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Exploring Income Volatility And Financial Health Among Middle-Income Households

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Abstract

Income volatility has been rising since the 1970s and reflects a decline in economic security among middle- and low-income households. This paper presents results from a mixed-methods study of middle-income households whose month-to-month income varied within the previous year. A sample of middle-income workers was recruited in partnership with SaverLife, a non-profit fintech organization. Median financial health scores revealed a study population that was showing signs of economic vulnerability, with female participants were worse off than their male counterparts. Qualitative findings show that income volatility can be both an indicator of and response to economic insecurity when workers depend on multiple income streams to supplement insufficient wages from a primary job. Household financial health is influenced by low wages relative to the cost of living, substantial student loan and credit card debt, and costly medical care. Overall, the results show a need for higher wages and more robust public and private social welfare benefits to protect middle-income households against common economic risks and enable them to invest in their financial futures.

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Mina Addo

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ABSTRACT

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Income volatility has been rising since the 1970s and reflects a decline in economic security among middle- and low-income households. This paper presents results from a mixed-methods study of middle-income households whose month-to-month income varied within the previous year. A sample of middle-income workers was recruited in partnership with SaverLife, a non-profit fintech organization. Median financial health scores revealed a study population that was showing signs of economic vulnerability, with female participants worse off than their male counterparts. Qualitative findings show that income volatility can be both an indicator of and response to economic insecurity when workers depend on multiple income streams to supplement insufficient wages from a primary job. Household financial health is influenced by low wages relative to the cost of living, substantial student loan and credit card debt, and costly medical care. Overall, the results show a need for higher wages and more robust public and private social welfare benefits to protect middle-income households against common economic risks and enable them to invest in their financial futures.

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CHAPTER 1: BACKGROUND

Specific Aims

Existing research has documented the erosion of economic security for workers since the 1970s (Benach et al., 2014; Hacker & Jacobs, 2008). One contributing factor is the shift away from secure, full-time jobs with benefits – the standard employment relationship (SER) – towards alternative forms of employment that are short-term and offer fewer social protections and benefits (A. L. Kalleberg & Vallas, 2018). Evidence of this trend includes an increase in the share of workers in alternative work arrangements, the decline in the amount of time workers spend with an employer, and growing income volatility (Aspen Institute, 2016; Cappelli, 2008; Hannagan & Morduch, 2015; L. F. Katz & Krueger, 2016). This study focused on income volatility – an indicator of economic insecurity – and how it affects household financial health among middle-income households. Financial health is a measure of overall financial condition encompassing four components: ability to pay bills on time and in full, having sufficient savings to cover living expenses, having a prime credit score, and having the ability to plan ahead for expenses (Parker, Castillo, Garon, & Levy, 2016).

Across data sets and methodology, existing studies find growing income volatility among U.S. households since the 1970s. The share of households experiencing a 50 percent drop in income over a two-year period increased from 7 percent in the early 1970s to more than 12 percent in the early 2000s (Dynan et al., 2012). Over a two-year period, nearly half of all households will experience a 25 percent loss or gain in income (Aspen Institute, 2016). *The Financial Diaries*, a year-long study tracking within-year income changes among domestic households, found that volatility was more frequent among low-income households compared to middle-income households (Aspen Institute, 2016; Hannagan & Morduch, 2015; Morduch & Schneider, 2017).

Negative consequences of income volatility include difficulty paying bills and affording basic needs: food, housing, medical care, and childcare (Hannagan & Morduch, 2015; Larrimore, Durante, Park, & Tranfaglia, 2017). Income volatility sets people up for long-term financial hardship when they lack a financial cushion against the unexpected, setting them up for a cycle of instability (Hill, Romich, Mattingly, Shamsuddin, & Wething, 2017; Servon, 2017). Income volatility also contributes to financial stress, which over time can contribute to more serious health and mental health concerns (Aspen Institute, 2016).

Overall income volatility trends have been studied extensively (Aspen Institute, 2016; Dynan et al., 2012; Gottschalk & Moffitt, 2009; Hacker & Jacobs, 2008; Pew Charitable Trusts, 2017). However, most income volatility research has focused on low-income workers, such as those employed in the retail and hospitality sectors (Boushey & Ansel, 2016; Carrillo, Harknett, Logan, Luhr, & Schneider, 2017; Henly & Lambert, 2014; Lambert & Henly, 2014). Common causes of volatility among this population include variable work schedules, changes to eligibility for public benefits such as food stamps, and fluctuations in private income such as child support payments (Carrillo et al., 2017; Hill, Romich, Mattingly, Shamsuddin, & Wething, 2017; Sandstrom & Huerta, 2013; Schneider & Harknett, 2019). This body of research has informed policy changes designed to alleviate low-income workers' financial burdens, such as minimum wage increases, paid family leave, and fair scheduling practices ordinances.

Income volatility among those in the middle of the income distribution, defined as earning between $40,000 and $100,000 per year, has received less attention (Durante & Chen, 2019). While income volatility has long been common among low-income workers, a growing share of middle-income workers – once thought of as stable – are showing similar signs of insecurity. The 2016 National Financial Capability Study found that 38 percent of households reported living paycheck to paycheck, defined as spending as much as they earned each month (Lin et al., 2016). Although middle-income households earn more than their low-income counterparts, they face different financial challenges, and may not earn enough to avoid hardship, such as difficulty covering an unexpected expense. This population cannot access public social welfare benefits due to income thresholds. For those covered by employer-sponsored benefits, the value of benefits has declined over time and as previously noted, job security is declining overall (Hacker, 2006; Latner, 2019). Middle-income households may rely on credit to manage unpredictable wages and expenses, but accumulating debt is risky due to the cost of borrowing (Schneider & Harknett, 2019). Further, many middle-income workers have made significant investments in higher education and homeownership which are often financed using debt. For example, a 2018 survey on household financial condition found that 25 percent of adults had student loan debt and nearly half (48 percent) were concerned about their ability to pay off their loans (Lin et al., 2016). About nine percent of mortgage holders are underwater, meaning their homes are valued at less than the amount they owe; this figure remained consistent between 2016 and 2018 but decreased from 14 percent in 2012 (Lin et al., 2016, 2019).

Within the broad middle-income category, female-headed, Black, and Latino households face additional risks from income volatility stemming from longstanding inequality that contributes to wage and asset gaps. Differences between earnings for Black and white workers were larger in 2016 than in the late 1970s (Wilson & Rodgers, 2016). In 2020, women overall earned 82 cents for every dollar earned by men (Bleiweis, 2020; U.S. Bureau of Labor Statistics, 2020a). Wages influence workers' ability to save and build assets that can buffer against income volatility. In 2019, white households had considerably higher median ($188,200) wealth compared with Black and Hispanic families' median wealth ($24,100 and $36,100 respectively) (Bhutta, Chang, Dettling, & Hsu, 2020). For these reasons, women and people of color face greater economic risks stemming from income volatility.

In sum, the middle class is facing a confluence of factors influencing their financial health – rising income volatility, diminishing returns on high-cost investments, and limited access to social welfare benefits – that make them particularly worthy of study. In addition, if both low- and middle-income people – a large and growing share of the overall population – are struggling, this raises questions about the broader economic system and the effectiveness of policies designed to promote economic security.

This study explored the experiences of middle-income households affected by income volatility, including strategies they use to make ends meet. It was guided by three primary research questions:

1. What are characteristics of middle-income households affected by income volatility?
    a. What are their sources of household income?

2. How does income volatility affect their financial health?
    a. What financial challenges does this population face?
3. What strategies does this population use to make ends meet?

Background

This section begins with a brief history of labor trends. Next, it discusses income volatility, a consequence of the changing nature of work, and approaches to studying it in the existing literature. The following section explores income volatility dynamics, negative consequences of volatility, and specific challenges middle-income households, and subpopulations within this group face. The background section ends with a discussion of strategies people use to manage income volatility. I argue that few income volatility studies have been focused on middle-income households, which contributes to misconceptions about their financial condition and the need for policy solutions that can better address the needs of middle-income households.

Work and Economic Security

For many American workers, the post-World War II period was the start of an era characterized by employment security and improving labor conditions. Industrialization required a stable and well-coordinated workforce to ensure productivity and firms' profitability (Nelson, 2015, p. 241). As a result, many workers enjoyed long-term employment contracts with a single firm, predictable and fair wages, internal pathways for career advancement, and relative economic security (Nelson, 2015, p. 241). This worker-employer relationship is commonly known as the standard employment relationship (SER; Kalleberg, 2009).

The quality of jobs was further improved by New Deal-era policy changes that strengthened worker power. In 1935, the Wagner Act established the National Labor Relations Board to protect workers' collective bargaining rights and to enforce employer-employee wage agreements; this legislation resulted in higher wages and safer working conditions, both of which contributed to more stable employment arrangements for workers and productivity gains for the firm (Nelson, 2015, p. 242). Within the same year, the Social Security Act established public pensions, unemployment insurance and disability insurance. These public programs provided social insurance against the most common threats to economic security: unemployment following job loss and inability to work due to illness, disability or old age (Abramovitz, 2004).

Federal policies laid the groundwork for the current system of public and private social welfare benefits. During World War II the federal government responded to the labor shortage by freezing wages and salaries for all workers as a disincentive for companies to recruit workers from their competitors. Since companies could not attract or retain workers using financial compensation, they began offering generous fringe benefits as a means of attracting and retaining workers (Hacker, 2002; Nelson, 2015). Tax incentives further encouraged the expansion of employer-sponsored health benefits which created a health care system characterized by private employer-sponsored health benefits for workers, supplemented by public programs provided coverage for the elderly and poor, and undermined political pressure for a universal insurance system (Hacker, 2002). In contrast, employers embraced universal retirement system (Social Security), which established a floor for retirement benefits for workers, enabling businesses to offer more generous retirement plans to higher-income workers. (Hacker, 2002).

In sum, in the post-War era, the most advantaged workers enjoyed rising economic security due to jobs characterized by the SER, better power dynamics between workers and their employers, and robust public and private social welfare benefits to protect workers against the most common economic risks.

But this arrangement was reserved for specific types of employment (blue collar industrial jobs that paid well and large industry leaders such as IBM and Hewlett-Packard), which largely excluded women and provided fewer opportunities for Black workers. Women's participation in the labor force has dramatically shifted over the 20th century, but, as Katz and Stern (2006) write, "A major theme of women's economic history remains inequality – women forced by necessity into low-wage, dead-end jobs, excluded from work altogether, relegated to occupational ghettos, or paid less than men" (p. 76). Prior to the 1970s (when anti-discrimination laws were passed), women were largely excluded from white-collar job that were more likely to be governed by the SER. For Black women in particular, domestic labor (which is not characterized by the SER) had been the primary form of non-agricultural work throughout the early 20th century; its decline led to a corresponding loss in job opportunities (M. B. Katz & Stern, 2006).

