Abstract

Historically, the wealth portfolios of upper income households have differed significantly from the portfolios of middle-/low-class households. Their wealth has been held in different types of assets, creating a clear distinction between the amount of wealth held by each group in equities vs mortgages. Particularly, wealthy households hold most of their wealth in equities while middle-/low-class households hold most of their wealth in mortgages. To lessen the wealth gap, increasing equity holdings of middle-/low-income households' portfolios may be a solution. Indeed, since the pandemic, more of middle-/low-class households' wealth have been in equities. In this paper, I examine the wealth portfolios of households, its recent portfolio change, and what benefits there may be in adopting a policy approach (such as "baby bonds") to wealth diversification for middle- and lower-income households. Data shows that the rate of return on equities owned by middle- and lower-income groups moved in similar trends to that of the wealthy. Some policy implications to increase wealth returns for the middle and lower class could be enhancing financial literacy, increasing mutual fund participation, increasing returns on savings accounts, and Baby Bonds.

Increased Equity Investment to Address Wealth Inequality

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Under the Direction of
Professor Lucas Wilson

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INTRODUCTION: GROWING INCOME AND WEALTH INEQUALITY

Increasing income and wealth inequality are ongoing issues in the United States. In 2014, the top 1% took 22.5% of all national income (Cassidy, 2014). In 2016, the top 1% held 40% of all national wealth, with numbers drastically increasing over the years (Wolff, 2017). According to Milanovic (2012), "the average pretax income of the top tenth of Americans has doubled since 1980, that of the top 1 percent has more than tripled, and that of the top 0.001 percent has risen more than sevenfold—even as the average pretax income of the bottom half of Americans has stayed almost precisely the same."

As we can see, income and wealth inequality continuously widen gaps between the wealthy and unwealthy in the United States. Failure to address this leads to permanent consequences such as systematic poverty: in the United States, it takes five generations for those born in low-income families to approach the State's mean income (OECD, 2018). Therefore, identifying factors that hinder economic wellbeing is important.

Although economic well-being is inferred from both income and wealth inequality, they have distinct differences. Income refers to the money received from economic activity over a given period (Scott, 2022). Wealth, on the other hand, refers to the value of accumulated possessions (Team, 2021). In essence, income is the flow of money while wealth is its stock. These differences lead to the difference in the type of issues the two inequalities can address.

As a stock variable, wealth has more meaning than its aggregate amount. Wealth increases optimism in people's perception of their economic situation and ability. This, in turn, leads to increased levels of spending even though income levels do not change. Thus, different

levels of wealth itself influences people's lifestyles (Case et al., 2001). Income inequality, on the other hand, represents the periodic inflow of money. This flow of money makes people compare themselves to others based on income. This comparison shows to influence the psychology and behavior of individuals. Studies on the impact of income inequality show that higher levels of income inequality eventually lead to lower levels of happiness because of the jealousy effect driven by rigid income mobility and relative deprivation. Overall, the stock feature of wealth alters individual perception of wealth and, thus, changes consumption behavior while the periodic inflow of income makes it more apt for comparison amongst individuals (Yu & Wang, 2017).

Previously, income inequality has been extensively studied to improve economic well-being. However, wealth inequality must also be studied to better understand issues in an economy.

In this paper, I use the Distribution of Financial Accounts dataset released by the Survey of Consumer Finances and Financial Accounts to study wealth inequality in the United States. With quarterly wealth information on household wealth levels, this dataset allows economists to study changes in different asset values overtime. Specifically, potential solutions to wealth inequality can be studied through observing asset values and total wealth changes after middle-/low-class wealth in equity increased.

INCOME VS WEALTH INEQUALITY: THEIR SIMILAR AND DIFFERENT TRENDS

As mentioned above, economic wellbeing is evaluated through both income and wealth inequality studies. However, studies on income and wealth inequality show that the two inequalities are driven by different factors and trends.

Income Inequality

Income more than wealth is linked to occupational compensation based on an individual's labor. Historically, income inequality widened between the 1970s and 1980s. After that, income inequality persistently worsened. HSCF data shows that "incomes of the top 10% more than doubled since 1971, while the incomes of middle-class households (50th to 90th percentile) increased by less than 40%, and those of households in the bottom 50% stagnated in real terms." (Kuhn et al., 2018)

Previous studies show that the level of education greatly influences income individuals receive. For example, Goldin and Katz (2007) highlights that there had been a huge income gap between high school graduates and college graduates during the last quarter of the 20th century- which explains widening income inequality gaps since the 1970s.

This finding has linked an individual's education level with the amount of income the individual can earn. Specifically, during the twentieth century, wage inequality lessened during periods in which the demand and supply of more-educated workers increased at a similar rate. During the 1970s and 80s, the supply of more-educated workers increased at a slower rate than before. However, the demand for such workers remained to grow at a high pace. This decrease in

supply and increase in demand led to higher wages for more-educated workers while less-educated workers did not experience the same pay raise. This wage divergence is named the "college wage premium" and explains most of the widened income gap from 1980 to 2005 (Goldin & Katz, 2007).

The college wage premium, however, has been insufficient in explaining wage differentials during the 21st century. Since then, income inequality has become less attributed to college education itself: returns on a college education explains 75% of wage difference from 1980 to 2000 while only 38% of wage differences during 2000 to 2017 can be explained by it. Rather, recent wage differences are observed among college graduates (Autor et al., 2020).

Specifically, having technological skills along with a college education lead to higher wages in the 21st century. This means that majors that's allow college students to learn technological skills such as engineering or computer science enhance students' ability to earn a higher income after graduation. Thus, contemporary income gaps not only exist between individuals of different educational levels but also among individuals within the same educational level specifically through having skillsets related to technology (Ma, 2013).

As income inequality has been driven by different factors in the 21st century, its severity worsened. During 2000 to 2018, the median household income in the US increased by only one-fourth the amount it increased from 1970 to 2000. The 2001 recession and the 2007-2008 financial crisis dropped household income levels and contributed to its stagnation. At the same time, upper-income households, especially the top 5%, experience higher income growth rates in recent decades (Horowitz et al., 2020).

Income inequality also changed the distribution of income classes in the United States. While more income concentrates to high income households, the proportion of the middle-class in the US economy is decreasing. Rather, a higher proportion of individuals are classified as either higher-income or low-income individuals. This income stratification causes problems especially in a high income inequality environment because the income of the already high-income individuals continue to increase while the low-income individuals do not enjoy the same growth (Horowitz et al., 2020).

Income is a unique indicator of economic wellbeing. It represents the type of occupation people have and their ability to accumulate wealth. The relatively high increase in income for already high-income households represents the educational and career opportunity gap amongst individuals of different household income levels (Sacks, 2016). As income is directly related occupation, income inequality should further be studied in terms of equal occupational opportunities and increased income mobility.

Wealth Inequality

On the other hand, wealth represents the accumulation of assets. Thus, wealth is not only determined by an individual's income level but also the individual's savings rate and the change in value of owned assets. Until 2007, wealth increased at roughly the same rate for all households in different income levels. However, since the 2008 financial crisis, wealth inequality started to surge. This is due to the difference in asset forms in which households hold wealth.

Previous studies show that portfolio heterogeneity between economic classes leads their wealth trajectories in very different directions- rich households hold much of their wealth in the form of corporate and non-corporate equity while middle class households have a lot of their wealth in mortgages. The lower class has very little wealth to begin with but show the same distributional trends as the middle class in terms of portfolio diversity: 80% of their assets are held in mortgages and nonfinancial assets such as cars.

After the financial crisis of 2008, mortgage rates fell substantially and grew slowly while stock markets quickly rebounded. These different trends led wealth of the middle class to decrease while wealth of the rich increased after the quick rebound in stock markets. The discrepancy in mortgage and equity price trends eventually led to the worst wealth inequality since World War 2. Thus, with different proportions of their wealth in different assets, wealth of the rich and middle/low class diverged significantly (Kuhn et al., 2018).

As a result of wealth divergence, the rich and middle/low class experience very different wealth trends during the 21st century. Out of the three wealth groups (rich, middle, low class), wealthy households have been the only group that experienced an increase in wealth. The middle and lower class actually saw a decrease in wealth during the same period. These trends lead to worse wealth inequality is recent years:

"As of 2016, upper-income families had 7.4 times as much wealth as middle-income families and 75 times as much wealth as lower-income families. These ratios are up from 3.4 and 28 in 1983, respectively" (Horowitz et al., 2020).

Importance of Wealth Inequality Studies

Often, researchers study economic wellbeing through analyzing income inequality rather than wealth inequality. This is because income and wealth inequality diverge in their data availability. During the late 20th century and the early 21st century, there has been multiple studies focusing on how income inequality could be addressed. Income data used in these studies were easily attained through information on salary and wages. However, literature on wealth equality has been less prevalent because of the limitations in grasping wealth. Data on wealth is usually attained through surveys and tax records reported by the government. Namely, wealth data form the Survey of Consumer Finances has been used most extensively due to its detailed report on how wealth is distributed amongst different assets (Keister & Moller, 2000).

The Survey of Consumer Finances (SCF) dataset is not without limitations. There are two main shortcomings in grasping wealth inequality using the SCF. The first limitation is underrepresentation of wealthy households. With very small number of households holding onto very much wealth, it is extremely hard to grasp these members of these groups in surveys that sample a whole population. Even when wealthy households are selected, households are more likely to be hesitant in disclosing their wealth. The second limitation is the lack of longitudinal data. Tracing how wealth in accumulated, the extent of wealth mobility amongst households, and how wealth is transferred from one generation to another are all important questions that have to be studied to understand wealth inequality. This requires focused monitoring of select individuals during a long period of time. The SCF and other wealth surveys lack this longitudinal data (Keister & Moller, 2000).

