New Map of Life Domain Report – Financial Security

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April, 2021, Final Version

1. Introduction

Financial security, a vital component of the American Dream, is strongly correlated with health, happiness, and longevity. Financial wellness affects almost every facet of life: children from low-income families are more likely to have malnutrition, academic problems, and safety issues; financial stress and anxiety can exacerbate family conflicts and threatens marital stability. Moreover, low social-economic status is positively correlated with poor physical and mental health, reducing happiness and life satisfaction.

Yet, financial security remains elusive today for many Americans, and the COVID-19 pandemic has inflicted catastrophic economic impacts on many who can least afford it. But even before COVID-19, nearly half of American families were living on the edge or paycheck-to-paycheck, with inadequate emergency savings, few assets, and high debt (Valdes, Mottola, and Armeli 2021), and about one-third of adults would not have been able to pay a $400 hypothetical expense with case or equivalent in 2019 (Federal Reserve 2020).

Successful financial planning has become ever more crucial as longevity continues to rise. To support a 100-year life, we need to be diligent and proactive in mapping out the arc of financial life: acquiring a high-quality education, getting a good job, saving for retirement, making the best decisions on when to stop working, and enjoying a comfortable retirement.

In reality, however, people deviate from this trajectory for all sorts of reasons. For one, it's more difficult for low-skilled workers to have steady employment today than several decades ago.

Blue-collar jobs in manufacturing, construction, and retail sales, are diminishing due to globalization, automation, robotics, and artificial intelligence. People without a regular job not only have a lower income, but also lack access to fringe benefits such as retirement plans, health insurance, and disability insurance. Secondly, many people are less aware of and prepared for the longevity risks. For example, even though thirty extra years were added to life expectancy over the last century, today's retirement age is the same as in the 1960s. As Stanford University economist John Shoven knowingly put it, “few workers can fund a 30-year retirement with a 40-year career.” To fund longevity, we need to rethink the sequence and length of each life stage. Some people may need to work longer, while others may go back to school in mid-life. Changes in the norms of work and retirement need to take place.

From a life-course perspective, financial security reflects the cumulative effects of a person's life events, choices, and decisions, as well as the environment and circumstances. It requires constant endeavor and attention at the individual level and institutions and policies that incentivize and facilitate individual efforts to improve financial wellbeing. At each life stage, people may face unique opportunities and challenges to pave the way for long-term financial wellbeing.

For people in young adulthood, too much debt can have adverse impacts over the life course that are often hard to right. Compared to their parents, today's young people are better educated, but their diplomas come with a hefty cost – student loans. Over 40 percent of college entrants in the 2000s are projected to default within 20 years of graduation (Scott-Clayton 2018). Even among those not defaulting, many struggle to repay their loans while falling short on other financial milestones such as buying a house or saving for retirement.

For middle-age individuals, adequate wealth accumulation has proven essential for achieving financial security and maintaining one's standard of living in life. One component of asset accumulation is homeownership. However, young people today find their plans to own property clashing with the reality of increasingly unaffordable real estate. As a result, the share of people owning a home in their 20s and 30s declined substantially between 1980 and 2018 (American Community Survey data), while the share of young adults living with parents increased during the same period (Vespa 2017). Another critical component of wealth building is retirement planning. The rising longevity highlights the importance of sufficient retirement savings; nevertheless, only half of Americans have access to employer-sponsored retirement savings plans. Close to 30 percent of households near retirement have nothing saved besides Social Security.

Nearing retirement, people need to make a series of decisions, including the timing of retirement and Social Security claiming, which will have long-lasting effects on the financial wellbeing for the rest of their lives.

Given the high stakes, we dedicate this report to an in-depth discussion of America's financial security. We present the historical trend and the nation's current state of financial security. We show that, in key sectors such as education, housing, and healthcare, Americans' income growth falls short of the rate of increase in costs, resulting in stagnation or even decline of the real purchasing power. From a life-course perspective, we then analyze the major policy efforts to enhance financial security in different life stages, including reducing student loan debt in young adulthood, increasing wealth accumulation in mid-life, working-longer near the end of one's working life, optimizing the Social Security claiming strategies, and improving the affordability of long-term care in late-life.

2. Historical trends and the current state of the financial security domain

(2.1) Americans' income growth fails to keep up with the rising costs of education, homeownership, and healthcare.

According to the St Louis Fed's FRED Economic data, the nominal household income had an average annual growth rate of 3.2 percent from 1985 to 2019. However, factoring in inflation, the median household income had only grown about 0.7% annually over the same period. Moreover, several essential spending categories' growth rates have far exceeded the inflation rate calculated from the Consumer Price Index. In particular, the costs of college education, home purchases, and health care have increased by 5.1%, 4%, and 5.6% each year, respectively. Bottom line: the hike in living costs has eroded the modest income growth of average American families, leaving them with less to save.

