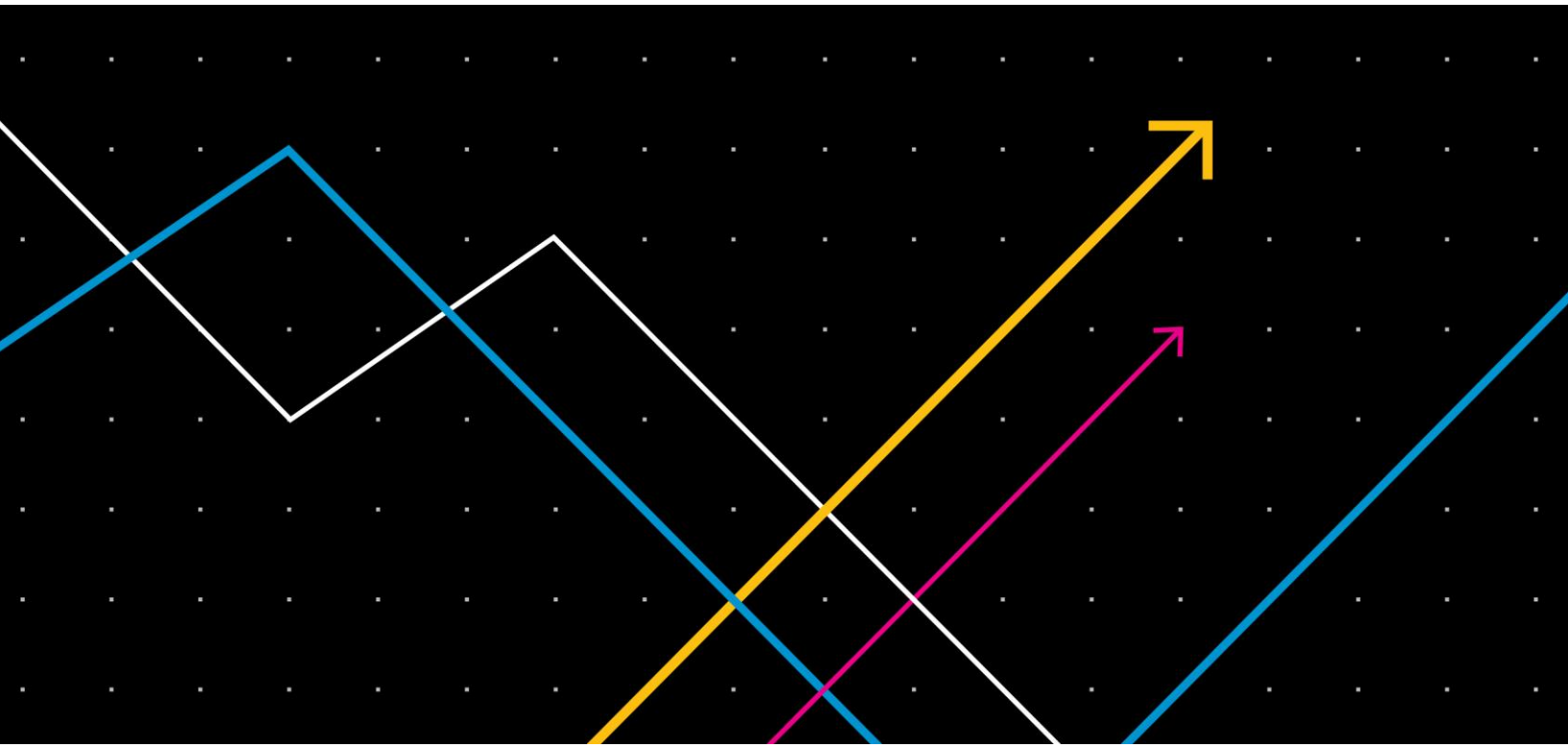

RRESEARCH REPORT

Retirement Security in 2050

Future Outcomes for GenX and Early Millennial Retirees

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Abstract

Using a microsimulation model, this paper follows GenX and Early Millennial Americans between 2020 and 2050. Projections suggest they will find it difficult to maintain or improve their economic circumstances between their work and retirement years. Although GenX and Early Millennial retirees are expected to be better off than current retirees on absolute measures of income, they are expected to be worse off than current retirees on relative measures of inequality, poverty, and replacement rates. Retirement outcomes are projected to significantly worsen for future retirees without college educations and those with weak lifetime employment and earnings, but improve for Hispanics.

Introduction

The Census Bureau projects that by 2050 about 1 in 5 Americans will be ages 65 and older and there will be just 2.5 working-age adults for every retirement-age adult (US Census Bureau 2017a). Older Americans will include Baby Boomers at the oldest ages and Millennials at the youngest ages—two of the largest birth cohorts in US history. Between them is the significantly smaller Generation X birth cohort.[1] Those born in these cohorts are aging in different time periods. Currently, Baby Boomers are in their mid-50s to early 70s, Gen Xers are in their late 30s to early 50s, and Millennials are in their early 20s to late 30s. Therefore, each cohort's retirement prospects will be shaped by its unique life experiences.

Recent decades have witnessed considerable changes in marriage, work, earnings, savings patterns, and the racial and ethnic composition of the population. In addition, there have been several significant changes in retirement policies, including an increase in Social Security's full retirement age and a shift in employment-based pensions from defined benefit pensions to defined contribution plans. Finally, the economic landscape has changed with growing wage inequality, stock market crashes in the early and late 2000s, a housing market that ballooned throughout the 1990s and early 2000s before bursting in 2006, and, most recently, the Great Recession.

The economic well-being of future retirees is important because of the sheer size of the future older population, growing uncertainty about how the above-mentioned changes will impact future outcomes, and the looming financial problems for Social Security, whose trust fund is projected to run out by 2034 (US Board of Trustees 2018).

This paper follows Generation X and Early Millennial adults over time and analyzes their projected work and earnings, employer-sponsored retirement plans, homeownership, income, and poverty rate in 2020 when they are ages 35 to 54 and most are working, and again in 2050 when they are ages 65 to 84 and most are retired. The paper then compares the projected lifetime employment and earnings, homeownership, income, poverty rate, and replacement rate of GenX and Early Millennial retirees in 2050 with those of retirees in 2020.

[1] Although definitions vary, the general consensus is that Baby Boomers include those born between 1946 and 1964, Generation Xers are born from 1965 to 1980, and Millennials are born from 1981 to 1996.

The results suggest that many GenXers and Early Millennials will find it difficult to maintain or improve their economic circumstances as they age. Furthermore, while GenX and Early Millennial retirees are expected to be better off than current retirees on absolute measures of income, they are expected to be worse off than current retirees on relative measures of inequality, poverty, and replacement rates.

Background

This section provides background information on some of the salient historical trends likely to influence the demographic characteristics and well-being of the future retired population and examines the previous research that assesses retirement savings adequacy.

Demographics

Over the past several decades, the United States has become more demographically diverse and better educated. In 1990, Hispanics represented 9.0 percent of the American population. By 2017, that share had grown to 18.1 percent (US Census Bureau 2001, Table 15; US Census Bureau 2017b). From 1990 through 2017, the percentage of Americans with at least a high school diploma increased from 77.6 percent to 87.0 percent, and the share with at least a college degree increased from 21.3 percent to 30.3 percent (US Census Bureau 2006, Table 214; US Census Bureau 2017b).

Work and Earnings

Between 1990 and 2018, women experienced little change in their likelihood of working, while men experienced a decline. Female labor force participation rates hovered between 74 and 77 percent for the population ages 25 to 54, but increased dramatically from 45.2 to 59.1 percent (a relative increase of 31 percent) for those ages 55 to 64, and from 8.6 to 15.9 percent (an increase of 85 percent) for those age 65 and older. In contrast, male labor force participation rates declined from 93.4 to 89.0 percent for those ages 25 to 54, but increased slightly from 67.8 to 71.2 percent (an increase of 5 percent) for those ages 55 to 64 and from 16.3 to 24.0 percent (an increase of 47 percent) for those aged 65 or older (US Bureau of Labor Statistics 2018a). Purcell (2016) also finds that labor force participation rates among adults ages 65 to 69 increased substantially between 2000 and 2015 and that the share of adults claiming Social Security benefits at age 62 declined dramatically. In addition to increasing labor force participation rates, women are also earning more. Among full-time wage and salary workers age 25 and

older, the ratio of men's to women's median weekly earnings narrowed from 1.39 in 1990 to 1.24 in 2017 (US Bureau of Labor Statistics 2018b).

Retirement Policy

The age at which individuals first claim Social Security benefits and the age at which they retire can have significant implications for their income in retirement. Previous research has found delaying Social Security is advantageous to many people (Shoven and Slavov 2014). Butrica, Smith, and Steuerle (2007) estimate that delaying retirement by one year would increase annual retirement income by about 9 percent and reduce the Social Security deficit in 2045 by 2 percent.

Future retirees will face different Social Security retirement policies than current retirees. In particular, both the elimination of the retirement earnings test (RET) for individuals above the full retirement age (FRA) in 2000 and the increase in the FRA itself have changed work and benefit take-up incentives.

The Social Security FRA has been gradually increasing from age 65 to age 67—from 65 to 66 in the 2000–2005 period and to age 67 in the 2017–2022 period. Under Social Security rules, individuals are paid their full Social Security benefit if they delay benefit take-up until the FRA. Individuals may take up benefits before the FRA (beginning at age 62), but annual benefits are then reduced to adjust for the fact that early retirees receive benefits over a longer period. Workers who postpone starting their benefits until after the FRA receive permanently higher monthly benefits via accrued delayed retirement credits. Despite the reduction in lifetime benefits, most individuals do not wait until the FRA to collect Social Security. In 2017, nearly half of the benefits awarded were to retirees who opted to begin receiving Social Security benefits before age 65 and nearly a third of benefits awarded were to those who started receiving benefits at age 62 (US Social Security Administration 2018, table 6.A4).

Beneficiaries who work before reaching their FRA might also see their benefits reduced because of the Social Security retirement earnings test. In 2017, benefits were reduced $1 for every $2 earned above $16,920 for beneficiaries under their FRA.

Pensions

The percentage of workers covered by traditional defined benefit (DB) pension plans that pay a lifetime annuity, usually based on years of service and final salary, has been steadily declining over the past 25 years. Between 1989 and 2018, the proportion of private industry full-time workers participating in DB

pension plans declined from 42 to 16 percent, while the share participating in defined contribution (DC) plans—investment accounts established and often subsidized by employers, but owned and controlled by employees—increased from 40 to 56 percent (US Bureau of Labor Statistics 2018c; Wiatrowski 2011).

The shift in pensions away from DB plans toward DC plans could significantly alter projected pension incomes. Because DB pensions are tied to employers, workers do not have to think much about retirement savings. They are automatically enrolled, contributions are automatically deducted, and benefits are automatically paid when workers retire. With DB pensions, employers bear the responsibility for ensuring that employees receive pension benefits. In contrast, DC retirement accounts are owned by employees. Workers have to actively decide to participate in the plan, how much to contribute, which investments to put their money in, and whether to take benefits as an annuity or lump sum payment at retirement. With DC retirement accounts, workers bear the responsibility for their own financial security. This requires that individuals make informed and forward-looking decisions every step of the way. Moreover, in recent decades both the array of financial instruments and their complexity have increased—obligating investors to evaluate and understand many new and more sophisticated financial products. How well-equipped individuals are at making their savings decisions determines, at least in part, the amount of income in retirement they get to enjoy. But recent studies have revealed less than encouraging information about retirees' ability to adequately plan for retirement. While DC plans have the potential to provide retirees with substantial retirement wealth, a typical household approaching retirement had 401(k)/IRA balances of only $45,000 in 2016.[2]

Economy

Finally, the economic landscape has changed dramatically. Between March 1991 and March 2001, the economy prospered for an unprecedented 10 years (National Bureau of Economic Research [NBER] 2011). Then in 2000, the dot-com bubble burst and stock prices fell by double digits for three straight years. This triggered a relatively short recession in March 2001. The economy bounced back and expanded again for more than six years. Retirement account balances (defined contribution plans and IRAs) peaked at $8.7 trillion in the third quarter of 2007 before plummeting $2.7 trillion (31 percent) through the first quarter of 2009 as the stock market crashed (Butrica and Issa 2011). The 2008 stock market crash coincided with the Great Recession, the longest of any recession since World War II

[2] Provided in comments by Alicia Munnell as an update to Munnell (2012).

(NBER 2011), with the highest unemployment rates in nearly three decades and record-long unemployment spells.

Burtless (2009) shows the dramatic effect historic market returns had on portfolio balances for identical workers retiring in different years, with the income generated from those balances replacing from 18 percent to 50 percent of earnings depending solely on the timing of contributions. The author shows that persons retiring in 2000 benefited substantially from historic market returns with replacement rates of 50 percent, although those retiring in 2008 could only expect a replacement rate of 25 percent.

Implications for Retirement Security

Cumulative advantage/disadvantage (CAD) theory posits that early life advantages or disadvantages can shape trajectories and have long-term effects on later outcomes (Dannefer 2003; Ferraro and Kelley-Moore 2003; Ferraro and Shippee 2009; O'Rand 1996; Willson, Shuey, and Elder 2007). (Dis)advantages in education, work, pension coverage, marriage, and health, for example, can compound over a lifetime and lead to cumulative (dis)advantages in retirement outcomes. Thus, differences in retirement outcomes would stem from differences in persistent (dis)advantages. A key point, however, is that these (dis)advantages are not only a consequence of individual decisions, but also the social, economic, and political institutions that stratify individuals and resources (Choi, Tang, and Copeland 2017). Consequently, changes in demographics, work and earnings, retirement policy, pensions, and the economy will influence individuals' early (dis)advantages and ultimately their retirement outcomes.

Some researchers argue that future retirees are inadequately prepared for retirement (Brown, Saad-Lessley, and Oakley 2018; Morrissey 2016; Munnell and Hou 2018; Munnell, Hou, and Sanzenbacher 2018; Munnell and Sunden 1984; Rhee 2013), pointing to the decline in traditional employer-sponsored pension plans and low private savings. Where many retirees in previous generations could count on traditional DB pensions from their employers, the shift from DB to DC retirement plans will reduce the role of lifetime pension income for retirement security (Wiatrowski 2012; Angelov, Iams, and Purcell 2012; MacKenzie 2010; Poterba 2014). Indeed, Dushi, Iams, and Tamborini (2017) find that even after controlling for earnings, low earners are less likely to be offered a retirement plan, less likely to contribute if offered, and contribute a smaller share of their earnings when they do participate. A recent study by Brown, Saad-Lesser, and Oakley (2018) finds that more than three-quarters of workers ages 21 to 64 in the Survey of Income and Program Participation do not have enough wealth to support their retirement. The authors note, however, that their estimates are

based on rules-of-thumb multipliers and do not account for individual-specific future income needs. Given Americans' low levels of private savings, Social Security will increasingly become the only source of income on which retirees can rely. Developed by the Center for Retirement Research at Boston College using data from the Survey of Consumer Finances, the National Retirement Risk Index finds that 50 percent of households are at risk of being unable to maintain their preretirement standard of living in retirement (Munnell, Hou, and Sanzenbacher 2018). For Millennials, in particular, Munnell and Hou (2018) find that poor labor market outcomes and student debt burdens have lowered their retirement preparedness.

Other researchers suggest future retirement outcomes that aren't so bleak. Brinker et al. (2012) use the Survey of Consumer Finance to examine family financial resources and finds that a substantial portion of Americans in middle age and near retirement have limited financial resources and wealth. The authors' more recent study, however, points to some positive changes (Brinker et al. 2017). They find income and wealth gains for families throughout the respective distributions. They also note that families without a high school diploma and nonwhite and Hispanic families experienced larger income and net wealth gains than other families even though they still have less income and wealth than their counterparts. In addition, families in the bottom half of the income distribution experienced the largest increases in retirement plan participation rates and account balances. Engen, Gale, and Uccello (1999), Uccello (2001), and more recently Miller and Schieber (2014) suggest that warnings of a retirement savings shortfall may be exaggerated. Other studies find that Americans are saving (Biggs 2016) and most are on track to maintain their living standards in retirement (Scholz and Seshadri 2006).

Still other researchers land somewhere in the middle of the debate over the adequacy of retirement savings. Butrica, Smith, and Iams (2012) using a dynamic microsimulation model find that future retirees are projected to have higher retirement incomes, but lower standards of living than current retirees. Recent papers by Cosic, Johnson, and Smith (2018) and Johnson et al. (2018) also use a microsimulation model to project retirement outcomes for Generation Xers and Millennials. They find that their median incomes at age 70 will be higher than those of previous generations, but that around 40 percent will not have enough retirement income to replace at least 75 percent of their peak career earnings. In contrast, a third of those born 1936-1945 and those born 1956-1965 would fall short of the 75 percent threshold.

This paper differs from Cosic, Johnson, and Smith (2018) and Johnson et al. (2018) because of its focus on retirees in 2050, which includes those born in the Generation X cohort and the oldest of those born in the Millennial cohort. In addition, this paper follows GenXers and Early Millennials over time to understand how their circumstances are expected to change between younger and older ages.

Methods

This paper uses the Urban Institute's Dynamic Simulation of Income Model (DYNASIM4) to assess the economic well-being of future retirees in 2050. The model starts with a self-weighting sample of individuals from the 2004 and 2008 panels of the Survey of Income and Program Participation (SIPP) and ages them in yearly increments, simulating key demographic, economic, and health events.

DYNASIM4 projects lifecourse processes, including birth, death, schooling, leaving home, first marriage, remarriage, divorce, health and disability, work, retirement, and Social Security benefit take-up. These transitions are based on probabilities generated by carefully calibrated equations estimated from nationally representative household survey data. The equations take into account important differences in how likely various experiences are depending on gender, education, earnings, and other characteristics.

DYNASIM4 also projects lifetime earnings and the major sources of retirement income and wealth, including Social Security benefits, pension benefits, savings, home equity, Supplemental Security income (SSI), means and nonmeans tested income, income from coresiding household members, and federal and state income taxes. These income and wealth sources are based on a combination of equations estimated from nationally representative household survey data, program rules, and Social Security Trustees intermediate assumptions about mortality, wage growth, and inflation.

DYNASIM directly measures the experiences of survey respondents and statistically projects their characteristics into the future, assuming that future populations will behave the same way as past populations and that the interdependence of relationships, such as education and earnings, will remain unchanged in the near future. For more information about DYNASIM4 and an earlier version of the model, see Urban Institute (2015) and Favreault, Smith, and Johnson (2015).

This paper focuses on members of the Generation X and Early Millennials born between 1966 and 1985. It begins by comparing their projected work and earnings, employer-sponsored retirement plans, homeownership, income, and poverty status at two points—in 2020 when they are between ages 35 and 54 and most are working and in 2050 when they are between ages 65 and 84 and most are retired. Because this analysis follows GenXers and Early Millennials as they age, the sample is restricted to those who survive to 2050. Table A1 provides information on their projected characteristics. The analysis then compares lifetime work and earnings[3], homeownership, income, poverty, and replacement rates of GenXers and Early Millennials at ages 65 to 84 in 2050 with those of adults ages 65 to 84 in

[3] Measures of lifetime work years and earnings are computed over ages 25 to 62.

2020 who closely represent current retirees. Table A1 also provides information on the projected characteristics of each of these two samples.

Family income includes earnings, Supplemental Security Income (SSI), Social Security benefits, income from means-tested and non-means-tested transfers, DB pension benefits, potential income from DC plans and other financial assets,[4] and imputed rent.[5] It includes income received by the respondent and spouse divided by two if married to estimate per capita household income, and is reported in 2018 dollars.

GenX and Early Millennial Outcomes Across Ages

The analysis begins by comparing the circumstances of GenXers and Early Millennials in 2020 when they are ages 35 to 54 to their circumstances in 2050 when they are ages 65 to 84.

Work

DYNASIM projects that 84 percent of GenXers and Early Millennials are working at ages 35 to 54 in 2020 (figure 1a). Differences by sex, educational attainment, and race and ethnicity are as expected, with labor force participation rates highest for men, and college graduates. For example, 93 percent of college graduates are projected work compared with only 48 percent of those without high school diplomas. In addition, 87 percent of non-Hispanic whites are projected to work compared with 82 percent of non-Hispanics blacks and only 73 percent of Hispanics.

Over their lifetimes, people move into and out of the labor force. Among those working at ages 35 to 54 in 2020, three-quarters are projected to work at least 30 years between ages 25 and 62 (figure 1b). The distribution of lifetime work years for men and women is similar. In contrast, the distribution of work years varies considerably by educational attainment and race and ethnicity. More than a third of

[4] DYNASIM measures income from retirement accounts and financial assets each year as the real actuarially fair annuity payment that a household would receive if it annuitized 80 percent of its wealth. Representing this income as potential annuities ensures comparability with DB pension and Social Security benefits, which are also annuities.

[5] Imputed rental income is calculated as a 3 percent real rate of return on home equity. There is debate over whether to include housing in income measures and replacement rates. Proponents argue that homeowners with identical financial resources as renters are better off because they don't have to pay additional income for housing. Critics argue that only actual income flows should be included. Although this paper includes imputed rent in the measure that describes the overall levels, composition, and distribution of total income, it does not include imputed rent in the income measure that determines replacement rates. For poverty rates, this paper excludes imputed rental income from the income measure that determines the Census poverty rate. It also shows how relative poverty rates change when imputed rental income is excluded and included in the income measure.

those without high school diplomas are projected to work fewer than 20 years (figure 1c). This contrasts with 7 percent of high school graduates, 2 percent of those with some college, and 2 percent of college graduates. Only 18 percent of those without high school diplomas are projected to work 30 or more years, compared with 88 percent of college graduates. Additionally, 12 percent of Hispanics are projected to work fewer than 20 years (figure 1d). This contrasts with 7 percent of non-Hispanic blacks and only 3 percent of non-Hispanic whites. Only 58 percent of Hispanics are projected to work at least 30 years, compared with 82 percent of non-Hispanic whites.

Earnings

Over their lifetimes, people experience changes in their earnings due to promotions, demotions, job changes, and moves into and out of the labor force. Comparing the distribution of earnings in 2020 with the distribution of average earnings between ages 25 and 62 shows that GenX and Early Millennials are most likely to remain in the same positions in the earnings distributions (figure 2). For example, 49 percent of the lowest earners in 2020 will have the lowest average lifetime earnings, and 68 percent of the highest earners in 2020 will have the highest average lifetime earnings.

Employer-Sponsored Retirement Plans

At ages 35 to 54 in 2020, 47 percent of GenXers and Early Millennials are projected to be offered a DB or DC plan by their employers (figure 3a). However, the share of individuals offered an employer-sponsored retirement plan is significantly higher when examined over a lifetime. Between ages 40 and 62, 81 percent of GenXers and Early Millennials are ever offered an employer-sponsored retirement plan.[6] Retirement plan offers are positively correlated with education, but even the majority of GenXers and Early Millennials without high school diplomas are offered employer-sponsored retirement plans at some point in their careers. Consider that 52 percent of those without high school diplomas are projected to have retirement plan offers over their lifetimes, compared with 89 percent of college graduates. Hispanics are less likely than those in other racial and ethnic groups to be offered retirement plans. Only 62 percent of Hispanics are projected to be offered an employer-sponsored retirement plan at least some point during their careers. In contrast, retirement plan coverage between ages 40 and 62 is projected to be 88 percent for non-Hispanic whites, and 83 percent for non-Hispanic blacks. In addition, the lowest earners are much less likely to be offered retirement plans than the highest earners.

[6] For the analysis of lifetime employer-sponsored retirement plan coverage and contributions, lifetime is computed over ages 40 to 62 since this information is not available for this birth cohort before age 40.

Only 52 percent of those with the lowest average earnings between ages 40 and 62 are projected to be offered retirement plans, compared with 95 percent of those with the highest average lifetime earnings.

Similar patterns emerge when considering participation in employer-sponsored retirement plans (figure 3b). Participation in retirement plans is determined by having a DB pension or having and contributing to a DC plan. Only 33 percent of GenXers and Early Millennials are projected to participate in an employer-sponsored retirement plan in 2020 when they are ages 35 to 54; however, 70 percent are projected to participate at some point between ages 40 and 62. Although 52 percent of individuals without high school diplomas are projected to be offered retirement plans during their careers (figure 3a), only 30 percent of them are projected to ever participate. This represents a take-up rate of 58 percent (30/52). In contrast, 89 percent of college graduates are projected to be offered a retirement plan (figure 3a) and 84 percent of them are projected to participate. This represents a take-up rate of 94 percent (84/89). Thus, even when offered an employer-sponsored retirement plan those without high school diplomas are significantly less likely to participate.

Less than half of Hispanics are projected to ever participate in an employer-sponsored retirement plan. In contrast, more than three-quarters of non-Hispanic whites and two-thirds of non-Hispanic blacks are projected to participate at some point during their careers. As expected, participation is strongly correlated with earnings. Only 29 percent of the lowest earners, but 76 percent of middle earners and 94 percent of the highest earners are projected to ever participate in their employer's retirement plan. This corresponds to take-up rates of 56 percent for the lowest earners, 88 percent for middle earners, and 99 percent for the highest earners (not shown, but computed from figures 3a and 3b).

Ultimately pension benefits and retirement plan balances depend not only on being offered and participating in a retirement plan, but also on steady participation. Among those who ever participate, GenXers and Early Millennials average only 11 years of participation between ages 40 and 62 (figure 3c). Those without high school diplomas average only 3 years, while college graduates average 14 years. Non-Hispanic whites average 11 years, while non-Hispanic blacks average 10 years and Hispanics average only 8 years. The lowest earners average only 3 years, middle earners average 8 years, and the highest earners average 17 years of participation.

Retirement income is correlated with past participation in retirement plans (figure 3d). Among GenXers and Early Millennials, retirement income in 2050 is projected to be only $44,000 for those who never participate in their employer's retirement plan, but $134,000 for those who participate at least 15 years.

Among those who never participate, 43 percent are projected to have the lowest incomes in 2050 and only 5 percent are projected to have the highest incomes (figure 3e). Among those who participate at least 15 years, only 1 percent are projected to have the lowest incomes and 38 percent are projected to have the highest incomes.

Homeownership

The majority of GenXers and Early Millennials are projected to be homeowners in both 2020 at ages 35 to 54 and in 2050 at ages 65 to 84 (figure 4a). Only 14 percent are not expected to own a home in either year. Three-quarters of college graduates are projected to be homeowners in both years, compared with three-fifths of those with some college, half of high school graduates, and less than a third of those without high school diplomas (figure 4b). In contrast, 35 percent of those without high school diplomas are not expected to be homeowners in either year, compared with 19 percent of high school graduates, 13 percent of those with some college, and only 5 percent of college graduates. Non-Hispanic whites are most likely to own in both years, followed by Hispanics and non-Hispanic blacks (figure 4c). Non-Hispanic blacks and Hispanics are 30 and 28 percentage points, respectively, less likely than non-Hispanic whites to own in both years. At the other end of the spectrum, non-Hispanic blacks are most likely to own in neither year, followed by Hispanics and non-Hispanic whites. Non-Hispanic blacks and Hispanics are 23 and 18 percentage points, respectively, more likely than non-Hispanics white to own in neither year.

Although it's not surprising that homeownership is strongly correlated with income, somewhat surprising is how large the differences by income are—85 percent of the richest, 58 percent of those with middle incomes, and only 31 percent of the poorest are projected to be homeowners in both years (figure 4d). In contrast, 34 percent of the poorest, 12 percent of those with middle incomes, and only 2 percent of the richest are not expected to be homeowners in either year.

Family Income

Mean per capita family income for GenXers and Early Millennials is projected to increase from $69,000 at ages 35 to 54 in 2020 to $75,000 at ages 65 to 84 in 2050 (figure 5a). Median per capita family income, however, is projected to remain virtually unchanged at around $50,000.

Income Inequality

One measure of inequality is the ratio of incomes at the top (90th percentile) versus the bottom (10th percentile) of the income distribution. Income inequality in 2020, at younger ages, is greatest for Hispanics, those without high school diplomas, and the lowest earners (figure 5b). Among Hispanics, for example, those at the 90th percentile have 23.9 times more income than those at the 10th percentile.

Overall, income inequality is projected to decline as GenXers and Early Millennials age—from 11.4 at ages 35 to 54 in 2020 to 9.7 at ages 65 to 84 in 2050. The largest declines are projected for those without any college education, Hispanics, and the lowest earners. For example, income inequality is projected to decline from 23.9 in 2020 to 13.8 in 2050 for Hispanics. In contrast, income inequality is projected to increase slightly college graduates and the middle and highest earners. Social Security, which is progressive because it replaces a larger share of average lifetime earnings for low earners than for high earners, plays a major role in equalizing the distribution of retirement income.

