforce*. <http://www.amanet.org/training/articles/Strategies-for-Dealing-with-the-Challenges-and-Opportunities-of-Americas-Aging-Workforce.aspx>.

30 US Bureau of Labor Statistics – Employee Tenure

31 Galagan, Pat. *Association for Talent Development*. IBM makes mentoring accessible, simple and pervasive across its global enterprise. May 26, 2010

32 Kovary, Giselle and Buahene, Adwoa. Canadian HR Reporter. *Formal mentorship programs connect baby boomers, gen-Y employees: Xerox initiative engages different generations, gains momentum across division*. March 26, 2012.

33 SHRM Research Department. (2015). *Preparing for an Aging Workforce*. Society for Human Resource Management.

34 Katz, Lawrence F and Krueger, Alan B. *The Rise and Nature of Alternative Work Arrangements in the United States, 1995-2015*.

35 Wu, Chenkai et. al. *Association of Retirement Age with Mortality: a population-based longitudinal study among older adults in the USA*. *Journal of Epidemiology & Community Health*. March 2016

36 Dufouil, C et. al. *Older Age at Retirement is Associated with Decreased Risk of Dementia*. *Neuroepidemiology*. May 2014.

37 Alzheimer's Association. *2016 Alzheimer's Disease Facts and Figures*. 2016. http://www.alz.org/documents_custom/2016-facts-and-figures.pdf.

5. LONGEVITY AND SOCIETAL BENEFITS

Other key aspects of the Longevity Economy are lifting the US economy, specifically through increased entrepreneurship, philanthropy and charity, wealth transfers and contributions to government coffers.

5.1 OLDER PEOPLE AS ENTREPRENEURS

Entrepreneurs have always been a diverse group of individuals, but as demographic structures change, those who are driving entrepreneurship are looking different. Entrepreneurs are often stereotyped as twenty-something, tech-savvy individuals working out of Silicon Valley. While young entrepreneurs certainly do exist and create value and opportunity, the reality of entrepreneurship in the US is far from the cultural image, especially when it comes to age.

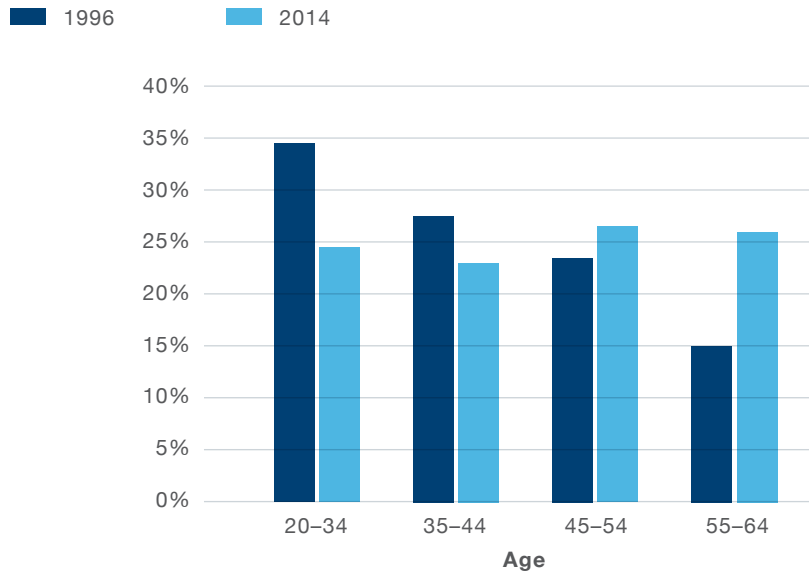
A study by the Kauffman Foundation that surveyed more than 650 US-born CEOs and heads of product development found that, even in the tech space, there were twice as many 50-plus tech founders than there were people under 25—debunking a common misperception that tech entrepreneurship is driven by ambitious young folks in the Bay Area.³⁸ Another analysis using BLS self-employment data found a large shift in patterns of entrepreneurship toward older demographics, specifically those 55 and older.³⁹ In fact those aged 55-64 have had the highest rate of entrepreneurial activity in the US over the last 10 years and one in three businesses in the US in that timeframe was started by an entrepreneur aged 50 or older.⁴⁰ These findings are illustrated in Fig. 15.

38 Wadhwa, Vivek et. al. Education and Tech Entrepreneurship. Kauffman Foundation. May 2008

39 Bureau of Labor Statistics. Current Population Survey. <http://www.bls.gov/spotlight/2016/self-employment-in-the-united-states/home.htm>.