Although wealth inequality studies have its limitations, wealth must be studied separately from income to better understand financial well-being because wealth and income have low

correlation. Specifically, Lerman and Mikesell's paper (1988) shows that the correlation between wealth and income has been 0.5. Even worse, this correlation drops in half when assets income is eliminated from total income. This weak correlation (around 0.5) is suggested through recent studies as well (Keister & Lee, 2017). Income and wealth may have low correlation because highly wealthy households may be able to maintain adequate living standards through their returns on wealth (Wolff, 1993).

Wealth levels also have important lasting influences on individual's lives. At a general level, household wealth effects the choices individuals make in life. Wealthier individuals tend to retire at earlier ages and live longer, healthier lives. Wealth levels also influence individuals' decisions to get married or remarried and the age they decide to get children. Worse, the influence of wealth lingers onto future generations. Studies show that household wealth influences a child's cognitive and learning ability. Also, wealth further influences the child's educational level and work performance. These factors, which are key determinants of the amount of income an individual can earn, creates a cycle in which wealth creates wealth and poverty gives birth to poverty (Killewald et al., 2017).

LIFE OF LOW-INCOME HOUSEHOLDS

According to OECD, it takes on average five generations for those born in low-income families in the United States to approach the State's mean income (OECD, 2018). This income immobility highlights the extreme gap between the lifestyles of households in poverty and those that are not. I will explore the lives of lower-class households through the lens of residential instability, health care and education to make sense of what the day-to-day lives of lower-class household individuals look like. These show that poverty led by economic inequalities have lingering effects on lower class individuals and households.

To begin, low-income households experience residential instability. For low-income households, a higher proportion of their income goes into housing. Households that use more than 30% of their income in housing costs are considered cost burdened and those that use more than 50% are considered severe cost burdened. In 2021, 92% of all cost-burdened renters were extremely low-/very low-/low-income renters while 99% of all severely cost-burdened renters were extremely low-/very low-/low-income renters (Aurand, 2021). The structure of housing markets, in particular the limited public housing availability, worsens the problem of residential instability. It is also the case that residential instability has negative effects on academic performance of k-12 children.

This leads to many difficulties in the lives of low-income households. With few affordable rentals in the housing market, these households often live with substandard housings and safety risks such as vermin, mold, water leaks, and inadequate heating or cooling systems. Also, heavy housing costs lead to foreclosure, which causes loss of money and eviction. Children living in low-income families are 50 percent more likely than other children to have moved in

the past year and nearly three times as likely to live in families that rent, rather than own, a home. Frequent moves -as much as three or more times in a year- are seen to be associated with chronic conditions, poor physical health, and inconsistency in health insurance coverage (Healthy People.gov, 2021). These conditions depict how low-income households experience financial burdens in housing, and even after finding a residence, often experience poor quality of the living conditions and frequent moves that lead to health risks. Also low educational attainments, fragile school attachment, and increased risk of dropping out.

Low-income households are also at higher risk of health issues due to factors other than frequent moves. Health risks begin through their environment even before a health problem arises. Due to tight financial conditions, households consume malnutritious food and more frequently work in high-risk environments (French et al., 2019), (Baron et al., 2013). The continuation of such lifestyles can eventually lead to health risks. This exposure to health risks amplifies with less spent on preventative measures. When they eventually get to the point of needing medication or health care, individuals of low-income household face the challenge of health insurance. Currently, there are significantly less people of low-income households with health insurances (Cunningham, 2018). Thus, in terms of health risks, we see an environment in which low-income household individuals are prone to health issues but do not have the funds to prevent them or protect themselves from those risks. Also, even when a health issue arises, it is not easy for them to address these issues because of health insurances.

Another factor that impacts the lives of low-income household individuals is education. To begin with, the quality of education in low-income neighborhoods is considerably poor compared to that of richer neighborhoods (Owens, 2020). The students themselves also seem to

be less diligent in schoolwork. Students who live in poverty have higher absent rates and dropout rates in high school due. This is because these students often leave school to help support their family financially or to take care of family members (Broadhurst et al., 2005). This has a reinforcement effect on poverty as individuals who drop out of high school get paid less and are more likely to end up in poverty (Aud, 2011). Also, this hinders individuals from opportunities to step up the ladder, as college education provides students with not only skills to get into high-paying fields, but also social connections that students would not be able to get otherwise (Kammerer, 2020) (Castro & Clyde, 2018). All in all, the financial status of an individual effects the quality of education the individual receives and their ability to participate in higher education. This has a long-lasting impact not only on an individual's ability to attain professional skills but also their risk of being trapped in poverty.

Poverty also impacts the economic activity of individuals from low-income households. Edin and Shaefer (2016) depict the life of extremely low-income households in which family members have to live on two dollars per person each day. Economic activities available for these individuals are limited. Specifically, low wage labor opportunities such as working at Walmart consistently has much more applicants who are willing to work in these positions compared to openings. This mismatch and supply of laborers and demand for laborers causes multiple problems. For example, individuals in poverty do not have telephones which becomes a hurdle when companies try to reach them. In this situation, companies quickly turned to other applicants as labor supply is abundant. Also, even though an individual gets the opportunity to work in these positions, they are not a reliable source of earnings because companies can change the hours these employees work at the company's disposal (Wilson, 2015).

These working environment challenges and low wage incentivize individuals in poverty to join illegal markets. Drug trafficking is one illegal market that draws in a lot of individuals in poverty. The stable and fast income production provides much better living conditions for individuals in poverty both in terms of work hours and wages. However, once individuals join these illegal markets, it is very challenging for them to get out because of the quick money it leads to. Also, drug trafficking exposes children in poverty to illegal drugs. Studies show that this leads to children in poverty themselves becoming drug traffickers or users of illegal drugs. Thus, the link between poverty and drug trafficking transcends generations, making it harder for future generations to escape poverty (Alexander, 2019). Once incarcerated, the prospects of finding steady employment, living wage work, and stable housing diminish significantly. Once released from prison/jail, returning citizens have a difficult time qualifying for public support or private charity.

LITERATURE ON ADDRESSING WEALTH INEQUALITY

Previous literature shows that wealth inequality is worsening. As time progresses, the top 1% is taking a bigger portion of national wealth.

One observation has been that wealth inequality lessens during economic downturns. During crises, everyone suffers financial losses. As wealthy individuals do not enjoy the opportunity privileges they usually do during these periods, middle- and lower-class individuals are free from structural hurdles to increase wealth. However, studies find that this observation is false. Specifically, economic downturns do not provide an opportunity for wealth mobility. Studies find that the reason why inequality lessens during economic downturns is because the value of assets decrease during these times. Deflated asset prices decrease total wealth held by the wealthy and leads to less extreme wealth inequality measures. However, upward wealth mobility is rarely found during these periods of time (Keister & Moller, 2000). That is, there is no redistribution of assets during an economic downturn. Only a decrease in the value of assets themselves.

Another proposed way to address wealth inequality is increasing production. If production increases and the amount of newly created wealth increases as well, there may be more wealth available for middle- and low-class households. However, this argument is debunked by the fact that inequality exists in both developing and highly developed countries. The lack of innovation and production is not the reason why wealth and income inequality exist. Rather, distribution of wealth is essential to addressing income and wealth inequality. In the US and Europe, average income levels are very similar and yet, income inequality levels are very different. The same goes for inequality levels in East Asia, North Africa, and the Middle East

(Chancel et al., 2021). These observations show that economic inequality is an issue regarding distribution rather than productivity.

The 2022 World Inequality Report (Chancel et al., 2021) shows that during the 1950s to the 1970s, which was marked with increased productivity in Western countries actually saw a decrease in inequality as policies such as high tax rates kept inequality in-check. However, in the 1970s, Western countries started to experience slower growth. This stagnation was blamed on the restrictions and policies set by the government to support low-income and low-wealth populations at the expense of wealthy owners of equities. Eventually, these programs protecting the society against widening inequality were abolished (pg. 3). As the idea of a free market where companies do not have restrictions from the government became more prevalent, inequality started to pick up as well and has sustained high rates since. This suggests that the political system within a country, rather than the amount of wealth produced, determines inequality levels (pg. 30).

Based on findings highlighting the importance of policy, government interventions such as progressive tax rates have been mentioned as necessary solutions for addressing wealth and income inequality issues. While these types of public sector interventions are essential, focusing on these approaches alone faces practical hurdles, because the public sector is highly influenced by the private sector. Specifically, politicians are deeply associated with the wealthy.

In the United States, Half of House and Senate are millionaires (Evers-Hillstrom, 2020). Also, no one from the working class has gotten into politics and gone on to become a governor, Supreme Court justice, or the president (Carnes, 2018). Thus, politicians may not fully understand the hardships of the working class because they have never been in that situation. At

the same time politicians have incentives to enact policies that favor the wealthy because they themselves are wealthy. Moreover, systematic reasons make politicians favor the wealthy. As running for office is costly, many politicians get financial support from the wealthy during the process. To obtain adequate funding, prospective and existing politicians enact policies that favor their donors: the wealthy (Carnes, 2018).

Neoliberal economic policy intended to address market inefficiencies and expand growth opportunities for all by deregulation. However, this attempt failed to spread much wealth to middle- and low-income households. Not only did wages remain flat (again, except for earnings associated with skill-biased technological change) but stratified the type of assets held by the wealthy and the middle/low class. Specifically, middle- and low-income households have 45% of their net worth in mortgages while the wealthy diversify their wealth in houses, equities, and businesses (20-25% in each) (Pew Research Center, 2019).

In the contemporary US system, just like every political system, the rich tend to hold more political power. This power is biased towards and can easily be used to favor policies that strengthen the wealth of the wealthy (Bourne, 2019). Thus, although policies such as progressive tax rates are necessary, it may not be applicable to our system because of the unilateral sacrifice it expects from the powerful – those who also make the rules.