However, as women transitioned into fields and occupations that were more likely to be characterized as a standard employment relationship (namely other types of care work or clerical/sales position), earnings gaps persisted. According to the U.S. Department of Labor (2017), in 1970, women had median annual earnings of $30,072 (in 2017 dollars); in contrast, men had median annual earnings of $50,653. Although these gaps have substantially shrunk, data from 2017 still show a roughly $11,000 advantage for men ($52,146 vs. $41,977). Importantly, however, these numbers are averages; women of color (namely Black and Hispanic or Latina women) experience even greater wage disadvantages. For every dollar earned by white men, Black women earned just 62 cents, Hispanic or Latino women earned 54 cents, and American Indian and Alaska Native women earned 57 cents (Bleiweis, 2020).

Gender wage gaps also exist within racial and ethnic groups: white women's annual median earnings in 2017 were $46,513 compared with $36,735 for Black women and $32,002 for Hispanic women (U.S. Department of Labor, 2017). Across different comparison groups and historical periods, data consistently show that Black and Hispanic/Latina women are most disadvantaged by wage gaps. Numerous studies demonstrate that wage gaps between genders and races are insufficiently explained by differences in education (U.S. Bureau of Labor Statistics, 2021), occupation type (U.S. Department of Labor, 2019), or even sector (Gould, Schieder, & Geier, 2016). It is important to note, however, that women, racial and ethnic minorities, and immigrants have historically been excluded from jobs characterized by the SER (Kalleberg & Vallas, 2018) and female-dominated fields (such as child care or home health aides) tend to offer lower pay and fewer benefits (Bleiweis, 2020). In sum, the SER is one of many factors has helped further a two-tiered system where the most advantaged workers, who tended to be white males, benefited from employment that was both more stable and higher paying, both critical to economic security and social mobility.

Shifting Labor Market

The current trend towards declining economic insecurity among advantaged workers started in the 1970s (Kalleberg, 2009). In the post-World War II era, the federal government focused on economic growth, full employment and improving the welfare of U.S. residents (Harvey, 2005). Government intervention in markets and the direct provision of social programs were accepted as a necessary means of facilitating economic stability (Harvey, 2005, p. 10). Within the U.S. and other industrialized and capitalist countries, these policies contributed to relative economic stability, productivity gains, and economic growth through the 1950s and 1960s.

When economic crises hit in the 1970s, governments around the world grappled with how to meet growing demand for social welfare programs while tax revenue was decreasing. This economic climate created an opening to advance new ideas about government and its role in the economy (Harvey, 2005). Policymakers in the U.S. and other industrialized countries began advancing neoliberal polices as the solution. Neoliberalism is a “theory of political economic practices based on the premise that human well-being can best be achieved by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong property rights, free markets, and free trade” (Harvey, 2005). Policies grounded in neoliberal ideology emphasized the free market, sought to reduce the role of government in regulation and social protection, and facilitated privatization of government programs and resources (Harvey, 2005; Kalleberg, 2009). The resulting changes lowered taxes, limited government regulation, and decreased government investment in public services and social welfare programming.

In the ensuing decades, two related factors contributed to declining job quality including among workers who once held social and economic advantages: globalization and declining union power.

Globalization and Growth of Non-Standard Work

As previously mentioned, free-market policies facilitated new foreign competition and domestic businesses sought ways to reduce their labor costs. Since 1980, the U.S. has lost about 7.5 million manufacturing jobs, and between 2001 and 2018, roughly one-fourth of those job losses were attributed to companies shifting operations to countries with lower labor costs (Hernandez, 2018). Companies also saved money by shifting the cost of benefits to workers, such as increasing premiums and co-payments for health insurance and shifting from defined benefit to defined contribution retirement plans (Hacker, 2006; Hacker & Jacobs, 2008).

Companies are increasingly outsourcing segments of their labor to other organizations. A representative survey of U.S. businesses in the mid 1990s found that more than half of them outsourced portions of their work, such as food and janitorial services, accounting, and routine legal work (Kalleberg & Marsden, 2005). Technological advancements have also contributed to the growth of outsourced work (other than in positions that require person-to-person contact) including skilled white collar work, since the tasks are not location dependent (Kalleberg, 2009). These outsourced or non-standard work arrangements often involve short-term employment contracts and limited or non-existent benefits (Benach et al., 2014; Kalleberg, 2009). L. F. Katz and Krueger (2017) found a substantial increase in non-standard work overall between 2005 and 2015, with the fastest growing segment being contract workers, which includes professional services and other white-collar jobs (L. F. Katz & Krueger, 2017).

Declining Unionization and Worker Power

In the 40-year period spanning 1979 and 2019, the share of workers covered by a collective bargaining agreement declined from around 27 percent to just under 12 percent (Economic Policy Institute, 2020). Unionization and collective bargaining are associated with better working conditions and higher wages; the average worker who is covered by a union contract earns more than 13 percent more than their non-unionized peers (Economic Policy Institute, 2020).

Declining unionization reflects a changing mix of employers. Historically, unions were more common in industrial settings, which have declined as a share of employers, than in service-industry jobs, which are increasing. As more workers are hired on a contract or project basis, it is increasingly difficult to form worker communities based on a common employer, work site, or profession (Standing, 2011). Declining unionization has also been linked to aggressive anti-union efforts by employers, such as hiring consultants to coordinate anti-union campaigns (Chikhale, 2018). For example, workers at an Amazon warehouse in Alabama recently organized a unionization vote that was met with strong pushback from the company, including a text message campaign and mandatory meetings discrediting the value of a union for workers (Selyukh, 2021). The unionization vote was ultimately not successful. In addition, proposals to update labor laws that would shift the balance of power between employers and workers have not been successful. For example, the PRO Act which would forbid companies' anti-union interference and establish financial penalties for companies that violate workers' rights has passed twice in the U.S. House, but failed to advance in the Senate (Gonyea, 2021).

Two related trends have also contributed to growing economic insecurity among workers: wage stagnation and the rising cost of living.

Wage Stagnation

Since the 1970s, household incomes in the U.S. have generally increased, but wages are not keeping pace with overall economic productivity (typically measured as the growth of output of goods and services less depreciation per hour worked) when inflation is factored in. For example, between 1979 and 2018, productivity grew nearly 70%, compared with only 12% growth in workers' wages (Gould, 2020). Wage stagnation is particularly severe among some groups (female, Black and/or college-educated workers). However, overall, wage growth between 2000 and 2019 was strongest for workers in the top 10% of the wage distribution, which masks relatively flat (1%) median wage growth and falling wages for the bottom 10% of earners (Gould, 2020). More recent trends make this pattern clearer. As Gould (2020) writes, "The top 1% of earners saw cumulative gains in annual wages of 157.8% between 1979 and 2018 . . . over six times as fast as average growth for the bottom 90% (23.9%). Over the same period, top 0.1% earnings grew 340.7%" (p. 7).

Middle-income households' average annual income growth has lagged behind both their wealthier and poorer counterparts. Since at least the 1970s, middle-income households' (defined as those in the middle 60% of households) incomes have "grown half as fast as those in the bottom 20% and the top 81-99%" (Reeves & Pulliam, 2019, para 3). Importantly, a major factor in income growth among the bottom quintile of households are transfers through social welfare programs (e.g., TANF, SNAP, SSI) and government subsidies for health insurance, most of which are not available to middle-income households due to means testing (Dews & Patton-Bullock, 2020). The middle class was expected to make economic gains in the period between 2016 and 2021, but even the most optimistic forecasts showed that the gap between middle class growth and cumulative income growth would remain (Reeves & Pulliam, 2019). These projected gains are likely to be disrupted by the economic impacts of the COVID pandemic.

Americans are also contending with the rising cost of living that has outpaced modest wage growth.

Rising Cost of Living

The cost of living (the amount of money needed to cover basic expenses such as food, housing, education, and medical care) is another important factor in household financial health. Cost of living varies by geographic location; the amount of income needed to afford monthly expenses is different in different parts of the country. This study defined middle-income using the Federal Reserve Board's Report on Economic Well-being of U.S. Households, which is a nationally representative survey (Durante & Chen, 2019; Larrimore, 2016; Larrimore, Durante, Kreiss, Park, & Sahm, 2018; Larrimore, Durante, Park, & Tranfaglia, 2017). Therefore, the cost-of-living information presented here refers to national figures.

Housing. Housing costs have consumed a larger share of household income as housing prices increased and wage growth has lagged. In 1980, the median price of houses sold in 1980 was $63,700 compared to $329,000 in the first quarter of 2020, an increase of more than 400 percent compared to 12 percent growth in wages (Federal Reserve Bank of St. Louis, 2021; Gould, 2020). Housing affordability varies by geographic region and predictably, areas with the highest rates of cost-burdened (defined as spending 30 percent or more of household income on housing expenses) homeowners and renters are aligned (urban areas in California, Florida, and in the Northeast corridor) (Dumont, 2019).

Overall, housing affordability is more challenging for renters than homeowners. In 2018, roughly 40 percent of renters were housing cost burdened compared with 20 percent of homeowners (Mazur, 2019). Nationwide, more renters than homeowners struggle to afford housing, and the difference between the share of each that are cost burdened ranges from 11 to 37 percentage points higher (Dumont, 2019).

Certain segments of the population are more likely to experience housing affordability challenges (low- and moderate-income, Black and Hispanic households). Between 2009 and 2017, the share of rent burdened households increased significantly among households earning between $20,000 and $49,999 and between $50,000 and $74,999 per year, 11.2 percent and 7.6 percent, respectively, compared to a less than one percent increase overall (Dumont, 2019). The Federal Reserve (2019) found that 7 out of 10 low-income renters (defined as earning less than $40,000 in annual household income) and one-quarter of middle-income renters (earning household income between $40,000 and $100,000) were rent burdened (Durante & Chen, 2019). More than half of Black and Hispanic renters are rent burdened compared to their white counterparts (Joint Center for Housing Studies of Harvard University, 2020).

Education. Higher education has historically been a pathway to higher earnings and economic stability, but the rising cost of college attendance has also far outpaced wage growth. In the ten-year period between the 2008 and 2018, the price of full-time undergraduate study rose 31 percent at public institutions and 23 percent at private non-profit institutions, after adjusting for inflation (U.S. Department of Education, 2019). This includes the cost of tuition, fees, room, and board (U.S. Department of Education, 2019). Students and their families increasingly rely on loans to finance the cost of attendance. The Federal Reserve found that more than 40 percent of adults who attended college depended on some form of debt, including student loans and credit cards (Durante

& Chen, 2019). Among those who took out student loans to pay for their own education, 2 in 10 adults were behind on their loan payments and borrowers who did not complete their degree are most likely to be behind (Durante & Chen, 2019).