Table 1: Income changes vs. cost changes in major spending categories

	1980-90	2010-20	The average annual growth rate
Median household income, current dollars [1]	1985: $23,618	2019: $68,703	3.2%
Consumer Price Index	1985: 107.6	2019: 255.7	2.58%
Average college costs, current dollars [2]	1985: $4,885	2017: $23,835	5.1%
Housing price index [3]	1987: 63.7	2020: 212.4	3.7%
The median sales price of houses sold in the U.S., current dollars [4]	1985: $82,800	2020: 329,000	4.0%
Health care costs per person, current dollars [5]	1985: $1,833	2018: $11,172	5.6%

(1) *Source: FRED Economic Research (St Louis Fed n.d.)*
(2) *Note: college costs include total tuition, fees, room, and boarding costs. The numbers shown are the average for all institutions, including 4-year and 2-year institutions and public and private institutions. Source: National Center for Education Statistics (2020)*
(3) *Source: FRED Economic Research (St Louis Fed n.d.)*
(4) *Source: FRED Economic Research (St Louis Fed n.d.)*
(5) *Source: Amadeo (2020)*

(2.2) Rising student loan burdens

In 2020, outstanding student loans reached $1.7 trillion. To put things in perspective, the subprime mortgages totaled $1.2 trillion in 2007, before the burst of the housing bubble. The number of families affected by student loans is on the rise. Between 1989 and 2019, the percentage of families having education loans has more than doubled, rising from 8.9 percent to 21.4 percent. The average amount of student loans has quadrupled from $10,940 in 1989 to $40,550 (all in 2019 real dollars). The loan amount accounts for a substantial amount of a family's income, especially for new college graduates. Recent college graduates earned an overall average starting salary of $50,944 (NACE 2019), which means for these young borrowers, the cost of their college degrees is equivalent to 80 percent of their first year's salary.

As a result of the heavy burden, 11 percent of aggregate student debt was in delinquency or default at the end of 2019. According to a Brooking’s report, over 40 percent of college entrants in the early 2000s were projected to default within 20 years of graduation (Scott-Clayton 2018). Black and Hispanic graduates are more likely to default than non-Hispanic white graduates, and those borrowed to attend a for-profit college have a higher default rate than public two-year borrowers. For young people who work hard to pay off their education loans, the financial pressure has weakened their ability to enter homeownership or save for retirement, both of which are crucial for financial success in the long-run (Elliott, Grinstein-Weiss, and Nam 2013; Elliott and Lewis 2015).

Student loans were once the problem of people under age 35. However, education loans also affect those 55 and older today. Between 1989 and 2019, the share of families aged 55 and above who have student loans has increased from 5% to 18.2%. Older borrowers, especially those near retirement, still owed a level of student loans comparable to their younger counterparts. This new phenomenon of older families owing student loans could be attributed to the fact that some parents cosigned their children's student loans, making them liable for the consequences of a default. According to a 2016 Government Accountability Office report, the Federal government can take up to 15 percent of Social Security benefits of people who defaulted on their student loans. In 2015, almost 114,000 borrowers aged 50 and above had their Social Security benefits seized to repay defaulted federal student loans.

Table 2: Percentage of families with student loans and the average amount owed

	Percentage of families having student loans		**Mean value of student loans (in real 2019 dollars)**		**Median value of student loans owed (in real 2019 dollars)**	
Age of reference person	**1989**	**2019**	**1989**	**2019**	**1989**	**2019**
Less than 35	17.1%	41.4%	$11,700	$41,410	$6,560	$22,000
35-44	10.9%	33.7%	$9,800	$41,940	$3,980	$21,000
45-54	7.3%	23.3%	$12,500	$39,600	$7,960	$25,000
55-64	4.1%	12.2%	$6,230	$37,600	$3,980	$24,000
65-74	0.9%	4.2%	$10,700	$40,950	$7,960	$14,000
75+	0	1.8%	.	$16,540	.	$13,000