40 Easy Life Cover. Why Running a Company is the New Retirement, An Infographic. March 18, 2015. <https://www.easylifecover.ie/2015/03/older-entrepreneurs-and-their-success-why-running-a-company-is-the-new-retirement/>.

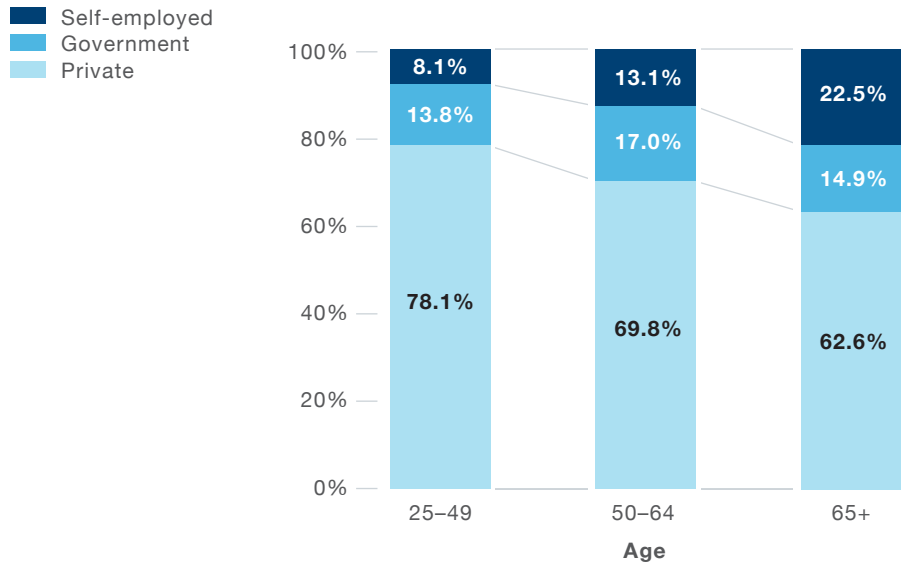
Fig. 15. Changes in composition of new entrepreneurs by age



Source: Kauffman Foundation

A closer assessment of data from US Census Bureau, shown in Fig. 16, reveals that of the working population, about 1 in 5 workers over 65 years old are self-employed, compared with 1 in 10 workers aged 25 to 49 years.

Fig. 16. Distribution of the type of employment by age, 2014



Source: Oxford Economics, American Community Survey

Moreover, entrepreneurship later in life appears to correlate with higher success rates. A study by the Founder Institute found that entrepreneurs aged over 40 proved more successful than those under 40. This reflects that, as the study makes clear, older individuals have “generally completed more complex projects—from buying a house to raising a family [and] developed greater vocational skills than their younger counterparts.”⁴¹ While those in the 40-to-49 cohort are not part of the Longevity population, this may partly explain why entrepreneurs over 50 are experiencing business success. Other factors that may contribute to the success of older entrepreneurs relative to their younger counterparts include better access to capital, higher and more established credit ratings, and stronger networks and connections to advisors.

5.2 LONGEVITY PHILANTHROPY AND GIVING

Baby Boomers and the 50-plus cohort also make a huge philanthropic, charitable and volunteer contribution to US society, an area of spill-over value that is often overlooked. Those over 65, for example, are found to give the largest amount, averaging \$1,672 over 12 months.⁴² A study by Merrill Lynch on retirement, in partnership with Age Wave, argued that “as Baby Boomers retire, they will create an \$8 trillion surge—[representing] the total value of retirees’ giving and volunteering.”⁴³ Considered the “Longevity Bonus,” this value is broken into approximately \$6.6 trillion in giving and \$1.4 trillion in value of time (approximately 58 billion hours) over the next two decades. As the number of Baby Boomers reaching retirement increases, this amount looks set also to rise.

Not only do older people tend to donate at higher rates than younger cohorts, they also tend to give more in monetary terms when they do donate. The same study found that 80 percent of those aged 65+ had given to charity in the previous 12 months, compared with 58 percent of those aged 25-34. Surprisingly, people aged 35 to 44 were the most likely to volunteer—30 percent, compared with 24 percent for 65+ years old. However, older individuals were found to spend significantly more time volunteering, on average—128 hours over the previous year for people 55-64 years old and 133 hours for 65+, compared with only 58 hours for those 35-44 years old. In total, retirees account for 42 percent of donations given and 45 percent of volunteer hours, even though they account for only 31 percent of the population.⁴⁴

41 Ressi, Adeo. Is there a peak age for entrepreneurship? Tech Crunch. May 28, 2011. <https://techcrunch.com/2011/05/28/peak-age-entrepreneurship/>.