Income Mobility

Figure 5c analyzes the distribution of income and compares where GenXers and Early Millennials are at younger ages to where they end up at older ages. Not surprising, those with the lowest income at younger ages are most likely to have the lowest incomes at older ages, and those with the highest income at younger ages are most likely to have the highest incomes at older ages. However, DYNASIM projects income mobility between ages 35 and 54 and ages 65 and 84.

Overall, around one in five (21 percent) GenXers and Early Millennials are projected to experience upward income mobility over their lifetimes (figure 5d). Their income at ages 65 to 84 in 2050 is projected to be higher in that distribution than where their income at ages 35 to 54 in 2020 is projected to be in that distribution. Including those whose 2020 and 2050 incomes are projected to be in the top quintile of both those distributions, then close to one in three (30 percent) GenXers and Early Millennials are projected to experience income mobility or remain at the top of the income distribution.

Around 20 percent of high school graduates, those with some college, and college graduates are projected to move up the income distribution over their lifetimes. But 26 percent of those with some college and 43 percent of college graduates will move up or remain at the top. In contrast, only 14 percent of those without high school diplomas are expected to improve their income positions over their lifetimes.

Non-Hispanic whites (34 percent) are most likely to improve their income position or remain at the top, while non-Hispanic blacks (24 percent) and Hispanics (21 percent) are least likely.

Only 14 percent of GenXers and Early Millennials with less than 10 years of work over their lifetimes are projected to move up or remain at the top in the income distribution, compared with 35 percent of their counterparts with 30 or more years of work experience. Among those participating in an employer retirement plan for at least 15 years, 47 percent are projected to improve their income position or remain at the top.

Where Do the Young Rich End Up in Retirement?

Overall, 42 percent of the richest at ages 35 to 54 in 2020 will be the richest at ages 65 to 84 in 2050 (figure 5e). There is tremendous variation by education. Among the richest in 2020, only 15 percent of those without high school diplomas, 25 percent of those with high school degrees, and 28 percent of those with some college will remain rich in retirement. In contrast, 50 percent of college graduates will remain among the richest in both years.

Less than 1 percent of college graduates, 2 percent of those with some college, and 5 percent of high school graduates who are rich when young are projected to be poor in retirement. In contrast, 23 percent of those without high school diplomas will drop from the top to the bottom of the income distribution over their lifetimes.

Non-Hispanic whites (44 percent) are more likely than non-Hispanic blacks (31 percent) and Hispanics (31percent) to have the highest incomes both at younger and older ages (figure 5f).

Where Do the Young Poor End Up in Retirement?

Overall, 58 percent of the poorest at ages 35 to 54 in 2020 will be the poorest at ages 65 to 84 in 2050 (figure 5g). Among the poorest in 2020, 82 percent of those without high school diplomas are projected to be poor in retirement. In contrast, 58 percent of high school graduates, 39 percent of those with some college, and only 22 percent of college graduates will remain among the poorest. As expected, college graduates are most likely to be able to improve their income position over their lifetime. Among those with the lowest incomes at younger ages, 9 percent are projected to have the highest incomes at older ages.

Among those with the lowest incomes at younger ages, Hispanics and non-Hispanic blacks are least likely to be able to improve their income positions at older ages (figure 5h). Nearly three-quarters of Hispanics (72 percent) and two-thirds of non-Hispanic blacks (63 percent) are projected to have the lowest incomes at both points in their lifetimes. In contrast, around two-fifths (44 percent) of non-Hispanic whites will have the lowest incomes both at younger and older ages.

Economic Well-Being

Figure 6a compares poverty rates using three different measures. The first is the Census poverty rate. This is an absolute measure of poverty because individuals are considered poor if they have household incomes below an absolute minimum level—the official poverty thresholds of the US Census Bureau. These thresholds represent the approximate cost of a minimally adequate diet in 1963 multiplied by three to allow for other expenses (Orshansky 1963), adjusted for changes in the consumer price index over time. They vary by family size, composition, and whether the family head is age 65 or older. The second measure of poverty is a relative measure that considers people poor if their incomes are less than 50 percent of median income across all age groups. To compare relative and Census poverty rates, this relative measure uses the same definition of income that Census uses—one that excludes imputed rent, but includes income from co-residing individuals. The third measure of poverty is also a relative measure (50 percent of median income), but it uses the same definition of income that has been used throughout this paper—one that includes imputed rent and excludes income from co-residing individuals.

Census poverty rates are projected to decline by half from 10 percent at ages 35 to 54 in 2020 to only 5 percent at ages 65 to 84 in 2050. In contrast, relative poverty rates using Census income are projected to increase from 21 to 25 percent. Census poverty rates decline over time because earnings, and consequently Social Security benefits and pensions, are projected to increase more rapidly than the poverty thresholds (which are indexed to price growth). Alternative relative poverty rates, using income that includes imputed rent and excludes co-resident income, are also projected to increase at older ages—from 21 to 28 percent.

Using this last measure of relative poverty, DYNASIM projects that around two-thirds (65 percent) of GenXers and Early Millennials will not be poor in 2020 or 2050, but that 13 percent will be poor in both years (figure 6b). As expected, poverty is strongly correlated with educational attainment. Only 15 percent of those without high school diplomas will not be poor in either year, compared with 89 percent of college graduates (figure 6c). Among those without high school diplomas, relative poverty rates are projected to increase dramatically at older ages—from 63 percent (9+54) at ages 35 to 54 in 2020 to 76 percent (54+22) at ages 65 to 84 in 2050—despite the progressivity of the Social Security formula.

Nearly a third (31 percent) of Hispanics are projected to be relatively poor in both years, compared with only 7 percent of non-Hispanic whites, and 19 percent of non-Hispanic blacks (figure 6d). And only 39 percent of Hispanics will not be poor in either year, compared with 75 percent of non-Hispanic whites, and 52 percent of non-Hispanic blacks.

Among those with fewer than 10 years of work experience, 60 percent are projected to be relatively poor in both years (figure 6e). Among those with at least 30 years of work, only 5 percent are projected to be relatively poor in both years. In contrast, 78 percent of GenXers and Early Millennials with 30 or more years of work experience are not expected to be relatively poor in either year, compared with only 13 percent of those with fewer than 10 years of work.

GenX and Early Millennial Retirees vs. Current Retirees

Next, the analysis compares the retirement outcomes of GenXers and Early Millennials in 2050 to those of current retirees ages 65 to 84 in 2020.

Work

GenXers and Early Millennials are projected to reach retirement age in 2050 with slightly more work experience than their predecessors in 2020 (figure 7a). The share of adults ages 65 to 84 with at least 30 years of work experience is 61 percent among current retirees and 64 percent among GenX and Early Millennial retirees. This slight increase is driven by increases in work among women and those with at least some college. The share of adults with 30 or more years of work experience is projected to increase for women from 48 percent in 2020 to 58 percent in 2050, and to decline for men from 76 percent in 2020 to 70 percent in 2050. It is also projected to increase from 65 to 73 percent for those with some college and from 73 to 83 percent for college graduates. It is projected to decline slightly from 58 to 51 percent for high school graduates and to decline dramatically from 30 to 9 percent for those without high school diplomas. Within race and ethnicity, work experience is projected to increase the most for Hispanics, although they and non-Hispanics blacks are still significantly less likely than non-Hispanic whites to have long work careers. Those with the highest retirement incomes are the most likely to have worked at least 30 years (figure 7b). While true in both 2020 and 2050, the correlation is projected to increase over time as the share with long work careers is projected to increase from 80 in 2020 to 87 percent in 2050.

Earnings

Average lifetime earnings are also projected to increase over time from $37,000 for current retirees in 2020 to $50,000 for GenX and Early Millennial retirees in 2050 (figure 8a). This increase is largely driven by increases in earnings for women, college graduates, and the highest earners. Average career

earnings are projected to increase 70 percent (from $23,000 to $39,000) for women, but only 19 percent (from $53,000 to $63,000) for men. Still, women's lifetime earnings in 2050 are only three-fifths of men's lifetime earnings. Among college graduates, lifetime earnings are projected to increase 44 percent (from $55,000 to $79,000). Among those without high school diplomas, in contrast, lifetime earnings are projected to decline 19 percent (from $16,000 to $13,000). Those with the highest retirement incomes are projected to have the highest lifetime earnings and to experience the largest increase in lifetime earnings over time—compare $64,000 in 2020 with $106,000 in 2050 (figure 8b).

Homeownership

Homeownership among adults ages 65 to 84 is projected to decline slightly over time from 80 percent among current retirees in 2020 to 76 percent among GenX and Early Millennial retirees in 2050 (figure 9). The largest declines are projected for those without high school diplomas, high school graduates, non-Hispanic blacks, and those with the lowest incomes. These groups are less likely than their counterparts to own their homes and over time homeownership is projected to become even less attainable for them.

Between 2020 and 2050, homeownership rates are projected to decline from 59 to 46 percent for older adults without high school diplomas, and from 78 to 67 percent for high school graduates. For college graduates, homeownership rates will remain largely unchanged. For non-Hispanic blacks, homeownership rates are projected to decline from 65 to 59 percent. For Hispanics, homeownership rates will remain largely unchanged. Homeownership rates are projected to decline from 48 to 42 percent for the poorest retirees and remain largely unchanged for the richest.

Family Income

Between 2020 and 2050, retirement income is projected to increase 22 percent (from $60,000 to $73,00) at the mean and 12 percent (from $42,000 to $47,000) at the median (figure 10a). This increase is primarily driven by college graduates, those with the strongest lifetime labor force attachment, and the highest earners.

Mean per capita retirement income is projected to remain virtually unchanged for those without college degrees (figure 10b). In contrast, it is projected to increase 22 percent (from $94,000 to $115,00) for college graduates. It is projected to increase for all racial and ethnic groups, but the most

for Hispanics (37 percent). Still, retirement income for non-Hispanic whites is projected to remain higher than for other racial and ethnic groups.

As figure 10c shows, retirement income is projected to decline between 2020 and 2050 for older adults with fewer than 10 years of lifetime work experience (37 percent) and those with 10-19 years of work (18 percent). Retirement income is projected to increase slightly for those with 20-29 years of work (6 percent) and significantly for those with at least 30 years of work experience (25 percent). The lowest lifetime earners are projected to experience retirement income declines of 13 percent, middle lifetime earners will have income increases of 11 percent, and the highest lifetime earners are projected to have retirement income increases of 41 percent (from $107,000 to $151,000).

Between 2020 and 2050, DYNASIM projects an increase in the share of family income from earnings, financial assets, and Social Security benefits (figure 10d). Earnings are projected to comprise 19 percent of income for current retirees in 2020, but 24 percent of income for GenX and Early Millennial retirees in 2050. The share of family income from annuitized financial assets is projected to increase slightly from 17 to 19 percent between 2020 and 2050. Social Security benefits are also projected to increase in their importance from 26 percent of income in 2020 to 29 percent in 2050. As expected, DB pension benefits are projected to decline in their importance over time. They are projected to comprise 15 percent of income for current retirees in 2020, but only 4 percent of income for future retirees in 2050. The decline in the importance of DB pension benefits, however, is not offset by an increase in the importance of income from annuitized retirement accounts.

What's Driving the Increase in Retirement Incomes?

Next, the analysis uses the Blinder-Oaxaca decomposition (Blinder 1973; Oaxaca 1973) to understand how important the factors described above are in accounting for the increase in retirement incomes over time. The methodology involves estimating regressions of retirement income in 2020 and 2050 and then using the coefficients from the regressions and the means of the right-hand-side variables to decompose the change between 2020 and 2050.[7] It essentially estimates what 2050 retirement income would be based on the characteristics and circumstances of 2020 retirees. It divides the difference in retirement incomes into two parts—one that is explained by group differences (differences in the means) and one that is unexplained (differences in the coefficients).

The difference in mean retirement income between 2020 and 2050 is $12,592 (figure 10e). Changes over time in demographic characteristics (age, sex, education, race and ethnicity, and marital

[7] This is done in Stata using the Oaxaca command developed and described in Jann (2008).

status) explain 8 percent of the increase in retirement income. Changes in women's work (work at ages 65 to 84, number of work years between ages 25 and 62, and average lifetime earnings between ages 25 and 62) explains 41 percent of the increase in retirement income. In contrast, changes in men's work explains only 25 percent of the increase in income. Changes in DB pension claims are attributed to a 15 percent decline in retirement income over time, while changes in retirement plan ownership account for a 10 percent increase. Nearly 40 percent of the increase in retirement income between 2020 and 2050 remains unexplained.

Income Inequality

The previous section described how income inequality, measured as the ratio of incomes at the 90th percentile to the 10th percentile of the income distribution, is projected to decline for GenXers and Early Millennials between ages 35 to 54 in 2020 and ages 65 to 84 in 2050 (see figure 5b). Still, DYNASIM projects income inequality will be higher for GenX and Early Millennials retirees in 2050 than for current retirees in 2020—compare 9.7 in 2020 with 10.9 in 2050 (figure 10f).

The largest increases in income inequality are projected for those without high school diplomas and for Hispanics. Between 2020 and 2050, retiree income inequality is projected to double for those without high school degrees from 7.5 to 15 and for Hispanics from 10.7 to 22.6.

The lowest lifetime earners and those with the weakest lifetime labor force attachment are also projected to experience the largest increases in income inequality between 2020 and 2050 (figure 10g). Income inequality is projected to increase from 22.8 to 30 for those with fewer than 10 years of lifetime work experience and from 8.8 to 13.2 for those with 10-19 years of work. Among the lowest lifetime earners, retiree income inequality is projected to increase from 10.4 to 15. In contrast, it is projected to decline for those in the 2nd, middle, and 4th quintiles of lifetime earnings and to remain the same for those in the top quintile.

Income Distribution

Between 2020 and 2050 the distribution of retirement income is projected to shift by educational attainment, race and ethnicity, and work experience. GenX and Early Millennial retirees without at least some college education are significantly more likely to have the lowest incomes than current retirees with similar educational backgrounds (figure 10h). Among retirees without high school diplomas, those in the bottom quintile are projected to increase from 57 percent of current retirees in 2020 to 67 percent of future retirees in 2050.

In contrast, retirement incomes will be less concentrated in the bottom of the distribution for Hispanic future retirees (figure 10i). Among Hispanic retirees, the share with the lowest incomes is projected to decline from 52 percent of current retirees to 43 percent of future retirees.

Finally, retirement incomes will be more concentrated in the bottom of the distribution for retirees with less than 20 years of work experience (figure 10j). Among those with fewer than 10 work years, retirees in the bottom income quintile are projected to increase from 56 percent of current retirees to 73 percent of future retirees.

Economic Well-Being

Poverty

DYNASIM projects that GenXers and Early Millennials are more likely to experience relative poverty at older ages than they are at younger ages (see figure 6a). Furthermore, GenXers and Early Millennials are projected to have higher relative poverty rates in retirement than are current retirees. Between 2020 and 2050, relative poverty rates are projected to increase from 24 percent for current retirees to 30 percent for future retirees (figure 11a).

The largest increases in relative poverty rates are projected for those without any college experience. In contrast, relative poverty rates are projected to decline for Hispanics. For example, relative poverty rates are projected to increase from 64 to 79 percent for those without high school diplomas and from 29 to 46 percent for high school graduates. They are projected to decline slightly from 57 to 55 percent for Hispanics.

Relative poverty rates are also projected to increase dramatically for future retirees with weak lifetime labor force attachments and those with low lifetime earnings (figure 11b). The share of retirees in relatively poverty is projected to increase from three in five in 2020 to four in five in 2050 for those with fewer than 10 years of lifetime work experience, and from one in two in 2020 to two in three in 2050 for those with 10-19 years of work. Within the distribution of lifetime earnings, relative poverty rates are projected to increase from 57 to 72 percent for those in the bottom quintile.

Replacement Rates

Replacement rates provide information regarding well-being during retirement years relative to well-being during pre-retirement years. An important issue when calculating replacement rates is how to define the pre-retirement earnings used in the denominator. For this analysis, replacement rates are the

ratio of per capita household income, excluding imputed rent, to average shared earnings between ages 50 and 54.[8]

DYNASIM projects an increase in the share of retirees whose income replaces less than 75 percent of their preretirement earnings—from 33 percent in 2020 to 38 percent in 2050 (figure 12). The largest increases are for those with at least some college education, non-Hispanic whites, and those with fewer than 10 years of work experience. The share of college graduates with replacement rates of less than 75 percent is projected to increase from 24 percent in 2020 to 34 percent in 2050. Among retirees with fewer than 10 years of lifetime work experience, the share with replacement rates of less than 75 percent is projected to increase from 58 percent of current retirees to 68 percent of GenX and Early Millennial retirees. For retirees without high school diplomas and Hispanics, DYNASIM projects a decline in the share whose income replaces less than 75 percent of their preretirement earnings. For example, the percentage of Hispanic retirees with replacement rates of less than 75 percent is projected to decline from 49 percent of current retirees to 45 percent of future retirees.

Discussion

Projections following GenX and Early Millennial Americans from ages 35 to 54 in 2020 to ages 65 to 84 in 2050 suggest that less than a third are projected to improve their position or occupy the same top position in the distribution of family income. Those without any college experience, non-Hispanic blacks, and Hispanics are projected to have an especially difficult time maintaining or improving their economic circumstances between younger and older ages.

Compared with current retirees, however, GenX and Early Millennial retirees are projected to have somewhat higher incomes—largely due to positive changes in women's work and earnings. Despite this apparent improvement, GenX and Early Millennial retirees will have more income inequality and higher relative poverty rates, and their retirement incomes will be less likely to replace at least 75 percent of their preretirement earnings. Driving these results is the large decline in DB pensions, which is only partly offset by an increase in the potential income from retirement accounts and other financial assets. Additionally, while DYNASIM projects an increase in home values, and therefore imputed rent, the overall effect is muted by the projected decline in homeownership among future retirees.

[8] Shared earnings are computed by assigning each individual half of the total earnings of the couple in the years when the individual is married and his or her own earnings in years when single.

Consequently, DYNASIM projects that GenX and Early Millennial retirees will depend on earnings and Social Security benefits for a larger share of their total retirement income. This is concerning because older adults will not be able to work indefinitely and losing 24 percent of their retirement income (see figure 10d) when they do stop working will further depress their retirement prospects. Moreover, Social Security benefits were designed to only supplement retirement income, yet they are expected to account for 29 percent of total retirement income for GenX and Early Millennials retirees.

Retirement outcomes are projected to significantly worsen for future retirees without college educations, those with little lifetime labor force attachment, and those with the lowest lifetime earnings. In contrast, retirement outcomes are projected to improve slightly for GenX and Early Millennial Hispanics. Hispanic retirees are projected to improve their position in the income distribution, have lower relative poverty rates, and to be more likely to replace at least 75 percent of their preretirement earnings. However, Hispanic retirees are also projected to have dramatically more income inequality than other groups. Unlike most other racial and ethnic groups in the US, the Hispanic population is very heterogenous with a large share of immigrants. Because foreign-born Hispanics tend to have less education and earn less than US-born Hispanics, upon reaching retirement age foreign-born Hispanics have lower incomes and wealth accumulation than US-born Hispanics (Johnson, Mudrazija, and Wang 2017).

Projecting incomes over the next several decades involves much uncertainty, and future developments could lead to outcomes very different from our forecasts. The findings in this paper are somewhat more optimistic than some other studies that have assessed retirement savings adequacy. A key difference between DYNASIM projections and other estimates is that DYNASIM projects a broad measure of income that includes not only Social Security and private pension income, but also income from earnings, imputed rent from housing, and annuitized income from financial assets. This more comprehensive measure better gauges the family resources available to meet retirement consumption needs. Even so, these findings may be somewhat optimistic because of the uncertainty of promised Social Security benefits, which this analysis assumes will be payable at the current law benefit levels, increased longevity, and rising health care and long-term care costs.

References

Angelov, Chris E., Howard M. Iams, and Patrick J. Purcell. 2012. "Shifting Income Sources of the Aged." *Social Security Bulletin* 72(3): 59-68.

Biggs, Andrew G. 2016. "What's Happening with Retirement Saving and Retirement Incomes? Better Data Tell a Better Story." Washington, DC: American Enterprise Institute.

Blinder, Alan S. 1973. "Wage Discrimination: Reduced Form and Structural Estimates." *Journal of Human Resources* 8(4): 436–455.

Brinker, Jesse, Aurthur B. Kennickell, Devin B. More, and John Sabelhaus. 2012. "Changes in Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 98(2): 1-80.

Brinker. Jesse, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Lindsay Jacobs, Kevin B. Moore, Sarah Pack, John Sabelhaus, Jeffrey Thompson, Richard A. Windle, Peter Hansen, and Elizabeth Llanes. 2017. "Changes in Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 103(3): 1-42.

Brown, Jennifer Erin, Joelle Saad-Lessler, and Diane Oakley. 2018. "Retirement in America: Out of Reach for Working Americans?" Washington, DC: National Institute on Retirement Security.

Burtless, Gary. 2009. "Financial Market Turbulence and Social Security Reform." In Orenstein, M. A. (ed.), *Pensions, Social Security, and the Privatization of Risk*. New York, NY: Columbia University Press, pp. 72–85.

Butrica, Barbara A. and Philip Issa. 2011. "Retirement Account Balances. Fact Sheet on Retirement Policy." Washington, DC: Urban Institute.

Butrica, Barbara A., Karen E. Smith, and C. Eugene Steuerle. 2007. "Working for a Good Retirement." In *Government Spending on the Elderly*, edited by Dimitri B. Papadimitriou,141–77. New York: Palgrave MacMillan.

Butrica, Barbara A., Karen E. Smith, and Howard M. Iams. 2012. "This is Not Your Parent's Retirement: Comparing Retirement Income across Generations." *Social Security Bulletin* 72(1): 37-58.

Choi, Eunhee, Fengyan Tang, and Valire Carr Copeland. 2017. "Racial/Ethnic Inequality Among Older Workers: Focusing on Whites, Blacks, and Latinos Within the Cumulative Advantage/Disadvantage Framework." *Journal of Social Service Research* 43(1): 18-13.

Cosic, Damir, Richard W. Johnson, and Karen E. Smith. 2018. "Will Living Standards Decline for Future Retirees?: Evidence from DYNASIM." Washington, DC: Urban Institute.

Dannefer, Dale. 2003. "Cumulative Advantage/Disadvantage and the Life Course: Cross-Fertilizing Age and Social Science Theory." *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* 58(6): S327– S337.

Dushi, Irena, Howard M. Iams, and Christopher R. Tamborini. 2017. "Contributory Retirement Saving Plans: Differences Across Earnings Groups and Implications for Retirement Security." *Social Security Bulletin* 77(2): 13-24.

Engen, Eric M., William G. Gale and Cori E. Uccello. 1999. "The Adequacy of Household Saving." Brookings Papers on Economic Activity 2: 65-187.

Favreault, Melissa M., Karen E. Smith, and Richard W. Johnson. 2015. "The Dynamic Simulation of Income Model (DYNASIM): An Overview." Washington, DC: Urban Institute.

Ferraro, Kenneth F., and Jessica A. Kelley-Moore. 2003. "Cumulative Disadvantage and Health: Long-Term Consequences of Obesity?" *American Sociological Review* 68:707–29.

Ferraro, Kenneth F. and Tetyana Pylypiv Shippee. 2009. "Aging and Cumulative Inequality: How Does Inequality Get Under the Skin? *Gerontologist* 49(3): 333–343.

Jann, Ben. 2008. "The Blinder–Oaxaca Decomposition for Linear Regression Models." *The Stata Journal* 8(4): 453–479.

Johnson, Richard W., Stipica Mudrazija, and Claire Xiaozhi Wang. 2017. "Hispanics' Retirement Transitions and Differences by Nativity." *Journal of Aging and Health* 29(6): 1096-1115.

Johnson, Richard W., Karen E. Smith, Damir Cosic, and Claire Xiaozhi Wang. 2018. "The Retirement Outlook for Millennials: What is the Early Prognosis?" Washington, DC: Urban Institute.

MacKenzie, George A. 2010. *The Decline of the Traditional Pension: A Comparative Study of the Threats to Retirement Security*. New York, NY: Cambridge University Press.

Miller, Billie Jean and Sylvester J. Schieber. 2014. "Contribution of Pension and Retirement Savings to Retirement Income Security: More Than Meets the Eye." *The Journal of Retirement Winter* 1 (3): 14-29.

Morrissey, Monique. 2016. "The State of American Retirement: How 401(k)s Have Failed Most American Workers." Washington, DC: Economic Policy Institute.

Munnell, Alicia H. 2012. "401(k) Plans in 2010: An Update from the SCF." *Issue in Brief* No. 12-13. Chestnut Hill, MA: Center for Retirement Research at Boston College.

Munnell, Alicia H. and Wenliang Hou. 2018. "Will Millennials Be Ready for Retirement?" *Issue Brief* No. 18-2. Chestnut Hill, MA: Center for Retirement Research at Boston College.

Munnell, Alicia H., Wenliang Hou, and Geoffrey T. Sanzenbacher. 2018. "National Retirement Risk Index Shows Modest Improvement in 2016." *Issue Brief* No. 18-1. Chestnut Hill, MA: Center for Retirement Research at Boston College.

Munnell, Alicia H. and Annika Sunden. 1984. Coming Up Short:the Challenge of 401(k) Plans. Washington, DC: Brookings Institution Press.

National Bureau of Economic Research. 2011. "US Business Cycle Expansions and Contractions." Cambridge, MA: http://www.nber.org/cycles/cyclesmain.html.

Oaxaca, Ronald. 1973. "Male–Female Wage Differentials in Urban Labor Markets." *International Economic Review* 14(3): 693–709.

O'Rand, Angela M. 1996. "The Precious and the Precocious: Understanding Cumulative Disadvantage and Cumulative Advantage Over the Life Course." *The Gerontologist* 36(2): 230-238.

Orshansky, Mollie. 1963. "Children of the Poor." *Social Security Bulletin* 26(7): 3–13.

Poterba, James M. 2014. "Retirement Security in an Aging Population." *American Economic Review: Papers & Proceedings* 104(5): 1-30.

Purcell, Patrick J. 2016. "Employment at Older Ages and Social Security Benefit Claiming." *Social Security Bulletin* 76(4): 1-17.

Rhee, Nari. 2013. "The Retirement Savings Crisis: Is It Worse than We Think?" Washington, DC: National Institute on Retirement Security.

Scholz, John Karl and Ananth Seshadri. 2006. "Are Americans Saving "Optimally" for Retirement?" *Journal of Political Economy* 114(41): 607-643.

Shoven, John B., and Sita Nataraj Slavov. 2014."Does It Pay to Delay Social Security?" *Journal of Pension Economics and Finance* 13 (2):121–44.

Uccello, Cori E. 2001. "Are Americans Saving Enough for Retirement?" Issue Brief No. 7. Chestnut Hill, MA: Center for Retirement Research at Boston College.

US Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. 2018. *2018 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds*. Washington, DC: US Government Printing Office.

US Bureau of Labor Statistics. 2018a. "(Unadj) Labor Force Participation Rate." Series Id: LNU01300061, LNU01300062, LNU01300190, LNU01300347, LNU01300199, and LNU01300354. Washington, DC: US Department of Labor.

US Bureau of Labor Statistics. 2018b. "Median Usual Weekly Earnings (Second Quartile), Employed Full Time, Wage and Salary Workers, 25 Years and Over." Series Id: LEU0257580900 and LEU0257583200. Washington, DC: US Department of Labor.

US Bureau of Labor Statistics. 2018c. National Compensation Survey: Employee Benefits in the United States, March 2018. Bulletin 2789. Washington, DC: US Department of Labor.

US Census Bureau. 2001. *Statistical Abstract of the United States, 2001: The National Data Book*. Washington, DC: US Census Bureau.

US Census Bureau. 2006. *Statistical Abstract of the United States, 2006: The National Data Book*. Washington, DC: US Census Bureau.

US Census Bureau. 2017a. "National Population Projections." Washington, DC: US Census Bureau.

US Census Bureau. 2017b. "Quick Facts: United States." Retrieved from: https://www.census.gov/quickfacts/fact/table/US/PST045217.

US Social Security Administration. 2018. *Annual Statistical Supplement to the Social Security Bulletin, 2017*. Washington, DC: US Social Security Administration.

Urban Institute. 2015. "DYNASIM: Projecting Older Americans' Future Well-Being." Washington, DC: Urban Institute.

Utkus, Stephen P. 2014. "Four Views of Retirement Preparation." *Investment Company Institute Retirement Summit 2014*. Washington, DC: Investment Company Institute.