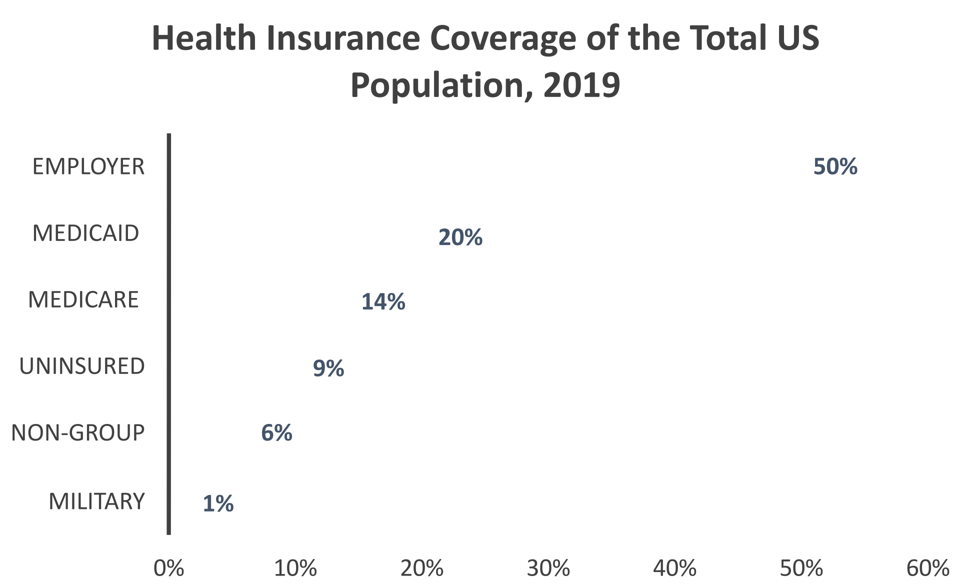
Source: The Federal Reserve

(2.3) Tail risks for people lacking affordable health insurance coverages

Another common risk to a family's ability to build wealth is high health care costs, especially for those without health insurance coverage. In 2019, 14.7% of adults age 18-64 were uninsured. A clear gap exists in the access to health insurance across race and ethnicity. About 29.7% of Hispanics, 14.5% of non-Hispanic blacks, 10.5% of non-Hispanic whites, and 7.5% of non-Hispanic Asians aged 18-64 were uninsured (Cohen and Martinez 2020). The lack of health insurance coverage for Hispanic and non-Hispanic Blacks exacerbates their financial fragility should they experience any health shocks.

Granted, there have been several achievements in health insurance. Over the years, the percentage of people without health insurance coverage has declined. Among people under 65 years of age, the uninsured has declined from 18 percent in 2010 to 11 percent in 2018 (CDC 2019), primarily due to the Affordable Care Act. However, underlying this drop of people with no health insurance is an overload on the Medicaid, Health Insurance Marketplace, and other state-based exchanges. Individuals purchasing plans directly from the marketplace have faced a host of issues, including high out-of-pocket expenditures, increased premiums, and a reduced number of providers who would accept their plans. High premiums and deductibles have made products under the ACA less attractive to consumers who don't qualify for federal subsidies, which has caused a steady exodus of unsubsidized individuals out of the market (Antos and Capretta 2020).

Figure 1: Health insurance coverage by insurance type



Data source: KFF (2020).

Thus, when we talk about the tail risks of people uninsured, we need to look at both the uninsured and the non-group[1] (Figure 1), together accounting for 15 percent of the total population in 2019. They either have absolutely no health insurance or have a costly plan. For instance, Covered California – the Marketplace for ACA in California – offers uninsured persons a place to purchase health insurance (Table 3). A 35-year old uninsured single person in California who makes $45,000 a year can choose between low-premium + high deductible plans and high-premium + low deductible plans. Suppose the person picked the one with the lowest monthly premium ($164/month), had zero visits to the doctor's office, and took no medication, then her annual expenditure would be $1,968. If she had any unexpected accidents or hospital stays, the yearly spending could quickly go up to $8,268 due to the high deductibles. Alternatively, she could choose a plan with low deductibles at the cost of a higher monthly premium, such as the one offered by Blue California. The annual premium totals $11,664, roughly a quarter of the person's entire pre-tax income. Unexpected medical events, including accidents or hospital stays, expose the policyholders who have bought plans from the marketplace with a substantial financial risk.

Table 3: Example health insurance plans from California's Marketplace, based on a 35-year old single person whose annual income is $45,000 in 2021

	Monthly premium	Primary care visits, out-of-pocket	Generic drugs, out-of-pocket	Yearly deductible
Valley Health plan	$164	65	18	$6,300
Kaiser Permanente	$428	35	15	0
Blue California	$409	0	0	$7,000
Blue California	$569	40	16	$4,000
Blue California	$972	15	5	0

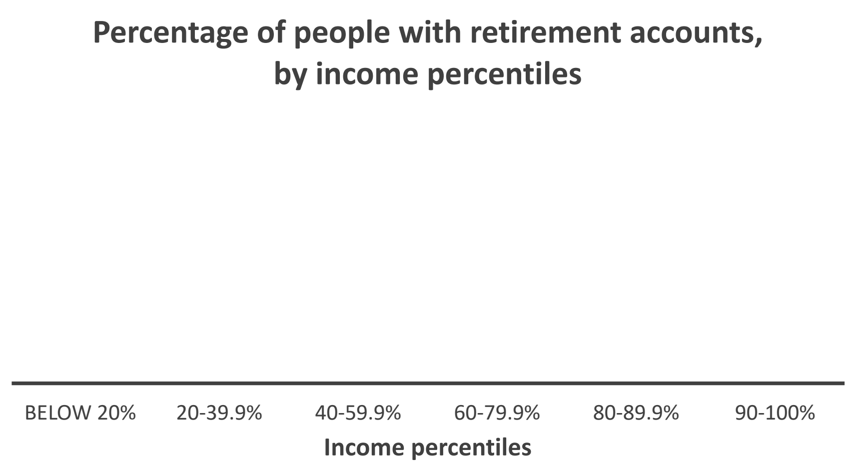
Note: a sample of insurance plans on the "Covered California" website when searching for health insurance plans for a 35-year old person. Not all plans from the website are shown here, but the plans shown above represent the range from the lowest to the highest monthly premium. The results were based on a search on January 31, 2021. *https://apply.coveredca.com/lw-shopandcompare/*

[1] Non-group includes those covered by a policy purchased directly from an insurance company, either as policyholder or as dependent.