Health Care. Health care costs make up a substantial share of household spending and average annual expenditures have increased over time. The Bureau of Labor Statistics (2020) estimated that the average household spent nearly $5,000 per year in out-of-pocket medical expenses (including insurance premiums, prescription medication and medical supplies) in 2018, compared with roughly $2,600 in 2004, or roughly a 4.7 percent average increase each year (Chalise, 2020). Health care premiums are the most expensive component of health care. In 2019, the average health care premium was $7,188 for an individual plan and $20,576 for a family (Claxton, Rae, Damico, Young, & McDermott, 2019). The cost of family coverage has increased by 22 percent since 2014 and more than 50 percent since 2009 (Claxton et al., 2019). The cost of health care premiums continues to exceed wage and cost of living increases. Between 2016 and 2017, the average individual plan premium increased 4 percent and the average family premium increased 3 percent, compared to a 2.3 percent wage increase during the same period of time (Claxton et al., 2017).

Premiums can vary according to the type of coverage (for example, high deductible health plans offer lower premiums) and according to employer characteristics. Larger firms and those with a larger share of younger workers tend to have lower premiums. Average health care premiums do not vary significantly by geographic region (Claxton et al., 2017).

Child Care. In nearly half of two-parent households both parents work full-time, and they rely on childcare to stay in the workforce (Geiger, Livingston, & Bialik, 2019). The average family with children under age 5 spends about 10 percent of their household income on childcare, whereas the department of Health and Human Services defines affordable childcare as spending seven percent or less of household income (Malik, 2019). Between 1985 and 2011, average weekly childcare expenses increased from $87 to $148, in inflation-adjusted figures, or an increase of 70 percent (DeSilver, 2014). Between 2013 and 2019, average household spending on childcare increased by 11 percent (Malik, 2019). Certain groups are more likely to be burdened by the cost of childcare: households where the mother is Black or Hispanic, younger mothers (between age 15 and 24), mothers whose highest level of education is less than a Bachelor's or 4-year degree, and low- and middle-income households (earning up to $77,250) (Malik, 2019).

Taken together, the result of the trends described here – globalization and reduced worker power, wage stagnation, rising costs of living – is a labor market that is less favorable to workers and jobs that no longer convey the same sense of economic security as in the past (Benach et al., 2014; Hacker, 2006; Hacker & Jacobs, 2008; Howell & Kalleberg, 2019; Kalleberg & Vallas, 2018). Another important component of economic security is income volatility, which has been rising over the past four decades.

Income Volatility

The most common measure of income volatility is calculated in terms of deviation from an average amount of income calculated over a specific time frame, such as year-to-year or month-to-month volatility (Wolf, Gennetian, Morris, & Hill, 2014). Several scholars use a 25 percent income increase or decrease as the threshold for measuring income volatility; an income change of less than that amount would not count as volatility (Andersen, Austin, Doucette, Drazkowski, & Wood, 2015; Morduch & Schneider, 2017). Others measure volatility in terms of categories such as having income that changes often, sometimes, or never (Durante & Chen, 2019). This section examines income volatility trends, patterns of income change, sources of volatility, and income volatility among demographic groups.

Annual Income Volatility. Using various measures, most scholars find a trend of rising income volatility in the U.S. since the 1970s. Gottschalk and Moffitt (2009 and 2012), Hertz (2006), Dynan et al., (2012), and Dahl, DeLeire, and Schwabish (2011) have measured income volatility in terms of annual changes. Gottschalk and Moffitt's (2009) analysis of Panel Study for Income Dynamics (PSID) found that fluctuations in male earnings doubled between 1974 and 2000. Using the same data source, Dynan et al. (2012) concluded that the share of households expected to experience a 50 percent income drop over a two-year period increased from 7 percent in the early 1970s to 12 percent by the 2000s. Hertz (2006) analyzed household income data from the Current Population Survey (CPS) and found a 23 percent increase in the share of households experiencing an income shock of $20,000 or more between 1991 and 2004.

A few studies reach different conclusions about annual income volatility trends, typically attributed to data source and methods. The Congressional Budget Office measured the change in men and women's labor earnings between 1980 and 2003 using data from the Continuous Work History Sample (CWHS; Dahl, DeLeire, & Schwabish, 2007). CBO found that earnings volatility has not changed substantially since 1980, although the CWHS data does not include self-employment earnings. Ziliak, Hardy, and Bollinger (2011) reach a similar conclusion using matched data from the CPS. They find rising income volatility among men between the 1970s and 1980s and declining income volatility among women during that time. Beyond the 1980s, they find that overall volatility stabilized. The authors acknowledge as a limitation that they cannot detect variation in trends according to education level and marital status.

Dahl et al. (2011) also find different rates of income volatility based on data source. Using administrative data, the authors find that rates of volatility have remained stable since the mid-1980s. However, using survey data from the Survey from Income and Program Participation (SIPP), they find substantial volatility in earnings from year to year. Dahl et. al. (2011) does not capture self-employment income, which is not included in the SIPP, and therefore may underestimate income volatility.

Research examining annual income volatility shows a rising trend over the past 40 years including increases in the amount of annual income change and the share of households experiencing income volatility from year to year. Analyses of month-to-month volatility trends reach similar conclusions and add insights on the sources of volatility.

Month-to-Month Income Volatility. Building on the evidence of annual household income changes, scholars have studied month-to-month income volatility, finding evidence of within-year volatility that is otherwise masked by annual measures. Using data from the Survey of Income and Program Participation (SIPP), Bania and Leete (2009) found an 11 percent increase in month to month income volatility between 1991 and 2003. Fewer than half (47 percent) of respondents to Pew Charitable Trusts'

2015 survey of American Family Finances reported having consistent and predictable household income from month to month (Elmi, Currier, & Key, 2017). The Federal Reserve's 2016 Survey of Household Economics and Decisionmaking (SHED) found that roughly one-third of respondents experienced month-to-month income volatility either sometimes of often (Larrimore et al., 2017). *The Financial Diaries*, a year-long study of more than 230 low- and moderate-income households, found that the average household experienced five months when income went up or down within a year (Morduch & Schneider, 2017). Farrell, Greig, and Yu (2019) analyzed a sample of JP Morgan Chase account holders' transactions over a 75 month period, finding that the median level of volatility was a 36 percent change in month-to-month income (Farrell et al., 2019).

Research on within year volatility reaches to similar conclusions about income volatility trends as studies that analyze annual income changes. Scholars have examined causes of income volatility in order to identify solutions and opportunities for policy intervention.

Previous Research on Income Volatility. Studies that rely on large federal data sets provide valuable information about trends over time, but they may not be nuanced enough to capture contemporary household dynamics. The PSID, the longest longitudinal survey of U.S. households covers income, wealth, expenditures, and related topics, offers a comprehensive view of household financial condition. The PSID has been a critical source of information about income volatility trends over time, however, this survey may not accurately reflect contemporary household dynamics. The survey designates the male in any two-adult household as head of household; the only females who are considered head of household are single females. Scholars find evidence of variation in income volatility trends by gender, suggesting a need for further study of income volatility trends according to demographics (Wolf et al., 2014).

The SIPP and CWHS capture total household income from multiple sources. However, neither captures self-employment income, which can be an important source of household income. As noted by Abraham and Housman (2019), more than one-quarter of U.S. households engage in informal work each month, including various forms of self-employment, and the income earned from these activities can have a meaningful impact on household budgets.

The Contingent Worker Supplement (CWS) captures workers for whom alternative arrangements – including short-term, contract, and temporary jobs – are their main job (U.S. Bureau of Labor Statistics, 2018). This builds on the other data sources by including self-employment income and other forms of alternative work. But the CWS only captures data from workers for whom alternative arrangements are their main job and excludes workers who may use self-employment or other forms of alternative work as secondary income sources.

The 2016 and 2017 Survey of Household Economic Decisionmaking (SHED) builds other data sets by including comprehensive questions about different forms of employment including multiple-job holding and informal work (Abraham & Housman, 2019; Larrimore, 2016; Larrimore et al., 2017). This survey was conducted online and therefore may not capture the experiences of those who do not have Internet access and could not otherwise participate.

Finally, recent studies examining month-to-month income changes have used proprietary data sets, such as banking transaction data, which can provide additional insight on the amount and frequency of income change (Farrell & Greig, 2016; Farrell et al., 2019). But these data sets cannot necessarily report causes of income volatility, such as conditions of work. The next section discusses existing research on causes of income volatility.

Sources of Income Volatility. Existing literature focuses on four main causes of income volatility: changes to employment income, changes to non-work income, changes to social welfare benefits, and related to the first point, changes to household structure that affect household income. Individual and household income may include multiple sources such as employment wages and public transfers, and volatility may be caused by changes by a single or a combination of income sources. Farrell and Greig (2016) identify four primary categories comprising income: labor earnings (payroll or other direct deposits), capital (annuities, dividends, interest income), government income (tax refunds, unemployment insurance, social security), and other (ATM deposits and other funds that could not be classified). Labor was the largest component of total income, accounting for 71 percent of income, and more than half of income volatility (53%) could be attributed to changes to labor income. The study also found that most month-to-month variation in labor income (83 percent) resulted from changes within the same job, such as varying number of hours or receiving a bonus, and 14 percent of income volatility was caused by changing jobs.

Some volatility is expected with earnings from employment, such as receiving an additional weekly paycheck in months with five instead of four pay days. In other cases, volatility can be a result of involuntary circumstances, such as being laid off or furloughed, or voluntary choices, like taking time off of work for personal reasons.

Workers employed in seasonal roles may also experience month-to-month income volatility in transitions between periods of working and not working.

Individuals and households may also rely on income from alternative work arrangements or non-employment activities. This category includes gig economy jobs, such as rideshare and meal delivery services, where workers typically provide short-term or one-off services to customers, and the practice of selling goods using online platforms (Abraham & Housman, 2019). It also includes alternative work arrangements such as independent contracting or assignments arranged through an employment agency. For gig workers and others employed under alternative work arrangements, volatility can result from changes to the volume of work, periods of not working in between assignments, or periods of overworking to compensate for periods of low income.

The JP Morgan Chase Institute study of banking transactions found that other sources of income accounted for 13 percent of total income but were responsible for more than one-fourth of income volatility (27 percent) (Farrell & Greig, 2016). Further they found that these other sources of income were not enough to offset income volatility associated with a primary job.

For workers who hold more than one job, volatility may result from changes to one or more income source. Bureau of Labor Statistics figures show that in 2019, more than five percent of prime working age adults (5.3 percent) held more than one job (Bureau of Labor Statistics, 2020b). But Abraham and Housman (2019) found that more than one quarter of adults earn income from a main job plus another source including informal work (Abraham & Housman, 2019). Informal work encompasses a wide range of activities including part-time work, gig work or income generated through online platforms like Uber or Lyft, or independent contracting. Discrepancies between these figures can be explained by different data sources' categorization of work. For example, "non-employee work" such as independent contracting would not be counted as full- or part-time work, therefore studies measuring multiple job holding may underestimate the share of workers who rely on multiple income sources (Abraham & Housman, 2019).