In addition, artificially altering wealth distributions by giving the wealthy's wealth to the poor does not address the fundamental issue: it is extremely hard for middle- and low-class households to aggregate wealth in today's system. Currently, the wealthy have greater returns on investment. Based on a Norwegian study, returns on investment from 2004 to 2015 for someone in the top 0.1% would be 140% while that of the poorest 25% would be 50% (Andrei, 2021).

Even in the United States, return on investment between 2010 and 2013 was 5.91% for the top 1% and 3.27% for the middle three quartiles.

One major factor determining these wealth levels has been the value of the assets people hold their wealth in. Historically, high-income and middle-, low-class households have had different proportions of their wealth in assets. Wealthy households have had most of their wealth in equities and middle and low-class households have had it in mortgages. Specifically, the top 1% has had 75% of their wealth in investment assets while the middle class has 63% of their wealth in mortgages (Frank, 2014). As returns on investment for investment assets such as stocks has been significantly higher than that of mortgages, the portfolio heterogeneity of different wealth groups naturally causes discrepancies in their return to investment and, thus, their aggregated wealth levels.

INCREASED EQUITY INVESTMENT TO ADDRESS WEALTH INEQUALITY

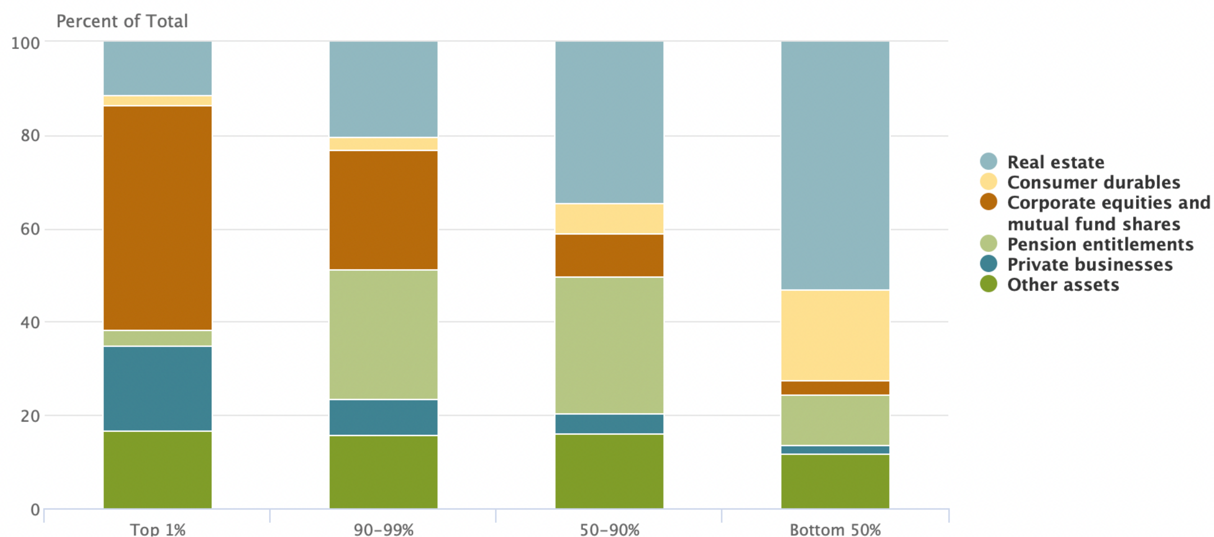
With higher proportions of investment in riskier assets, wealthy households enjoy higher returns on wealth (Bach et al., 2015) (Fagereng et al., 2018). This leads to an important observation: the larger returns on assets that wealthy households experience heightens wealth inequality. Thus, maintaining the status quo itself worsens wealth inequality. In other words, the Gini coefficient (which highlights wealth dispersion among different wealth levels) may increase not only because economic structures favor wealthy households but also because the type of assets wealthy households hold onto have greater returns (Hayes, 2022). In this case, finding methods to help middle- and low-income households gain similar rates of wealth returns is the first step to help them gain a bigger share of total wealth.

To understand wealth trends and asset holdings by wealth level, I analyzed the Distribution of Financial Accounts dataset that focuses on household wealth in the US published by the Survey of Consumer Finances and Financial Accounts of the United States.

To expand wealth for middle-class and lower-class households, we first had to examine where their wealth is in. Moreover, it would be noteworthy to compare their portfolio with those of wealthier households to get insight into the wealth return structure amongst different wealth levels. Graph 1 below shows that there is a clear portfolio heterogeneity amongst households of different wealth levels. Most of the wealth of extremely wealthy individuals are in “corporate equities and mutual fund shares” while the middle-class and lower-class have wealth concentrated in mortgages. The graph shows that wealth of different income levels is distributed amongst other assets as well: consumer durables, private business, and pension entitlements.

Exploring these assets would also help economist evaluate whether they can help address wealth inequality as well.

Table 1: Assets by wealth percentile group in 2021:Q3



Source: Survey of Consumer Finances and Financial Accounts

To begin, some household wealth is held in consumer durables. Consumer durables are assets, such as cars, computers, and furniture, that households consume over a long period of time rather than at once. These assets typically wear out over time. (Kenton, 2021). The deterioration effect makes the value of consumer durables decrease rather than increase over time. The assets by wealth percentile graph shows that middle- and lower-class households have a higher proportion of wealth in consumer durables than wealthier households. Thus, consumer durables are not assets households hold onto for higher returns on wealth. Rather, consumer durables are mostly necessities for daily life. The consumer durables required for daily life does not change that much as households get wealthier. But this fixed amount is a higher proportion

of the total wealth of middle- and lower-class households, which is represented through the graph.

Household wealth is also in pension entitlements. Pension entitlements are funds saved up for retirement. Employer-sponsored plans and social security are the two biggest forms of entitlements workers have. Previous studies show that these two types of entitlements are the predominant sources of wealth for retired individuals (Sabelhaus & Volz, 2019). Thus, pension entitlements already help middle- and lower-class households indirectly get returns on equity investment. However, pension entitlements are insufficient for middle- and lower-class households wealth aggregation. As pensions are funds saved for retirement, there are limitations to the amount of risk pension funds can take. Therefore, their primary invest is in safer assets with lower returns such as fixed income products. These also lead to less returns. The difference in potential rate of return between equities and pension entitlements are highlighted in Figure 2 and Figure 3. Moreover, as an investment for the future, pension entitlements may impact the total wealth of individuals but fail to benefit middle- and lower-class households in the present.

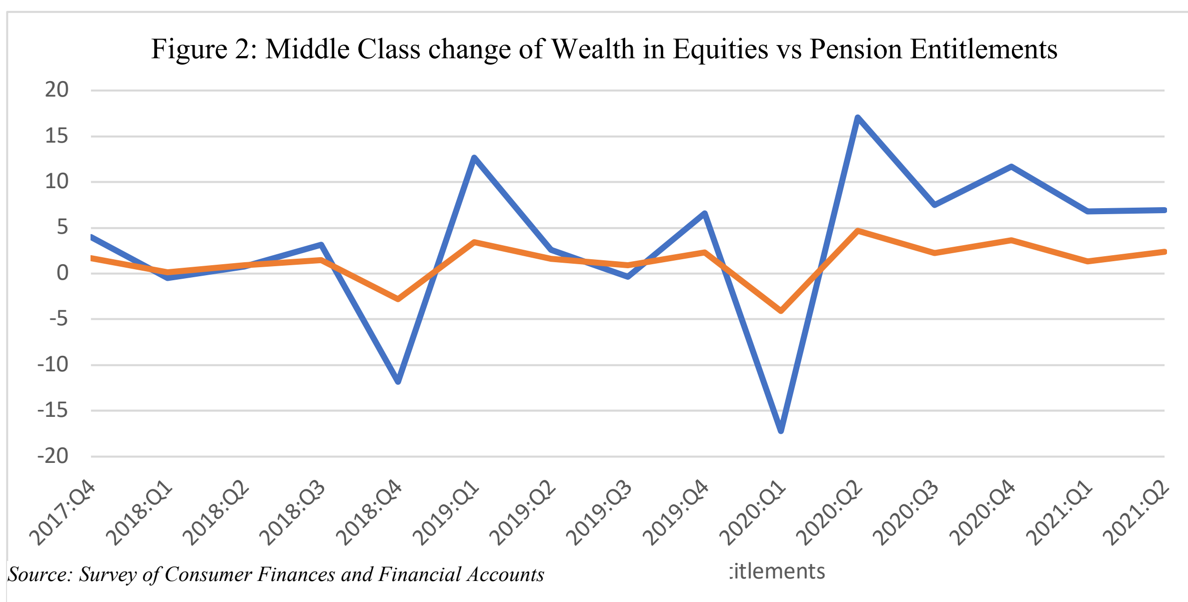
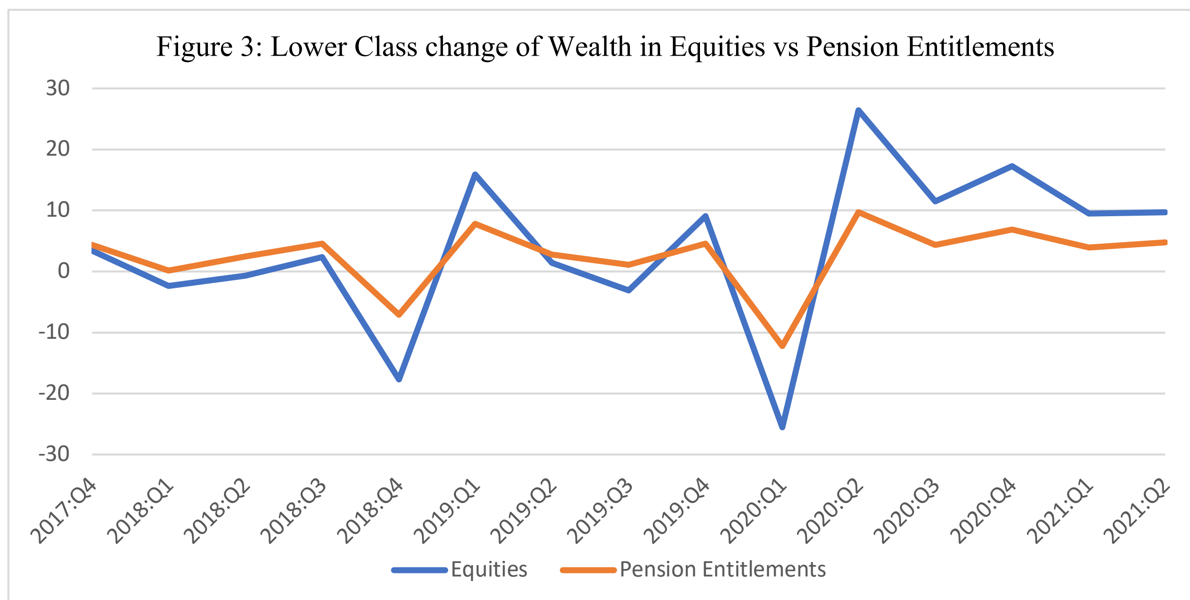