(2.4) Inadequate retirement savings

In 2019, only 50 percent of Americans had retirement accounts such as 401(k)s or IRAs. Workplace retirement plans are tied to steady employment, which means there is substantial variation in the retirement account ownership across racial/ethnic background, as well as across income levels. While 57 percent of non-Hispanic Whites have retirement accounts, that rate is significantly lower for non-Hispanic Black workers (35 percent) and Hispanic workers (26 percent). The rate also differs substantially by work status: nearly 60 percent of employees have retirement accounts, compared to only 24 percent of nonworkers. The ownership of retirement accounts correlates with income levels (Figure 2).

Figure 2: The ownership of retirement accounts varies significantly by income



Data source: The Federal Reserve (2020)

Even among those who have retirement accounts, the savings level is often inadequate for future needs, especially when considering increasing longevity risks. Based on the analysis conducted by the Stanford Center on Longevity (2018), even among working-age families eligible for employer-sponsored retirement accounts, the median savings rate toward retirement (including both employee and employer contributions) was about 6 to 8 percent of income, well below the recommended contribution goals projected by institutions such as the Center for Retirement Research (CRR) at Boston College, and Aon Hewitt. Based on the CRR calculation (Munnell, Webb, and Hou 2014), individuals who start saving at age 25 and plan to retire at age 65 should contribute at least 10 percent each year (including both employed and employer contributions). Those who start saving later or plan to retire earlier should contribute even more to their retirement accounts. As a result of the low contribution rate, the near-retirees (aged 55-64) with retirement accounts only had a median balance of $134,000 in 2019. Converting that into a lifetime annuity, a retiree would receive about $350-500 dollars per month[2], far short of the amount needed to finance even a modest lifestyle, and leaving the retiree to rely on Social Security benefits, which has been projected to have a funding shortfall by 2035 (Social Security Administration 2020)

(2.5) Tail risks of high long-term care costs on the middle-class families

Today, a 60-year-old person can expect to live another 22-25 years on average (Social Security Administration n.d.). Those aged 65 and above have a nearly 70% chance of needing some long-term care services and supports in their remaining years, and on average, people use in-home care, assisted living facilities, and nursing homes for about three years (U.S. Department of Health and Human Services 2020), with costs ranging from $4,000/month in assisted living facilities to $8,000/month in nursing homes. Thus, the total costs of a three-year long-term care

[2] The calculation was done for a 65-year old male, with an initial investment of $140,000, with a 3% inflation protection. The monthly income would be $489 under the "lifetime income only" option, $473 under the "lifetime income plus 10 year certain" option (meaning the beneficiary can receive payments until the death of the annuitant or a 10-year minimum period, whichever is longer), and $372 under the "lifetime income plus return of premium" option (meaning the beneficiary can receive payments until the death of the annuitant or until payments at least total the sum of the original investment, whichever is longer). https://www.newretirement.com/annuity-confirm-dashboard.aspx#content-mid

usage would cost about $192,000 (assuming two years of assisted living and one year of a nursing home). Moreover, the distribution of the duration of long-term care services is highly right-skewed. While the average usage of care is three years, a small proportion of the older population depends on those care services for a prolonged period, imposing large tail risks. For example, people with Alzheimer's disease may need care for more than 20 years.

Table 4: Long-term care costs

Type of needs	Monthly median costs, 2020	Costs covered by Medicare?	Costs covered by Medicaid?
Nursing home • Semi-private room in a nursing home • Private room	$7,756 $8,821	No (with exceptions**)	Yes, if below the required income and asset limits
Community and assisted living • Adult day health care • Assisted living facility • Assisted living facility for Alzheimer's and dementia patients	$1,603 $4,300 $5,300	No	Yes, if below the required income and asset limits
In-home care • Homemaker services • Home health aide	$4,481 $4,576	No	Yes, if below the required income and asset limits

Note: costs data are from Genworth 2020 Cost of Care. Cost coverage for assisted living is from Paying for Senior Care (2019). Cost coverage for in-home care is from Paying for Senior Care (2020). Medicare will pay for long-term care in situations of needing skilled health care services or rehabilitation care for up to 100 days in a nursing home or a short period with skilled home health or other skilled in-home services; Most employer-sponsored or private health insurance cover only the same kinds of limited services as Medicare (LongTermCare.gov 2020).
***Medicare doesn't cover normal nursing homes, but in certain conditions, Medicare Part A covers skilled nursing facility (SNF) care for a limited time.*

The combination of the uncertain duration of the need for care and the prohibiting costs (Table 4) leads to substantial financial risks for older individuals and their families. Middle-class families are impacted most. Wealthy families will have the financial means to pay for the care they need, and families below certain income and asset limits will receive financial assistance from

Medicaid. Families in the middle-income brackets are left to pay for most of the long-term care from their savings, and may ultimately rely on Medicaid when their assets are exhausted. Long-term care costs also disproportionately impact women, who are more likely to provide informal care to spouses and parents, and are also more likely to live alone and need paid care given their longer lifespans. Many families will spend down their wealth during the last few years of the husband's life (Streeter 2020), leaving reduced financial resources for the female partner, should she become ill and need care.