Government transfer income, or social welfare benefits, can be both a solution to and a source of income volatility. Farrell and Greig (2016) found that income from government transfers, including Social Security benefits, were among the most stable sources of income for people within their sample. However, changes to government transfers can also cause volatility. Income changes that affect eligibility for public benefits, can cause social welfare benefits also change (Hill et al., 2017). Morris et. al. (2015) found that among those in the lowest income category (10^{th} percentile), volatility was primarily related to benefits ending, such as an income drop when an individual reaches the time limit for a public benefit.

The current economic context illustrates both of these findings. For example, workers who became unemployed at the start of the COVID pandemic may have initially benefitted from unemployment insurance, including the enhanced federal match of $600 per week, buffering the effects of sudden income loss. But as the pandemic stretched on, workers faced volatility stemming from termination of the enhanced federal match, and potentially for time limits for state and federal UI benefits.

Income changes may also result from changes to the household composition (such as starting or ending a romantic relationship) or family structure (such as having a baby and temporarily leaving the workforce) (Hill et al., 2017). These changes may be short-term, such as a period of unpaid parental leave, or long-term, such as a divorce that results in substantial income loss when going from a dual to single-earner household. Whether temporary or permanent, these changes can create volatility and have potential for financial strains particularly when they are unexpected. Financial risks associated with these common life events have increased as employment provides less economic security than in the past (Hacker, 2006).

Dimensions of Income Volatility. In order to understand how income volatility influences financial health and well-being, it is important to consider different dimensions of volatility. Wolf et al. (2014) identify three dimensions of income volatility: magnitude, frequency, and direction. These factors translate to meaningful differences in the experiences of those whose income changes either predictably or unpredictably (Wolf et al., 2014). Magnitude refers to the amount of change compared to an average income level. As previously mentioned, income volatility is often measured using a 25 percent deviation from average as the threshold (Morduch & Schneider, 2017; Wolf et al., 2014). Frequency refers to how often income changes. For example, income may change every month within a year, or occasionally. Direction refers to either an increase or decrease, called "spikes and dips" by the authors of *The Financial Diaries*.

As previously mentioned, labor market changes over the past 40 years have resulted in less economic security for workers. At times when workers' wages were increasing, income volatility tended to be positive, such as receiving a bonus or wage increase (Aspen Institute, 2016). But in the current context, likelihood of experiencing an income loss has increased (Aspen Institute, 2016; Hertz, 2006). Income volatility is caused by multiple factors linked to employment and family. There is evidence of increasing income volatility overall, but patterns of volatility vary according to demographic characteristics.

Income Volatility by Demographics. Income volatility trends vary by demographic groups. Differences speak to long-standing labor and economic discrimination, which has limited employment opportunities and contributed to lower wages for female, Black, and Hispanic or Latino workers. The trends also speak to gender-based differences in family caregiving responsibilities.

Income Level. Income volatility affects households across the income spectrum, but rates of income change are higher and growing fastest among low-income earners. Bania and Leete (2009) found that volatility increased 31 percent among poor households compared to an 11 percent increase in volatility overall. A 2015 Pew study reported that income volatility was most common among people whose income was below $25,000 (Elmi et al., 2017). Farrell and Greig (2016) observed the highest rate of income volatility among people in the lowest income quartile; 70 percent of low-income earners experienced a 30 percent change in month-to-month income compared to the national mean of 55 percent. *The Financial Diaries* also found that lower income households experienced more months with ups and downs in income compared to those whose income was above the poverty line (Morduch & Schneider, 2017).

Race or Ethnicity. Income volatility is more common among people of certain racial or ethnic groups. Andersen et al. (2015) found that since the Great Recession, Black and Hispanic individuals experienced greater income volatility than white people. Consistent with their findings, Black and Hispanic respondents to the SHED survey were more likely to experience income volatility than white respondents; 70 percent of white respondents said their income was roughly stable from month-to-month but only 60 percent of Black respondents and 59 percent of Hispanic respondents reported stable monthly income (Larrimore et al., 2017). Elmi et al. (2017) found that households identified as Black, Hispanic, or other race were more likely to experience month-to-month income volatility of 25 percent or more. In the overall sample, 15 percent of households reported income losses, but 18 percent of Black and 20 percent of Hispanic households reported income losses.

Gender. Income volatility trends also vary by gender. Rising income volatility among men has been linked to changes to the number of hours worked and to payment rates (Dynan et al., 2012; Moffitt & Gottschalk, 2012). Evidence of volatility patterns among women are more mixed and few studies report specifically on income volatility trends among women. Bollinger and Ziliak (2007) found rising income volatility between 1995 and 2004 for households headed by women, following a period of stability in the 1980s and 1990s. Ziliak et al. (2011) found declining income volatility among women, due to more women entering and staying in the workforce compared to entering and exiting periodically. Andresen et al. (2015) found that income volatility linked to employment is more common among women due to the share of women in certain sectors. For example, women are disproportionately represented in service industry jobs where tips are the norm and income can vary due to the number of hours worked and the amount of earnings from tips.

Education Level. In households where the head of household has a college degree, income volatility is less likely than in households led by someone with less education (Dynan et al., 2012). Consistent with earlier findings, more income volatility is associated with those who hold a high school diploma or less (Andersen et al., 2015; Elmi et al., 2017). A more recent analysis of income volatility trends points to rising income volatility among those with high levels and suggests that the value of education in economic security has declined over time (Latner, 2019).

Interactions Between Demographic Factors. In addition to the associations described above, different patterns emerge when multiple demographic characteristics are considered together. For example, income volatility is highest among people who did not complete high school, but women without a high school diploma appear to experience less volatility than men, due to fewer job changes (Ziliak et al., 2011).

Other demographic characteristics associated with volatility include being a single adult head of household (Andersen et al., 2015; Maag et al., 2017), changes to marital status, and employment instability (Latner, 2019). Interestingly, Latner (2019) examined demographic characteristics associated with likelihood of experiencing income volatility over time, and found that marriage and employment stability, which once reduced the probability of experiencing income volatility, are less effective over time.

Income Volatility and Financial Health. The previous section discussed income volatility trends, the role of different sources of income, and variation across subpopulation. This section will cover the consequences of income volatility and implications for financial health.

Measuring Financial Health. Financial health describes the condition where an individual or household's day-to-day financial systems function well, they can manage a financial emergency, and can pursue financial opportunities with potential to promote social mobility (Gutman, Garon, Hogarth, & Schneider, 2015). Financial literacy, defined as understanding financial concepts or financial knowledge, is foundational to financial health (Urban, Schmeiser, & Collins, 2015). But financial literacy alone cannot put individuals or families in control of their finances; consumers also need sufficient resources, access to affordable financial services and tools that enable them to put financial knowledge to use (Sherraden, 2013).

An individual or household's financial condition can be conceptualized qualitatively or quantitatively. Qualitatively, financial condition can include an individual's or a household's perception of their means, ability to cover expenses, and plan ahead (Gutman et al., 2015). Quantitatively, financial condition has been measured using an individual's credit score, debt-to-income ratio, expenses as a percentage of income over a specific timeframe, among other numerical measures (Birkenmaier et al., 2016; Miller, Reichelstein, Salas, & Zia, 2014). These measures can be used by an individual or household to measure their own financial condition. In other cases, they are used by financial institutions to measure change over time, such as after receiving financial coaching or other programming designed to help people meet financial goals (Gutman et al., 2015).

This paper relies on financial health score, a composite measure of four indicators that reflect routine financial activities: spending, saving, borrowing, and planning (S. Parker, Castillo, Garon, & Levy, 2016). Financial health score encompasses both quantitative and qualitative aspects of financial lives, such as credit score and a person's assessment of their ability to plan ahead financially. Each indicator includes two components that are individually scored, and financial health score is the sum of all indicator scores.

Spend is measured as the ability to:

1. Spend less than monthly income and
2. Pay bills on time.

Save is measured as:

1. Having sufficient liquid savings and
2. Having sufficient long-term savings.

Borrow is measured as:

1. Having a manageable amount of debt and
2. Having a prime credit score.

Plan is measured as:

1. Having appropriate insurance and
2. Ability to plan ahead financially.

Higher score indicates better financial health. Financial health score can be used as a cross sectional measure but is also valuable for tracking changes to financial circumstances over time.

Consequences of Income Volatility. Income volatility may contribute to financial stress. Financial stress is broadly defined as physical or mental health symptoms arising from different forms of economic insecurity (Friedline, Chen, & Morrow, 2020). Financial stress has been linked to different forms of economic insecurity including debt (Bridges & Disney, 2010; Drentea, 2000; Hodson, Dwyer, & Neilson, 2014; Zurlo, Yoon, & Kim, 2014), difficulty affording monthly expenses or otherwise meeting basic needs (Ponnet, Wouters, Goedemé, & Mortelmans, 2016; Romo, 2014; Valentino, Moore, Cleveland, Greenberg, & Tan, 2014), and income volatility (Prause, Dooley, & Huh, 2009). Examples of poor physical or mental health symptoms stemming from economic insecurity include increased anger, hostility, changes to sleep patterns, and suicide (Bartholomae & Fox, 2017; Drentea, 2000; Mistry, Lowe, Benner, & Chien, 2008; Morrison Gutman, McLoyd, & Tokoyawa, 2005; Nandi et al., 2012; Prause et al., 2009).

Financial stress may be experienced differently by different demographic groups. Among young people, white individuals were more likely to use alcohol when faced with financial stress compared to Asian, Black, and Latino counterparts (Serido, Lawry, Li, Conger, & Russell, 2014). Valentino et al. (2014) found that having higher income was associated with lower financial stress and that over time, and that Black mothers showed higher rates of financial stress compared to their white counterparts. Financial stress may also be experienced differently according to an individual's role in the family and gender. (Thorne, 2010) found that managing household finances was emotionally burdensome for wives and that they sought to protect their husbands from financial stress.

Beyond financial stress, income volatility affects the ability to meet basic needs. Unpredictable income – including periods of low income – may contribute to material hardships such as food insecurity, problems affording housing or utilities, inability to afford childcare, and difficulty accessing medical care (Hill et al., 2017). Paying bills late may result in additional expenses through late fees and higher costs for other financial transactions, increased credit card insurance rates when a borrower's credit score is negatively affected (Aspen Institute, 2016).

Income volatility may impede savings when households must draw from savings to smooth consumption or meet financial obligations during periods of low income. Savings is an important measure of financial health because it suggests the ability to make ends meet each month with enough extra to buffer unexpected shocks. Existing studies find a stronger relationship between financial health score and savings than a person's income level or education level (Siwicki, 2019). Households that experience income volatility tend to have less money in savings than comparable households with stable income; $1,550 vs. $5,500 (Elmi et al., 2017). Lack of savings leaves people in a precarious position, given the likelihood of experiencing an unexpected car repair or medical bill (Servon, 2017).