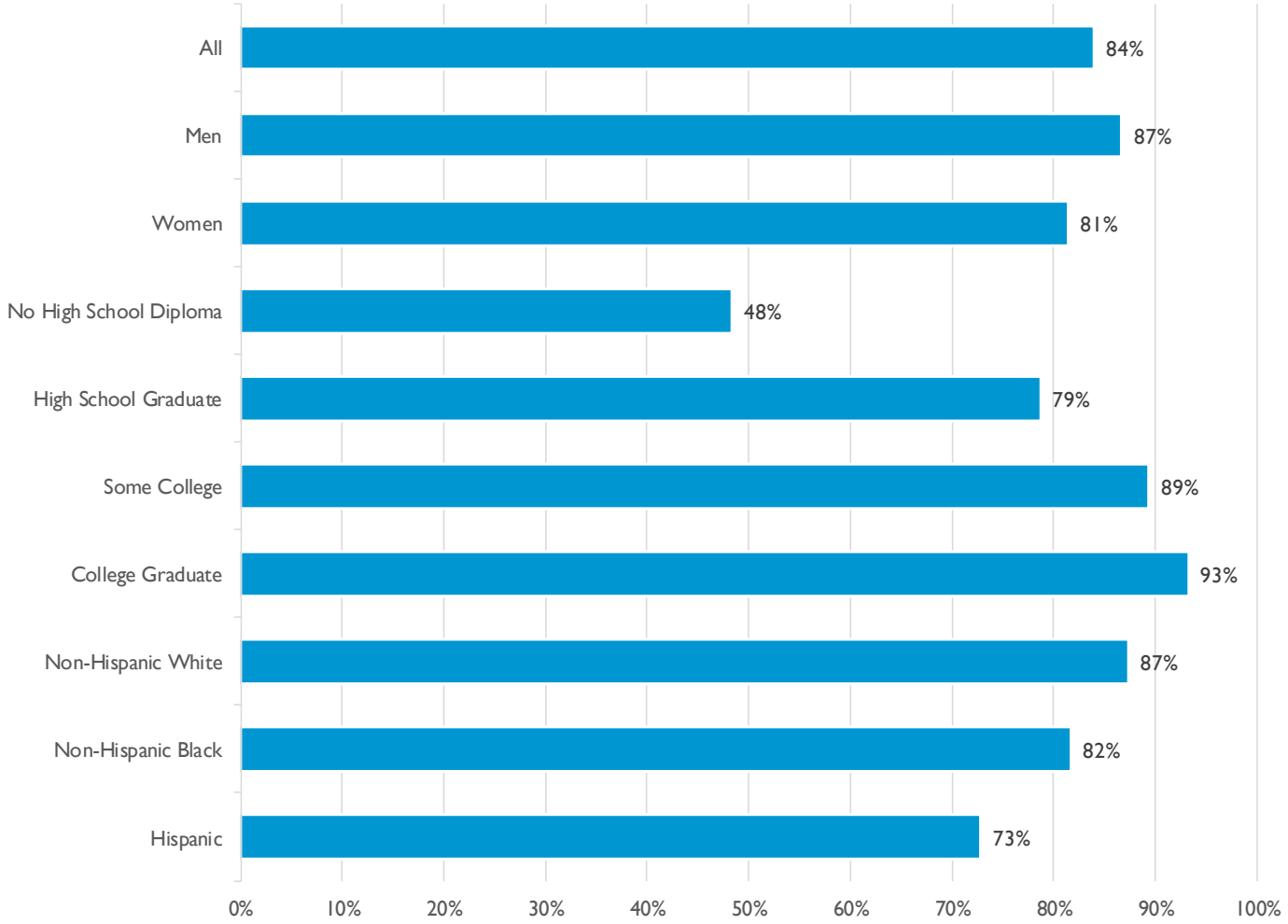
Wiatrowski, William J. 2011. "Changing Landscape of Employer-Based Retirement Benefits." Washington, DC: US Department of Labor.

Wiatrowski, William J. 2012. "The Last Private Industry Pension Plans: A Visual Essay." *Monthly Labor Review* 135(12): 3-18.

Willson, Andrea E., Kim M. Shuey, and Glen H. Elder. 2007 "Cumulative Advantage Processes as Mechanisms of Inequality in Life Course Health." *American Journal of Sociology* 112(6): 1886–1924.

FIGURE 1A

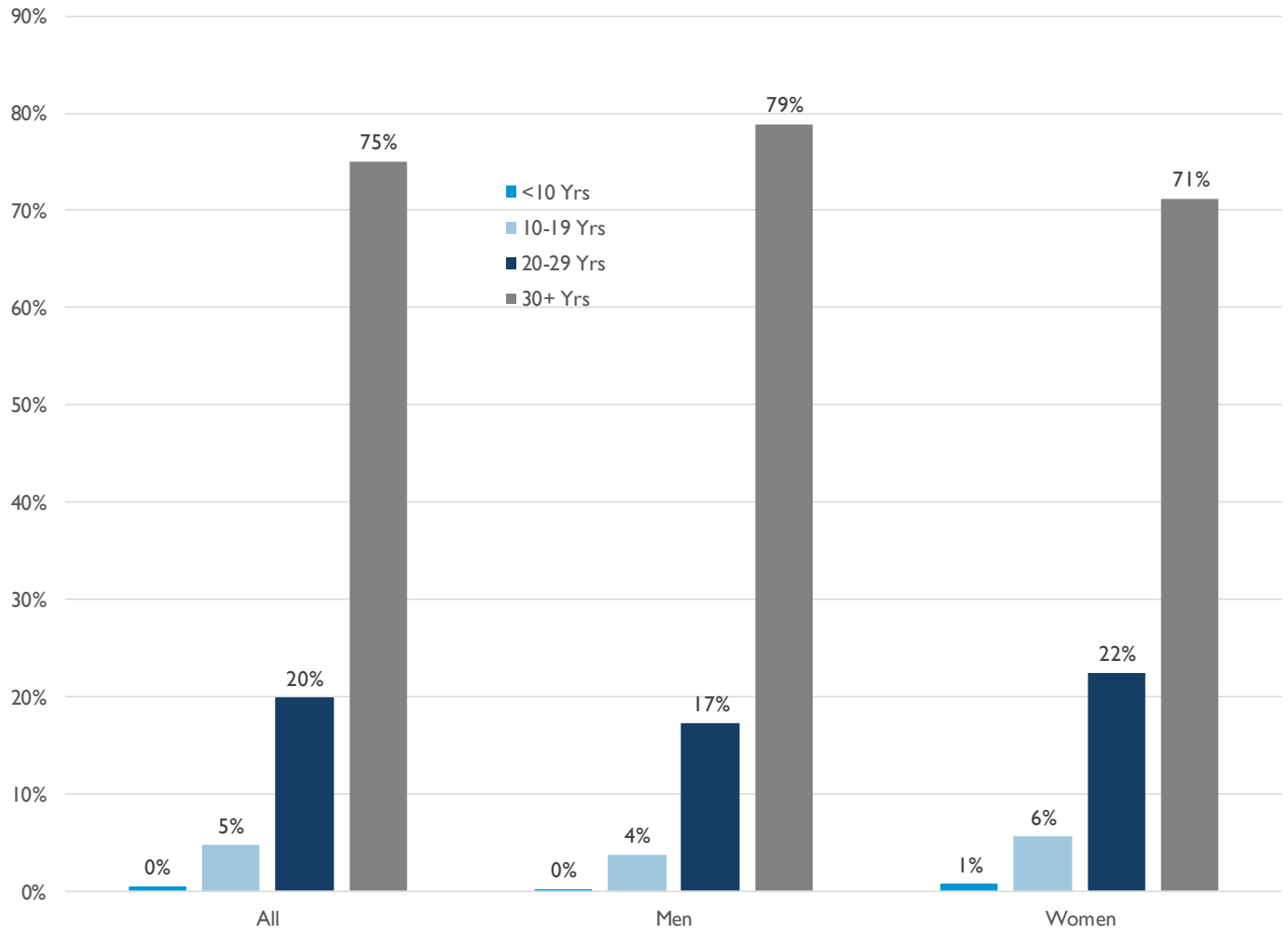
Projected Employment Rates for GenX and Early Millennial Adults Ages 35 to 54 in 2020



Source: DYNASIM, ID967

FIGURE 1B

Distribution of Projected Lifetime Work Years for GenX and Early Millennial Workers Ages 35 to 54 in 2020, by Sex

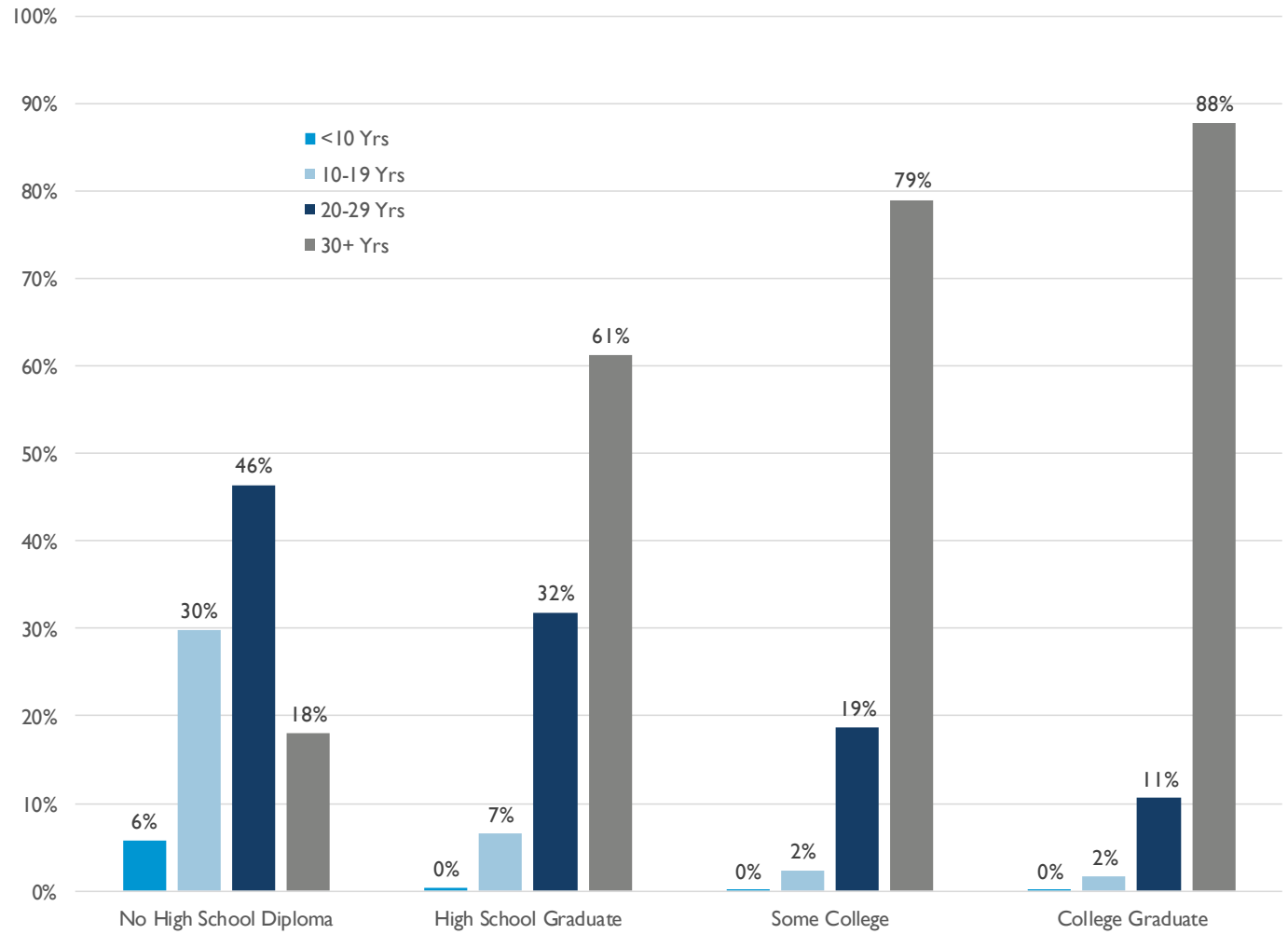


Source: DYNASIM4, ID967

Note: Lifetime work years is the total number of years employed between ages 25 and 62.

FIGURE 1C

Distribution of Projected Lifetime Work Years for GenX and Early Millennial Workers Ages 35 to 54 in 2020, by Education

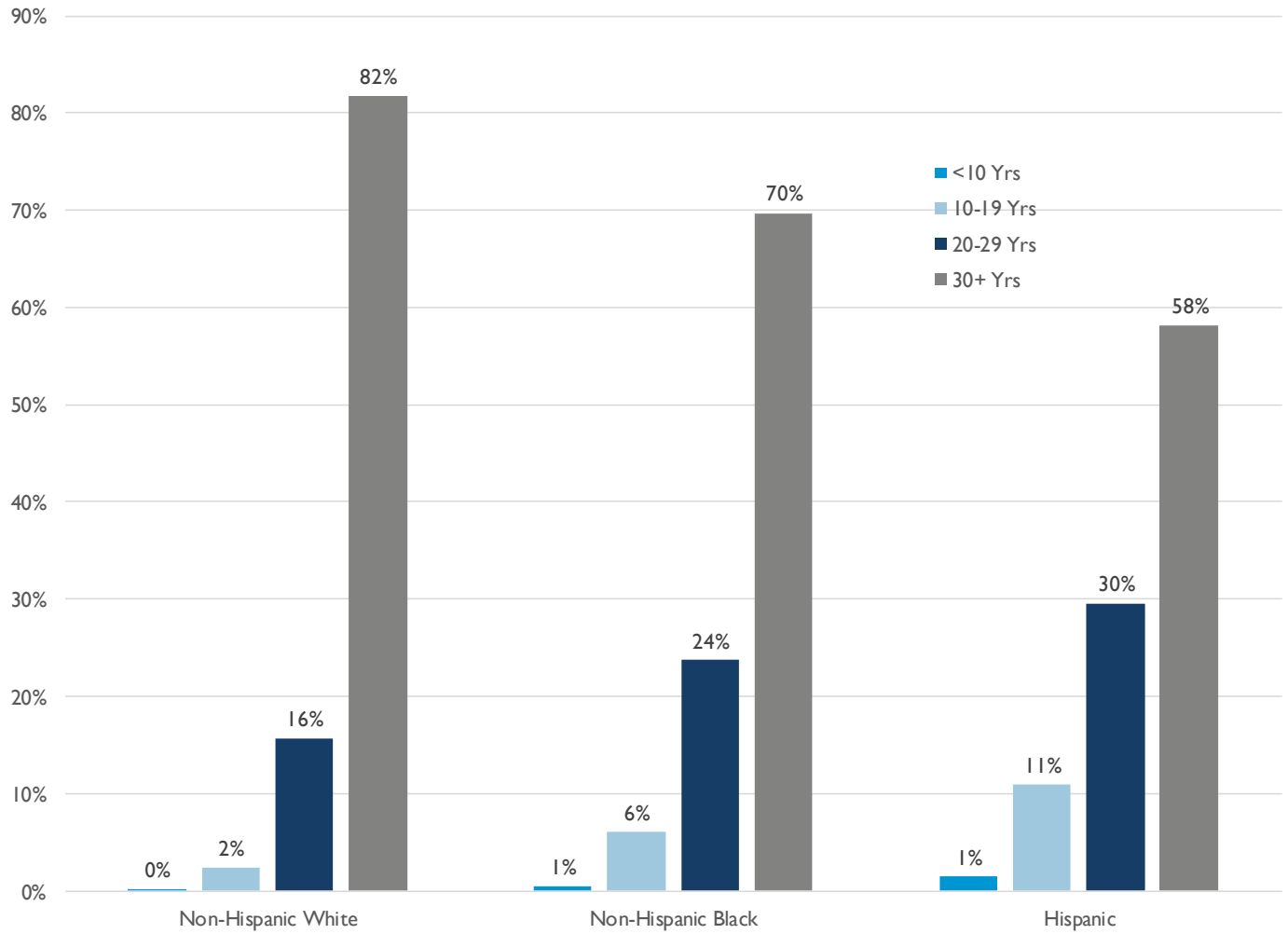


Source: DYNASIM4, ID967

Note: Lifetime work years is the total number of years employed between ages 25 and 62.

FIGURE 1D

Distribution of Projected Lifetime Work Years for GenX and Early Millennial Workers Ages 35 to 54 in 2020, by Race and Ethnicity

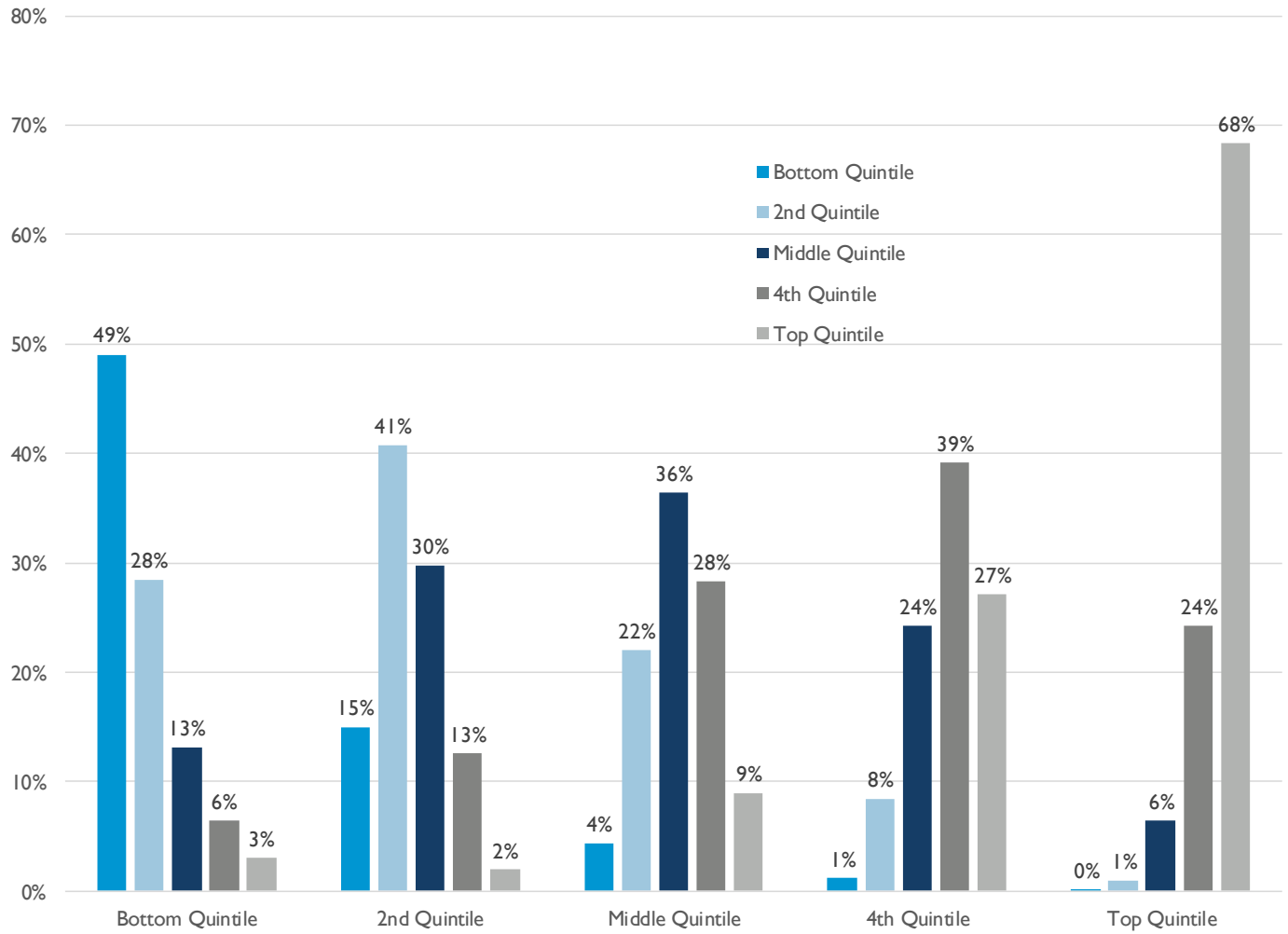


Source: DYNASIM4, ID967

Note: Lifetime work years is the total number of years employed between ages 25 and 62.

FIGURE 2

Distribution of Projected Average Lifetime Earnings for GenX and Early Millennial Adults, by Quintile of Earnings at Ages 35 to 54 in 2020

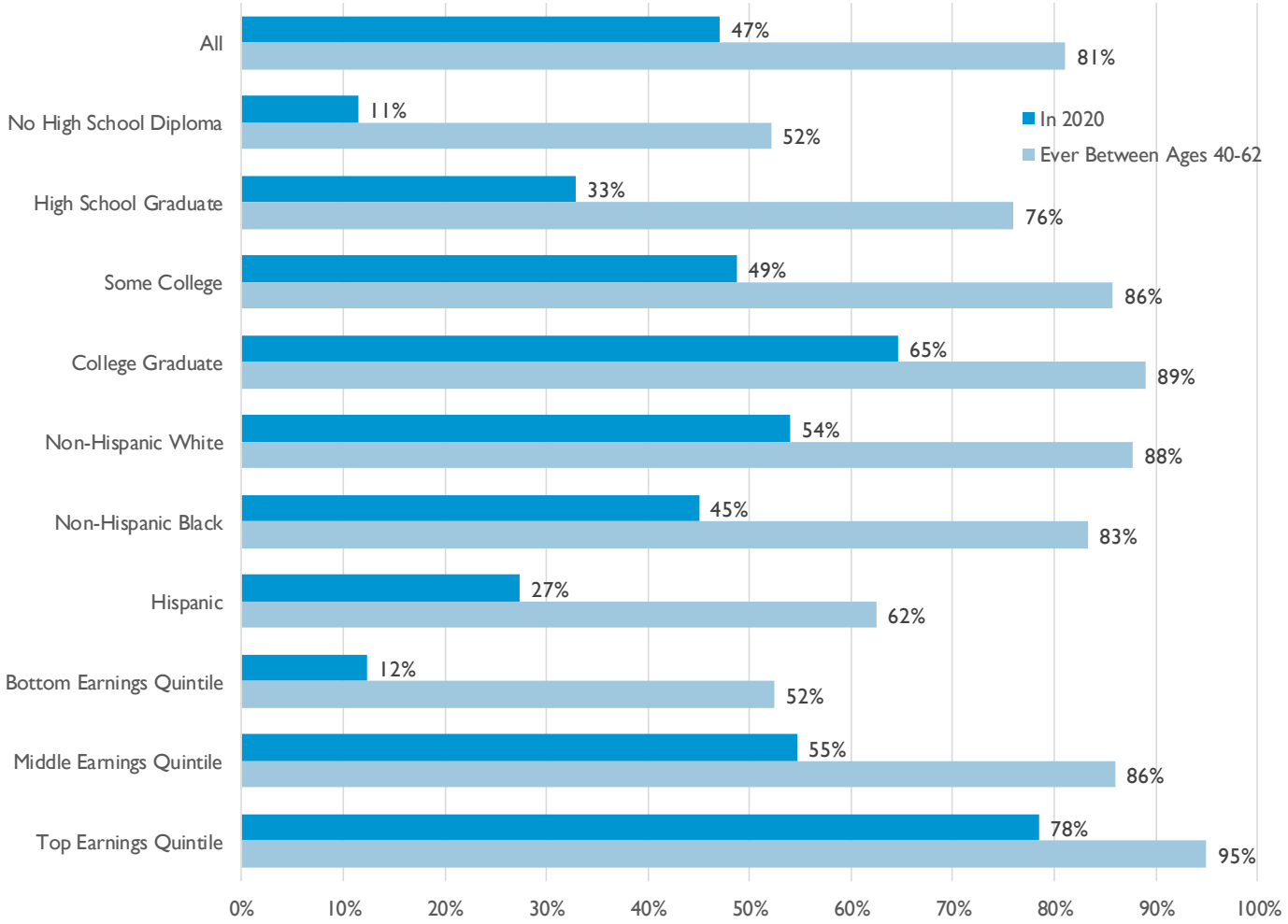


Source: DYNASIM4, ID967

Note: Average lifetime earnings are average earnings between ages 25 and 62.

FIGURE 3A

Percentage of GenX and Early Millennial Adults Projected to Be Offered an Employer-Sponsored Retirement Plan

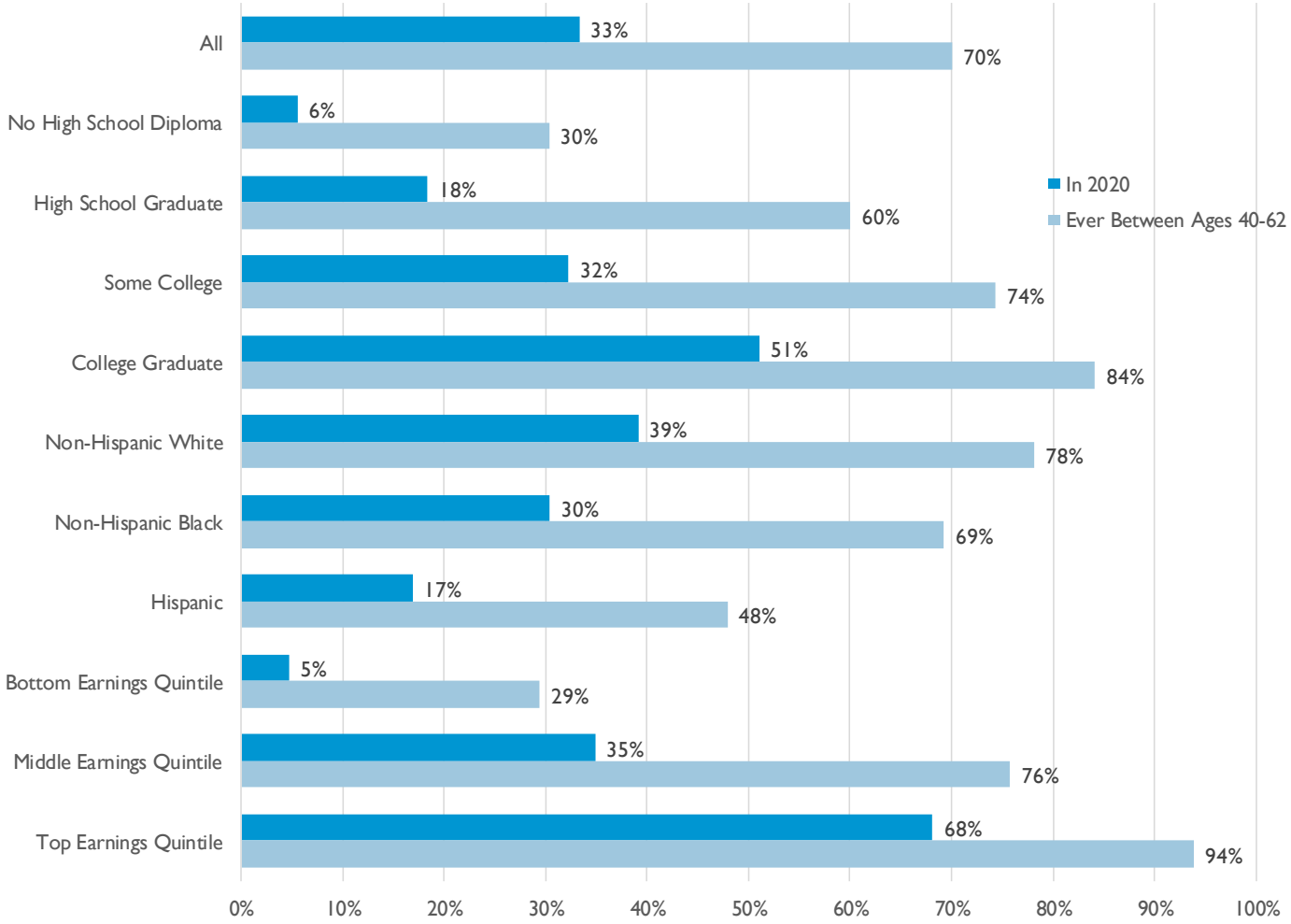


Source: DYNASIM4, ID967

Note: Quintiles are based on earnings in 2020 and on average lifetime earnings, which are average earnings between ages 25 and 62.