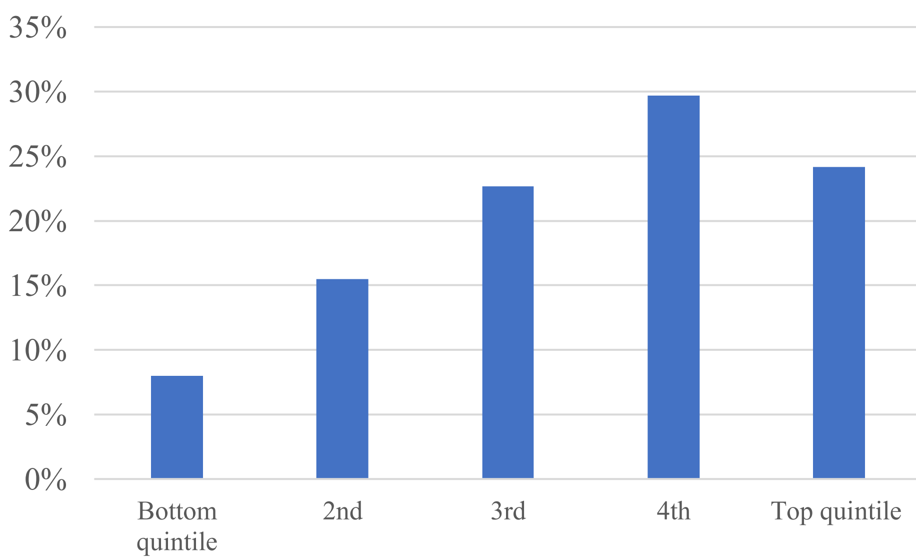
3. Policy options to enhance financial security in different life stages

Financial security is measured by several key variables, including earnings, debt management, asset building, risk protection, and financial literacy. Because of the complexity of financial planning, and the unique challenges faced by different population subgroups, there is no one-size-fits-all solution for all families. In the following, we adopt a life course perspective and review policy options to tackle financial challenges during different life stages.

(3.1) Young adulthood - Efforts to reduce student loan burdens

Reducing student loan burdens has received ample attention from policymakers and the general public. As of February 2021, President Biden was considering forgiving student loans by $50,000 per borrower through an executive order (Nova 2021). While student loan forgiveness may be politically popular, there are economic risks (Amselem 2019; Bruenig 2020; Carey 2020; Epstein 2020; Goldberg 2020). First, loan forgiveness does not provide relief to those who didn't go to college or those who paid for their college tuition by working multiple part-time jobs or cutting down their daily expenses. Second, loan forgiveness could create the wrong incentives for future generations. New college entrants, anticipating the government wiping out their student loans in the future, may take out larger loans instead of finding alternative ways to pay by themselves. Third, student loan forgiveness is regressive, not progressive. According to the Federal Reserve's Survey of Consumer Finances, more affluent families hold significantly more student loans than poor ones, as students from wealthier families are more likely to go to college. According to the Federal Reserve's data (The Federal Reserve n.d.), families in the top income quintile are more likely to have student loans than the bottom income quintile families (22% vs. 14%); moreover, the top income families accounted for more student loans borrowed than the bottom income families (Figure 3).

Figure 3: The sum of student loans taken out by families in each income quintile, as a share of total student loan amount. 2019.



Data source: The [Federal Reserve](). Author's calculation.

Whether or not we forgive current borrowers' student loans, we must understand the nature of education debt. Student loans are unsecured debt, like credit card loans, not requiring collateral.

However, credit card loans don't serve as a useful benchmark when thinking about student loans. Credit card loans are much smaller, about $6,000 per person on average, whereas the average student loan debt is over $30,000. While credit card debt is usually accumulated over a long period of time, student loans are borrowed over a few short years.

Students entering college and their families are not always well informed about the implications of taking out a loan of that size. While 18-year-olds anticipate college life and a bright future, less attention is paid to the fact that a new college graduate in America earns on average about $50,000 (in 2019). Also, college tuition has little variation across majors of studies in the same school, but future income varies substantially among graduates with different majors. The costs are not well aligned with prospective payoffs.

One policy recommendation is to offer teenagers financial literacy education, which has been mostly missing in schools due to a lack of resources. Basic economic concepts help teenagers understand the importance of savings, the implications of interest rates and debt, and how to balance the budget. In states where personal finance courses were mandated, credit scores for young adults increased, and long delinquency rates decrease (Lusardi and Morrison 2019). Moreover, for high school seniors (and their parents), financial literacy education can focus on helping them make financially sound choices over student loan debt.