Unpredictable income also affects the ability to make short- and long-term financial plans. Workers may be unable to plan short-term spending, such as childcare or monthly cell phone plans, when income varies (Henly & Lambert, 2014). Volatile income can also constrain the ability to make long-term financial plans, such as building savings to qualify for a home mortgage (Chan & Tweedie, 2015; Kalleberg & Vallas, 2018). In addition to interfering with asset accumulation, volatility may result in asset depletion when people borrow from retirement accounts to manage short-term economic strains (Aspen Institute, 2016).

For households that have made investments in economic mobility, such as using student loans to finance higher education, income volatility means that these investments may constitute a source of risk. The 2016 Federal Reserve Household Wellbeing survey finds that fifty-three percent of individuals who completed a bachelor's degree incurred some form of debt, including student loans to finance education and credit card debt to manage other expenses (Larrimore et al., 2017). In 2016, the average amount of student debt held by those who took out loans to pay for their own education was more than $32,000 and 19 percent of borrowers with outstanding student loans reported being behind on their payments (Larrimore et al., 2017). Unpredictable income puts households at risk of defaulting on debts, which can have lasting effects on credit score and financial health.

As detailed earlier, Women, Black and Hispanic or Latino households are at greater risk for financial consequences of income volatility due to lower earnings and fewer assets. In 2017, the average woman earned 80 percent as much as the average man (Hegewisch, 2018). Lower income means that it may be more difficult for women to build short-term savings than their male counterparts, and in the long-term women may have fewer opportunities to build retirement savings (Castro & Martin-West, 2018).

The racial wealth gap between white and Black or Latino households also contributes to greater economic vulnerability. The 2019 Survey of Consumer Finances (SCF) finds that discrepancies in wealth have not changed since 2016; white families have the highest average and median wealth compared to non-white families (Bhutta et al., 2020). Using 2019 data, Black families' median and average wealth is less than fifteen percent of the wealth of white families; $24,100 (median) and $142,500 (average) compared to $188,200 (median) and $983,400 (average) (Bhutta et al., 2020). Volatility makes it difficult to save and may also lead families to raid assets, such as cashing out retirement savings or taking out a home equity loan. Households with less wealth have fewer resources to draw from in the event of volatile income and using assets to manage short-term financial strains affects long-term savings and financial health, leading to different ways of managing income volatility.

Managing Income Volatility. Households use some common strategies to manage unstable income: drawing from savings, borrowing or using credit, and accessing public benefits.

Savings. Some households draw from savings to manage periods of low income. Roughly half of all respondents (48 percent) to the Federal Reserve survey indicate that they have sufficient savings to manage three months of expenses, and more than half (56 percent) could handle an unexpected bill of $400 using available funds or a credit card that they could repay in full (Larrimore et al., 2017). But 40 percent of respondents indicate they could not handle such an emergency without borrowing or selling something. And 71 percent of respondents to a Pew survey indicated that unexpected bills were an impediment to saving (Aspen Institute, 2016). The ability to draw from savings depends on having more than enough income to pay for monthly expenses in some months, and the ability to replenish savings that are spent.

Credit or Borrowing. Some households use credit cards or other forms of credit to smooth consumption. The National Financial Capability Study found that the majority of U.S. households (79 percent) have at least one credit card (Lin et al., 2018). More than half (57 percent) of respondents had used credit cards in ways that generate interest or fees including carrying over a balance from month-to-month, paying only the minimum balance, making a late payment and incurring a fee, or getting a cash advance. The same survey found that 29 percent of respondents had used “alternative credit” such as a pawn shop, payday loan, or auto title loan, in the past year. These products are typically offered at high interest rates relative to credit cards and other lending products offered by banks and may have less favorable lending terms. To get a payday loan, for example, a potential borrower must have evidence of regular income (typically direct deposits or pay stubs) and a checking account that is in good standing. With these two things, a borrower can obtain a small (typically \$50 - \$500), short-term (2 - 4 week), loan at a fee of \$15 - \$20 for every \$100 borrowed. This fee translates into an APR of 200 - 400 percent. The loan is due in full at the end of the term. If a borrower cannot pay back the loan and fee, they can extend the loan by paying another fee to postpone the due date.

While having access to credit may ameliorate potential harms caused by income volatility, carrying a credit card balance becomes costly when borrowers continue to incur interest or late fees on the unpaid balance. In addition, credit card debt, missed payments, and late fees can negatively affect a consumer's credit score. The use of payday loans and other alternative credit is associated with having poor credit history or lack of access to other forms of credit, although borrowers may choose these products for other reasons (Bhutta, Skiba, & Tobacman, 2014; Lin et al., 2018; Nuñez et al., 2016). In general, those who have a limited or negative credit history risk further harm to their financial health by using credit to manage income volatility.

Public Programs. Some households rely on public programs to manage income dips. But most public programs are not set up to manage frequent income changes; the process for verifying eligibility and enrollment process means that funds may not be dispersed quickly enough to avoid hardship (Hill et al., 2017). In addition, minor income increases may make people ineligible for benefits despite not earning enough to avoid financial strains (Andersen et al., 2015).

Unemployment Insurance (UI) benefits, which are most relevant to middle-income workers, provide a temporary income source for workers who lose their jobs.

Qualifying for this benefit requires workers to show proof of employment over a consistent number of weeks, but when employment is not arranged along those lines such as self-employed or contract workers, proving eligibility can be difficult. Like other social welfare benefits, UI benefits are time limited. Once a worker reaches the time limit, the remaining social welfare programs are not enough to fill income gaps (Chikhale, 2018)

Middle-Income Households

The previous sections described overall income volatility trends, demographics of those most likely to be affected, sources of income volatility, and financial health risks stemming from unpredictable income. While some of the evidence presented above applies to middle income households, few studies focus on middle-income households.

The Financial Diaries reports findings on low- and "moderate-income households," defined as households with income that is at least two times the supplemental poverty measure which, in most places, is roughly equal to the area median income (Morduch & Schneider, 2017). Roughly one fourth of *The Financial Diaries* sample was moderate income households. JP Morgan Chase divides its study population into quintiles and analyzes differences according to quintile, mostly focused on differences between the highest and lowest quintiles(Farrell & Greig, 2016; Farrell et al., 2019).

No other studies that I know of have focused specifically on income volatility among middle-income households. Income volatility has long been common among low-income workers, but a growing share of middle-income workers – once thought of as stable – are showing similar signs of insecurity. Existing income volatility research that does include middle-income households is primarily quantitative and measures trends over time. There is a need for additional qualitative research that can capture the experiences of middle-income households and contribute to better understanding of their income and expense dynamics that contribute to volatility.

Causes of volatility among middle-income households may be different than for other segments of the population. Among lower-income people, income volatility is tied to irregular work schedules among hourly workers, changes in the number of hours worked and pay rates, suggesting that job changes are also a factor, and changes to government or transfer income such as termination of public benefits when income increases (Bania & Leete, 2009; Larrimore et al., 2018; Morduch, Ogden, & Schneider, 2017).

In contrast, middle-income people tend to work in different sectors or under different employment arrangements. Therefore, factors that contribute to income volatility may be different. As previously described, labor trends show an increase in the share of alternative workers, including independent contractors. Independent contractors tend to be older, more educated, and earn more than workers in other forms of alternative work, such as on-call assignments or temp work (Abraham & Housman, 2019; L. F. Katz & Krueger, 2019). Among independent contractors, income volatility stems from periods of not working in between contracts.

Unlike workers who are classified as employees, independent contractors do not have access to employer-sponsored benefits and may not qualify for social welfare benefits based on income level, meaning that they are responsible for managing their own economic risks. These risks include periods of unemployment, injury or disability that prevents people from working, and low retirement savings, all of which can influence short- and long-term financial health (Benach et al., 2014). Given the growth of alternative work, including gig work, the economic risks posed by income volatility are likely to increase.

Pathways Between Income Volatility and Financial Health

In order to explore pathways between income volatility and financial health, this study used two theoretical frames: critical theory and self-efficacy. Critical theory was used to examine the economic context that shapes employment and wages among middle-income workers. Self-efficacy theory will be used to examine pathways between individual behaviors and financial health.

Critical Theory

The previous section provided an overview of the shift away from the SER and the growth of unstable work, both of which contribute to income volatility and economic insecurity among workers. While this shift is often explained as a reaction to the changing sociopolitical context (specifically the U.S. and other governments adopting neoliberal policies), critical theories provide a different lens through which these labor trends can be explored. Broadly speaking, critical theories reject the framing of common interests and instead invite deeper inquiry into the specific contexts, conditions, and power dynamics that shape societies (Koenig, 2019).

Critical theory approaches are particularly well suited to examining the U.S. economic context, where worker power has declined relative to employer power. In fact, the wealthiest Americans have seen their income increase more than 30 percent over the past 40 years while earners in the middle or lowest earnings quintiles have seen only modest wage growth of 6 percent and 9 percent respectively, which has not kept pace with inflation (Reeves & Sawhill, 2020). This example illustrates a major tenet of Marx and Engels' (1948) labor market critique, which argued that social class was among the most important division in society and formed the basis of power dynamics between the ruling class (bourgeoise) and the exploited (proletariat) (Engels & Marx, 1978). Here, despite arguments that productivity and economic growth are indicators of a strong economy for all, there is clear evidence that these gains have benefitted business owners (the "bourgeoise"), but not the workers (the "proletariat") (Boushey, 2019).

Critical theorists also argue against the "uncritical acceptance of progress" that is justified in terms of efficiency (Koenig, 2019). Again, by examining labor market changes over the past 40 years, we can see the effect of neoliberal policies and market-based capitalism on workers here and abroad. For example, over time, employers have increasingly adopted practices such as outsourcing work to other countries and shifting formerly salaried positions to contract-based work reduced labor costs, all with the goal of improving firms' profitability (Kalleberg, 2018; Kalleberg & Marsden, 2005). Globally, these practices have contributed to unsafe working conditions and environmental destruction (Schulze, 2007); domestically, these labor changes contributed to fewer SER jobs for workers in the U.S. As a result, jobs that were created in the wake of these changes, such as service sector jobs, tended to pay lower wages, offer less stability, and provide limited opportunities for advancement all of which have contributed to wage stagnation among middle- and lower-income workers (Howell & Kalleberg, 2019). Furthermore, collective "right to work" laws influence workers' relationship to unions, resulting in weakened collective bargaining power and stagnant wages (Western & Rosenfeld, 2011).