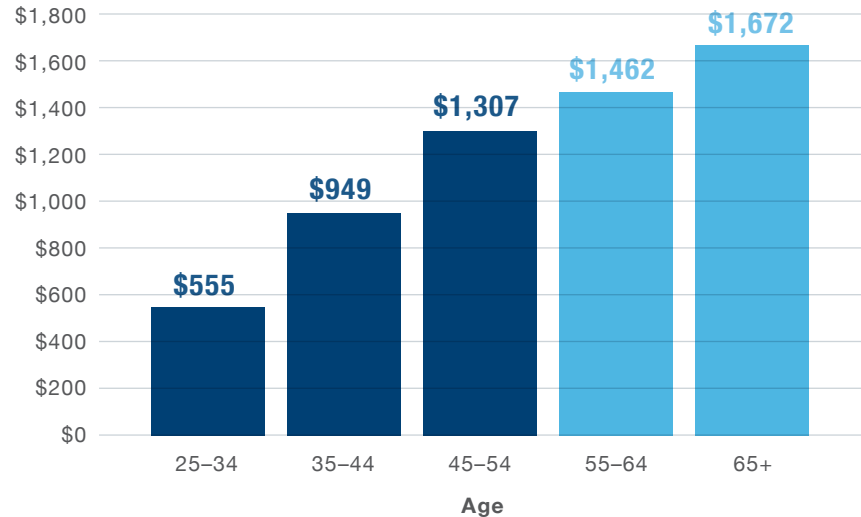
42 Giving in Retirement: America’s Longevity Bonus. Merrill Lynch and Age Wave. 2015. https://mlaem.fs.ml.com/content/dam/ML/Articles/pdf/ML_AgeWave_Giving_in_Retirement_Report.pdf

43 Ibid

44 Ibid.

Volunteering also has hidden economic value in terms of benefits for the volunteers. Numerous studies have shown that giving and volunteering are associated with lower rates of depression, blood pressure and mortality—a win-win for all involved.

Fig. 17. Average amount given to charities annually by age, 2015



Source: Merrill Lynch

5.3 LONGEVITY AND WEALTH TRANSFER

As discussed earlier, the majority (83 percent) of household wealth in the US is held by people over 50. What is not donated during retirement years is generally transferred to descendants when people pass away. The Center on Wealth and Philanthropy at Boston College constructed a Wealth Transfer Microsimulation Model based on a number of federal datasets to estimate the wealth transfer to descendants and charity over a 20-year and 55-year timeframe. Overall, researchers forecast \$58.1 trillion in transfers between 2007 and 2061, which they term “the largest wealth transfer in American history.” Lifetime transfers account for 17% percent of the estimate, while final estate transfers account for 83 percent. In terms of the latter, the distribution of the wealth transfer is approximately \$36.0 trillion to heirs, \$5.6 trillion to estate taxes, \$6.3 trillion to charity and \$1.1 trillion to estate clearing costs.

6. CONCLUSION

The Longevity Economy is redrawing economic lines, changing the face of the workforce, advancing technology and innovations, and busting perceptions of what it means to age.

This study demonstrates that the Longevity Economy is a critical driver of the US economy. Through their work, investment activities, consumption and charitable contributions, Americans over 50 are reshaping the landscape of America and driving economic prosperity.

As the economy continues to evolve, meeting the needs of the Longevity population will require dynamic approaches in understanding and delivering the types of goods and services demanded. This report has explored the implications for some of the following:

- Acknowledging the spending patterns of the 50-plus cohort. As the group with the largest spending power, the Longevity cohort will influence market demand.
- Identifying and responding to trends in the labor market to maximize the productivity of workers over 50. Accommodating the need for longer working lives as people increasingly work in encore careers will be the key to maximizing productivity levels in the future.
- Staying informed of trends in health care and strategies to increase the quality of life for the Longevity population and accommodate their preference for aging in place.
- Innovating and adopting new technologies that can help and improve the lives of people 50 years and over.
- Understanding how longevity is good for society in terms of charitable giving and taxes.

As the world transitions to a greater reliance on the contributions of the Longevity Economy, it will become an increasingly valuable asset in terms of economic growth and opportunity.



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