Figure 2: Middle Class change of Wealth in Equities vs Pension Entitlements

Source: Survey of Consumer Finances and Financial Accounts

Overall, as pension entitlements can function as a supplement for increased wealth aggregate for middle- and lower-class households, it is not sufficient.



Source: Survey of Consumer Finances and Financial Accounts

Wealth in private business is also a notable part of household wealth. Businesses allow innovation to increase productivity and enhance a stronger economy. As shown in the graph, most of these entrepreneurs come from wealthy households as the top 1% holds much more of their wealth in private businesses compared to the middle and lower class. This wealth gap of individuals who start businesses increased during the 21st-century. This is a problematic trend as owning private businesses are now becoming a luxury of the wealthy. More middle-class participation in entrepreneurship can lead to positive societal outcomes such as increased opportunities for entrepreneurial education and incentives for future entrepreneurs to create businesses (Hersh & Erickson, 2015). Thus, enhancing entrepreneurship within the middle- and lower-class is important to their wealth aggregation and should be considered along with

increased equity investment. However, this process may take time as multiple implementations such as increasing the quality of education, funding entrepreneurs, and opening doors to immigrants are necessary in building an entrepreneurial middle class (Hersh & Erickson, 2015).

Reviewing different types of assets shows that not all assets increase in value overtime or can be easily altered without multiple interventions. Mortgages and equities are two assets in which wealth could relatively easily be altered. Given that equity investment has higher returns than mortgages, it would be noteworthy to see if middle-class and lower-class participation in equity markets actually leads to similar wealth accumulation trends amongst households of different wealth levels.

Since COVID-19, more wealth of middle- and lower-class households has been held in equities. Figure 4 presents the amount of wealth the top 10%-50% (middle class) and bottom 50% (lower class) households have in corporate equities and mutual funds. Based on the graph, assets in equities nearly doubled for both wealth groups after the initial shock of the pandemic.

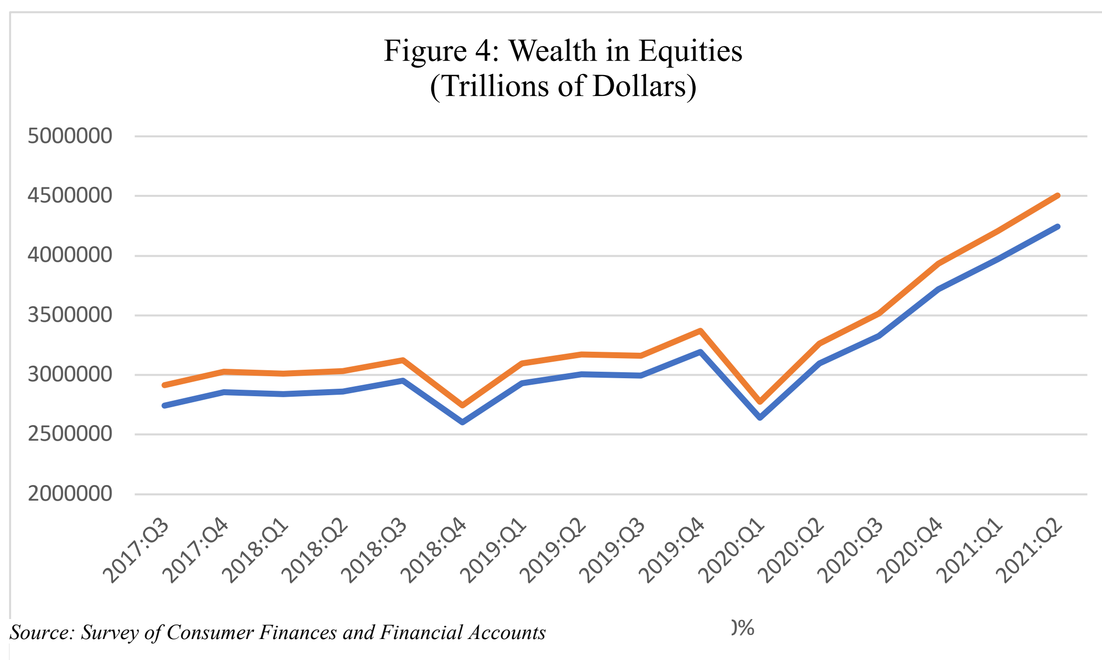
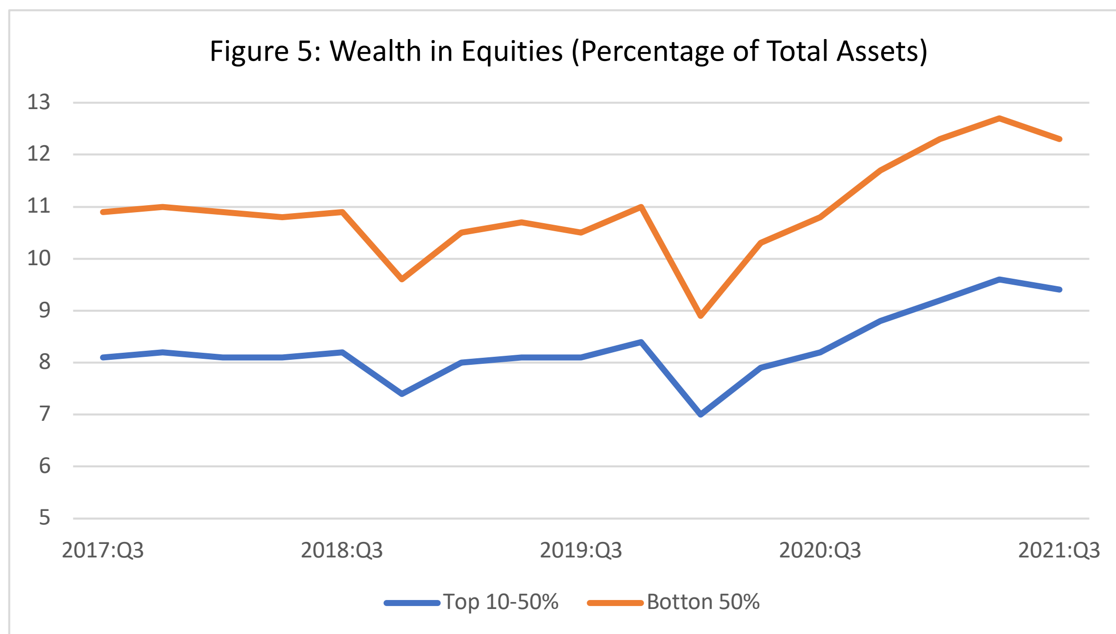


Figure 4: Wealth in Equities
(Trillions of Dollars)

Source: Survey of Consumer Finances and Financial Accounts

Figure 5 shows the percentage of assets held in corporate equities and mutual funds for middle- and lower-class households. This graph also suggests that a greater percentage of the wealth of both groups were held in corporate equities since 2020.

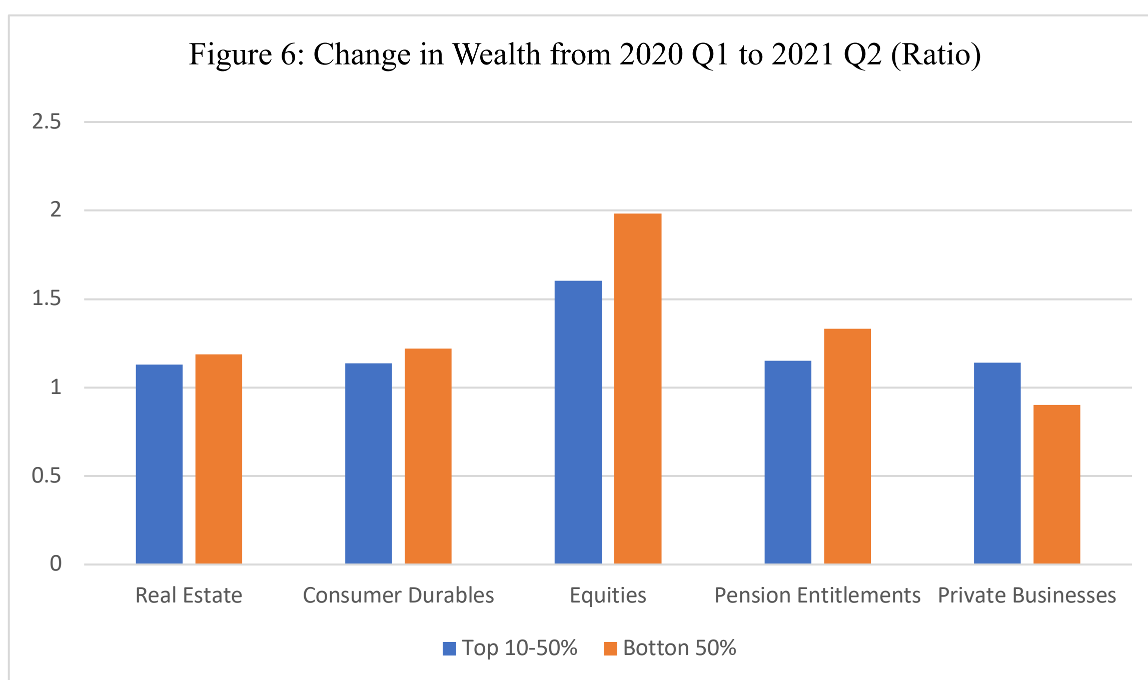


Source: Survey of Consumer Finances and Financial Accounts

Increase of wealth in equities is also highlighted when we compare wealth levels in different assets during the same period. Data on wealth levels in real estate, consumer durables, pension entitlements, and private businesses during the same time period shows that equities increased the most since the pandemic. Particularly, Figure 6 highlights how much wealth grew from the first quarter of 2020 to the second quarter of 2021 of each asset class. This also highlights the significance change in wealth in equities compared to other assets.