One of the root problems of the student loan crisis is the fast-rising college tuition. Without cost control, we are only trying to solve the "how to pay for it?" question, rather than solving the "why is it expensive?" question. With the advent of Massive Open Online Courses (MOOC), the cost of obtaining high-quality knowledge on the internet has never been so low. In contrast, the cost of attending college has been rising rapidly. Certificates from online courses are becoming more popular and could substitute as credentials for employability, as many employers now accept online certificates when hiring. Duolingo, an online language learning website, recently began to offer online English tests at lower costs and more convenience, challenging long-standing traditional tests like TOEFL. The COVID-19 pandemic has made people more familiar and comfortable with online learning, which may accelerate the trend of democratizing access to education. In an era with the fast-falling cost of acquiring knowledge and information, universities and colleges will need to take action to remain competitive.

(3.2) Mid-life: Efforts to increase savings

Some people fail to save for the future because long-term financial planning does not always come naturally. Traditional economic theory assumes that people can foresee their future needs and make rational decisions. In reality, many desire immediate gratification and find it difficult to exert self-control to sacrifice consumption today in exchange for consumption in the distant future. Researchers in behavioral economics and psychology have found effective ways to "nudge" people to save more. A pioneering study showed that changing from “opt-in” enrollment to automatically enrolling new employees into workplace saving plans increased people's savings significantly (Madrian and Shea 2001). Pioneered by Nobel Prize Laureate Richard Thaler and Shlomo Benartzi, the *Save More Tomorrow* program dramatically increases savings by offering workers the option of committing future increases in their salaries to higher saving rates.

Our inability to visualize our older selves prohibits adequate savings. Young people in their 20s or 30s typically don’t spend time thinking about what their lives and needs will be like once they are in their 80s. If we could visualize the financial challenges of not having enough money when old, we may be more motivated to take care of that person. In a lab experiment, participants who had a virtual glimpse into their future selves with the help of technology were willing to save more into long-term savings accounts (HERSHFIELD et al. 2011).

Another big problem is the lack of access to workplace retirement plans. Only about half of the workforce in America is eligible to save in employer-sponsored plans. The current law doesn't require employers to offer retirement plans to their workers. Small-size firms or small businesses may find it too expensive to administer retirement plans due to IRS testing and reporting requirements for the smallest plans. Part-time employees, self-employed, and gig workers are usually excluded from those opportunities to save. The SECURE Act passed in December 2020 has made some changes that are beneficial to part-time workers. Before the bill, part-time workers who worked under 1,000 hours a year would be excluded from workplace retirement plans such as 401(k)s. The SECURE Act stated that anyone over age 21 who works more than 500 hours each year for more than three years would be eligible for a workplace retirement plan (Moore 2020). This change will help long-term part-time workers to access retirement plans.

Other beneficial programs include the state-run auto-IRAs, such as CalSavers and OregonSaves, which feature an automatic payroll deduction into an individual retirement account (IRA) for workers with no employer-sponsored retirement plans. The Multiple-employer plans (MEPs) created by the SECURE Act are useful tools to help workers save for retirement. Unrelated small employers can band together in "open" 401(k) MEPs to reduce the costs and administrative duties that each employer would otherwise bear alone (Miller 2020).

While the new legislation brings hope to millions of part-time employees and self-employed workers to start building their retirement nest egg, the current gap in retirement preparedness between people with and without full-time employment is substantial, and the effectiveness of these new options in improving access will need to continue to be monitored.

(3.3) Mid-life: Efforts to help wealth-building through homeownership

Research has shown that homeownership is one of the key milestones that influences long-term financial wellness (Di, Belsky, and Liu 2007; Goda and Streeter 2021; Herbert, McCue, and Sanchez-Moyano 2013; Killewald and Bryan 2016; Turner and Luea 2009). However, owning a home has proven to be increasingly difficult for young people today, especially in large metropolitan areas. By age 30, the percentage of Millennials owning homes is well below that of Baby boomers. Several reasons contribute to this observed decline in the homeownership rate. First, changes in the demographics and the younger generation's preference for large urban centers have both created downward pressure on the homeownership rate (Drew 2015; Lee, Lee, and Shubho 2019). Second, life events such as marriage, childbearing, and homeownership often happen in clusters. The delay of marriage and family formation naturally suppresses young people's desire for home purchases (Fisher and Gervais 2011; Sims and Streeter 2018).

What can we do to help people build wealth through homeownership? One key policy effort adopted by many local governments is to modify restrictive zoning laws and outdated land-use regulations that suppress housing supply. By eliminating single-family zoning, easing height and density restrictions, cities can create more housing supply and reduce housing costs (Bloomberg 2021). Some cities have recently approved homeowners to add secondary housing or "in-law units," while others have adopted reforms to streamline their permitting and review process for new construction (Greene and González 2019).

However, such reforms are not always successful, and they can receive strong opposition from residents and city leaders. Senate Bill 50 in California aimed at rezoning neighborhoods of single-family homes to accommodate fourplexes and building larger residential buildings near transit stops to accommodate people's commuting. The bill was stalled in 2019 after facing intense opposition from local governments, who didn't want to give up their control of land-use decisions (Kendall 2020).