FIGURE 3B

Percentage of GenX and Early Millennial Adults Projected to Participate in an Employer-Sponsored Retirement Plan

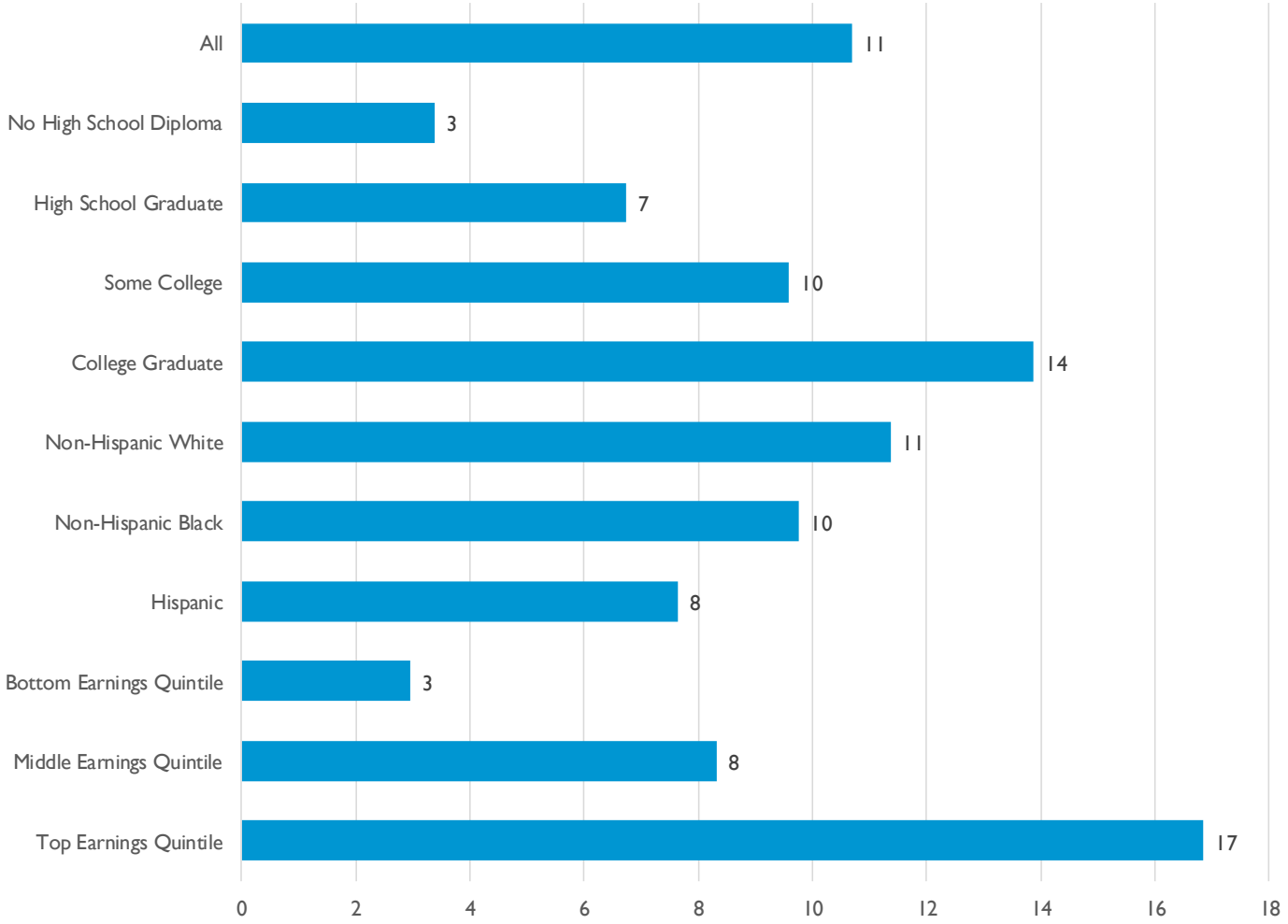


Source: DYNASIM4, ID967

Note: Quintiles are based on earnings in 2020 and on average lifetime earnings, which are average earnings between ages 25 and 62.

FIGURE 3C

Average Number of Years GenX and Early Millennial Adults are Projected to Participate in an Employer-Sponsored Retirement Plan



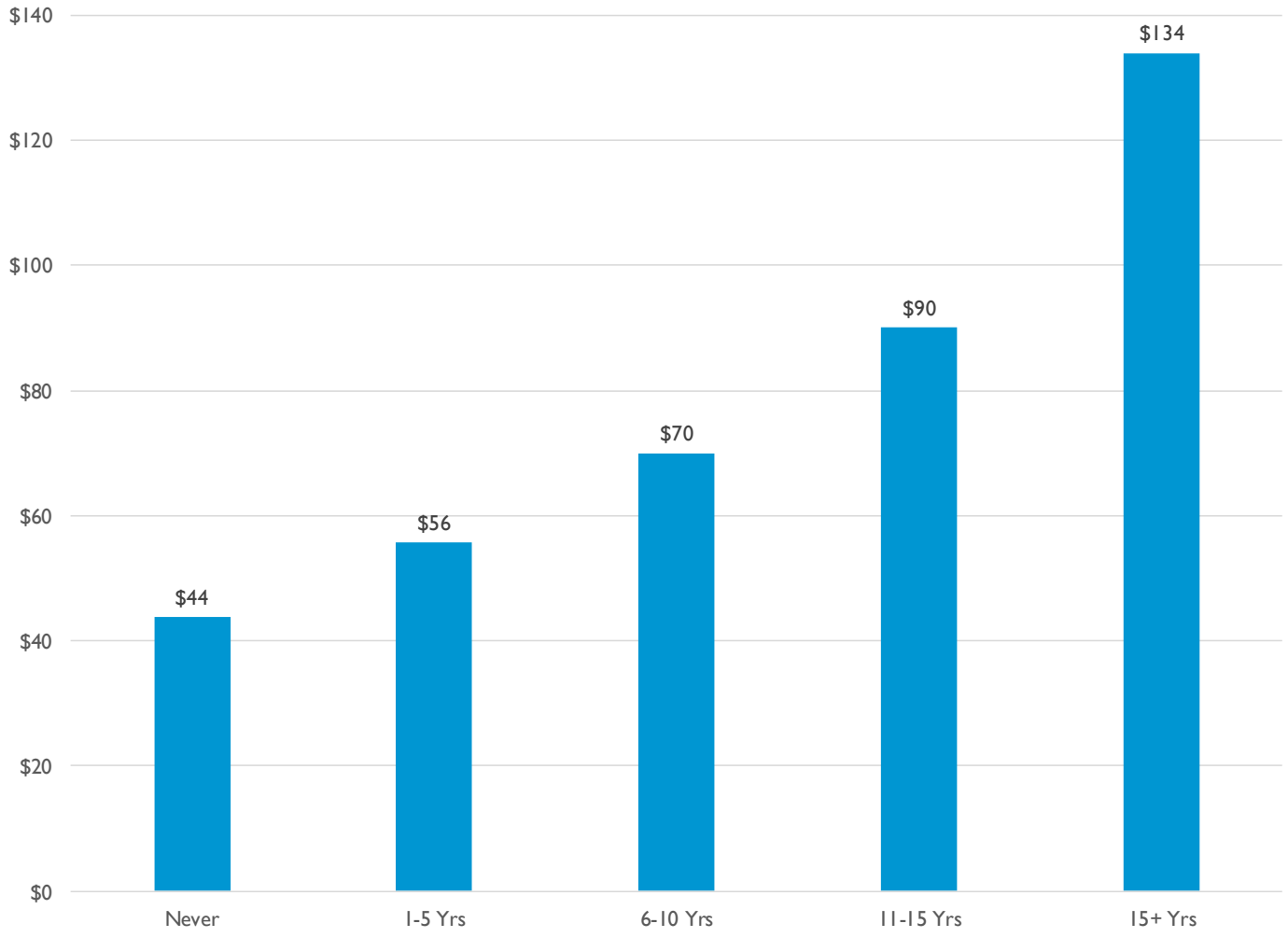
Source: DYNASIM4, ID967

Note: Analysis is limited to those projected to participate in an employer-sponsored retirement plan. Quintiles are based on average earnings between ages 25 and 62.

FIGURE 3D

Projected Mean Retirement Income of GenX and Early Millennial Adults, by Years Participating in an Employer-Sponsored Retirement Plan

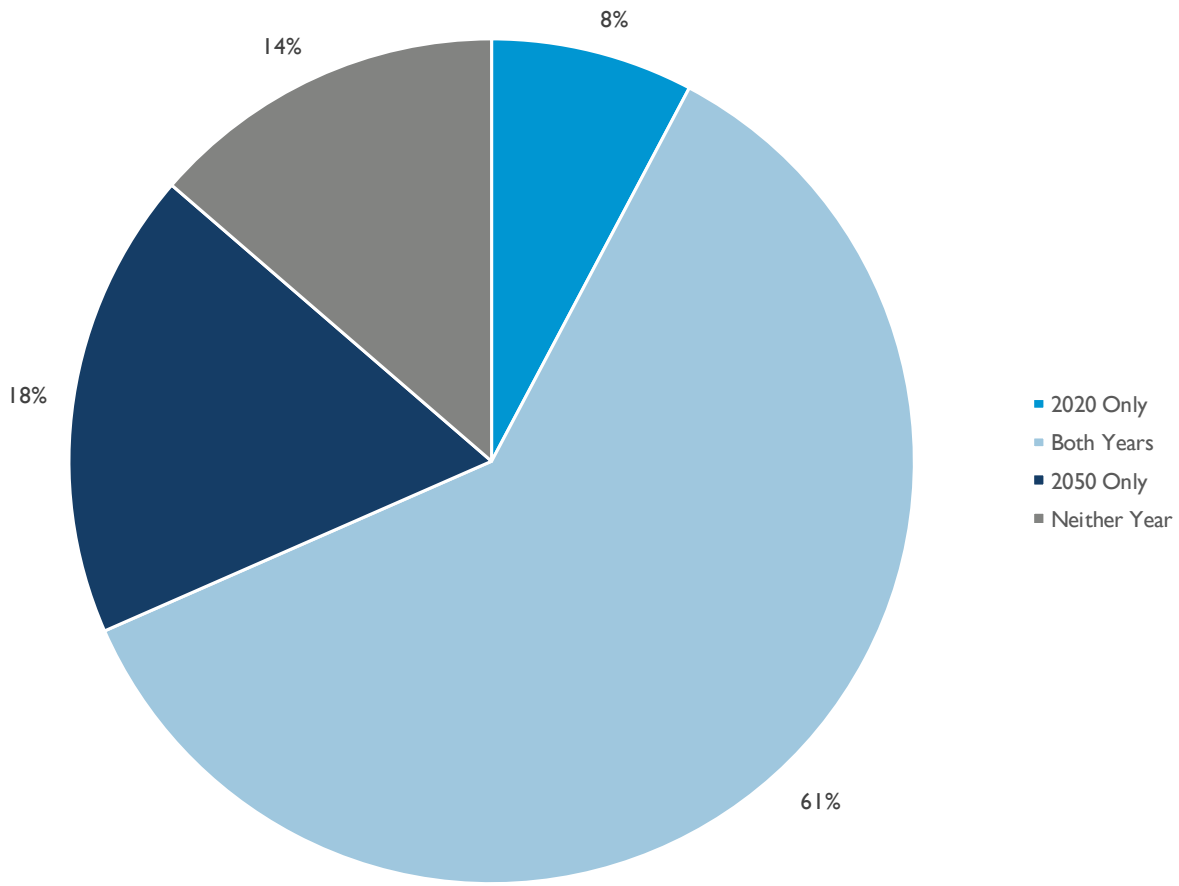
(thousands of constant 2018 dollars)



Source: DYNASIM4, ID967

FIGURE 4A

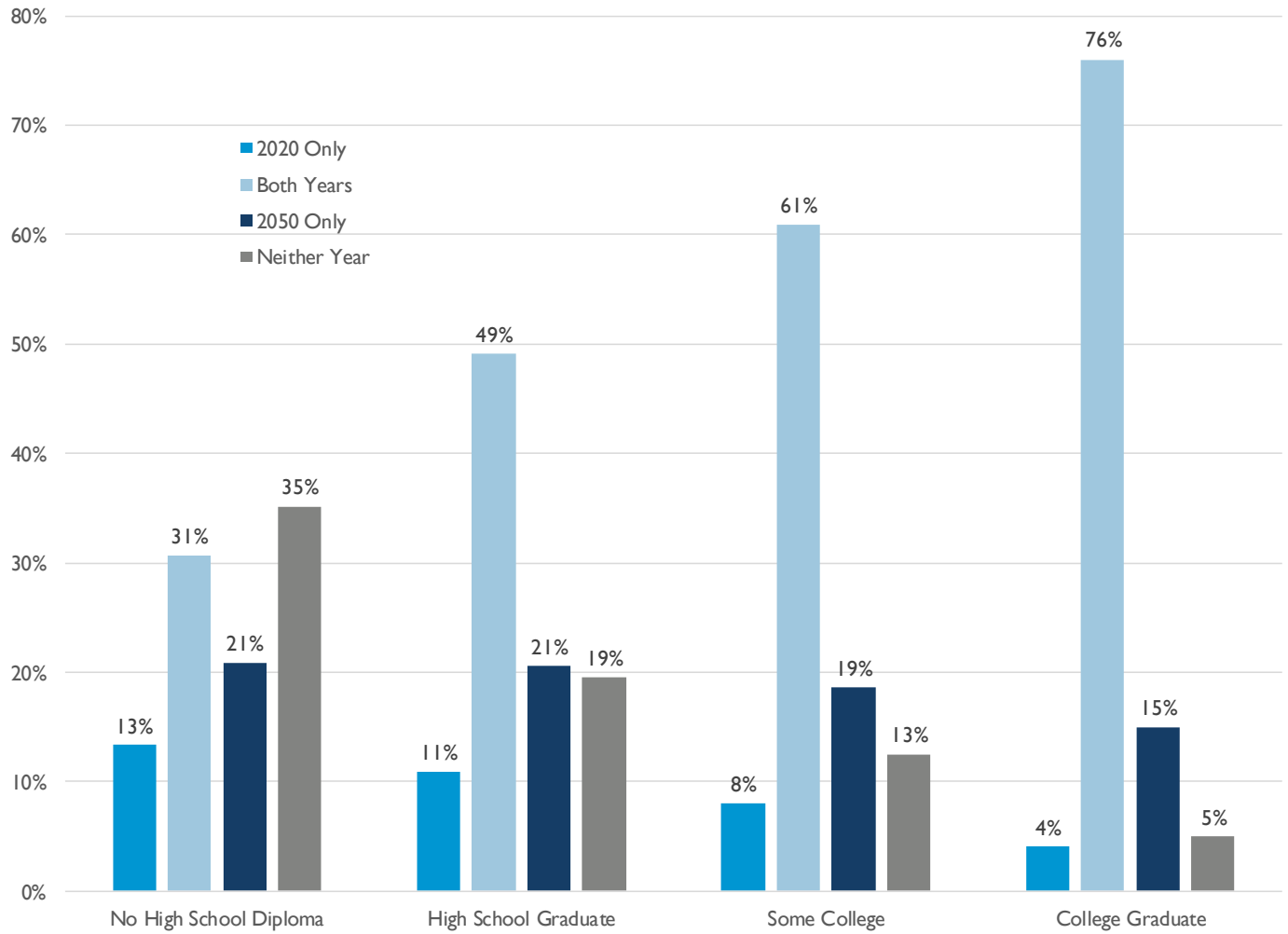
Projected Percentage of GenX and Early Millennial Homeowners at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050



Source: DYNASIM4, ID967

FIGURE 4B

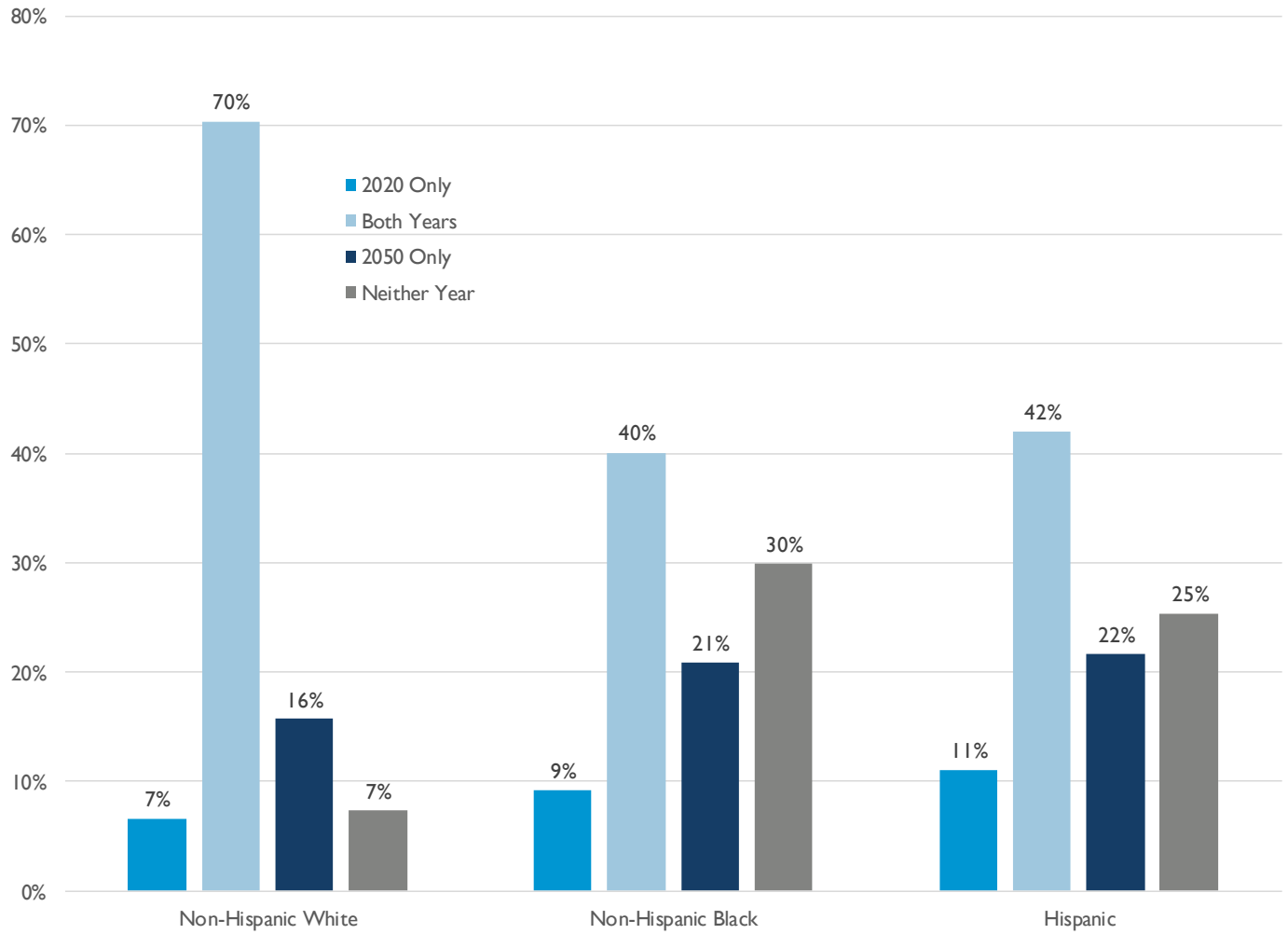
Projected Percentage of GenX and Early Millennial Homeowners at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050, by Education



Source: DYNASIM4, ID967

FIGURE 4C

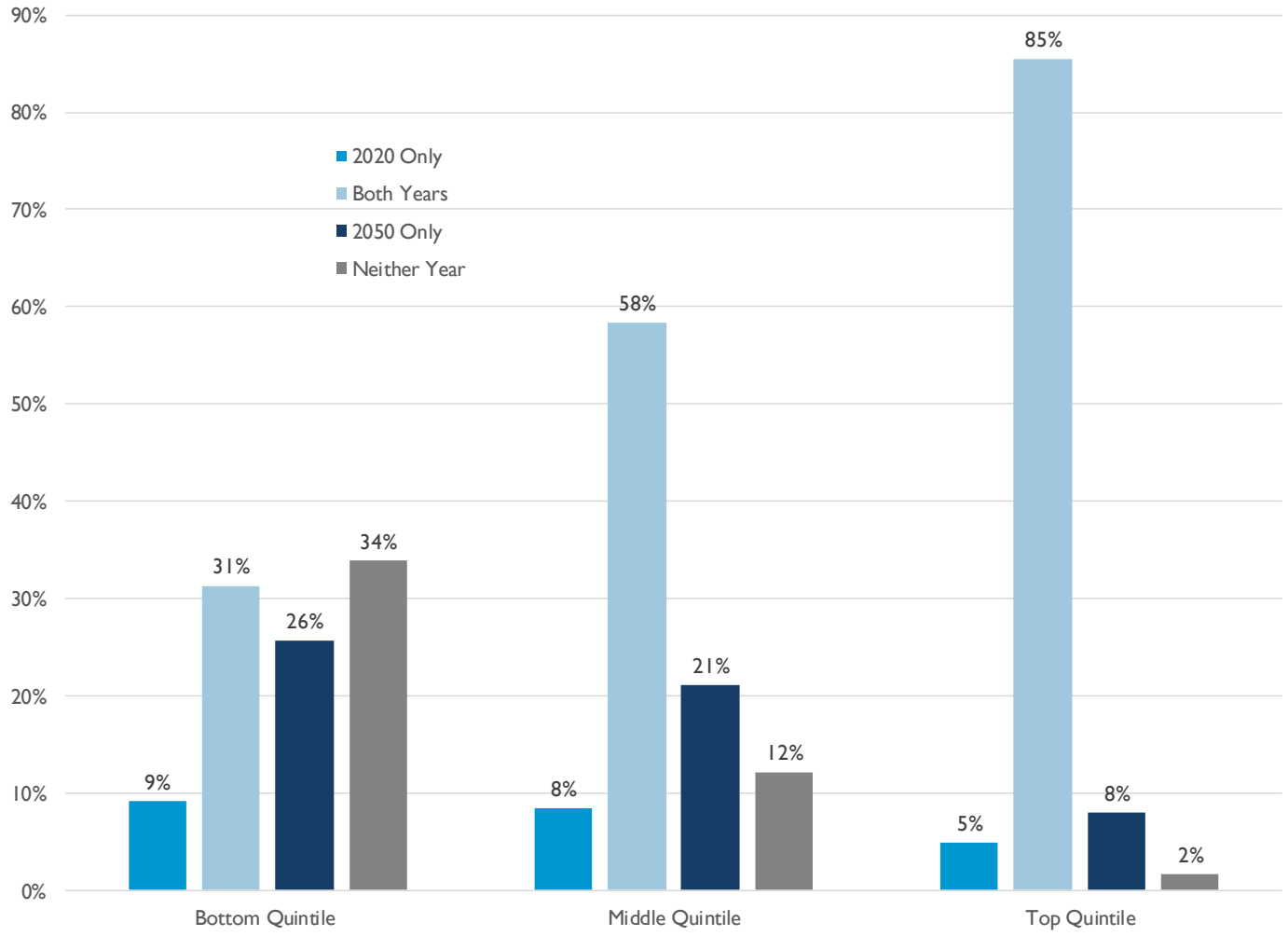
Projected Percentage of GenX and Early Millennial Homeowners at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050, by Race and Ethnicity



Source: DYNASIM4, ID967

FIGURE 4D

Projected Percentage of GenX and Early Millennial Homeowners at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050, by Quintile of Per Capita Family Income in 2020

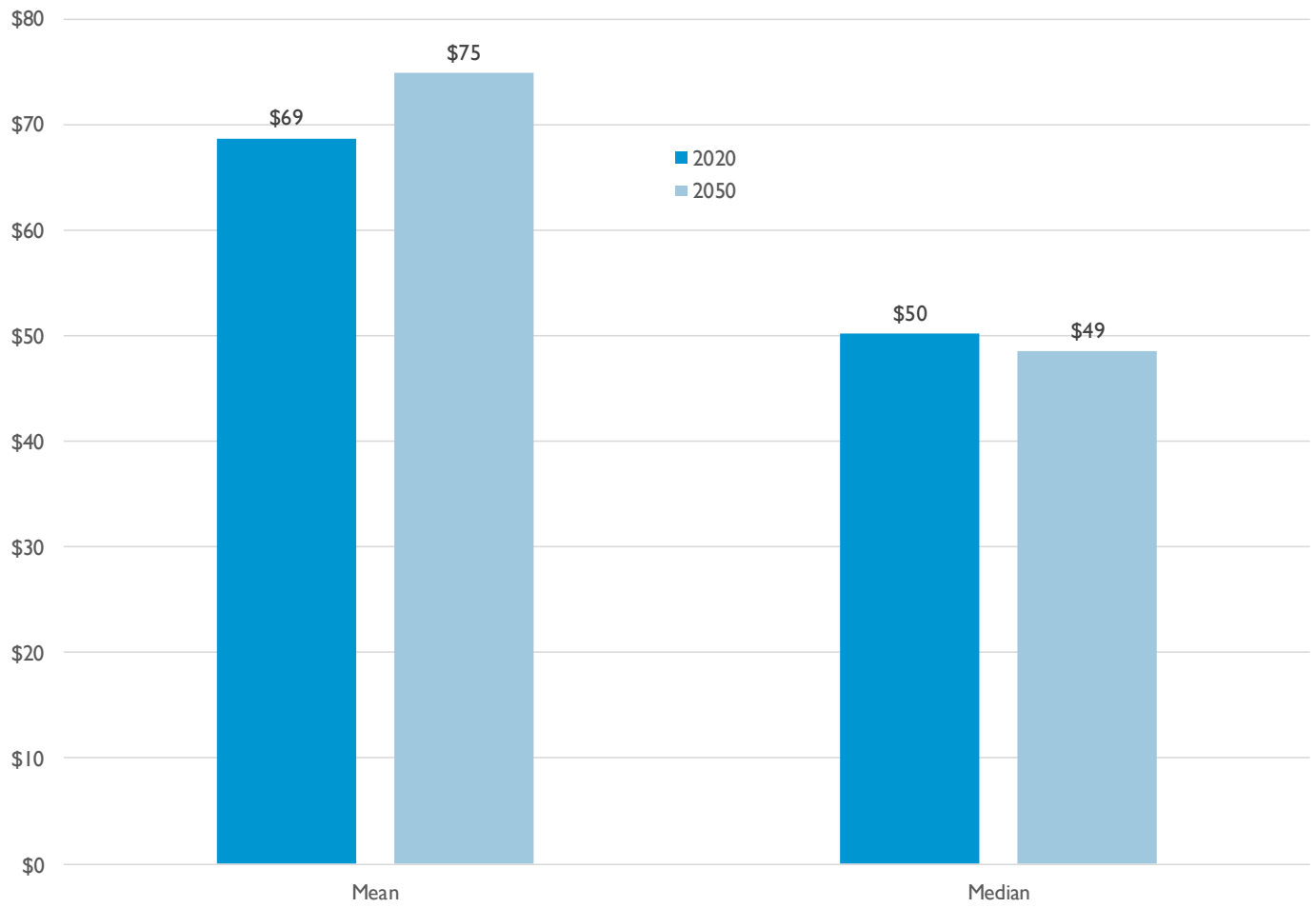


Source: DYNASIM4, ID967

FIGURE 5A

Projected Per Capita Family Income of GenX and Early Millennial Adults at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050

(thousands of constant 2018 dollars)