To study how increased middle and lower-class wealth in equities affect their wealth trends, I study how post pandemic wealth trends for these groups compare to that of wealthy households. I first study wealth trends through examining the rate of change on equity and

mutual fund wealth per quarter. This will show how fast both increases and decreases happened in these assets for different wealth levels. Then, I will compare this rate of change on equity and mutual fund wealth among different wealth levels. Specifically, I will examine how wealth aggregation rates of the middle class and lower class compared to that of the extremely wealthy and wealthy.

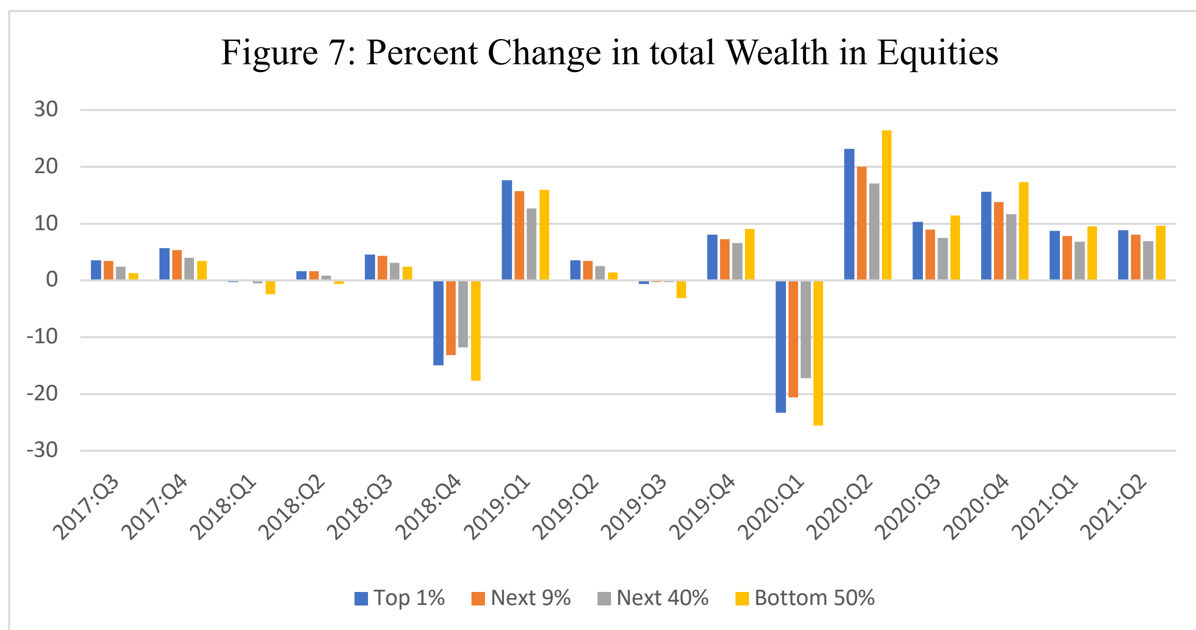


Source: Survey of Consumer Finances and Financial Accounts

DATA ANALYSIS

I analyze the Distribution of Household Wealth in the table released by the Federal Reserve to study if increased wealth in equity and mutual funds for middle and lower-class households lead to similar wealth return trends as wealthy households. The dataset presents the quarterly wealth level of households categorized into four percentiles: the top 1%, the next 9%, next 40% and the bottom 50%. Wealth is subdivided into twelve categories: net worth, assets, real estate, consumer durables, corporate equities and mutual fund shares, pension entitlements, private businesses, other assets, liabilities, home mortgages, consumer credit, other liabilities. For the purposes of my analysis, I refer to the top 1% as extremely wealthy households, the next 9% as highly wealthy households, the next 40% as middle-class households, and the bottom 50% as lower-class households. Extremely wealthy and highly wealthy households as a group are referred to as wealthy households.

To begin, I calculated the percent change in corporate equities and mutual funds per quarter for each household wealth percentile. Figure 7 shows that there has been a recent increase in wealth held in corporate equities and mutual funds for all household wealth percentiles: after its drop during the beginning of 2020 (impact of COVID-19), wealth in corporate equities and mutual funds rebounded the next quarter and sustained higher rates than before.



Source: Survey of Consumer Finances and Financial Accounts

As mentioned in the previous section, equities have higher average returns than mortgages. Thus, as extremely wealthy households hold on to more equity, they naturally enjoy higher returns on wealth. Before we ask how middle and lower-class households can hold higher proportions of total wealth, we first have to address this gap of returns on wealth. To understand wealth aggregation trends amongst different household wealth levels, I calculate the ratio of wealth change: the percent change of wealth of one group in relation to another. This grasps the relative rate of change of wealth for different wealth levels.

A-to-B ratio of wealth change:

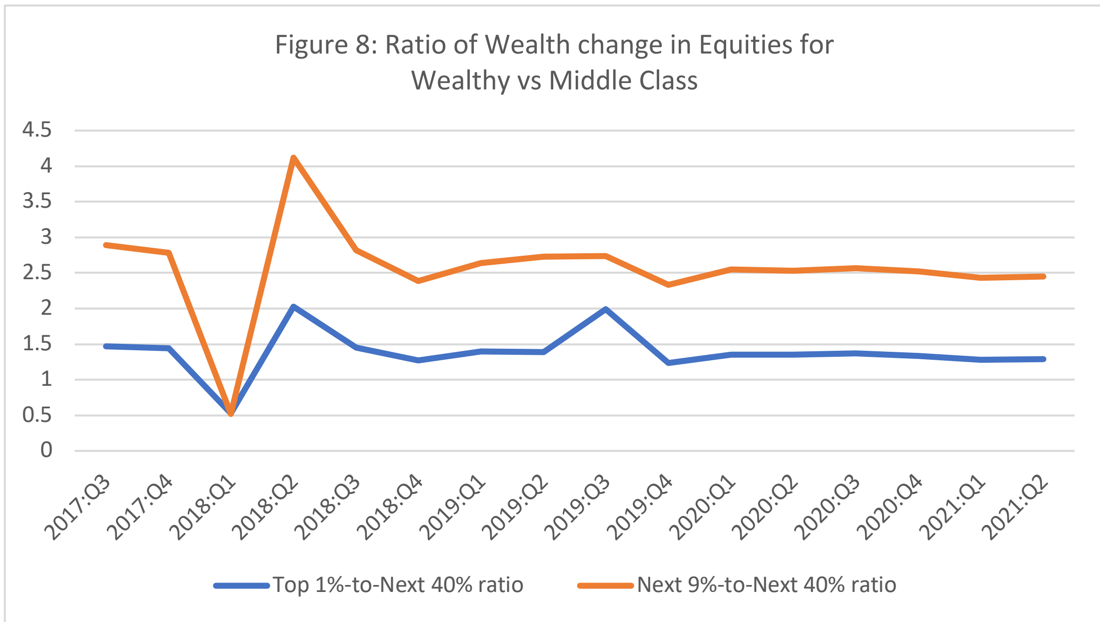
$$ratio\ of\ wealth\ change = \frac{percent\ change\ in\ wealth\ for\ households\ in\ class\ A}{percent\ change\ in\ wealth\ for\ households\ in\ class\ B}$$

For instance, a ratio of wealth change of 1 for the Top 1%-to-Next 40% ratio indicates that the wealth of the Top 1% changed at the same rate as the wealth of the Next 40%. A number