(3.4) Nearing retirement: Efforts to promote working longer and optimizing Social Security claiming strategies

Life expectancy at age 65 has increased from 14 years in 1960 to 19 years in 2019. The likelihood of a 65-year-old man reaching 80 has increased by 50 percent between 1965 and 2015, and the likelihood of him reaching 90 has more than doubled (The Hamilton Project 2015). Despite the rising longevity, the average retirement age today (~62) is almost the same as that half a century ago. In contrast to the prolonged retirement period is a shortened working period, primarily due to people spending more years in school and starting working later. Most people cannot fund a 30-year retirement with a 40-year career, which is why academics and policymakers are paying more attention to working longer as a solution (Bronshtein et al. 2016, 2018; Burtless and Quinn n.d.; Munnell and Sass 2009).

The health of the older population has been improving, and conventional measures of disability have shown steady downward trends since the early to mid-1990s. Many people in their 60s and 70s are physically capable of continuing working. Moreover, older individuals have accumulated valuable work experience and proven more cooperative (Charness and Villeval 2009; Grund and Westergaard-Nielsen 2008). The withdrawal of the highly experienced workers from the labor force can have negative impacts on both corporations and society.

Working longer, especially when combined with postponing Social Security benefits, is associated with economic benefits. Research shows that delaying retirement by 3-6 months has the same impact on retirement standard of living as saving an additional one-percent point of labor earnings for 30 years (Bronshtein et al. 2018). For some people, delaying Social Security benefits offers a significant arbitrage opportunity as they can have higher income in all future years (Bronshtein et al. 2016).

In reality, many factors prohibit older workers from staying in the labor force. First, people with less education are more likely to retire early. Older workers without a college degree reported having less flexibility than college-educated older workers in choosing their work schedule, and their jobs involve significantly more "tiring or painful positions," "moving heavy loads or people," "repetitive hand/arm movements," and "standing." (Maestas et al. 2016). Second, some people may lack the financial resources to afford delaying their Social Security benefits. In theory, healthy people should opt to delay Social Security benefits. For people expecting to live beyond age 77, it's optimal for them to retire at the full retirement age (~66) instead of early retirement (62). If one expects to live beyond age 80, then retiring at age 70 is actuarially advantageous compared to retiring at age 62. This is because the Social Security benefit structure rewards people with more benefits in the long-run for delaying their claim. Despite the advantage of delaying Social Security claiming for people in good health, many of them may not have enough savings to support themselves between the time when they stop working and the time when they start claiming Social Security claiming. Third, companies may be more hesitant to hire or retain older workers due to their higher compensation and medical costs than younger workers (Prudential 2019).

Several policy efforts can help resolve the challenges listed above. One program with some promise bridges the gap between retirement and the commencement of Social Security retirement benefits. For example, the Supplemental Transition Accounts for Retirement (START) program (Koenig, Fichtner, and Gale 2018) proposes that the Social Security payroll tax increases by 1% of covered payroll for both workers and their employers. These additional taxes would be credited to each worker's account and invested in private professionally-managed pooled accounts.

Essentially, START assets would fund a Social Security bridge payment, facilitating the delay in claiming Social Security benefits by two to three years.

A second proposal to reduce barriers from working longer is to consider older workers who have already contributed to their Social Security taxes for 40 years as “paid-up” and no longer needing to pay Social Security taxes if they wish to continue working (Goda, Shoven, and Slavov 2009). This change of policy would eliminate a wedge between what the employer pays to hire employee and what the employee earns, providing an additional incentive for people to stay in the labor force. Similarly, employers are the primary payer for older workers’ (65+) medical costs. To alleviate employers’ financial burden of retaining older workers, Medicare can step in as the primary payer for older workers’ healthcare costs, thus reducing the costs of employers hiring workers over 65. And finally, the Social Security field offices can help increase people’s awareness about the financial implications of early vs. late claiming of Social Security.

(3.5) Late-life: Efforts to help provide affordable long-term care

In the U.S., people rely on a few ways to pay for long-term care. If the person's income and asset level are below certain thresholds, Medicaid will cover their costs. The eligibility level varies by state. For the U.S., on average, a senior person's income must be less than $9,242/year to be eligible (Kaiser Family Foundation 2019). People not meeting the minimum income and asset requirements rely on private payment options such as long-term care insurance, reverse mortgages, life insurance options, and annuities.

In the last couple of decades, the number of long-term care insurance providers plummeted from 125 insurers in 2000 to fewer than 15 in 2014 (Nordman (2016), p.12). In addition, people may not be able to purchase insurance policies if they have Alzheimer's disease or any form of dementia or cognitive dysfunction, needing help with Activities of Daily Living (ADL), or history of a stroke within the past two years. Together these factors make it difficult and expensive to purchase long-term care insurance policies.