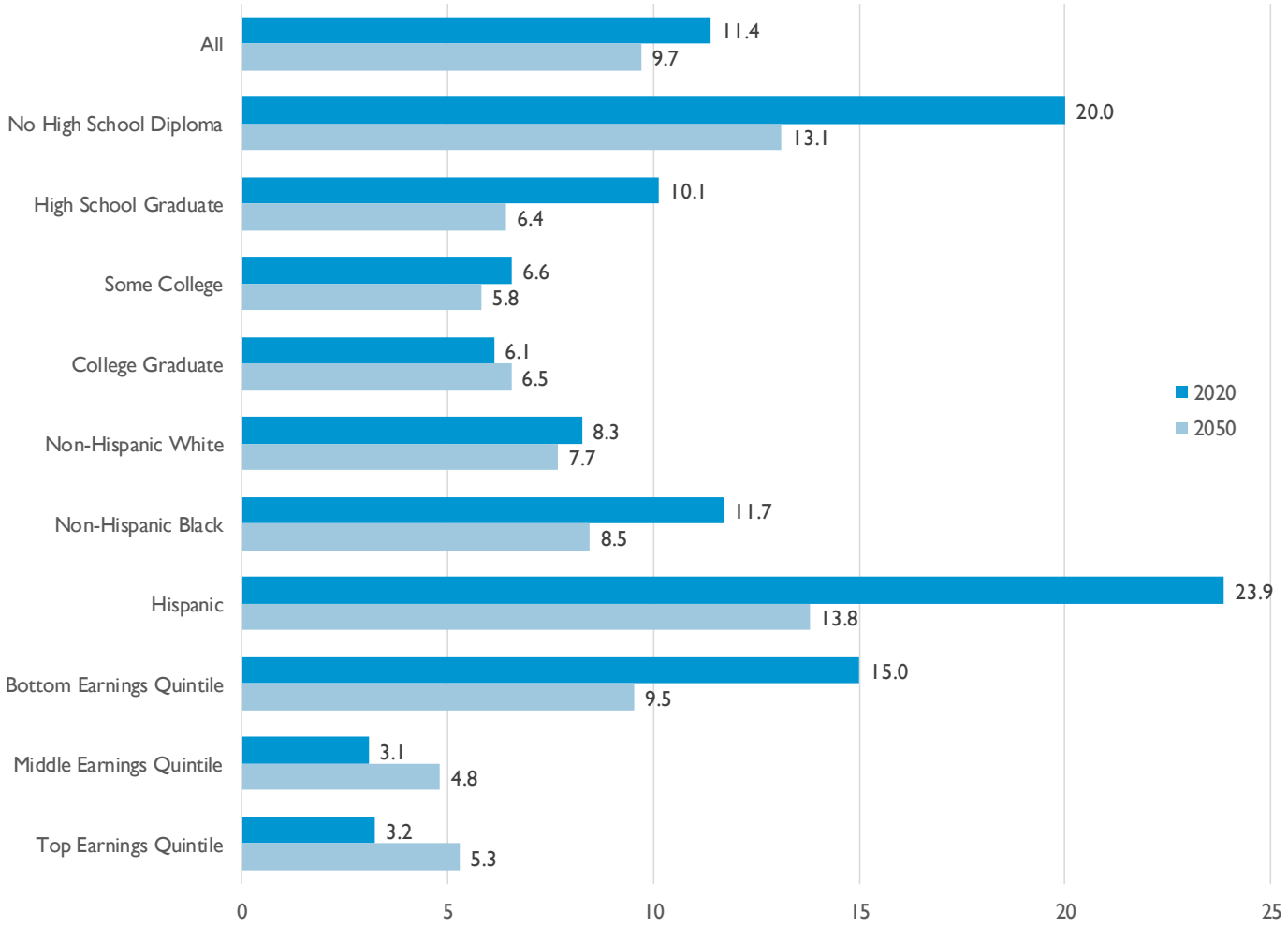


Source: DYNASIM4, ID967

FIGURE 5B

Projected Per Capita Family Income 90/10 Ratio of GenX and Early Millennial Adults at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050

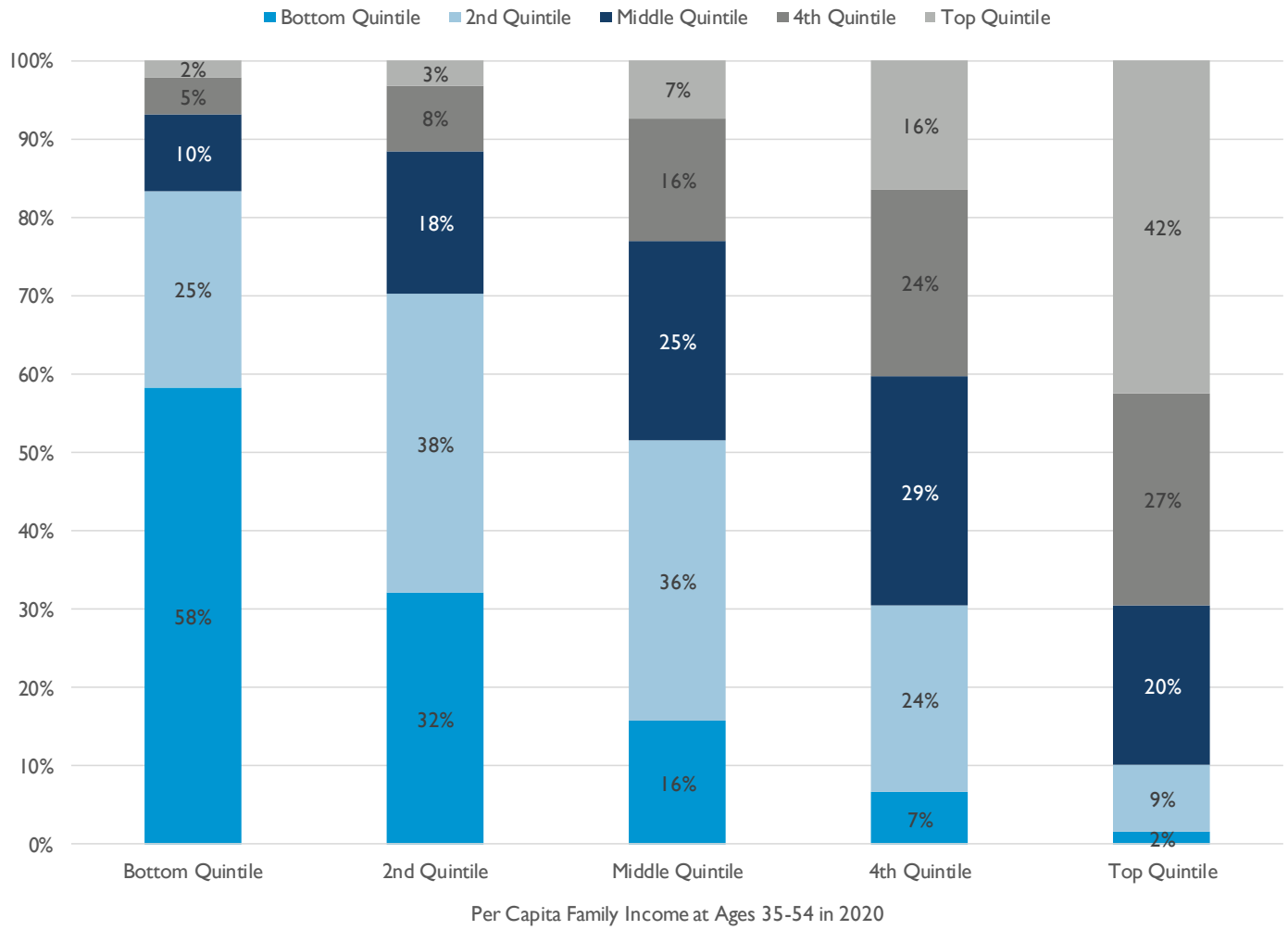
(ratio of income at the 90th percentile to income at the 10th percentile)



Source: DYNASIM4, ID967

FIGURE 5C

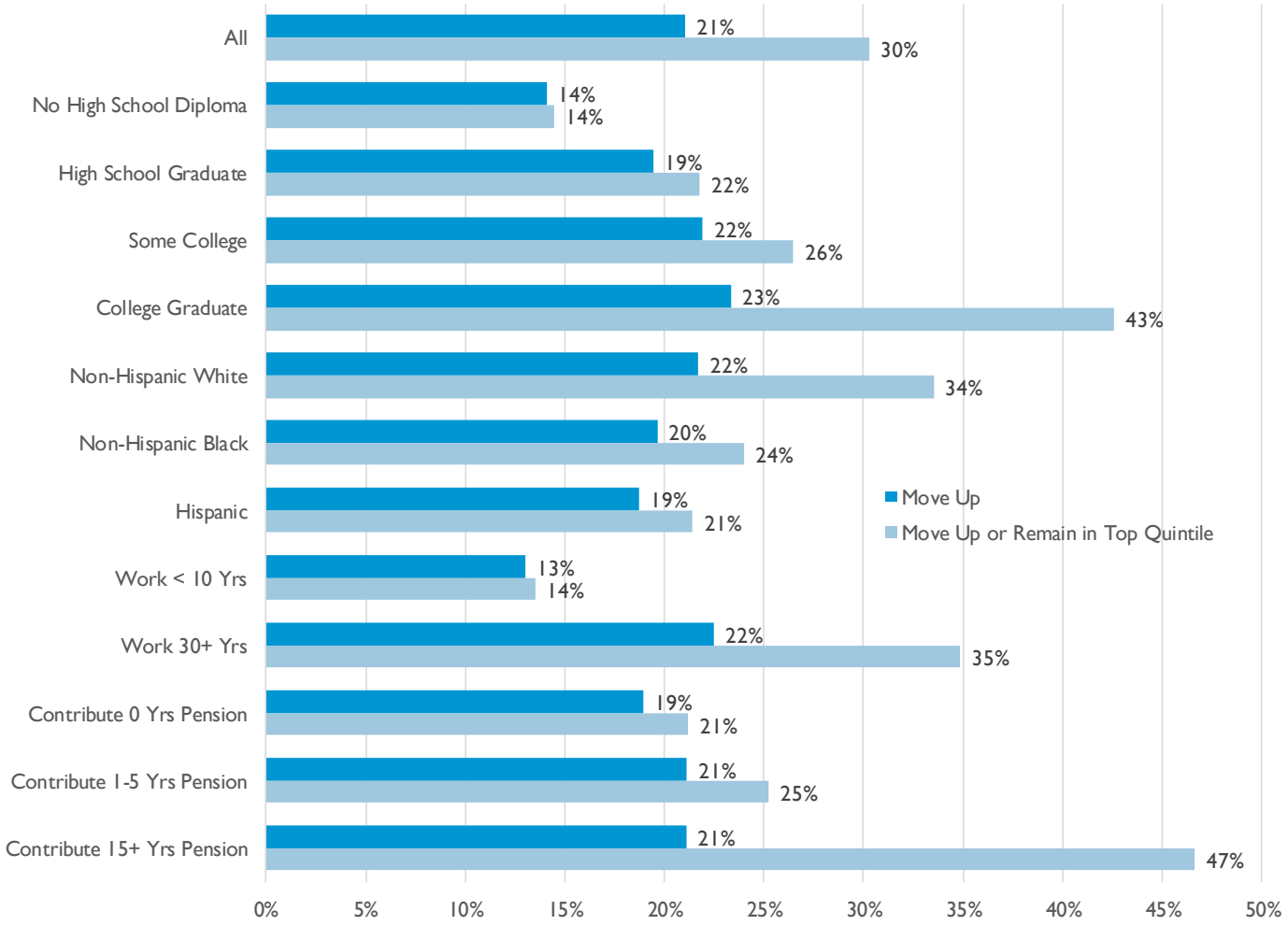
Distribution of Projected Per Capita Family Income of GenX and Early Millennial Adults Ages 65 to 84 in 2050, by Quintile of Per Capita Family Income at Ages 35 to 54 in 2020



Source: DYNASIM4, ID967

FIGURE 5D

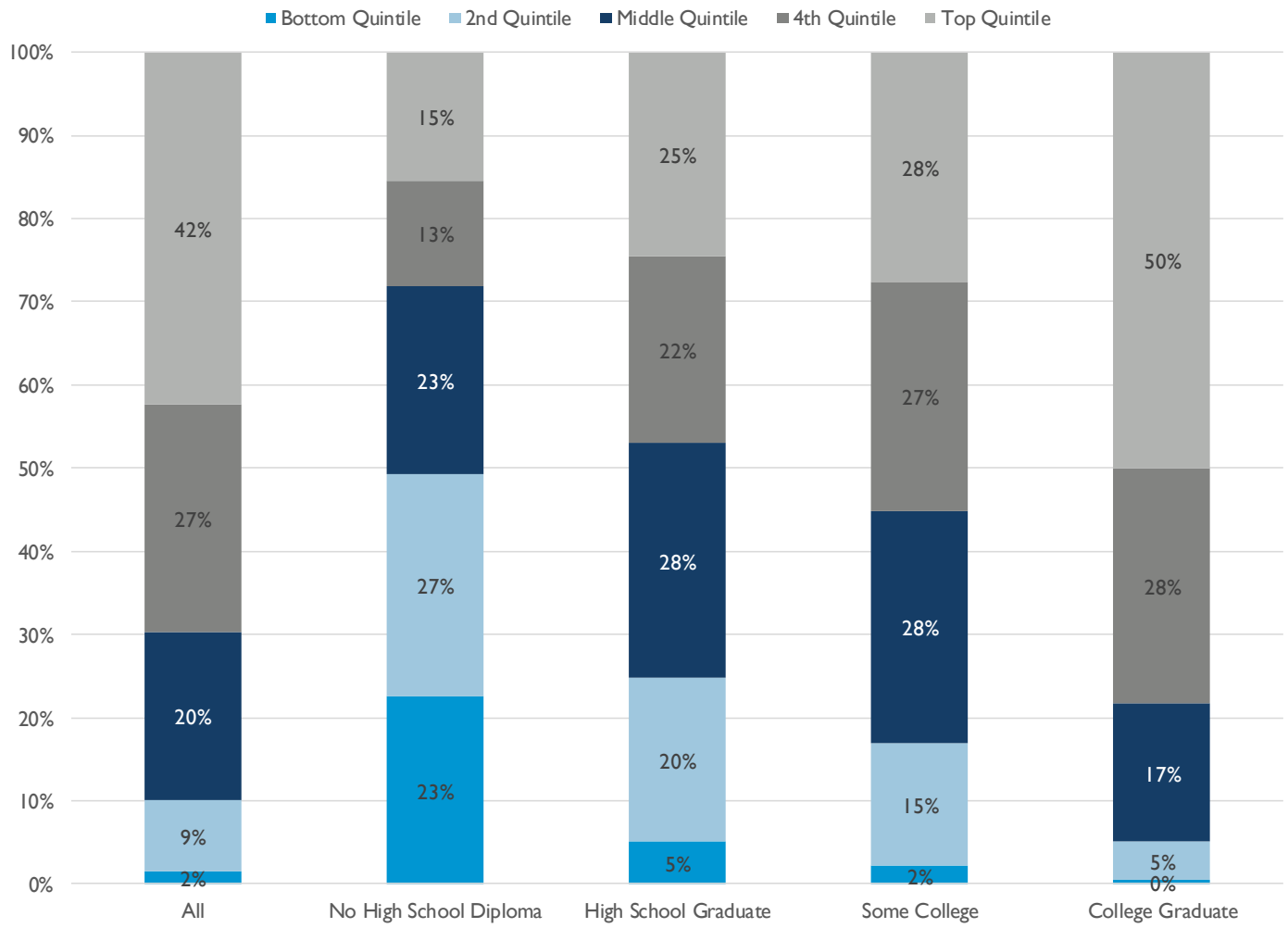
Percentage of GenX and Early Millennial Adults Projected to Move Up Between the Distributions of Per Capita Family Income at Ages 35 to 54 in 2020 and at Ages 65 to 84 in 2050



Source: DYNASIM4, ID967

FIGURE 5E

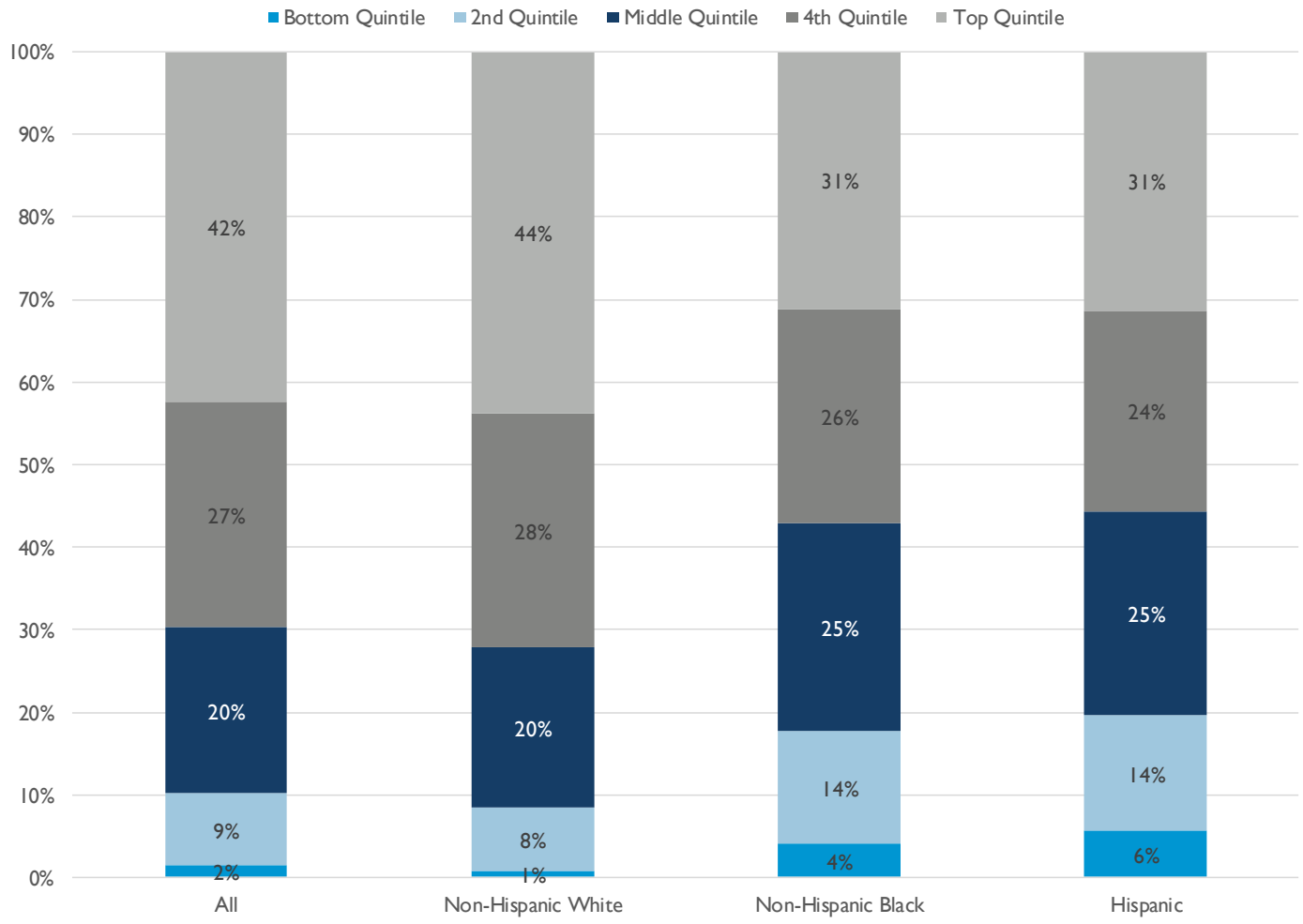
Distribution of Projected Per Capita Family Income of GenX and Early Millennial Adults Ages 65 to 84 in 2050 Among the Top Income Quintile at Ages 35 to 54 in 2020, by Education



Source: DYNASIM4, ID967

FIGURE 5F

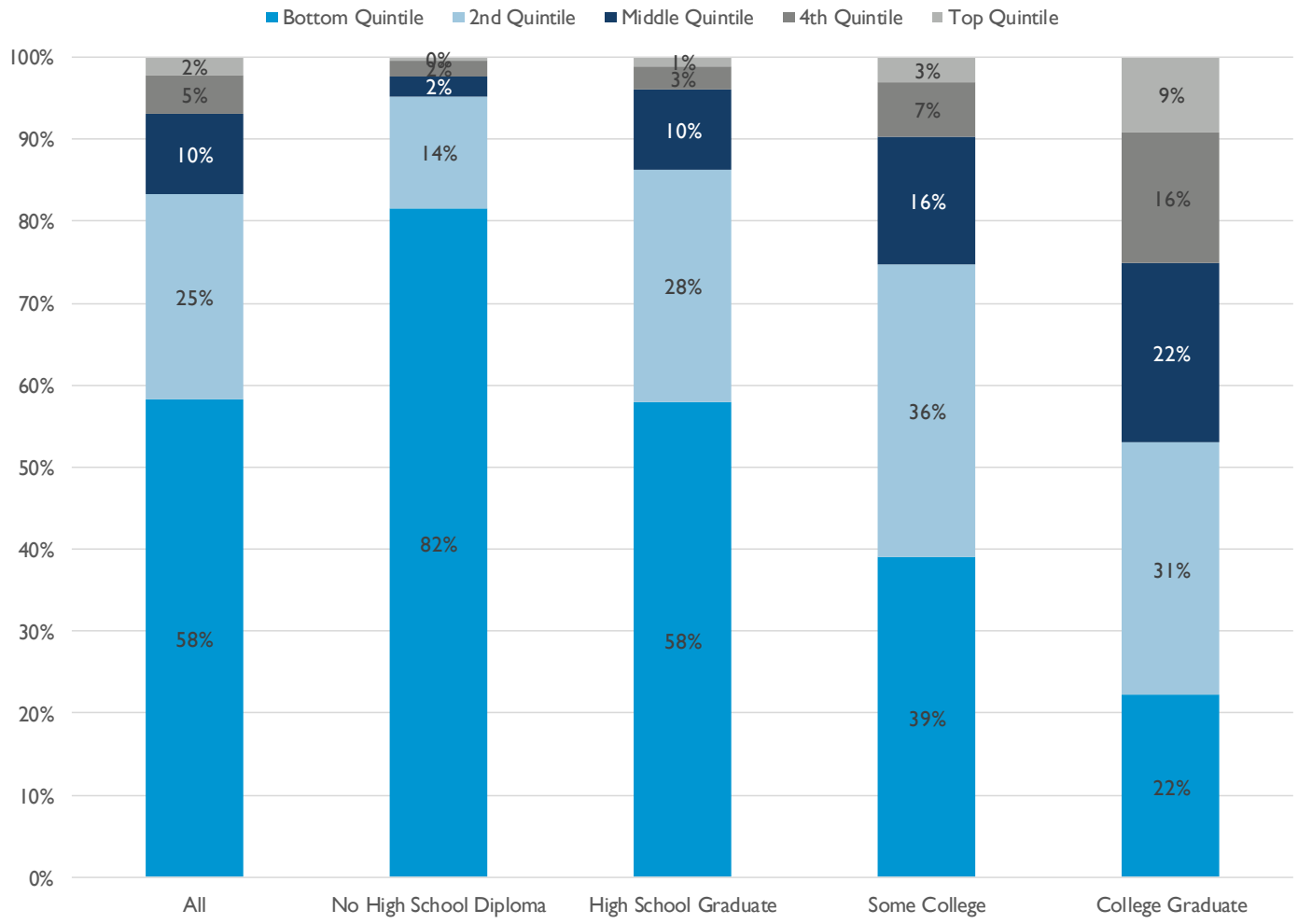
Distribution of Projected Per Capita Family Income of GenX and Early Millennial Adults Ages 65 to 84 in 2050 Among the Top Income Quintile at Ages 35 to 54 in 2020, by Race and Ethnicity



Source: DYNASIM4, ID967

FIGURE 5G

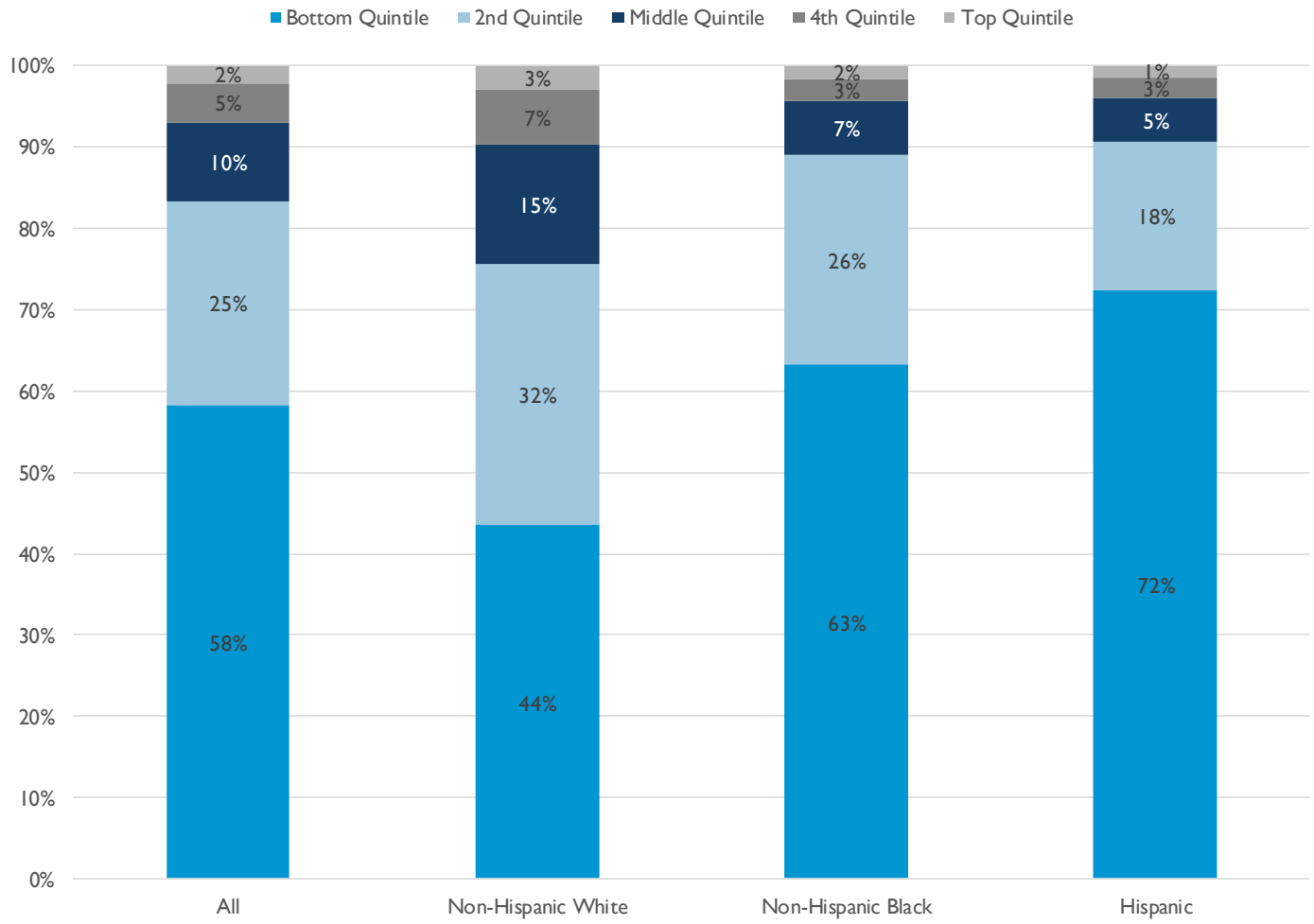
Distribution of Projected Per Capita Family Income of GenX and Early Millennial Adults Ages 65 to 84 in 2050 Among the Bottom Income Quintile at Ages 35 to 54 in 2020, by Education



Source: DYNASIM4, ID967

FIGURE 5H

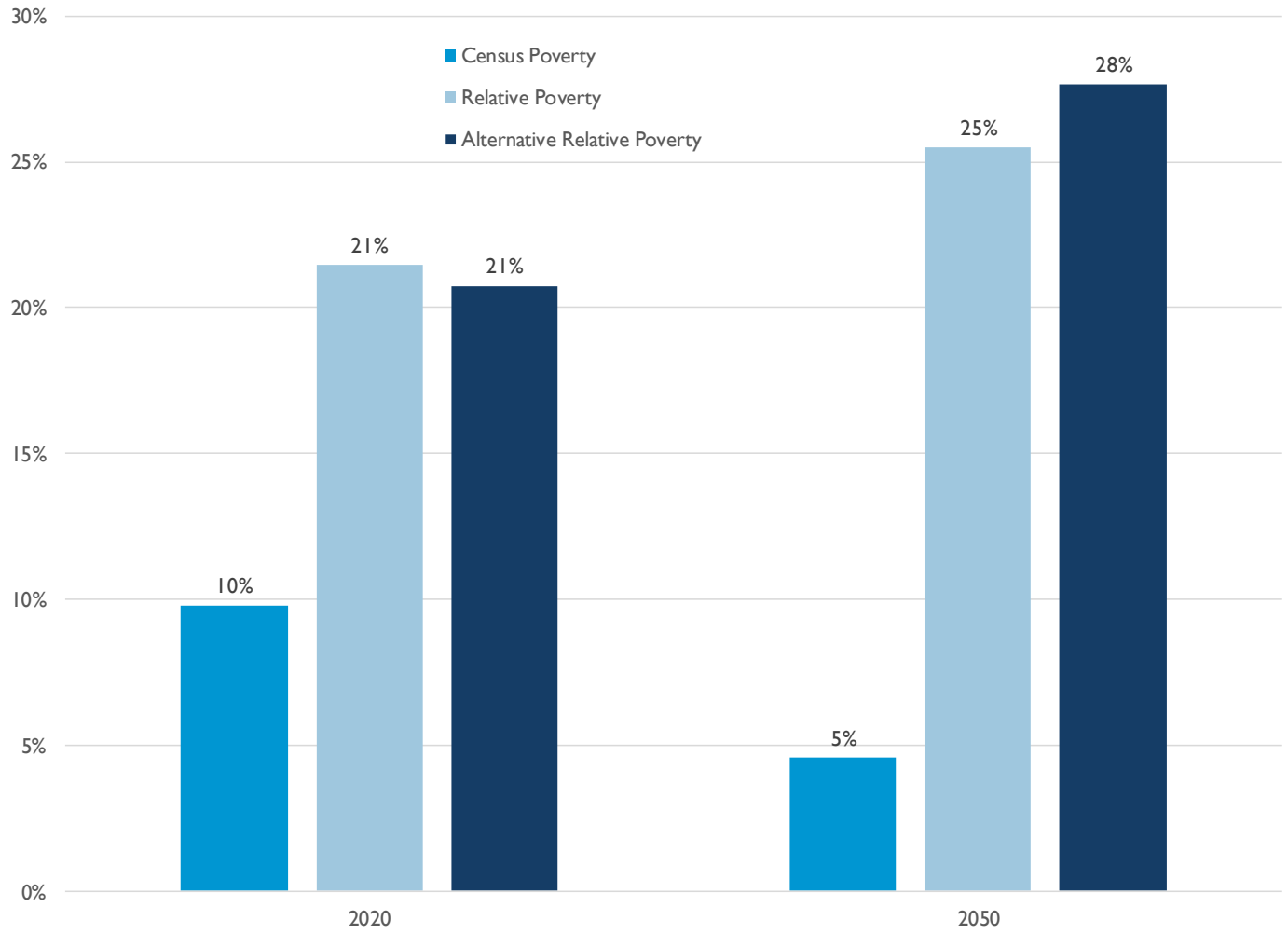
Distribution of Projected Per Capita Family Income of GenX and Early Millennial Adults Ages 65 to 84 in 2050 Among the Bottom Income Quintile at Ages 35 to 54 in 2020, by Race and Ethnicity