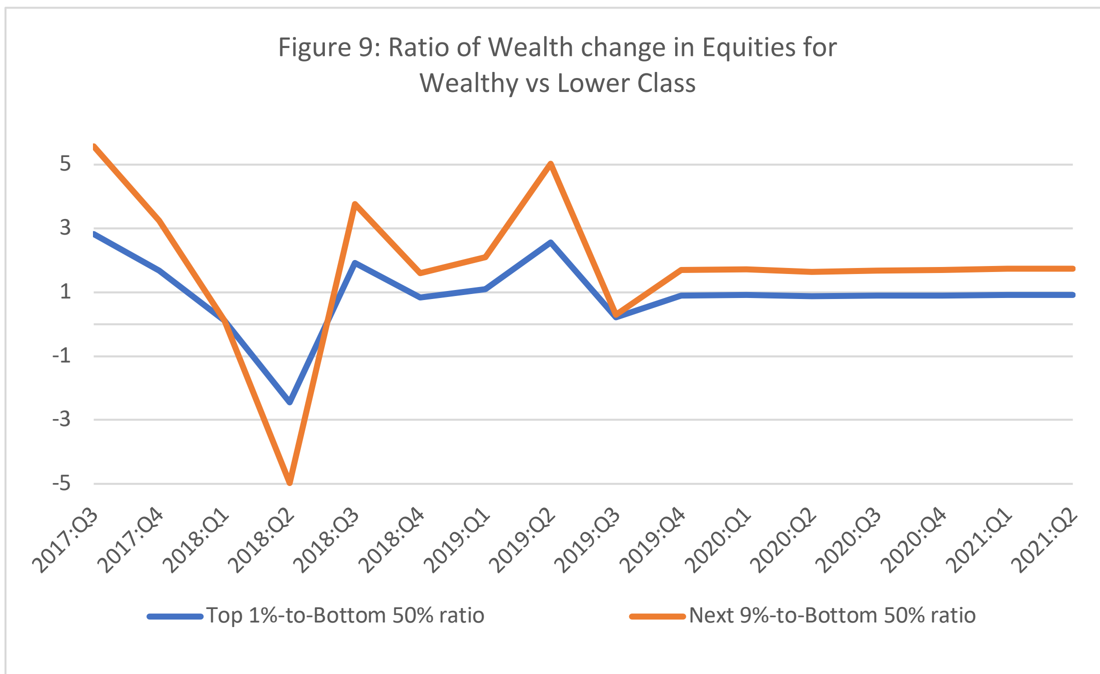
higher than 1 would indicate that the wealth of the Top 1% changed at a higher rate than that of the Next 40%. On the other hand, a number lower than 1 would indicate that the wealth of the Top 1% changed at a lower rate than that of the Next 40%. Thus, a ratio of wealth change between 0 and 1 would be a desired scenario where the Next 40%'s wealth increases at a higher rate than that of the Top 1%.

A negative ratio of wealth change would need further inspection because it means that one of the groups had an increase in wealth during the period while the other had a decrease. Whether the negative ratio of wealth change indicates widening or narrowing wealth inequality depends on the household group taking the increased wealth or decreased wealth direction. A ratio stabilizing between 0 to 1 would be ideal as this indicates that the Next 40% has more returns on wealth than the wealthy.

Figure 8 plots the extremely wealthy households to middle class ratio and the highly wealthy households to middle class ratio. Figure 9 does the same comparison but now for the lower class. These two graphs indicate that the ratio of wealth change used to fluctuate but stabilized at a lower number close to 1 since the pandemic when we compare both wealthy-to-middle-class households and wealthy-to-lower-class households. This shows that the corporate equities and mutual funds held by wealthy households and middle or lower-class households grew at a comparatively similar rate during the pandemic. This stabilization is specifically significant for lower-class households.



Source: Survey of Consumer Finances and Financial Accounts



Source: Survey of Consumer Finances and Financial Accounts

The stabilizing effect after the pandemic can be explained by both the increase in middle and lower-class wealth in equities (mentioned in the previous section) and the exceptionally bullish equity market. After the initial decline in stock prices during the beginning of the pandemic, stock prices increased significantly. For example, major stock indices such as S&P 500, Dow Jones Industrial Average, and Nasdaq Composite rose 101.65%, 87.22% and 105.65% respectively as of 2022 compared to May of 2020 (Watts, 2022). As middle and lower-class households increased investment in equities and equities itself performed well, the percent change in equity wealth increased significantly compared to past years. This increase made the relative difference in the percent change in equity wealth amongst household levels to be small: the ratio of wealth change is larger when the percent change in equity wealth compared is 3 and 2 (15%) rather than 15 and 14 (1.07%).

<Table 1 : percent change in equity wealth by Wealth level>

	Top 1%	Next 9%	Next 50%	Bottom 50%
2017:Q3	3.49225576	3.39718477	2.38278551	1.23607085
2017:Q4	5.72194749	5.36784245	3.97953867	3.41469223
2018:Q1	-0.261795	0.00440061	-0.4960552	-2.3872297
2018:Q2	1.57711913	1.62932347	0.77837591	-0.6445754
2018:Q3	4.54642888	4.30031664	3.13872467	2.35463805
2018:Q4	-14.955184	-13.17916	-11.804733	-17.691063
2019:Q1	17.6207652	15.7436273	12.6355517	15.9487375
2019:Q2	3.57700109	3.45382372	2.57968034	1.39694847
2019:Q3	-0.6592981	-0.2491906	-0.3313357	-3.1353373
2019:Q4	8.05780325	7.21801657	6.54556917	9.03365504
2020:Q1	-23.252668	-20.627033	-17.212775	-25.539883
2020:Q2	23.1325401	20.0579618	17.0604577	26.4261221
2020:Q3	10.2712599	8.99412757	7.51744914	11.4743625
2020:Q4	15.6006079	13.8017059	11.6755335	17.262336
2021:Q1	8.71356016	7.85884512	6.82231917	9.48439633
2021:Q2	8.88181798	7.9983566	6.89453066	9.65966282

Source: Survey of Consumer Finances and Financial Accounts

CONCLUSION

The study shows that during the pandemic, the middle-class and lower-class households experienced similar rates of increase in equity wealth as wealthy households did. This was also the period in which middle-class and lower-class households increased their wealth in corporate equities and mutual fund shares. This shows that increased participation in equities markets are correlated with similar wealth trends in equity wealth between wealthy households and middle and lower class. To lessen the gap in wealth trends between the wealthy and the unwealthy, increasing middle- and low-class wealth held in equity and mutual funds may be a solution.

Overall, wealth inequality is a problem that existed throughout history but especially worsened during the 21st century. This gap in wealth and accumulation of wealth amongst wealthy and middle/low-class households has direct impacts on the lives of many middle- and lower-class individuals through preventing equal educational and occupational opportunity, leading to environmental differences, and causing opportunity gap intergenerationally. Reviewing the wealth portfolio of household in different wealth levels show that wealthy and middle/low-class households have different proportions of their wealth in different assets. One of the biggest differences in the wealth portfolios of the wealthy and middle/low-class households are that wealthy households have a considerably larger proportion of their wealth in equities while middle/low-class households have them in mortgages. Since the outbreak of the COVID-19 pandemic, more middle/low-class households participated in equity investment. Reviewing the Survey of Consumer Finances (SCF) dataset on the Distribution of Household Wealth shows that equity returns of wealth for middle/low-class households cached up with that of wealth households during this period. Such observations suggest that increased investment in equities

may be a key driver for increasing wealth returns for middle/low-class households and, thus, addressing wealth inequality.

Increasing middle- and lower-class wealth in equities leads to similar wealth portfolios for the wealthy and unwealthy. This portfolio homogeneity amongst different wealth levels can also prevent middle and low-class households from becoming prominent victims of economic shocks. Economic shocks will similarly affect households of all wealth levels if the proportion of portfolios in various financial assets are similar. Moreover, with the advantage the wealthy has in lobbying and their direct involvement in policy making, any interventions they cause to protect themselves from economic risks will also protect middle and low-class households. This is because the assets they are protecting would also be assets that the middle and lower class holds on to.

Although middle- and low-class should readily invest in equities and mutual funds, direct investment may cause problems. This is because the investment of middle- and low-class households may become speculations without appropriate education and preparation. Speculative investment leads to high risks of losing substantial amount of money. Therefore, I lay out some practical approaches to increasing middle-class and lower-class equity and mutual fund participation so that both levels can enjoy stable, higher returns on wealth.

IMPLICATIONS

Human Infrastructure Investment

Financial Literacy

One way to promote healthy middle- and low-class direct investment is through financial education. Currently within the United States, courses related to finance or not required in K to 12 education This is problematic because once individuals become adults, everyone participates in the economy through labor. Majority of laborers open checking and savings accounts and even get credit cards to live within our financial system. Lack of education on checking and savings accounts and other options individuals can invest money in is problematic. This is because lack of education indirectly forces individuals to save in savings accounts which is also the lowest investment yielding option. Therefore, financial education is essential to allow middle- and low-class to invest in higher-yield assets. Education on both private finance and financial markets would allow individuals to make educated decisions on how to manage their wealth.

Financial literacy not only educates individuals on the options they have for investment, but they also help individuals make better savings decisions. Through education, students in the Junior Achievement Finance Park, a financial literacy camp, were able to make better budgeting plans for situations. This resulted from increases in savings and effectively utilizing resources related to budgeting. This shows that financial literacy creates a synergy when individuals learn about the investment decisions so that they can better use the information to distribute funds in less risky manners (Carlin & Robinson, 2010).

To better understanding effectiveness financial literacy programs, it would be important to first understand the status of financial literacy amongst people. The National Financial Capability Study measures financial literacy amongst citizens every three years. The 5 to 6 question survey asks questions related to a wide range of financial knowledge including mortgage, interest rate, inflation, risk, compound interest, and bond prices. Accuracy on these test questions show that financial literacy has gradually decreased over the years despite continuous efforts to increase knowledge in finance. Also, the youngest respondent group, particularly those within the 18 to 34 age range, has consistently shown the lowest accuracy rate in these tests. Around half of respondents older than 55 answered four or more questions correctly consistently since 2009. However, 30% of respondents in the 18 to 34 age range answered four or more questions correctly in 2009 while this number was 17% in 2018. This is problematic as wealth aggregation and higher returns on wealth does not happen in an instance. Rather, careful financial planning since individuals enter the labor market is necessary to build healthy and sustainable budgeting plans that help individuals invest in high return investments and plan for retirement (Lin et al., 2019).

Although financial awareness is shown to improve personal finance and investment decisions, studies also show that financial literacy camps are often ineffective. This shows that although the content taught in financial literacy camps are very important, the methodology in which the information is taught is ineffective. Previous studies show that an effective financial literacy camp has three components: relevance, interaction, and repetition. Specifically, financial literacy camps targeted to populations that are starting to manage their finances would be effective.