Rather than characterizing these trends as “inevitable” or “merely a temporary shift in the balance of power between capital and labor,” a critical theory approach instead requires recognition that this circumstance is the result of policy decisions that reflect and continually uphold the interests of the economic elites, often to the detriment of workers’ financial health and well-being (Kalleberg & Vallas, 2019, p. 4). Even employment relationships where workers have more control (e.g., over scheduling, type of work, location of work) are not necessarily positive. For example, technological advancements have helped both create and contribute to the expansion of gig work, an employment arrangement that can offer more flexible opportunities to earn supplemental income. Critical theory argues that the conditions creating, and the tradeoffs associated with this type of work must be considered. Regarding the former, workers’ need for supplemental income is likely a signal that existing work is insufficient to support their livelihood. Regarding the latter, gig work is inherently less stable, does not provide job security for those whose primary jobs are gig work, and does not provide employer-sponsored benefits (Kalleberg & Vallas, 2018).

Finally, critical theories also provide a framework for examining the differential impact of labor market conditions for women and non-white workers. As discussed earlier, female and people of color (namely Black and Hispanic or Latino) workers experience worse economic outcomes compared to their male and white counterparts, wage gaps that compound into lower earnings and assets over lifetimes and generations

(Gould et al., 2016). One of critical race theory's primary themes is to understand the interlocking mechanisms of multiple forms of oppression, such as gender, class, race, and sexuality (Harris, 2012). This intersectional approach provides a framework for "seeing the way in which various forms of inequality often operate together and exacerbate each other" (Steinmetz, 2020, para 2). The term "intersectionality" was first created by Crenshaw (1989) to more explicitly examine the experience of Black women in the labor market. She argues that such a "single axis framework" contributes to Black women's marginalization within feminist and antiracist theories, because:

> both are predicated on a discrete set of experiences that often does not accurately reflect the interaction of race and gender. These problems of exclusion cannot be solved simply by including Black women within an already established analytical structure. Because the intersectional experience is greater than the sum of racism and sexism, any analysis that does not take intersectionality into account cannot sufficiently address the particular manner in which Black women are subordinated (p. 140).

The intersection of race and gender in the U.S. labor market cannot be overlooked, and I argue throughout this paper that the growing employment and economic precarity of women and people of color – particularly those in the "middle class" – are integral to understanding risks associated with growing economic insecurity more broadly.

Self Efficacy

Self-efficacy is defined an individual's belief in their own ability to successfully complete a task or to meet a challenge (Bandura, 1977). This theory offers a framework for predicting human behavior based on an individual's expectations. Individuals with a strong sense of self-efficacy may be incentivized to continue working towards a goal that seems achievable. Sense of self-efficacy may also influence perception of opportunities or barriers within a person's social environment (Bandura, 2000). For example, a person who sets a goal of saving a certain amount of money may encounter challenges along the way, such as an unexpected bill or lower than expected earnings. A person who believes that their goal is achievable might experience these events as temporary setbacks, adjust the timeframe for the goal, and ultimately keep working towards it. Another person may experience a setback as terminal and stop engaging in a practice of regular saving.

Financial self-efficacy is defined more specifically as an individual's confidence in their ability to meet reach financial goals. The concept of financial self-efficacy has been used in evaluations of financial education or financial literacy programming (Bartholomae & Fox, 2017; Consumer Financial Protection Bureau, 2018; Rothwell, Khan, & Cherney, 2016). Previous studies find that interventions designed to help people alleviate economic stress are more effective when they help participants gain experience and therefore confidence in making financial decisions and managing financial transactions, improving sense of self-efficacy (Bartholomae & Fox, 2017; Rothwell et al., 2016). Further, financial education programs are most effective when they support consumers' ability to take action towards their financial goals (Consumer Financial Protection Bureau, 2018).

An important limitation of the self-efficacy framework is the potential to perpetuate individual, behavior-based explanations of economic insecurity that shame or blame economically vulnerable people. Therefore, this study considered both the economic context and individual actions in pathways between income volatility and financial health.

In sum, middle-income households are facing a confluence of factors resulting in declining economic security (less stable employment, stagnant wages, the rising cost of living, erosion of public and private social welfare benefits) that are exacerbated by rising income volatility. There is a need for research targeted towards middle-income households to better understand their experiences of income-volatility, the challenges they are facing, and solutions they rely on to manage their financial lives. Importantly, this research is also situated to examine these topics using critical theory and self-efficacy frames. This study aims to contribute to the literature in two ways:

1. By focusing on a middle-income population, it contributes knowledge on an understudied population.
2. It adds qualitative data that adds texture and voice to quantitative data on income volatility.

CHAPTER 2: RESEARCH DESIGN AND METHODS

In order to answer the research questions, this study used a sequential mixed-methods approach involving secondary analysis of administrative data followed by semi-structured interviews (Creswell, 2014, p. 42). Pluye and Hong (2014) defined mixed methods research as an approach integrating quantitative and qualitative research questions, designs, and robust methods for analyzing both qualitative and quantitative data and produces qualitative and quantitative findings. This approach combines the strengths of each method while addressing limitations associated with relying on a single data collection method (Creswell, 2014; Pluye & Hong, 2014). The qualitative sample is partially nested within the quantitative sample, which enabled the researcher to explore quantitative findings in semi-structured interviews.

A mixed-methods approach was selected in order to address some gaps in the literature that were identified in the previous section. Existing quantitative studies have documented macro-level trends and a limited number of studies cover individual-level patterns of volatility. There is a need for more individual-level research including qualitative methods that can capture the lived experience of income volatility specifically among middle-income households. This study begins to fill that gap by studying a middle-income population, a previously under-studied segment of the population affected by income volatility, capturing demographic characteristics and measuring financial health outcomes, and adding texture and voice to contextualize findings.

Setting

The study was conducted in partnership with SaverLife, a non-profit fintech[1] organization that promotes prosperity for working families by helping them save and invest in their futures (“History — About SaverLife,” n.d.). SaverLife was identified as a research partner due to its member demographics, which include more than 200,000 low- and moderate-income workers nationwide, and its track record of collaboration with researchers (T. Lucas, L. Phillips, personal communication, December 19, 2020). Roughly 88 percent of SaverLife members are between the ages of 25 and 64, 20 percent of members reported annual household income between $35,000 and $100,000, and seventy percent of members report experiencing month-to-month income volatility (“About SaverLife,” n.d.). The researcher and SaverLife signed a memorandum of understanding (MOU) outlining administrative arrangements and terms of data use for the study.

SaverLife member demographics reflect the various avenues through which new members are recruited (T. Lucas, personal communication, April 13, 2021). These include partnerships with community-based organizations, the largest of which is United Way. SaverLife has also partnered with fintech organizations (such as Steady), which connects workers to short-term gigs and offers financial advice, and Propel, the organization that created the FreshEBT app that helps people monitor and manage their SNAP benefits. SaverLife is also increasingly partnering with large employers, such as the Red Tab Foundation, which supports Levi Strauss employees. Study participants also

[1] Fintech refers to computer programs and other technology that is used to support or enable banking and other financial services.

mentioned learning about SaverLife through social media, blogs that offer financial advice, their employers, and by word of mouth.

Quantitative Data Procedure

The first phase of research consisted of analysis of administrative data to explore relationships between financial health scores and demographic factors. SaverLife shared a de-identified administrative data file with the researcher through a secure file-sharing service. The administrative data file was downloaded and stored on a secure server maintained by the University of Pennsylvania, in a folder accessible only to the researcher. The researcher did not obtain consent from individuals included in the administrative data sample because SaverLife members consent to the use of their data in aggregate form as part of the user agreement.

Quantitative Sample Characteristics. The quantitative data sample included individuals who met the following criteria:

- Adults between age 25 and 64;
- Highest level of education was at minimum, some college; and
- Reported annual household income is between $35,000 and $100,000.

These criteria captured prime working age adults, defined as workers between age of 25 and 54 (US Bureau of Labor Statistics, 2020). The U.S. Census Bureau reports educational attainment for people age twenty-five and older, therefore twenty-five was selected in order to make observations about education (McElrath & Martin, 2021). The age criterion was extended beyond the upper limit of BLS' definition of prime working age (age 54) to include workers up to age 64 who have not yet retired. Labor force participation rates among workers between the ages of 55 and 64 have increased over the past twenty years, from 59.3 percent in 1999 to 65.3 percent in 2019, and BLS data projects that this rate will continue to grow through 2029 (Bureau of Labor Statistics, 2020a). Workers in this age group are operating within the same labor market and may also be experiencing rising income volatility as documented in the background section. Workers older than age 65 were excluded because they are eligible for Social Security and Medicare, which provide a stable source of income and health insurance that may mitigate income volatility and related challenges.

The education criterion included people who have pursued higher education. Education has historically been an important pathway to economic security and social mobility, and existing research documents the value of higher education in the current economy (Reeves & Sawhill, 2020). College-educated workers tend to experience more job stability, and having a college degree can be understood as a symbol of middle-class status (Reeves, Guyot, & Krause, 2018). Higher education is also associated with higher lifetime earnings and lower odds of experiencing unemployment (McElrath & Martin, 2021).

Initially, only those who had a BA or 4-Year college degree or more were included in the quantitative sample. However, qualitative interview participants who held associate degrees described themselves as college degree holders and some had student loan debt stemming from higher education. Therefore, the quantitative data analysis was revised to include associate degree-holders.

Household income is based on the definition of "middle income" included in the Federal Reserve Board's Survey of Household Economics and Decisionmaking, which is

$40,000 to $100,000 (Larrimore et al., 2017). Table 1 summarizes the quantitative sample demographic characteristics.

Table 1. Demographic Characteristics as a Percentage of the Total Quantitative Sample.

Characteristic	N	Percentage
Total Sample	4,834	100
Age Range		
25 to 34	905	18.7
35 to 44	1,373	28.4
45 to 54	1,714	35.5
55 to 64	842	17.4
Education Level		
Some college	176	3.6
BA/4-Year Degree	3,906	80.8
Graduate Degree	752	15.5
Gender		
Women	3,887	80.4
Men	947	19.6
Income Level		
$35,000 to $49,999	2,145	44.4
$50,000 to $74,999	1,573	32.5
$75,000 to $99,999	600	12.4
$100,000 or more	516	10.7
Race		
Non-White	2,470	51.1
White	2,364	48.9
African American or Black	1,511	31.3
Asian or Asian American	65	1.3
Latino	308	6.4
Middle Eastern	11	0.2
Multi-Racial	385	8.0
Native American	34	0.7
Other	156	3.2
White	2,364	48.9
Year Joined SaverLife		
2018	11	0.2
2019	808	16.7
2020	4,015	83.1

Percents may not sum to 100 due to rounding.

Qualitative Data Procedure

The second phase of research consisted of semi-structured qualitative interviews drawn from SaverLife's panel of members who elect to participate in periodic surveys and other research projects. The researcher prepared a brief screening survey to collect demographic information and verify eligibility for the study. Inclusion criteria for the qualitative component of the study are summarized as follows:

1. adult between the ages of 25 and 64;
2. reported annual household income between $35,000 and $100,000 in 2019;
3. reported that their monthly income changed "sometimes" or "often" in 2019; and
4. Must voluntarily agree to participate in the study.