Source: DYNASIM4, ID967

FIGURE 6A

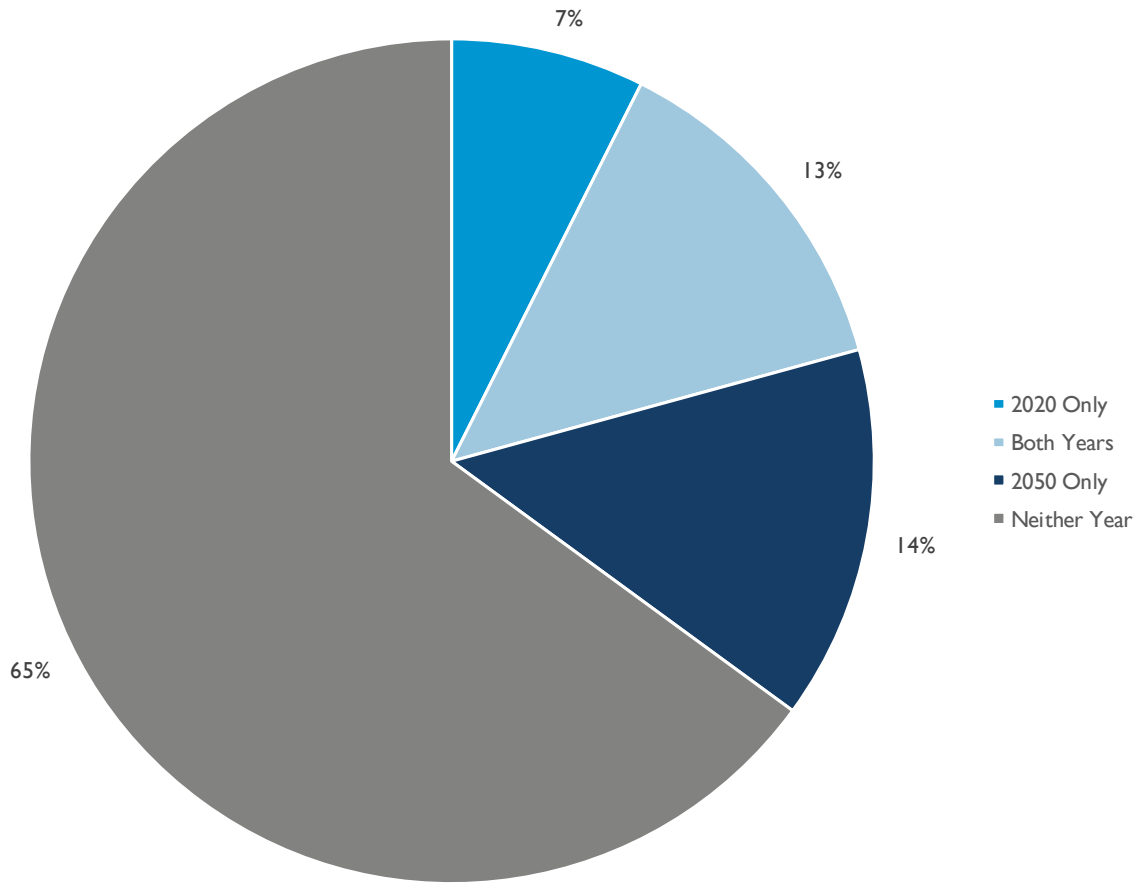
Projected Percentage of GenX and Early Millennial Adults in Poverty at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050



Source: DYNASIM4, ID967

FIGURE 6B

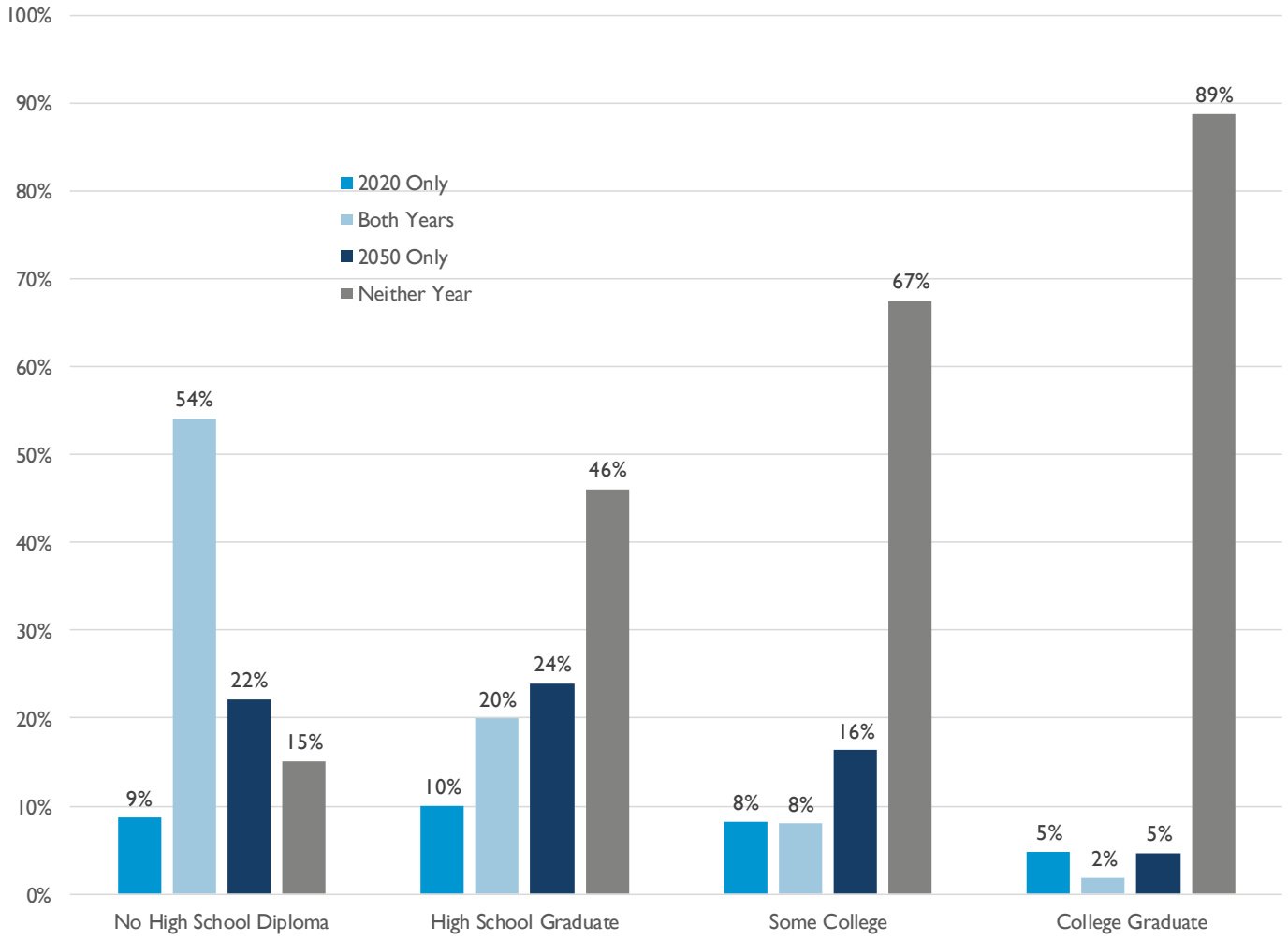
Projected Percentage of GenX and Early Millennial Adults in Relative Poverty at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050



Source: DYNASIM4, ID967

FIGURE 6C

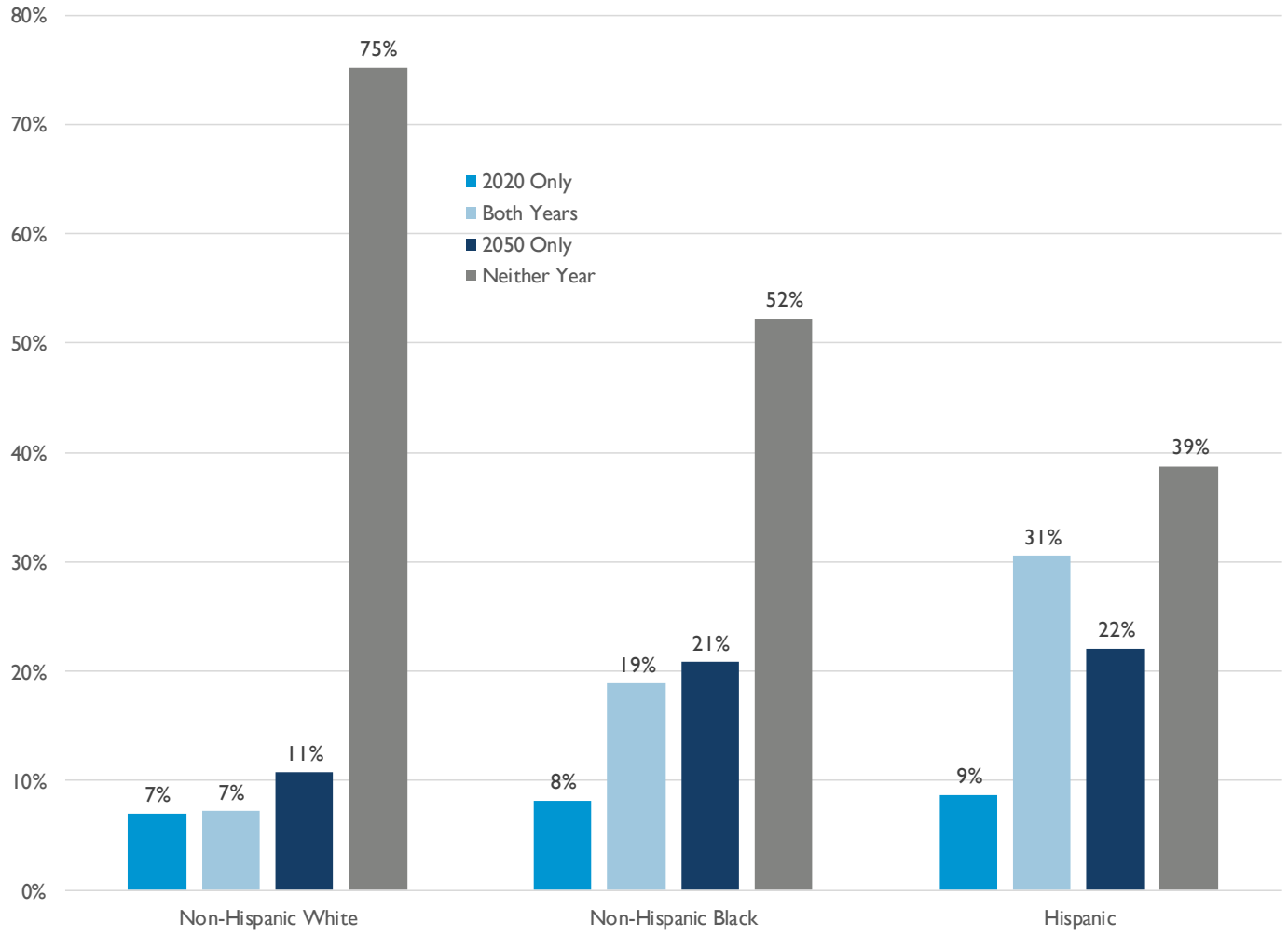
Projected Percentage of GenX and Early Millennial Adults in Relative Poverty at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050, by Education



Source: DYNASIM4, ID967

FIGURE 6D

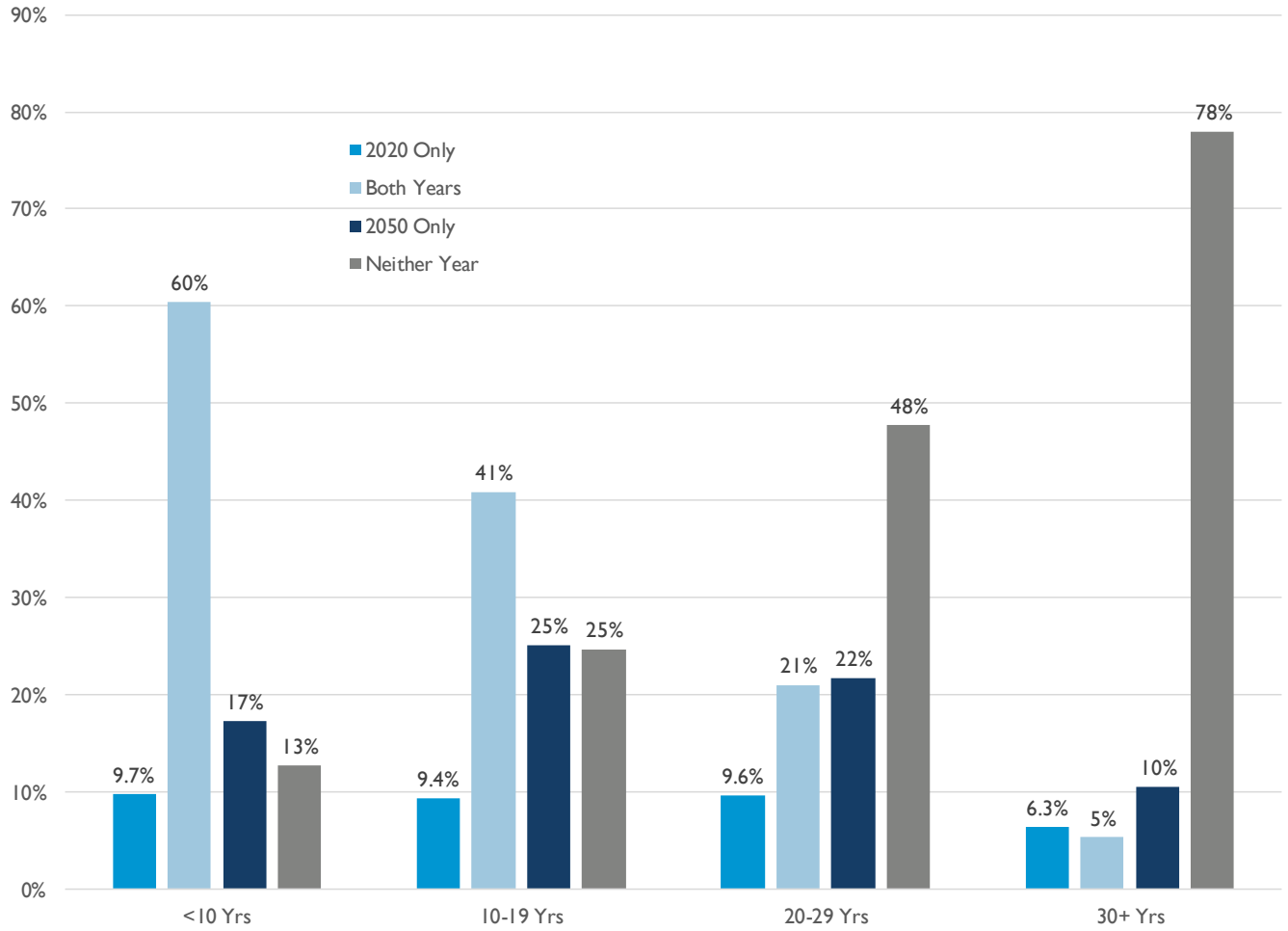
Projected Percentage of GenX and Early Millennial Adults in Relative Poverty at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050, by Race and Ethnicity



Source: DYNASIM4, ID967

FIGURE 6E

Projected Percentage of GenX and Early Millennial Adults in Relative Poverty at Ages 35 to 54 in 2020 and Ages 65 to 84 in 2050, by Number of Lifetime Work Years

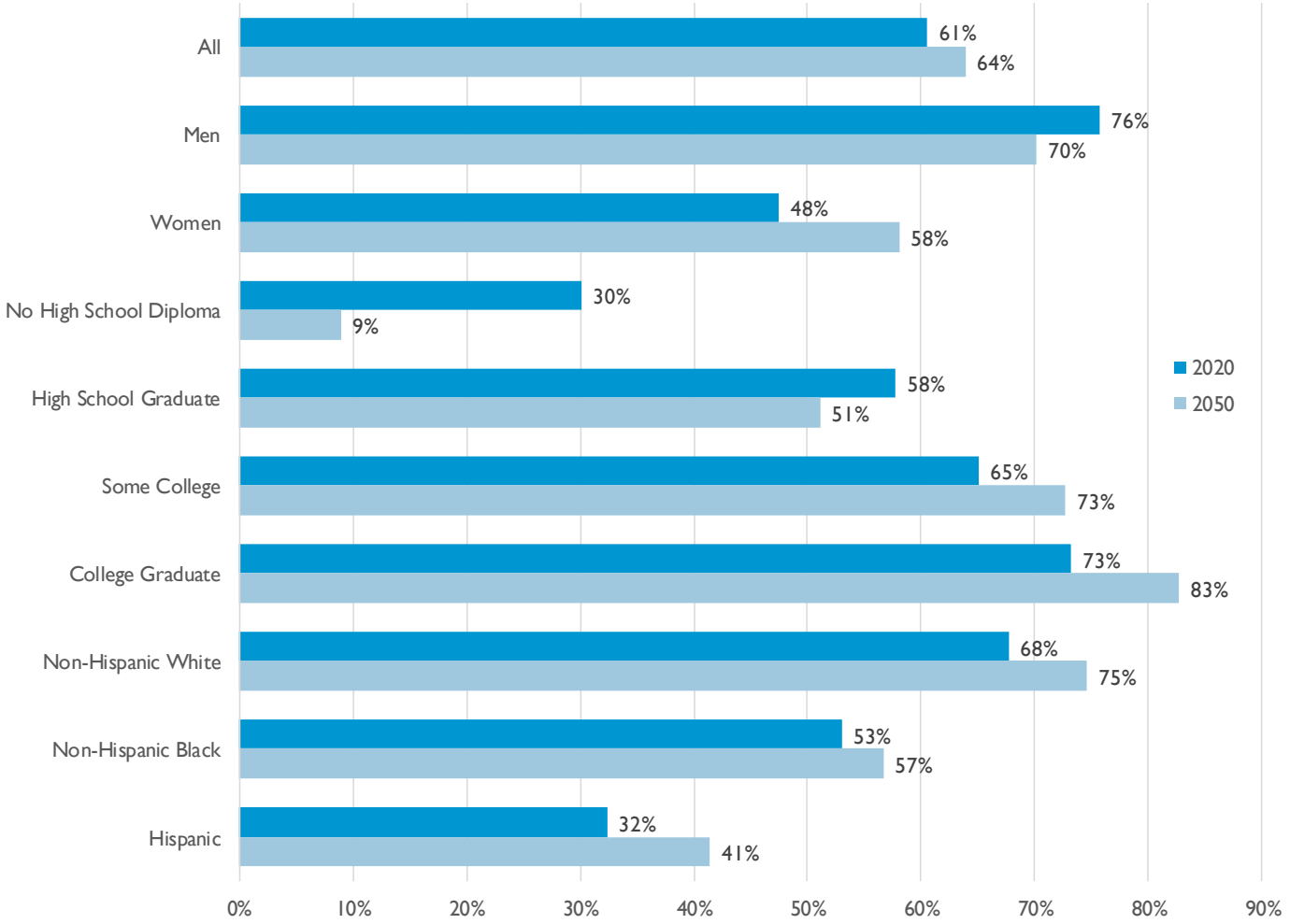


Source: DYNASIM4, ID967

Note: Lifetime work years is the total number of years employed between ages 25 and 62.

FIGURE 7A

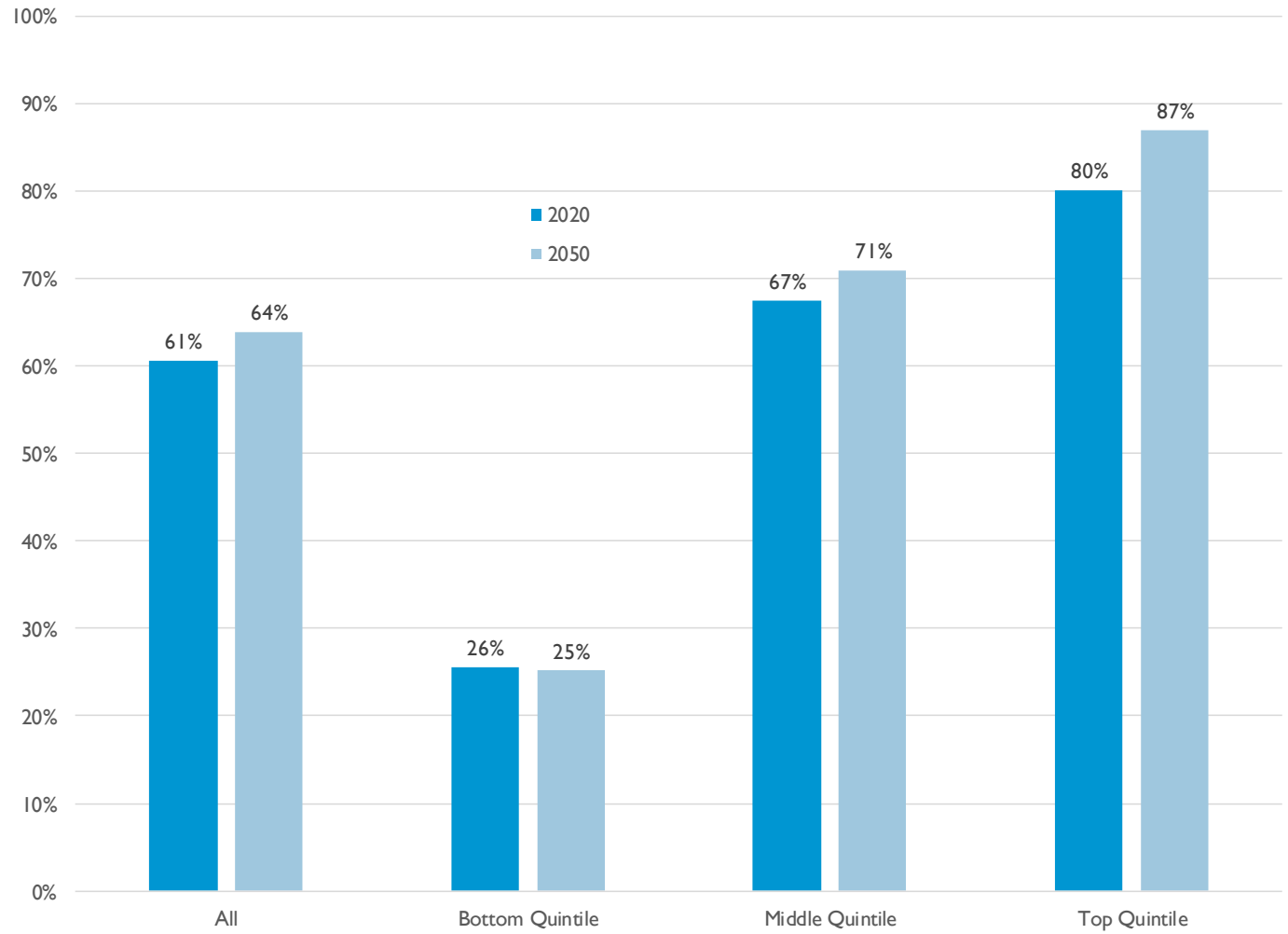
Projected Percentage of Adults Ages 65 to 84 with 30 or More Lifetime Work Years, by Year



Source: DYNASIM4, ID967

FIGURE 7B

Projected Percentage of Adults Ages 65 to 84 with 30 or More Lifetime Work Years, by Year and Quintile of Per Capita Family Income

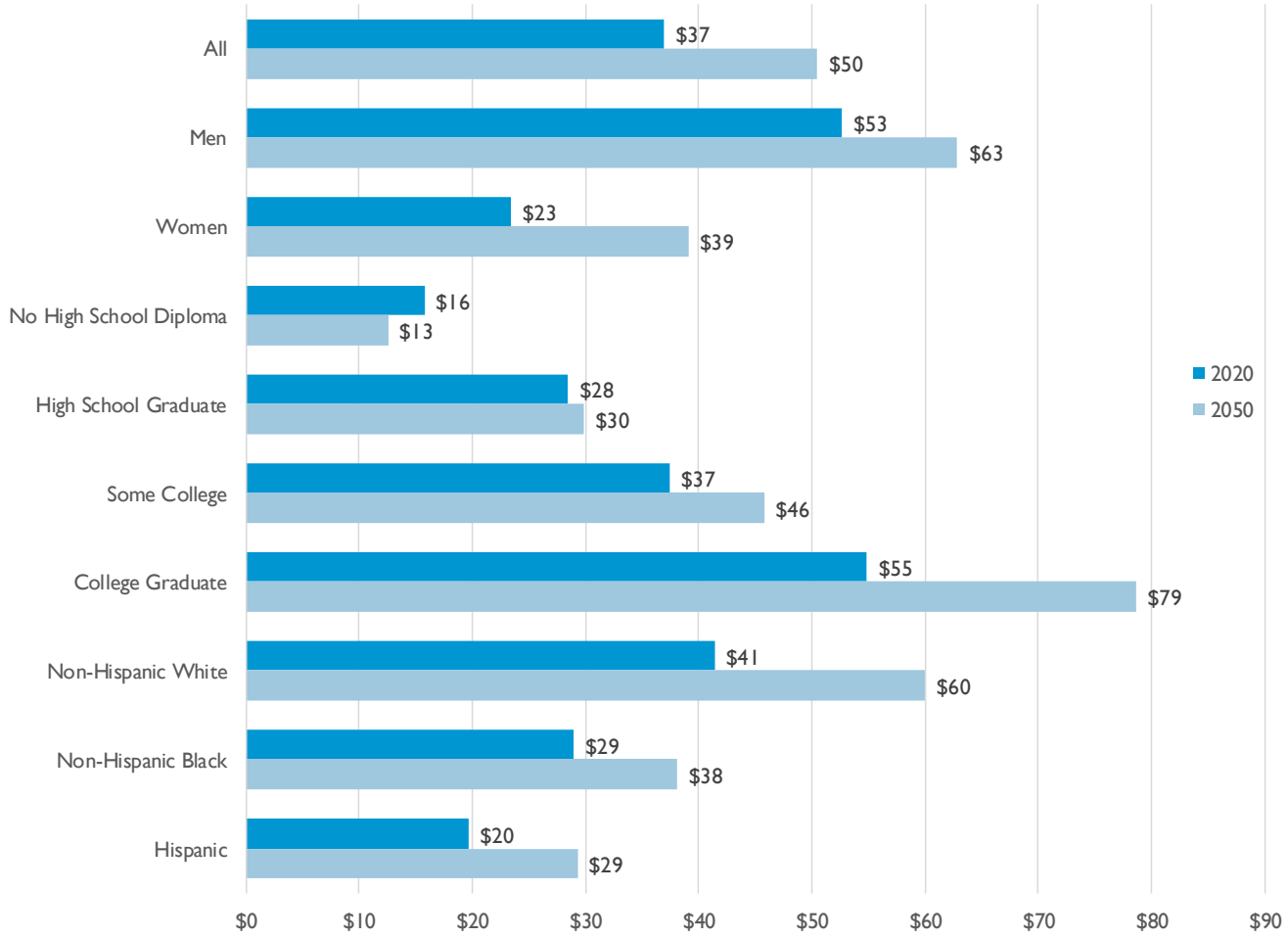


Source: DYNASIM4, ID967

FIGURE 8A

Projected Average Lifetime Earnings for Adults Ages 65 to 84, by Year

(thousands of constant 2018 dollars)



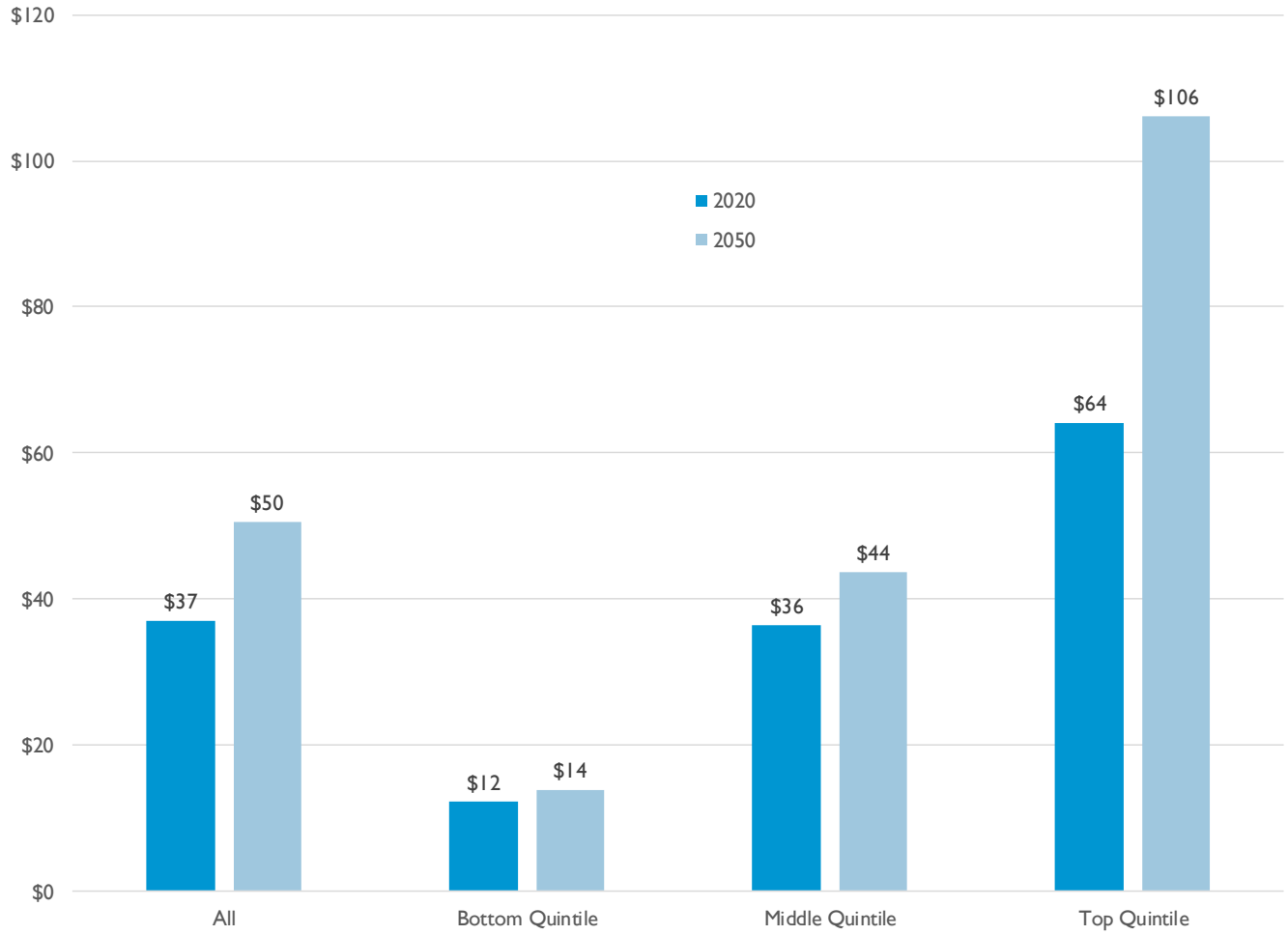
Source: DYNASIM4, ID967

Note: Average lifetime earnings are average earnings between ages 25 and 62.