Direct Investment

One of the biggest problems with direct investment is speculative investment. Many middle-class participate in financial markets through buying stock of companies. However, this is a very risky approach to investment because merely investing in stocks do not protect investors against adverse market movements. Rather, portfolio diversification into different financial assets such as commodities or bonds allow investors to hedge against undesirable market movements. Therefore, I explore ways in which middle- and low-class can directly participate in investments without taking on too much volatility of the market.

Mutual Funds

Another way individuals can directly participate in financial markets in a safer way is through participating in mutual funds. Mutual funds collect investment form many investors and use their funds to invest in various financial assets (Hayes, 2022). Mutual funds have been a great innovation that allows more people to invest in equities as its low fees allow financial market investments to be accessible to more people. Also, these funds allow investors to diversify their portfolio.

Mutual Funds through 401(k) Plans and IRAs

Data from the Federal Reserve Board Survey of Consumer Finances shows that the number of households participating in stock markets have gradually increased in the United States. In 1989, 32% of all US households owned some type of stock either directly or indirectly. This rate increased over the years to reach 53% in 2019. The increase can be explained from 401(k) plans and individual retirement plans (IRAs) available for the middle- and lower-class. As

most employers support 401(k) plans to their employees, many middle- and lower-class workers participate in the plan. Among these people who have 401(k) plans, 90% of them include some type of stock in their investment (Bogdan & Holden, 2021).

As mentioned above, the main source of mutual fund participation for middle- and lower-class households is 401(k) plans. Statistics show that 84% of all employees participate in 401(k) plans when provided the option. However, the option to participate in 401(k) plans are not given to all laborers. Around 45% of part-time workers are offered opportunities to participate in 401(k) plans or other savings plans (Shortlister, 2021). Also, only 65% of nonunion workers can participate in retirement plans such as 401(k) plans compared to 91% of union workers (U.S. Bureau of Labor Statistics, 2021). Thus, increasing opportunities for nonunion and part-time laborers to participate in retirement plans would be important.

Efforts have been placed to extend 401(k) plans to part-time workers. Currently, self-employed workers are eligible to open a solo 401(k) plan (Segal, 2021). Additionally, part-time workers working more than 1000 hours per year are required by the government to have access to 401(k) plans provided by their employer. However, part-time workers working under 1000 hours can be excluded from 401(k) plans (Brandon, 2017). The Secure Act of 2019 made an effort to extend 401(k) plan eligibility for part-time workers who work between 500 to 999 hours. Specifically, workers in this time range are eligible for employer sponsored savings plans if they work for three consecutive years. Additional bills are pending to shorten this time and allow wider access to 401(k) plans (O'Brien, 2021). As 401(k) plans are a main driver of savings for the middle- and lower-class and also give access to higher returns on investment such as

mutual funds, opening this opportunity to part time workers would also enhance middle- and lower-class household return on wealth.

One thing noteworthy is that although 401(k) plans offer middle- and lower-class opportunities to participate in the stock market, the average return on these plans are 3 to 8% annually (Horton, 2021). This is lower than the average stock market return in the last century which has been 10% per year. Thus, mutual funds provided through 401(k) plans indeed allow middle- and lower-class households to benefit from economic expansion. However, these plans are a compliment but not sufficient to increasing wealth returns for middle- and lower-class households to levels typically experienced by high wealth households.

Middle- and low-class households can also participate in mutual funds other than those provided by 401(k) plans. Efforts to create funds in which middle- and lower-class households can participate in would allow them to gain greater returns.

Indirect Investment

Indirect investments are also a solution to increase middle- and lower-class returns on wealth. As a lot of household wealth is in savings and checking's deposits, banks can play a big role in increasing indirect wealth returns for middle- and lower-class households.

Baby Bonds

One way middle- and lower-class households can increase their wealth is through Baby Bonds. Baby Bonds is an idea coined by Darrick Hamilton to address both in equality amongst

different racial groups. This program proposes that the government saves funds on behalf of every child born in the United States. These funds would be a considerable amount once children become adults. Then, fund owners could use these funds for wealth aggregating activities such as supporting their college education, buying a home, investing for retirement, or starting a business. The amount allocated for each child would vary depending on the wealth level of their household (Markoff et al., 2021).

With an average account budget of $25000 required for the program, people may argue that this proposal is unrealistic because of the funds required (around $100 billion dollars per year). This objection is addressed through reviewing how federal funds are currently being used. Currently, more than $500 billion dollars are used in asset promotions through tax credits and subsidies. This federal expenditure is not used in a progressive matter but rather fuels gaps in wealth returns through benefiting 1/3 of the top 1% while the Bottom 60% receives only 5% of the allocation (TED, 2019). Arguably, a portion of federal funds used to promote wealth aggregation for the already wealthy individuals could be used to fund Baby Bonds and, thus, provide opportunities for middle- and lower-class individuals to participating in high-return consumptions.

This program can effectively address wealth aggregation problems amongst the middle class and lower class by making funds readily available when individuals have to make big investments in life. Often, middle class and lower-class individuals cannot participate in wealth aggregating activities such as pursuing a college education or investing for retirement because they do not have the funds to both sustain a living and invest for the future. Guaranteeing

substantial amounts of funds would allow more middle- and lower-class individuals to choose opportunities to invest in the future and, thus lessen the gap in wealth aggregation.

Proposed Solution: Increased Returns on Savings Deposits

One way banks can participate in increasing middle- and lower-class return on investments is through increasing interest on savings accounts. As mentioned above, most of middle- and low-class wealth is in checking's or savings accounts. However, returns on savings accounts are far below returns on other assets in financial markets. In February 2020, the annual interest rates on savings accounts were 0.09% (Brodsky, 2021). This is far below return's investors can experience in participating in the stock market. This is also below annual average inflation rates which is around 2% and, thus, reflects that holding wealth in savings accounts actually decreases real wealth overtime (Trading Economics, 2022).

To evaluate methods to increase savings account rates, it is important to understand why savings accounts rates are so low. One of the major uses of individual depositor funds are reserves. Because it is costly for banks to hold reserves through borrowing from other institutions, they choose to hold on to most of retail clients' funds. This is one of the factors that lead to smaller returns on the funds individuals have in savings accounts (Lisa, 2021). This practice may particularly be problematic in times of low interest rates. Banks cannot set interest rates on alternative sources of reserves such as overnight lending amongst banks. However, banks can set interest rates on their clients' savings accounts. Thus, banks can always lower

interest on savings accounts to be lower than other market received rates so that savings accounts are always the most attractive option for reserves (Ross, 2019). Retail client are directly impacted from these low returns especially during low interest rate environments.

One way in which banks can participate in enhancing wealth returns for middle-class and lower-class households is through reserving a portion of their savings account for other investment activities. Reserving a small portion of the savings for other higher return investments and allowing those returns on to be reflected in the interest rates of savings accounts can increase middle- and low-class households returns on savings. This would essentially mean that banks manage funds that invest in low-risk assets with a portion of savings account funds to increase savings account returns for retail clients. Although these returns may not be as high as direct investments, it would have a prevailing impact on middle- and low-class households returns because most of these households hold portions of their wealth in savings accounts.

Specifically, banks can reserve 10% of retail client savings for investment activities. This allows savings account holders to draw most of their money from their accounts whenever they want to while also allowing them to earn higher interest. Whenever an savings account holders wants to draw more than 90% of their savings (some of the amount reserved for investment), they would have to request it and get the funds back when approved. In turn, banks participate in capital market activities such as investing in bonds or stocks with the funds. With this, banks can increase revenue and return some of that earning to savings account holders.

APPENDIX

<Household wealth in Corporate Equities and Mutual Funds>

: The data below is sub data from the dataset released by the Survey of Consumer Finances and Financial Accounts of the United States regarding household wealth levels since 1989. This dataset particularly records household wealth in corporate equities and mutual funds since the third quarter of 2017. Households are divided into four groups based on wealth percentile: the Top 1%, Next 9%, Next 50%, and Bottom 50%.

	Top 1%	Next 9%	Next 40%	Bottom 50%
2017:Q3	12226187	8281521	2744690	167980
2017:Q4	12925763	8726060	2853916	173716
2018:Q1	12891924	8726444	2839759	169569
2018:Q2	13095245	8868626	2861863	168476
2018:Q3	13690611	9250005	2951689	172443
2018:Q4	11643155	8030932	2603250	141936
2019:Q1	13694768	9295292	2932185	164573
2019:Q2	14184630	9616335	3007826	166872
2019:Q3	14091111	9592372	2997860	161640
2019:Q4	15226545	10284751	3194087	176242
2020:Q1	11685967	8163312	2644296	131230
2020:Q2	14389228	9800706	3095425	165909
2020:Q3	15867183	10682194	3328122	184946
2020:Q4	18342560	12156519	3716698	216872
2021:Q1	19940850	13111881	3970263	237441
2021:Q2	21711960	14160616	4243994	260377

<Percent Change in Household Wealth in Corporate Equities and Mutual Funds>

: This dataset calculates the percent change in household wealth in corporate equities and mutual funds by quarter.

	Top 1%	Next 9%	Next 40%	Bottom 50%
2017:Q3	3.49225576	3.39718477	2.38278551	1.23607085
2017:Q4	5.72194749	5.36784245	3.97953867	3.41469223
2018:Q1	-0.261795	0.00440061	-0.4960552	-2.3872297
2018:Q2	1.57711913	1.62932347	0.77837591	-0.6445754

2018:Q3	4.54642888	4.30031664	3.13872467	2.35463805
2018:Q4	-14.955184	-13.17916	-11.804733	-17.691063
2019:Q1	17.6207652	15.7436273	12.6355517	15.9487375
2019:Q2	3.57700109	3.45382372	2.57968034	1.39694847
2019:Q3	-0.6592981	-0.2491906	-0.3313357	-3.1353373
2019:Q4	8.05780325	7.21801657	6.54556917	9.03365504
2020:Q1	-23.252668	-20.627033	-17.212775	-25.539883
2020:Q2	23.1325401	20.0579618	17.0604577	26.4261221
2020:Q3	10.2712599	8.99412757	7.51744914	11.4743625
2020:Q4	15.6006079	13.8017059	11.6755335	17.262336
2021:Q1	8.71356016	7.85884512	6.82231917	9.48439633
2021:Q2	8.88181798	7.9983566	6.89453066	9.65966282

< Ratio of Wealth Change in Equities for Wealthy vs Middle Class>

: This dataset calculates the ratio of percent change in household wealth in corporate equities and mutual funds for the middle class (Next 40%) versus the extremely wealthy (Top 1%) and highly wealthy (Next 9%) households.