Given the challenges Americans have faced in paying for long-term care, it might help to consider other aging economies' experiences. Japan, for example, launched its long-term care insurance in 2000. All persons aged 40 and over contribute by paying a premium, and all persons aged 65 and over can access benefits, including institutional, home, and community-based services. The level of benefits is the same regardless of people's income (Japan Health Policy NOW n.d.). Japan's model is worth considering for the U.S. First, Japan's model dramatically simplifies the insurance benefit structure. Instead of a long list of complicated eligibility criteria based on income and wealth (as when the U.S. Medicaid pays for long-term care), the Japanese model is age-based with one single age threshold of 65. Second, the Japanese model has a "flat-benefit" structure. Every beneficiary receiving the *same* benefits provides a high degree of certainty, which helps individuals align their expectations and make plans accordingly.[3]. Third, Japan's long-term care insurance is a mandatory program that reduces volatility in insurance premiums and eliminates issues of adverse selection.

4. Concluding remarks

Financial security has proven to be an essential component of wellbeing, contributing to health, safety, and happiness. The increased longevity accentuates the importance of having sufficient financial resources to support a 100-year life. Unfortunately, many Americans today,

[3] An analogous example is New Zealand's public pension system. In the U.S., working-age Americans are often confused about their future Social Security benefits due to the overly complicated benefit calculation formula. In New Zealand, the public pension is a flat-rate system available to all residents aged 65 or older, which vastly enhances transparency and helps non-retirees establish their expectations.

especially the younger generations, increasingly believe it is harder to achieve financial security than did their parents' generation. It has become challenging for many working Americans to afford a home, start a family, pay off student loans, launch a satisfying career, and start saving early for retirement.

The lack of financial security results from decades-long gaps between income growth and cost hikes in several key sectors. Between the 1980s and 2020, the annual income growth has averaged around 3.2%, well below the growth rate of costs of college tuition (5.1%), housing (4%), and health care (5.6%). These sectors carry significant impacts on people's lives from cradle to grave [4]. Young college graduates, burdened by their education loan debt, are found to delay essential life milestones such as homeownership and retirement planning. Compared to previous generations, today's workers are saving less through home equity and retirement plans. Even though people's expected life expectancy has increased by 30 years in the last century, the retirement age has barely changed. Working longer is easier said than done, sometimes due to physical health challenges at the individual level, and other times, due to ageism at the workplace. In late life, the need to use long-term care may impose a final blow to family finances that have already been stretched thin. While the poor elderly are covered by Medicaid, and wealthier households have the financial resources to spend on quality care, middle-class families are the ones impacted most by the high costs of long-term care.

So, what can be done? We discussed a number of policy recommendations in this report. Some are relatively low-hanging fruit, while others may require substantial political will to pursue. Reducing the burden of student loans cannot be done by loan forgiveness alone, and colleges and universities must innovate to remain competitive and alleviate students' financial burden. We also

[4] In this report, we skip the analysis of early childhood education and the implicit and explicit childcare costs, which is the focus of another domain report.

recommend financial literacy education to teenagers to help them make financially sound decisions on student loans and form healthy financial habits for life.

In terms of enhancing retirement preparedness, psychological and behavioral economics nudges have proven useful to help individuals overcome procrastination and delay gratification. At the institutional level, several new policies enabled by the SECURE Act (passed in Dec 2019) are promising in expanding retirement plan access and boost retirement savings.

Homeownership is another channel through which individuals build wealth for the longer term. The recent decline in the homeownership rate, especially among the younger generation, highlights the tension between rising demand for real estates in metropolitan centers, and stagnant or even declining supply of land and housing in the most sought-after areas, partly due to lengthy permitting process and red tape. We began to see reforms aiming to reduce inefficiencies and accelerate home development, but the housing shortages in some urban clusters are unlikely to disappear soon.

For people nearing retirement, two important decisions affect financial wellness in late-life: when to stop working and when to start claiming Social Security benefits. Research has shown that people in good health, in general, should delay Social Security claiming, if they can afford to do so. Between a couple, the higher earner should defer claiming to age 70 unless both spouses are in poor health. At the institutional level, to alleviate employers' medical cost burden and encourage them to hire or retain more older workers, Medicare should be the primary payer and the employers be the secondary payer, for workers aged 65 or more.

Today, older adults, on average, use long-term care for about three years. However, improvements in longevity coupled with the rising prevalence of Alzheimer's disease, Dementia, and other chronic diseases could lead to a considerable tail risk for individuals and families.

Unfortunately, after decade-long turbulence in the 1990s and 2000s and the substantial shrinkage of the pool of policy providers, today's long-term care insurance market is unable to fully insure individuals against such tail risks. Other aging societies have been experimenting with different policy options, such as Japan's social insurance scheme to provide every elderly affordable care, and the U.S. care economy will likely benefit from similar types of reform.

The thirty years added to life expectancy in the 20^{th} century is a gift that allows us more time to live higher-quality lives. However, the three added decades also require careful planning to ensure that we reach the full potential of longer lives. The planning – or mapping – of each stage of our lives demands individual endeavor, institutional and policy support, and continued technological innovation. New social norms, policies, and national conversations will emerge in a New Map of Life and guide us toward a successful 100-year life.

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