FIGURE 8B

Projected Average Lifetime Earnings for Adults Ages 65 to 84, by Year and Quintile of Per Capita Family Income

(thousands of constant 2018 dollars)

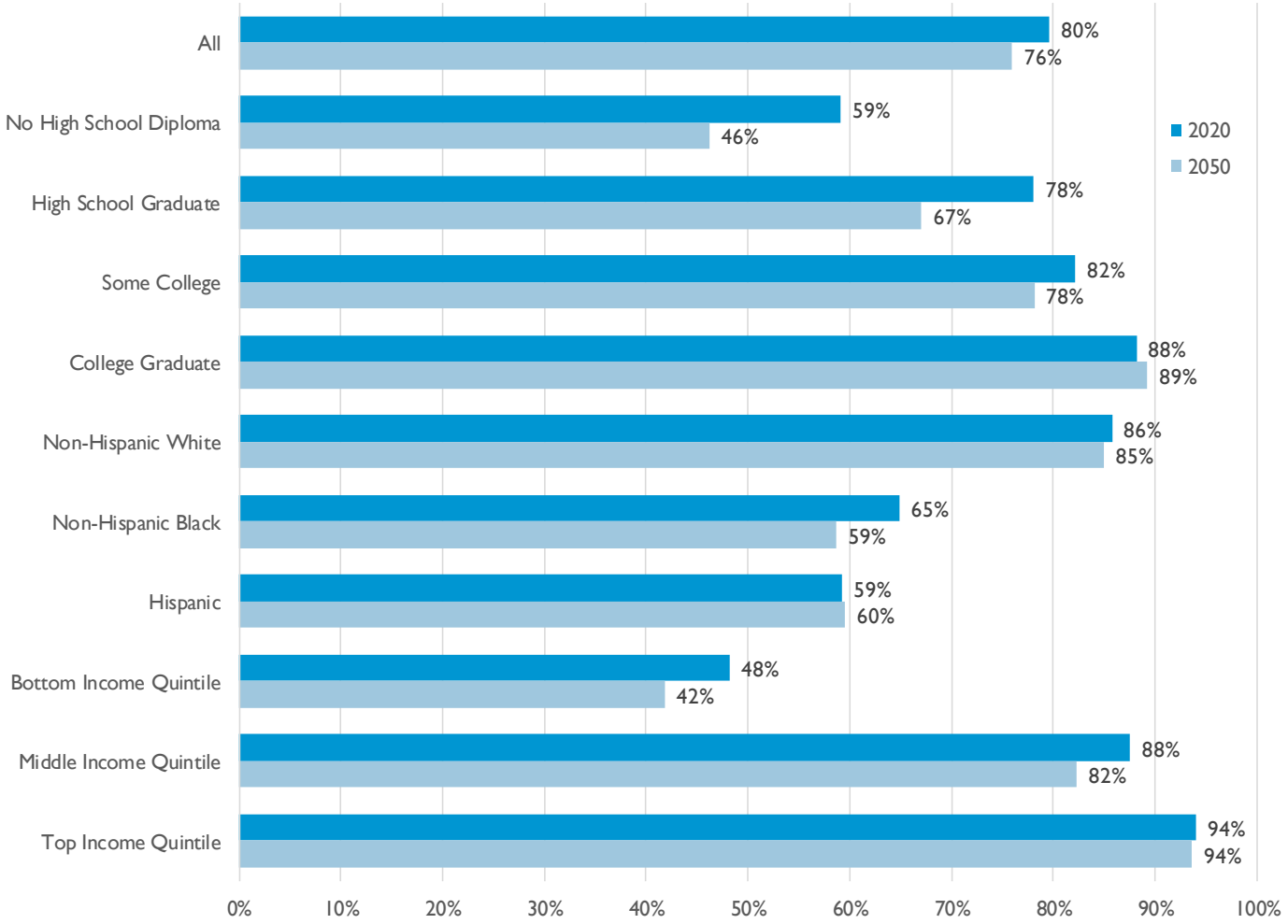


Source: DYNASIM4, ID967

Note: Average lifetime earnings are average earnings between ages 25 and 62.

FIGURE 9

Projected Homeownership for Adults Ages 65 to 84, by Year

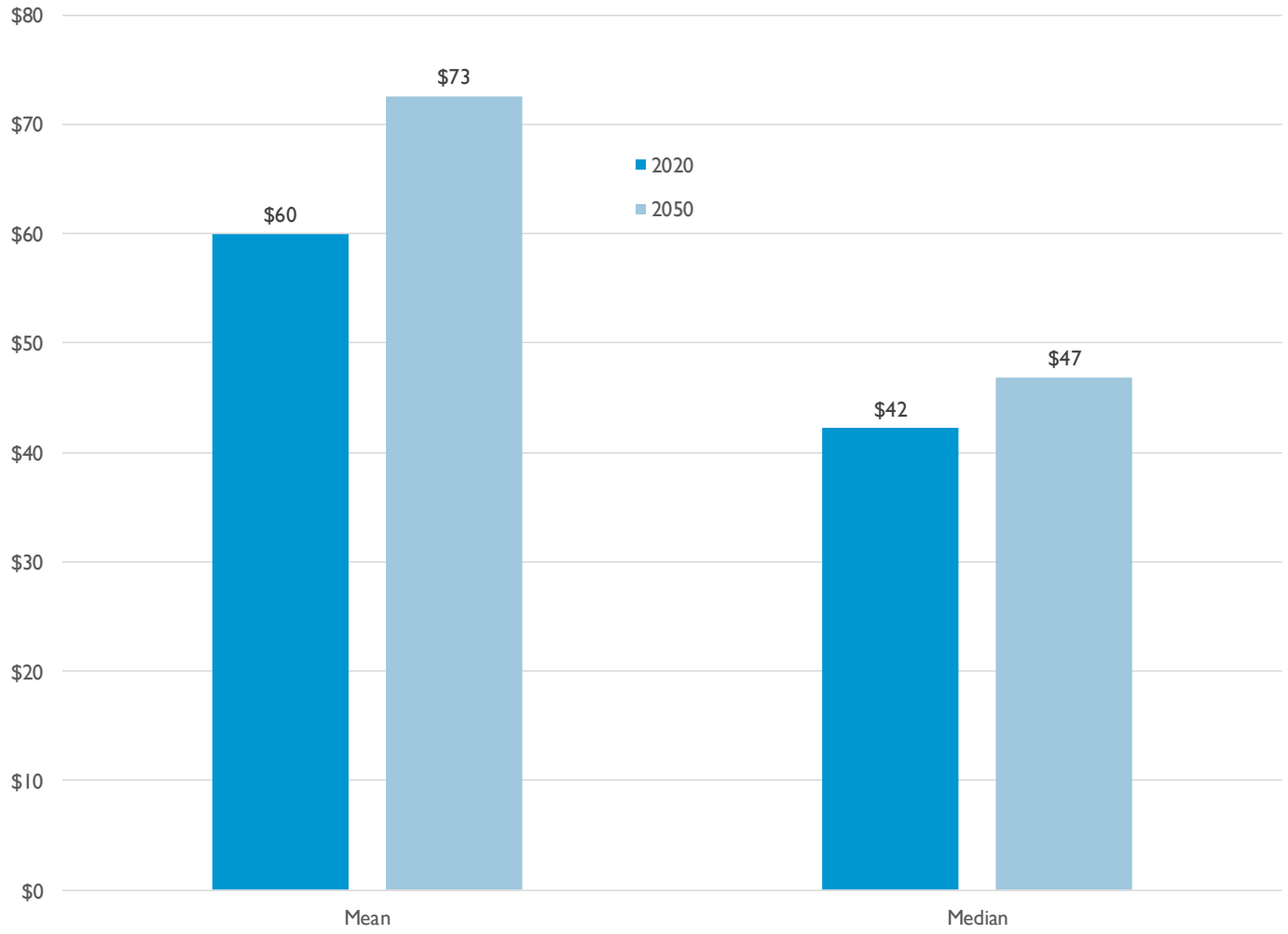


Source: DYNASIM4, ID967

FIGURE 10A

Projected Per Capita Family Income for Adults Ages 65 to 84, by Year

(thousands of constant 2018 dollars)

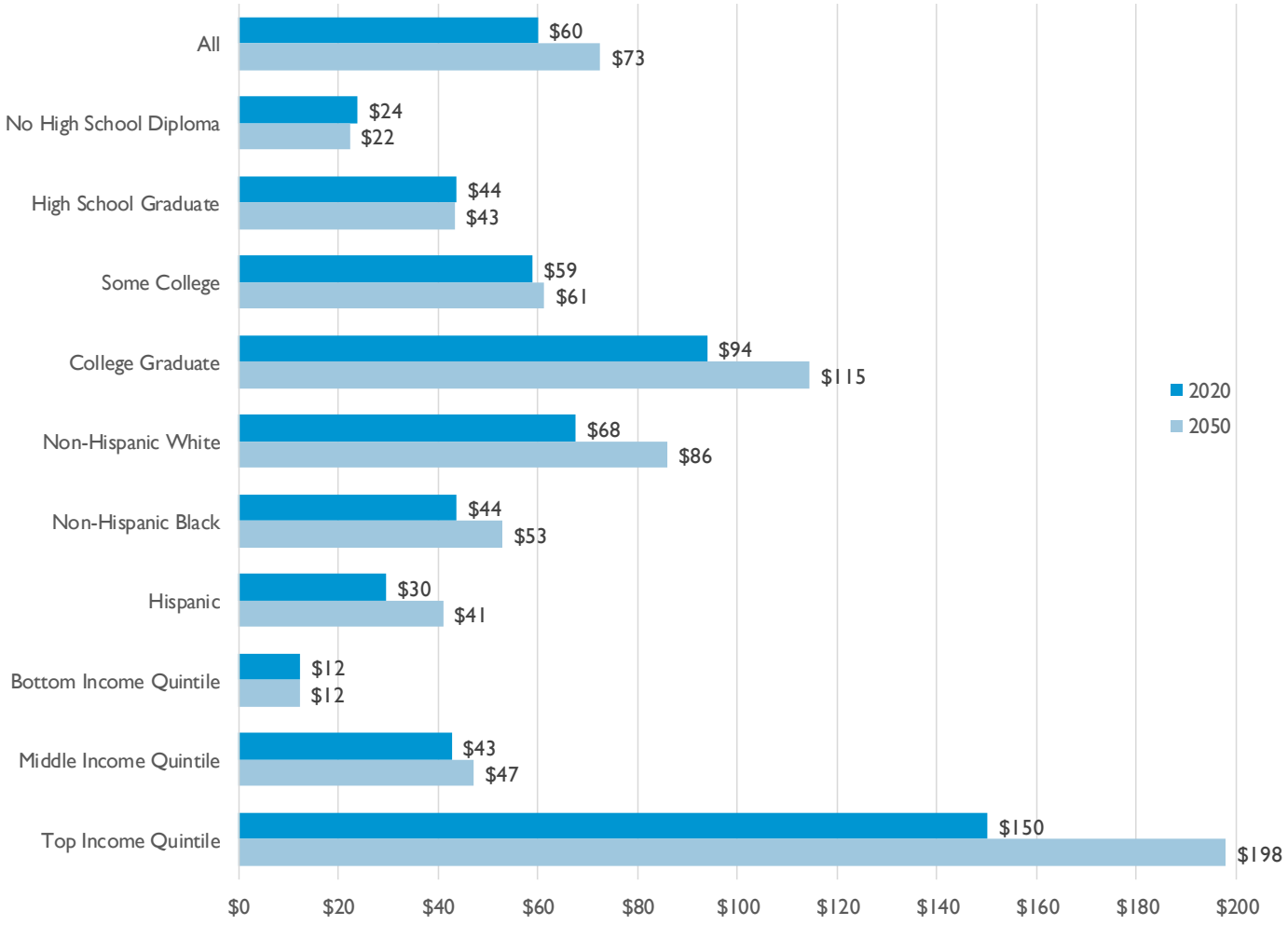


Source: DYNASIM4, ID967

FIGURE 10B

Projected Mean Per Capita Family Income for Adults Ages 65 to 84, by Year

(thousands of constant 2018 dollars)

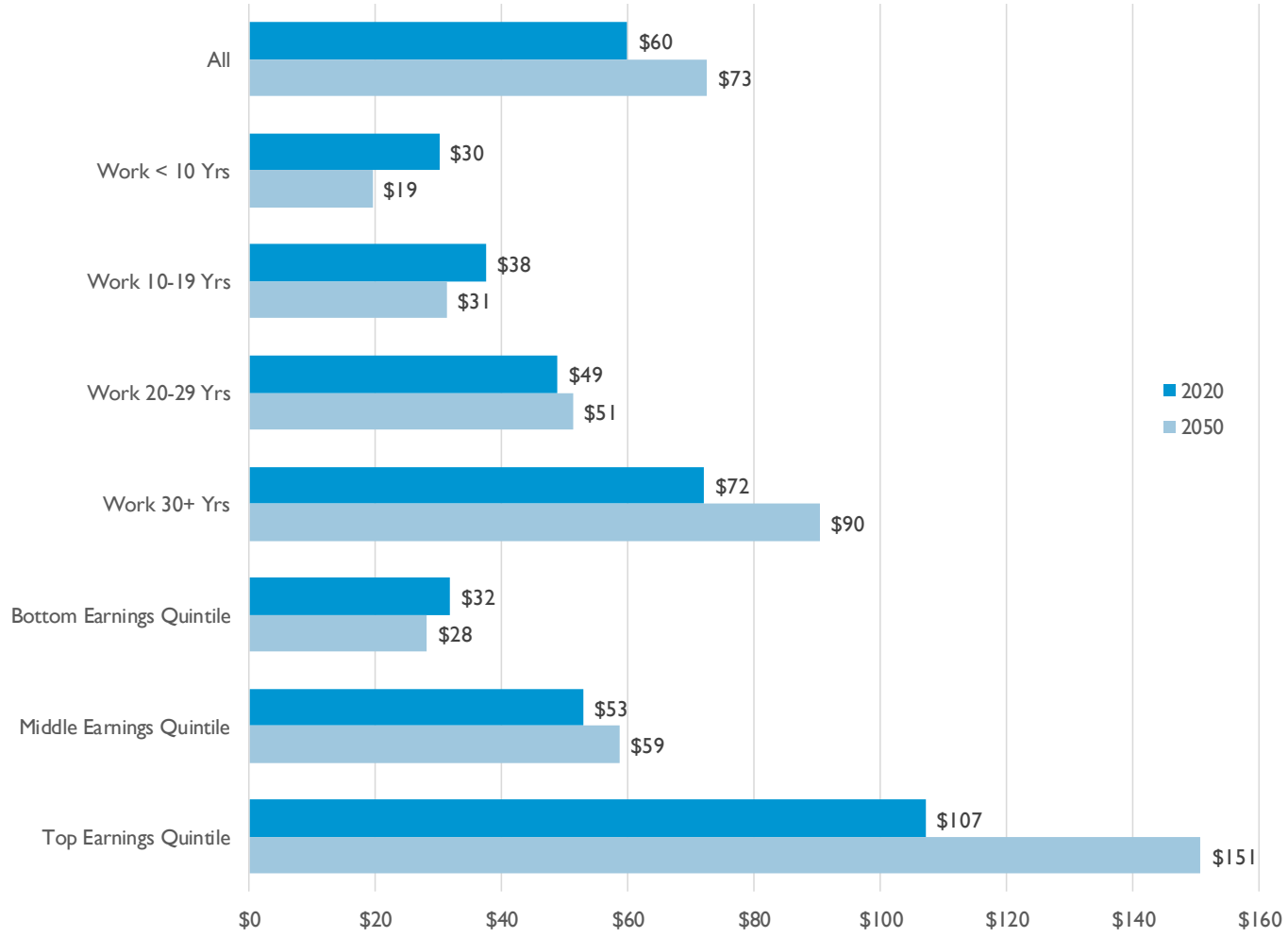


Source: DYNASIM4, ID967

FIGURE 10C

Projected Mean Per Capita Family Income for Adults Ages 65 to 84, by Year

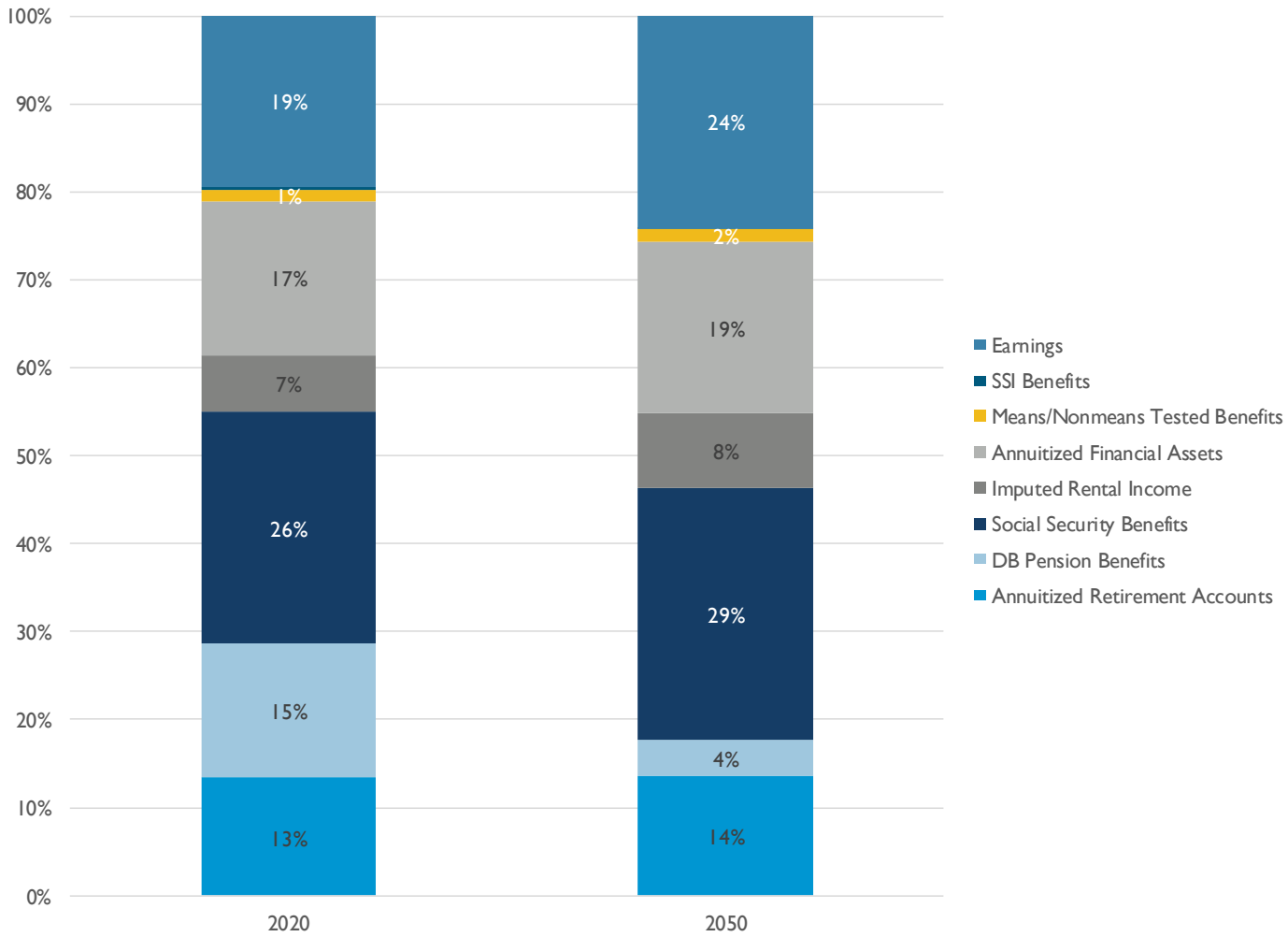
(thousands of constant 2018 dollars)



Source: DYNASIM4, ID967

FIGURE 10D

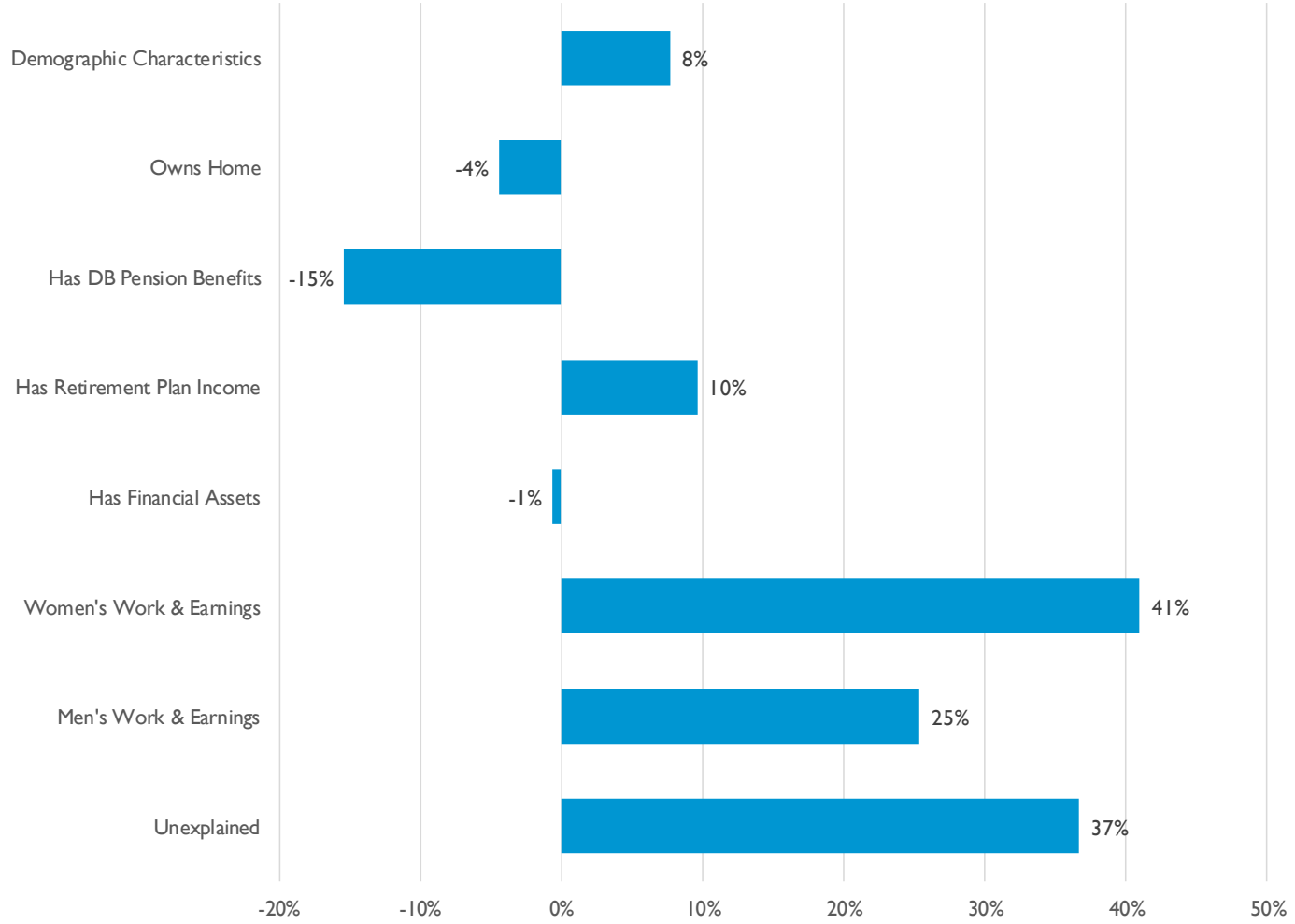
Sources of Projected Mean Per Capita Family Income for Adults Ages 65 to 84, by Year



Source: DYNASIM4, ID967

FIGURE 10E

Decomposition of the Increase Between 2020 and 2050 in Projected Per Capita Family Income for Adults Ages 65 to 84