The study was conceptualized prior to the COVID-19 pandemic, but recruitment did not start until the pandemic was underway. Therefore, the income volatility criterion was modified to use 2019 as the reference year to distinguish between long-standing patterns of income volatility that were independent of the COVID-19 pandemic and recent volatility caused by the COVID-19 crisis. SaverLife notified panel members about the study and distributed the screening survey to confirm interested parties' eligibility and to capture demographic information. This process yielded 77 interested individuals. A copy of the screening questionnaire is included in Appendix A.

The list of potential participants was not alphabetized. I reached out to potential participants starting from the top of the list until the target sample size of 30 participants was reached. Additional participants were later recruited in order to add more participants who represented the lower end of income spectrum for comparison purposes. Thirty-nine one-on-one interviews were scheduled. Six participants later explicitly declined to participate or failed to attend arranged interviews.

Qualitative Sample Characteristics. The interview sample was stratified by gender (roughly 70 percent female and 30 percent male) and race (40 percent African American, 40 percent Caucasian, and 20 percent other races) according to the quantitative sample demographics. The final interview panel includes an oversample of male participants in order to make meaningful observations about gender. SaverLife pre-screened potential participants, however some education data were missing and during interviews I determined that some of the education data were inaccurate. For example, an individual whose highest level of education was an associate's degree was listed as having a bachelor's degree. But the interviews showed that education level was not necessarily a key determinant of participants' financial condition. For example, the participant who reported the second highest income in the sample did not attend college. For these reasons, the qualitative sample included participants whose highest level of education was a GED or high school diploma. Similarly, household income data collected from the screening were inexact, which became apparent in interviews. For example, one participant reported only her income in the screening survey but described her partner's income as the primary source of household earnings. As a result, the final qualitative sample is partially nested within the quantitative sample.

Table 2 summarizes the qualitative sample demographic characteristics, as reported during the screening process.

Table 2: Demographic Characteristics of the Qualitative Sample.

Characteristic	N
Total Sample	32
Age Range	
25 to 34	9
35 to 44	12
45 to 54	9
55 to 64	2
Education Level	
GED or High School Diploma	7
Some College	7
BA or 4-Year Degree	11
Graduate Degree	7
Gender	
Female	26
Male	6
Income Level	
Less than $35K	5
$35K to $49,999	3
$50K to $74,999	15
$75K to $99,999	6
$100K or more	3
Race/Ethnicity	
Black or African American	13
Asian or Asian American	5
Hispanic or Latino	4
White	10
Employment Arrangements	
Contractor	3
Hourly	15
Salaried	14
Health Insurance Status	
Employer-sponsored plan	24
Medicaid	4
Subsidized/Obamacare plan	1
Uninsured	3

Qualitative Consent Procedure. Participants gave verbal consent during semi-structured interviews after the researcher described the purpose of the study, participants' rights as voluntary study participants, data use, and compensation. Participants were also asked to give verbal consent for interviews to be recorded and professionally transcribed for analysis. Participants were compensated $40 for their time. The study was approved by the University of Pennsylvania's Institutional Review Board. All contact with study participants emphasized the voluntary nature of the study, and all research findings are presented using pseudonyms and by modifying identifying details.

Qualitative Data Collection. Thirty-three one-on-one phone interviews were conducted, lasting between 35 and 82 minutes.[2] Semi-structured interviews were conducted by phone. Phone interviews were selected due to concerns about potential cost of participating in a video interview. Video technology would require broadband Internet access or a mobile phone data plan that could accommodate an interview lasting roughly one hour. Given the focus of this study on income volatility and economic insecurity, phone interviews were a less burdensome option.

The semi-structured interview protocol included a combination of closed- and open-ended questions that were informed by literature on income volatility, health, and wellbeing outcomes associated with economic condition. Questions covered demographics, experiences with income volatility (such as reasons why income changed), perception of financial condition (such as whether participants felt stable, unstable, or somewhere in between), expenses (such as household bills), overall perception of their physical and mental health, and health care needs (such as routine medical visits or treatment for more serious conditions), and financial coping strategies. Participants were

[2] One interview was omitted from the analysis due to a technology failure which resulted in an incomplete recording.

encouraged to discuss their individual experiences and where relevant, the experiences of their household.

Recognizing that interviews are social interactions, a semi-structured interview protocol was developed to create space for participants to contribute ideas about additional topics that should be explored (Holstein & Gubrium, 1995). For example, participants raised the importance of financial knowledge or education, including lessons learned through negative experiences, and financial support provided to people outside the immediate household. Semi-structured interviews were designed to elicit information that may contextualize quantitative findings, explore study participants' perception of their current financial situation and the extent to which they connect their financial situation – specifically income volatility and related challenges – to their well-being. Interviews were also designed to capture information about specific financial coping strategies families use to manage their financial lives.

Qualitative interviews began in the summer of 2020, after the pandemic started. Therefore, the interview protocol was modified to distinguish between long-term income volatility and volatility that was a result of the COVID pandemic. The semi-structured interview questionnaire is included in Appendix B.

Analysis

Data analysis was conducted in three phases. First, quantitative data were analyzed according to the procedure described below. Second, qualitative data were collected. Initial analysis, such as capturing preliminary impressions after interviews using analytic memos, was ongoing during the data collection process. Third, qualitative analysis was completed, which prompted further quantitative analyses.

Quantitative Data Analysis

Quantitative data analysis was conducted using administrative data collected by SaverLife. Quantitative analysis was performed using Stata (Version IC/15.1).

Measures. Dependent variable – financial health score was used to measure participants' financial condition.

- Financial health score is a formula used to assess the financial health of an individual or group of individuals by measuring the extent to which daily financial systems allow people to manage financial shocks and thrive in the long-term (Financial Health Network, 2020). Financial health score is calculated by taking an average of the summed scores of financial health indicators (spend, save, borrow, and plan), each of which has two dimensions (Financial Health Network, 2020). Indicator level scores can also be calculated as the average of the total points from the two dimensions. The SaverLife administrative data file included financial health score.

  Financial health score is a continuous variable ranging from 0 to 100. A higher score indicates better financial health. Financial health scores between 0 and 39 are considered financially vulnerable, scores between 40 and 79 are considered financially coping, and scores between 80 to 100 are considered financially healthy (Financial Health Network, 2020).

  The Financial health score in the administrative data file represents participants' financial health score when they joined SaverLife, which is measured as part of the organization's intake process.

Independent variables – the following variables were used as control conditions.

- Age group – categorical variable using the following as categories: 25 to 34, 35 to 44, 45 to 54, and 55 to 64.
- Annual household income – categorical variable using the following as categories: $35,000 to 49,999, $50,000 to $74,999, $75,000 to $99,999, and $100,000 or more.
- Highest level of education completed – categorical variable using the following as categories: less than high school, GED/high school, some college, AA/vocational school, BA/4-year college degree, or graduate school. Some college (N=4) and AA/vocational school (N=172) were combined into a single variable called "some college" due to the low number of observations in both categories.
- Household size – continuous variable with values ranging from 1 to 8.
- Race/Ethnicity – categorical variable using the following as categories: white, Black or African American, Asian or Asian American, Latino, Middle Eastern, Multi-Racial, Native American, or other. SaverLife data do not distinguish between race and ethnicity; participants self-selected into the categories listed here.
- Gender – categorical variable using the following as categories: female, male, or non-binary.
- Year – recognizing that SaverLife aims to help its members improve their financial condition, year of enrollment was treated as a control variable. This enabled comparison of financial health outcomes according to how long an individual had been enrolled in SaverLife.

Quantitative analysis was conducted in four steps. First, mean and median financial health scores were computed for the quantitative sample, as well as subdivided by age, household income, race, highest level of education and gender. Second, independent and dependent variables were tested for correlations. Significant correlations were detected between household size and education level ($r = -0.48$), as well as household size and year of enrollment (r= *0.74*). Therefore, household size was excluded from the regression models. Third, multivariate regression analysis was used to identify relationships between demographic characteristics and financial health scores. Although demographic variables were categorical, they were treated as continuous measures based on previous research which finds that the potential for errors associated with treating categorical variables declines as the number of categories increases and with a large sample size (Bollen & Barb, 1981). Fourth, given the emphasis on gender and racial differences in financial health outcomes, t tests were conducted to determine whether the observed differences between gender categories – female and male – and race categories – non-white and white – were significant. Results from these analyses were used to answer the first research question, documenting characteristics of the study population and covariates associated with financial health score.

Qualitative Data Analysis. An initial review of interview transcripts was conducted in order to become familiar with the data. Interview transcripts were then imported into Dedoose (Version 8.1.8) qualitative software program. Data were analyzed using the five phases of thematic analysis described in Braun and Clarke (2006). The first round of coding used a deductive framework to observe phenomena predicted by theory (Patton, 2015). A second round of coding was conducted using an inductive approach to look for patterns within the data and commonalities across participants experiences (Patton, 2015). Literature reviews were conducted alongside data analysis to incorporate themes that emerged from analysis that had not previously been explored. For example, self-employment was explored in order to understand how the term has been conceptualized in previous studies.

Interview notes were captured during each conversation to record the interviewer's impressions of the interaction and details related to the participants' demeanor, such as when participants tone of voice or style of speaking changed when discussing specific topics. Analytic memos were prepared throughout the interview process to record preliminary ideas about themes and considerations for future interviews, such as language choices that were not clear or confusing. Memos also facilitated comparison of different participants' experiences towards understanding pathways to financial health and well-being (Charmaz, 2006).

Analytic memos were prepared during the interview process to record initial impressions, questions to be further explored, and to reflect on the researcher's positioning and how it may influence interpretation of the data (Ravitch & Carl, 2016). Memos prepared during the first round of coding informed decisions regarding codebook revisions (such as removing codes that were seldom used or adding codes that were needed). The results section presents findings on drivers of income volatility, financial challenges participants experienced, financial coping strategies.

CHAPTER 3: FINDINGS

This chapter describes a population of middle-income workers in the United States, focusing on how this group earns income, challenges they face, and strategies they use to meet their needs. The first section of the chapter begins with a brief discussion of financial health scores among the quantitative study population and subpopulations. The next section of the chapter presents qualitative findings which provide some context to explain quantitative findings. I argue that by focusing on middle-income workers, we gain an understanding of concurrent advantages and economic challenges this group faces, illustrating how income level may mask financial vulnerability. Further, this chapter demonstrates the limits of social welfare policies that have not been adjusted to reflect changing employment patterns, and therefore offer inadequate protection.