	Top 1%-to-Next 40% ratio	Next 9%-to-Next 40% ratio
2017:Q3	1.46561902	1.42571992
2017:Q4	1.43784191	1.34886048
2018:Q1	0.5277537	-0.0088712
2018:Q2	2.02616642	2.0932347
2018:Q3	1.4484956	1.37008406
2018:Q4	1.26688031	1.11643022
2019:Q1	1.39453864	1.24597862
2019:Q2	1.38660633	1.33885725
2019:Q3	1.98981944	0.75207894
2019:Q4	1.23103172	1.10273322
2020:Q1	1.35089599	1.19835608
2020:Q2	1.35591556	1.17569893
2020:Q3	1.36632249	1.19643344
2020:Q4	1.33617944	1.18210494
2021:Q1	1.2772138	1.15193161
2021:Q2	1.28824113	1.16010168

< Ratio of Wealth Change in Equities for Wealthy vs Lower Class>

: This dataset calculates the ratio of percent change in household wealth in corporate equities and mutual funds for the lower class (Bottom 50%) versus the extremely wealthy (Top 1%) and highly wealthy (Next 9%) households.

	Top 1%-to-Bottom 50% ratio	Next 9%-to-Bottom 50% ratio
2017:Q3	2.8252877	2.74837382
2017:Q4	1.67568469	1.57198427
2018:Q1	0.10966477	-0.0018434
2018:Q2	-2.4467568	-2.527747
2018:Q3	1.93083981	1.82631749
2018:Q4	0.84535245	0.74496147
2019:Q1	1.10483762	0.98713941
2019:Q2	2.56058199	2.47240596
2019:Q3	0.21027981	0.07947807
2019:Q4	0.89197597	0.79901397
2020:Q1	0.91044538	0.80764009
2020:Q2	0.87536643	0.75902025
2020:Q3	0.89514863	0.78384552
2020:Q4	0.90373677	0.79952713
2021:Q1	0.91872586	0.82860784
2021:Q2	0.91947495	0.82801613

< Change in Wealth from 2020 Q1 to 2021>

: This dataset was used to plot figure 3 and calculates the change in household wealth in different assets for the lower class (Bottom 50%) and middle class (Next 40%)

	Top 10-50%	Botton 50%
Real Estate	1.12960331	1.18598677
Consumer Durables	1.13656791	1.22116155
Equities	1.60496177	1.98412711
Pension Entitlements	1.15111124	1.33211077
Private Businesses	1.13909777	0.90006232

<Middle/Lower class Household wealth in Real Estate>

: The data below is sub data from the dataset released by the Survey of Consumer Finances and Financial Accounts of the United States regarding household wealth levels since 1989. This dataset particularly records household wealth in real estate since the third quarter of 2017. Households are divided into four groups based on wealth percentile: the Top 1%, Next 9%, Next 50%, and Bottom 50%.

	Top 1%	Next 9%	Next 40%	Bottom 50%
2017:Q3	3933845	8053402	11426233	3004663
2017:Q4	3996474	8150087	11642851	3049689
2018:Q1	4108285	8327146	11967367	3072565
2018:Q2	4125058	8469019	12067404	3197044
2018:Q3	4162710	8581542	12205467	3265921
2018:Q4	4203721	8630300	12367565	3305911
2019:Q1	4322851	8810480	12629958	3247218
2019:Q2	4349090	8958012	12727517	3340003
2019:Q3	4326665	9024772	12787817	3518291
2019:Q4	4348660	9115314	12912820	3616290
2020:Q1	4456124	9266152	13253388	3648695
2020:Q2	4600407	9391847	13674267	3603009
2020:Q3	4700633	9573311	14006406	3668267
2020:Q4	4820610	9826310	14410240	3780574
2021:Q1	4943679	10140394	14788575	3903624
2021:Q2	4958532	10621899	14971071	4327304

<Middle/Lower class Household wealth in Consumer Durables>

: The data below is sub data from the dataset released by the Survey of Consumer Finances and Financial Accounts of the United States regarding household wealth levels since 1989. This dataset particularly records household wealth in consumer durables since the third quarter of 2017. Households are divided into four groups based on wealth percentile: the Top 1%, Next 9%, Next 50%, and Bottom 50%

	Top 1%	Next 9%	Next 40%	Bottom 50%
2017:Q3	798485	1041757	2216678	1201349
2017:Q4	787992	1070177	2228349	1213103
2018:Q1	781357	1088624	2255064	1229092
2018:Q2	775485	1113071	2279581	1247535
2018:Q3	771249	1136936	2291257	1261971
2018:Q4	744459	1161471	2334568	1272205
2019:Q1	762660	1168970	2348610	1297064
2019:Q2	762896	1189042	2374778	1318893
2019:Q3	739185	1229382	2394349	1329262
2019:Q4	742069	1249634	2398577	1340262
2020:Q1	722422	1249929	2442975	1343389
2020:Q2	730066	1261403	2419574	1349619
2020:Q3	750017	1304022	2504931	1418805
2020:Q4	764823	1332353	2531980	1451860
2021:Q1	792667	1361891	2603719	1508798
2021:Q2	841822	1429302	2776607	1640495

<Middle/Lower class Household wealth in Private Businesses>

: The data below is sub data from the dataset released by the Survey of Consumer Finances and Financial Accounts of the United States regarding household wealth levels since 1989. This dataset particularly records household wealth in private businesses since the third quarter of 2017. Households are divided into four groups based on wealth percentile: the Top 1%, Next 9%, Next 50%, and Bottom 50%.

	Top 1%	Next 9%	Next 40%	Bottom 50%
2017:Q3	5682076	3246305	1453215	151281
2017:Q4	5821226	3389125	1457877	153834
2018:Q1	5905455	3346272	1488342	150455
2018:Q2	5991749	3549111	1489775	160469
2018:Q3	6037232	3461491	1536844	159254
2018:Q4	6066709	3483194	1564695	163903
2019:Q1	6124561	3595927	1568638	168815
2019:Q2	6186833	3813355	1562573	179504
2019:Q3	6255193	3961996	1567739	186359
2019:Q4	6352751	3863425	1615553	181786
2020:Q1	6436771	3885475	1626561	179722
2020:Q2	6538079	3894863	1655816	180233
2020:Q3	6768004	3835766	1714481	173967
2020:Q4	7000560	3976479	1738177	175853
2021:Q1	7280257	3950340	1789491	166948
2021:Q2	7672336	4019919	1852812	161761

<Middle/Lower class Household wealth in Pension Entitlements>

: The data below is sub data from the dataset released by the Survey of Consumer Finances and Financial Accounts of the United States regarding household wealth levels since 1989. This dataset particularly records household wealth in pension entitlements since the third quarter of 2017. Households are divided into four groups based on wealth percentile: the Top 1%, Next 9%, Next 50%, and Bottom 50%.

	Top 1%	Next 9%	Next 40%	Bottom 50%
2017:Q3	1825670	12045070	10956540	672821
2017:Q4	1802173	12286861	11140808	701743
2018:Q1	1781492	12321060	11159633	702694
2018:Q2	1754251	12466506	11259709	719627
2018:Q3	1708984	12701337	11428719	752368
2018:Q4	1705149	12299524	11109164	699014
2019:Q1	1679025	12797901	11491753	753720
2019:Q2	1652198	13043615	11678886	774653
2019:Q3	1616997	13182889	11789039	783447
2019:Q4	1587435	13529268	12058596	818776
2020:Q1	1596762	12870251	11565248	718706
2020:Q2	1575699	13569436	12106019	788567
2020:Q3	1558209	13941031	12374924	822694
2020:Q4	1543690	14545154	12829546	879458
2021:Q1	1510327	14774459	13000604	913641
2021:Q2	1459583	15221136	13312887	957396

<Change in Wealth from 2020 Q1 to 2021 Q2>

: This dataset was used to plot figure 3 and calculates the change in household wealth in different assets from 2020 Q1 to 2021 Q2 for the middle class (Next 40%) and lower class (Bottom 50%).

	Top 10-50%	Bottom 50%
Real Estate	1.12960331	1.18598677
Consumer Durables	1.13656791	1.22116155
Equities	1.60496177	1.98412711
Pension Entitlements	1.15111124	1.33211077
Private Businesses	1.13909777	0.90006232

<Middle Class change of Wealth in Equities vs Pension Entitlements>

: This dataset was used to plot figure 3 and calculates the change in household wealth in equities and pension entitlements for the middle class (Next 40%)

	Equities	Pension Entitlements
2017:Q4	3.97953867	1.68180831
2018:Q1	-0.4960552	0.16897338
2018:Q2	0.77837591	0.89676784
2018:Q3	3.13872467	1.5010157
2018:Q4	-11.804733	-2.7960701
2019:Q1	12.6355517	3.44390451
2019:Q2	2.57968034	1.62841126
2019:Q3	-0.3313357	0.94318071
2019:Q4	6.54556917	2.28650529
2020:Q1	-17.212775	-4.0912557
2020:Q2	17.0604577	4.6758271
2020:Q3	7.51744914	2.22125044
2020:Q4	11.6755335	3.67373569
2021:Q1	6.82231917	1.33331296
2021:Q2	6.89453066	2.40206532

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