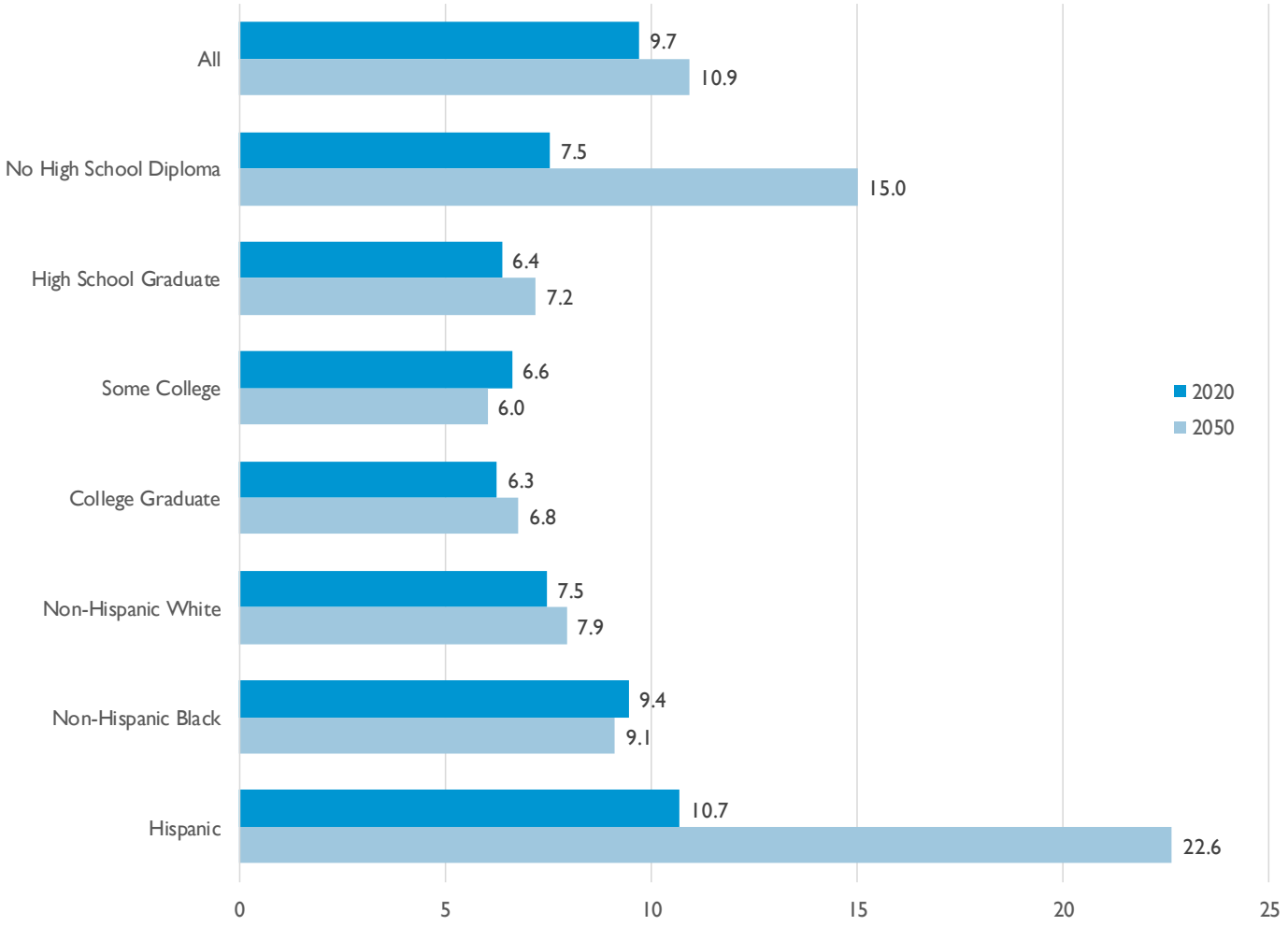


Source: DYNASIM4, ID967

FIGURE 10F

Projected Per Capita Family Income 90/10 Ratio for Adults Ages 65 to 84, by Year

(ratio of income at the 90th percentile to income at the 10th percentile)

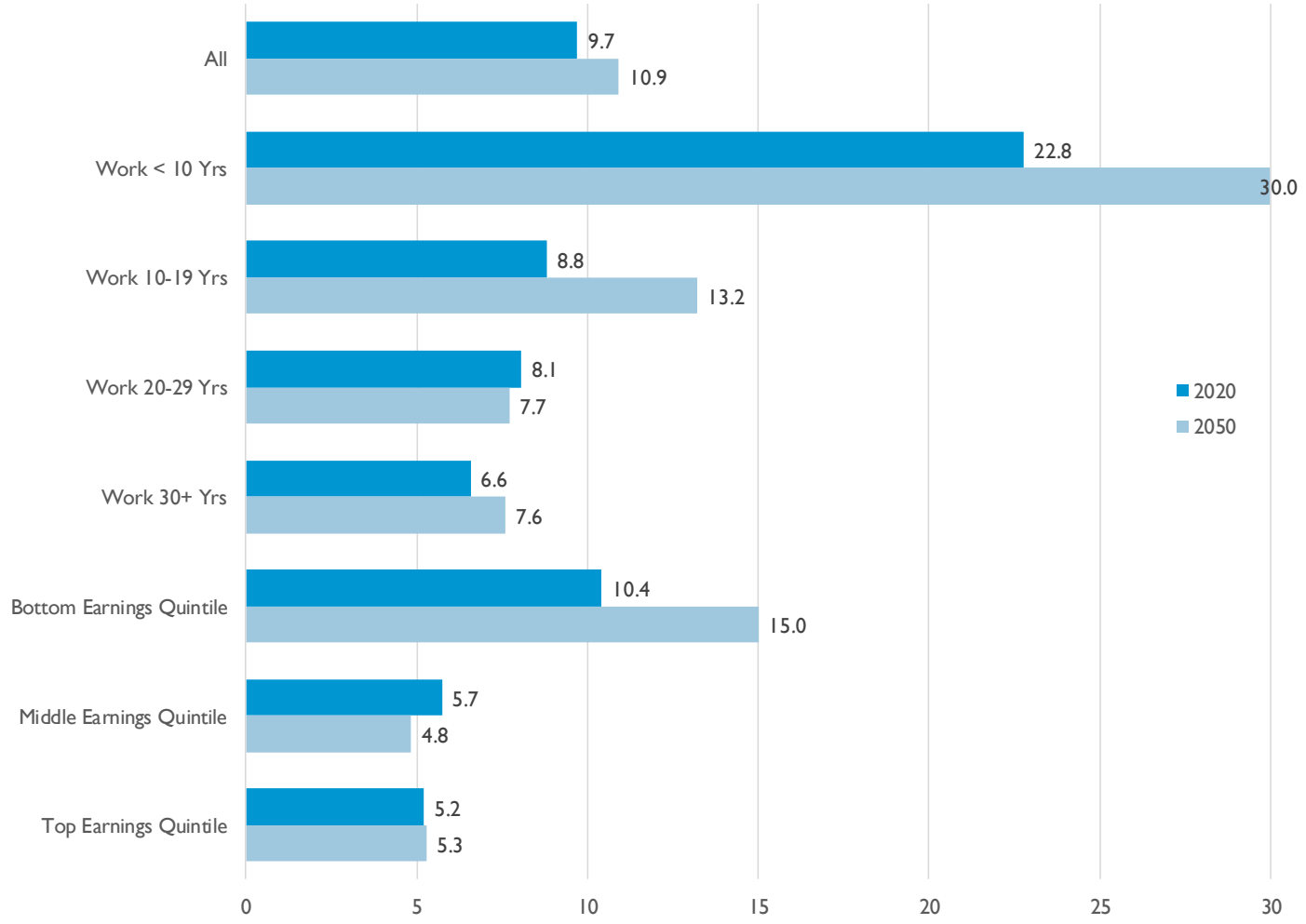


Source: DYNASIM4, ID967

FIGURE 10G

Projected Per Capita Family Income 90/10 Ratio for Adults Ages 65 to 84, by Year

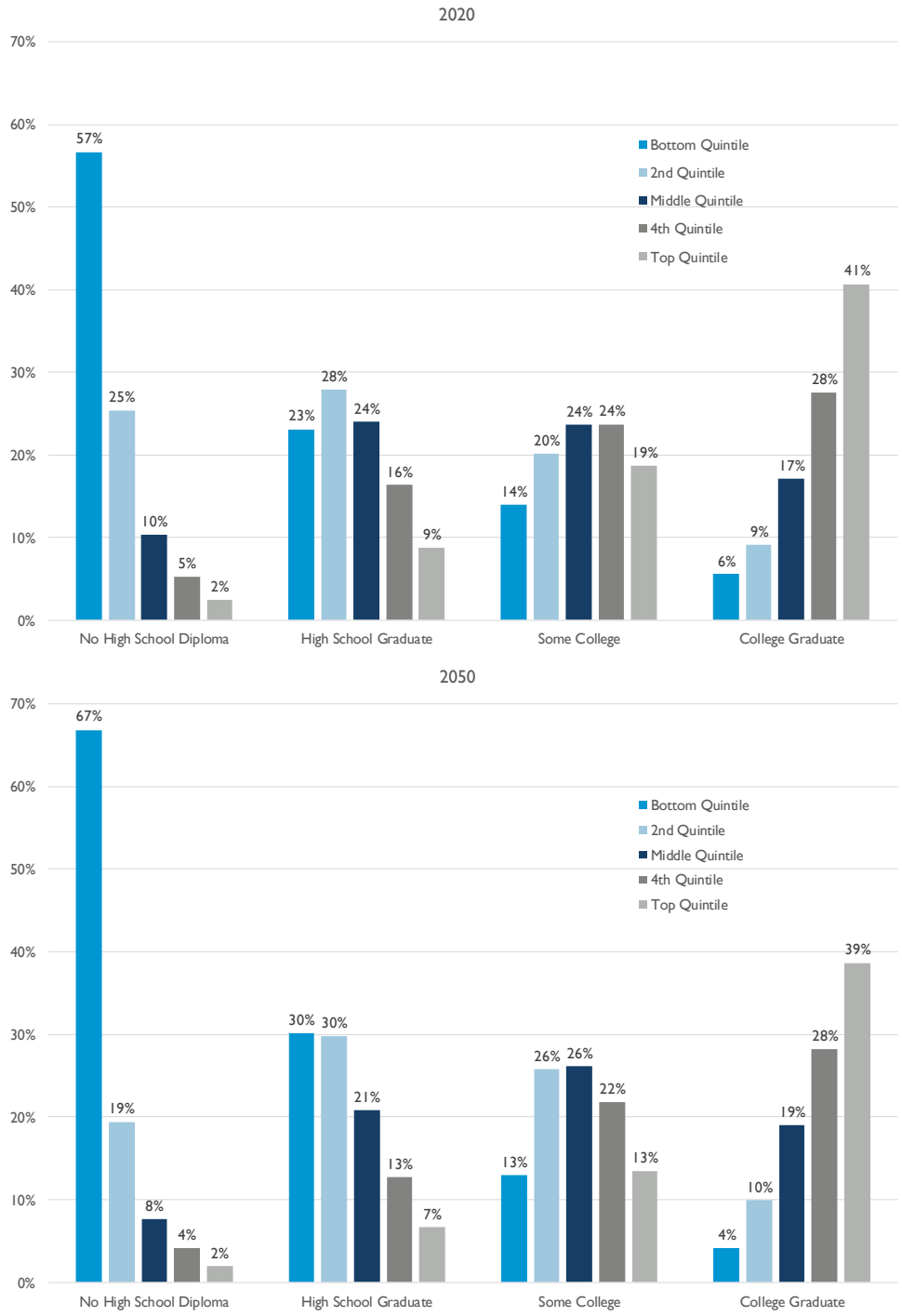
(ratio of income at the 90th percentile to income at the 10th percentile)



Source: DYNASIM4, ID967

FIGURE 10H

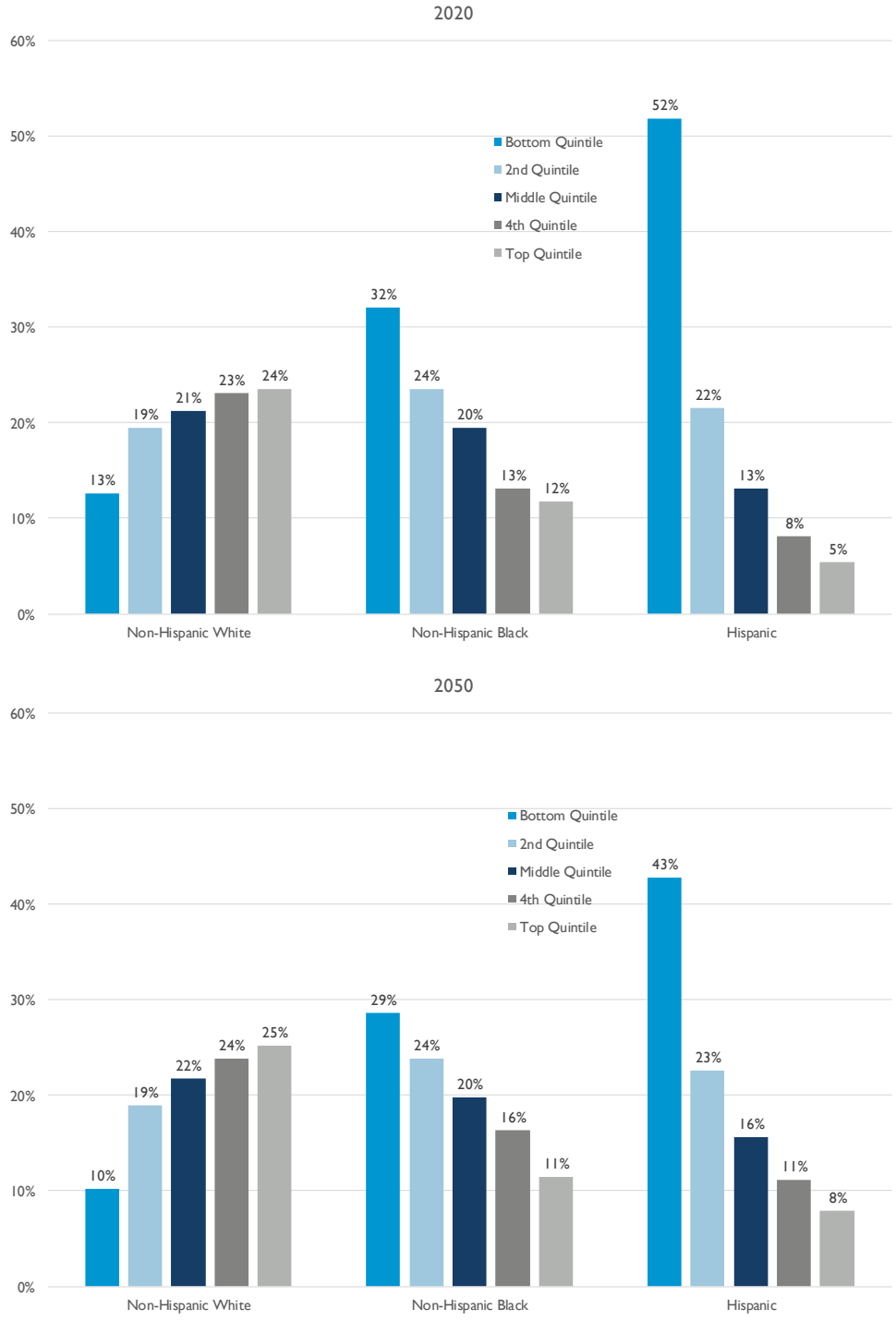
Distribution of Projected Per Capita Family Income for Adults Ages 65 to 84, by Education



Source: DYNASIM4, ID967

FIGURE 10I

Distribution of Projected Per Capita Family Income for Adults Ages 65 to 84, by Race and Ethnicity



Source: DYNASIM4, ID967

FIGURE 10J

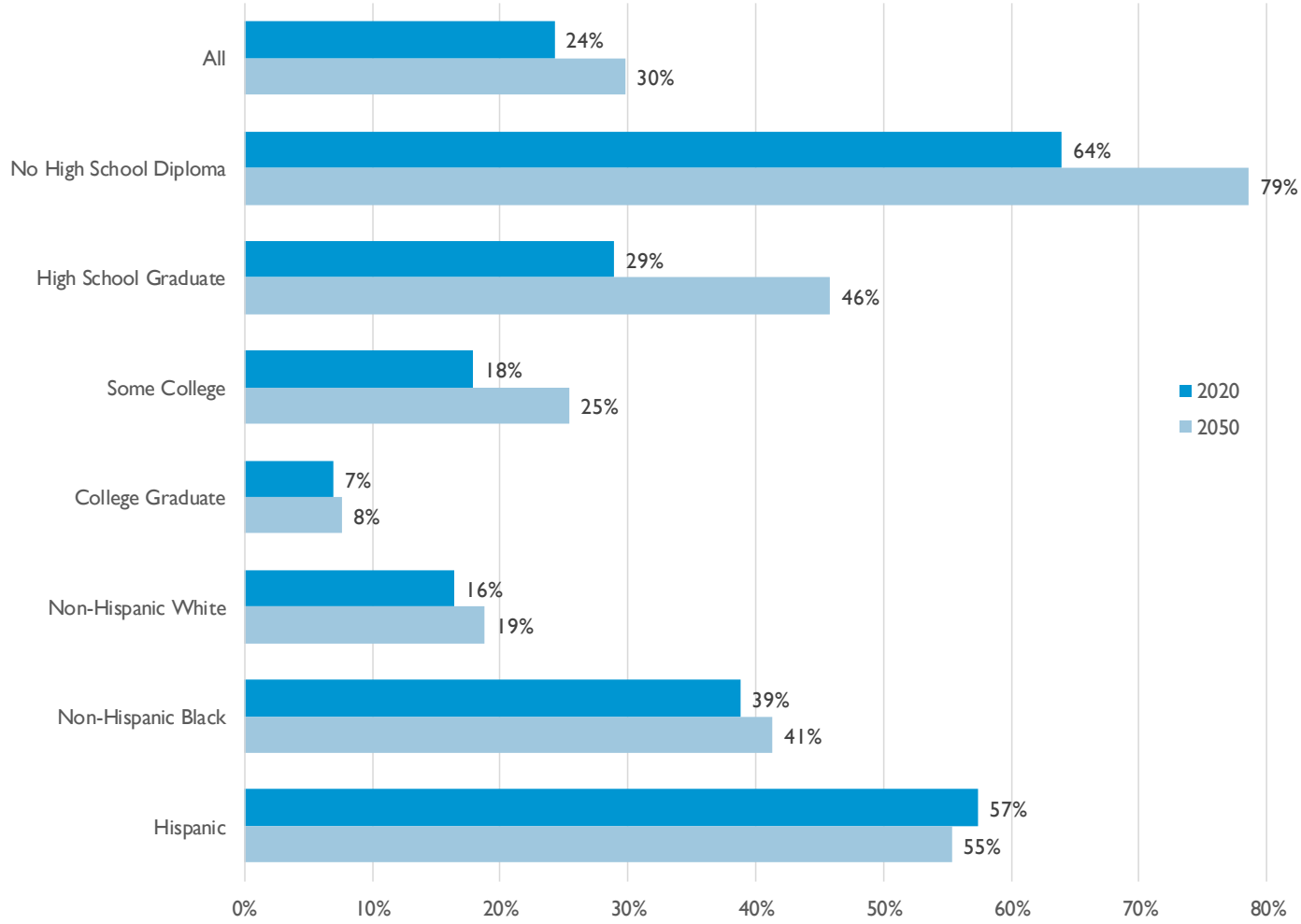
Distribution of Projected Per Capita Family Income for Adults Ages 65 to 84, by Number of Lifetime Work Years

Source: DYNASIM4, ID967

Note: Lifetime work years is the total number of years employed between ages 25 and 62.

FIGURE 11A

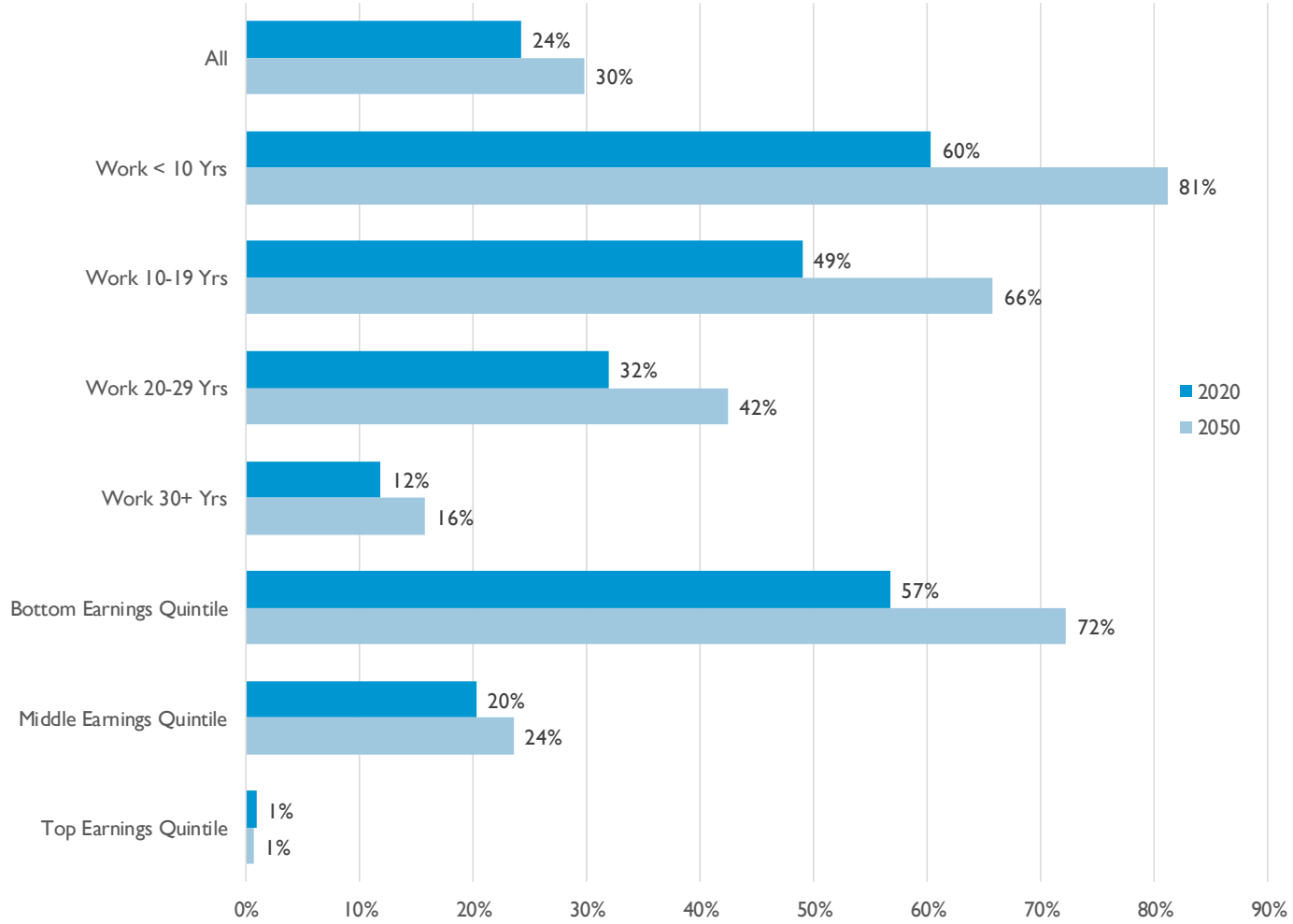
Projected Percentage of Adults Ages 65 to 84 in Relative Poverty, by Year



Source: DYNASIM4, ID967

FIGURE 11B

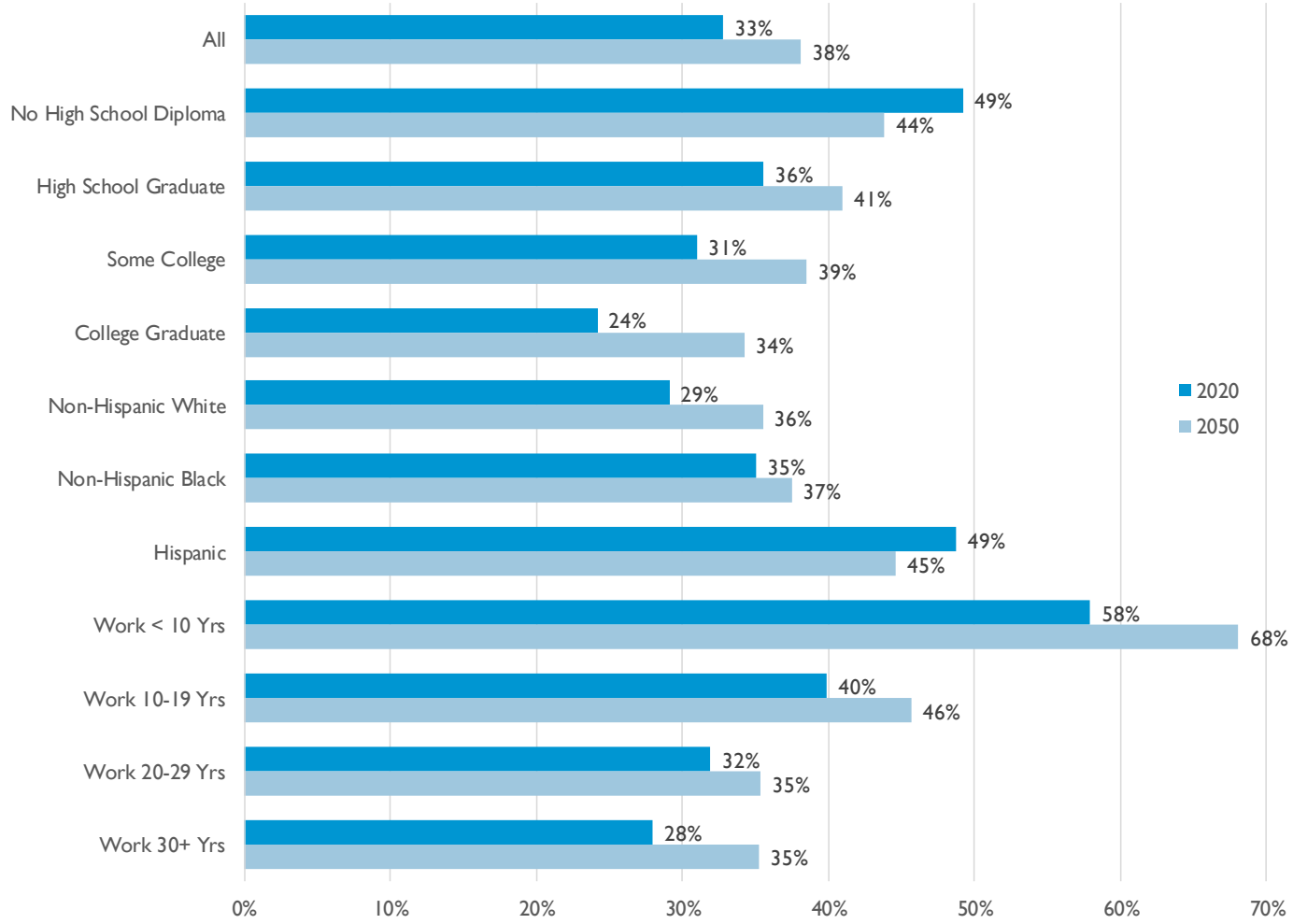
Projected Percentage of Adults Ages 65 to 84 in Relative Poverty, by Year



Source: DYNASIM4, ID967

FIGURE 12

Projected Percentage of Adults Ages 65 to 84 Whose Retirement Income Replaces Less Than 75 Percent of Preretirement Earnings, by Year



Source: DYNASIM4, ID967

TABLE A1

Projected Sample Characteristics of Adults in 2020 and 2050

	GenX and Early Millennial Retirees	Current Retirees	GenX and Early Millennial Retirees
	2020, 2050	2020	2050
	Ages 35-54, Ages 65-84	Ages 65-84	Ages 65-84
Age	43.7, 73.7	72.4	73.6
Sex			
Female	51.9%	53.7%	52.1%
Male	48.1%	46.3%	47.9%
Education			
No High School Diploma	10.5%	13.1%	11.5%
High School Graduate	24.2%	33.0%	24.3%
Some College	27.0%	23.3%	26.4%
College Graduate	38.4%	30.6%	37.8%
Race/Ethnicity			
Non-Hispanic White	59.5%	73.2%	57.8%
Non-Hispanic Black	10.8%	9.6%	10.8%
Hispanic	20.5%	10.8%	21.5%
Number of Obs.	26,111	19,618	27,374

About the Author

Barbara Butrica is a Senior Fellow at the Urban Institute at the Urban Institute where she specializes in the economics of aging, including older workers, pensions, Social Security, and retirement security. Her recent studies have examined how caregiving affects work and retirement savings, the role of debt on labor force participation and Social Security benefit claiming, the retirement prospects of workers in alternative work arrangements, the impact of the Social Security, pension, and tax systems on work incentives at older ages, the effect of the Great Recession on 401(k) participation and contributions, and strategies for improving the employment prospects of low-income incumbent older workers. She earned a BA in Economics and Political Science from Wellesley College and a Ph.D. in Economics from Syracuse University.

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