Quantitative Results

The first research question asked about characteristics of middle-income households that experience income volatility. Administrative data provided by SaverLife captured demographics of individual SaverLife members and their financial health scores. Figure 1 shows the distribution of financial health scores which are skewed to the left. As previously mentioned, financial health score ranges from 0 to 100 and higher scores indicate better financial health.

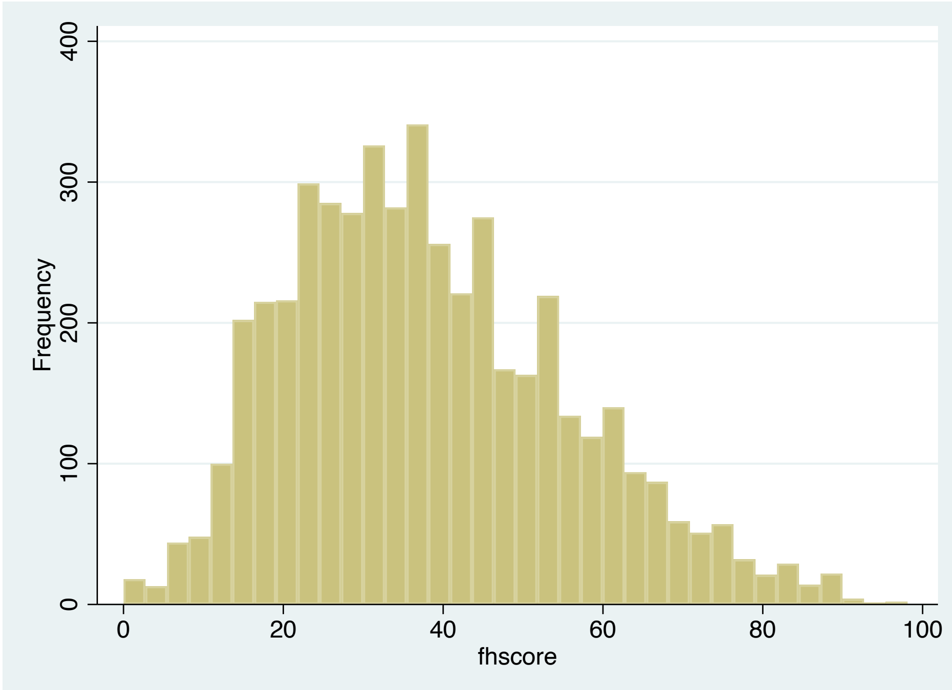

Figure 1. Financial Health Score Distribution

Table 3 shows median and mean financial health scores of the study population.

Table 3. Mean and Median Financial Health Scores.

	N	Mean	Median	s.d
Sample	4,834	38	36	17.43324

The overall quantitative study population had a median financial health score of 38 and mean score of 36, which indicate that the group is showing signs of financial vulnerability. Scores in the middle range (between 40 and 70) indicate that individuals report financially healthy outcomes in some, but not all eight of the financial health dimensions (Financial Health Network, 2020). Scores in the low range (between 0 and 39) are considered financially vulnerable and typically show financially healthy outcomes in few or none of the financial health dimensions (Financial Health Network, 2020). In order to further explore these data, mean and median financial health scores were calculated according to gender and race.

Table 4 shows the mean and median financial health scores for the overall study population, for females, and for males.

Table 4: Mean and Median Financial Health Scores by Gender.

	N	Mean	Median	s.d
Sample	4,834	38	36	17.43324
Male	947	41	39	19.1819
Female	3,887	38	36	16.90563

Comparing the gender categories showed that median and mean financial health scores among males were higher than among females. Male financial health scores were higher than the overall sample scores while female scores are equivalent to the sample scores. A t-test confirmed that the observed differences between male and female financial health scores were significant ($t = 5.80$, p-value 0.00).

Table 5 and Table 6 show the mean and median financial health scores by race. Financial health scores according to race categories were considered in two ways. First, the scores of white participants were compared to scores of non-white participants.

Table 5: Mean and Median Financial Health Scores by Race.

	N	Mean	Median	s.d
Sample	4,834	38	36	17.43324
Non-White	2470	39	37	17.50732
White	2,364	38	35	17.33543

As shown in Table 5, median financial health score among non-whites was higher than the overall population and higher than among white participants. A t-test confirmed that the observed difference between white and non-white financial health scores were significant (t=-2.53, p-value 0.011).

Second, the non-white category was disaggregated to explore differences across the individual non-white race categories.

Table 6: Mean and Median Financial Health Scores by Race, Disaggregated Non-White Race Category.

	N	Mean	Median	s.d
Sample	4,834	38	36	17.43324
African American or Black	1,511	38	37	16.9167
Asian or Asian American	65	51	54	22.87041
Hispanic or Latino	308	37	36	17.21757
Middle Eastern	11	50	46	18.13107
Multi-Racial	385	38	36	17.54513
Native American	34	40	37	17.17928
Other Race	156	42	43	18.64029
White	2,364	38	35	17.33543

Median financial health scores among each non-white race category were higher than median scores for white individuals. Chi-square test confirmed that the differences were statistically significant (chi2=1029, p-value 0.00). Financial health scores for Hispanic or Latino and multi-racial individuals were equivalent to the median score of the overall population, but all other non-white race categories had above median financial health scores.

The descriptive analysis presented here showed that the overall study population is showing signs of vulnerability. Consistent with existing literature, males tended to be in a better financial position than females as indicated by their financial health scores (Garon, Dunn, Celik, & Robb, 2020). Contrary to existing studies, non-white participants tended to be in a better financial position than white participants (Garon et al., 2020). Disaggregating the non-white race category revealed that the non-white groups with the highest financial health scores were Asian or Asian-American, Middle Eastern, Native American, or identified as another race. However, the relatively small number of participants in these race categories is not sufficient to draw firm conclusions.

The next phase of quantitative analysis examined correlations between financial health scores and demographic factors in order to develop models for regression analysis.

Correlation Analysis

Correlation coefficients were calculated between financial health scores, demographic factors, and a variable capturing the year when individuals joined SaverLife. The analysis showed a moderate correlation between household size and the year an individual joined SaverLife (r=0.31). This is reflective of the data source. In the administrative data file, the majority of observations which include year joined SaverLife in 2020. In addition, the administrative data file only included household size for those who joined SaverLife prior to 2020.

Household size was excluded from the regression analysis for two reasons. First, a meaningful number of observations (more than 90 percent) were missing household size data. Second, measuring household size does not indicate an individual's role in the household, therefore it may have limited predictive value. There are a number of different ways in which a household size may change. For example, the birth of a child or getting married could each increase household size by one. The financial health impact of these events varies but measuring the number of individuals in a household treats these circumstances as the same. A more useful metric may be the number of earners in a household, but this data was not included in the administrative data file.

Regression Analyses

Four regression models were developed to explore variation in financial health scores, controlling for demographic characteristics and year when an individual joined SaverLife. The regression models showed that gender, race, income level, and year were significant predictors of financial health score. Being female and white predicted a lower financial health score. Higher income level predicted a higher financial health score. Having joined SaverLife earlier predicted a higher financial health score.

Despite finding statistically significant relationships between demographic variables, the year an individual joined SaverLife, and financial health scores the regression models accounted for very limited variation in scores as shown by r^2 values equal to less than two percent. Therefore, the regression tables are not included here.

Quantitative analysis of financial health scores provided some initial insight about the financial health of the study population. Women and those with lower household income levels had lower financial health scores. The next section of this chapter presents findings from the qualitative component of the study. It provides context that helps to explain these findings. It also describes pathways between income volatility and financial health that cannot be observed through quantitative analysis.

Qualitative Results

This section presents findings from semi-structured qualitative interviews. The quantitative findings section answered the first research question, which asked about characteristics of middle-income workers who experience income volatility, by summarizing characteristics of the quantitative study population. This section adds information about how people earn money to answer the second part of the first research question. The results presented in this section were drawn from the qualitative sample, which is partially nested in the quantitative sample. In order to answer the research questions about income volatility and financial difficulties, the interview questionnaire included questions about current employment, general perception of financial condition (stable, unstable, or somewhere in between), and specific challenges participants faced.

Sources of Income Volatility

The second part of the first research question asked how participants earned income. An important insight gained from this study relates to different sources of income and drivers of income volatility. Many participants reported having stable income from a primary job and income volatility stemming from changes to one or more supplementary income sources. This section begins with a short overview of worker categories within the study population: salaried workers, hourly workers, independent contractors, perpetually unstable workers, and those who experienced economic shocks. These categories differentiate between sources of income volatility.

Participants described combinations of employment and other means of earning income. For some, income from a primary job was enough to afford basic needs but did not allow them to cover a financial shock, such unexpected dental work, or a large expense like a child’s wedding. These participants relied on secondary income sources to manage occasional expenses. Others needed secondary income on an ongoing basis because they could not manage their financial lives using primary income sources alone. For them, income volatility resulted from changes to the secondary income source, such as adjustments to the number of hours worked at a part-time job. A few participants were independent contractors as a primary job. Their income varied due to different payment rates on contracts or periods of not working in between contracts. Other participants described their income as perpetually unstable, often due to frequent employment changes often by necessity rather than choice. This group reported the least predictable income relative to others in the sample. Finally, a few participants experienced income volatility from an economic shock such as illness or job loss.

Worker Categorization

The first two categories presented here, salaried and hourly workers, were the most stable within the qualitative sample. Some hourly workers described similar employment conditions as salaried workers including full-time positions, with employer-sponsored benefits. But there were important distinctions between the two groups, and some variation in employment arrangements within the population of hourly workers.

Salaried Workers. Salaried workers reported the most favorable employment conditions. Consistent with the SER, this segment of the study population reported predictable earnings, employer-sponsored benefits, and long-term relationships to their employers. The study population included 14 salaried workers who ranged in age range from 27 to 55. All except one reported household income at or above the sample median of $60,000. The majority of salaried workers were well educated; only two did not have a college degree or more. Individuals from each race category except Hispanic or Latino were included among the population. This group included more females (n=11) than males (n=3).

Among salaried workers, income volatility stemmed from changes to secondary sources of income. For some, secondary income was needed only occasionally. Gina, a married woman in her 50s, has two adult children. She works as a fiscal manager for a non-profit organization while pursuing her doctorate. Gina became a rideshare driver to earn extra money for a wedding. "My oldest daughter was getting married. I had no budget for a wedding, so I decided to be an Uber driver. I met some interesting people. The extra money was great. We ended up having a very successful destination wedding."

Other salaried workers needed secondary income on an ongoing basis to supplement their primary income. Lynda is a single parent to an adult daughter. She works full time for a pharmaceutical manufacturing company and also works as a rideshare driver. "I work full time. But I also do Uber once in a while. I am trying to supplement my income, just to have more money coming in." She previously had a part-time job in retail. "I always had a second job until my daughter graduated from high school. So, I would say for about 11 years, I had a part-time gig."

A few salaried workers earned supplemental income to meet specific financial goals. Naveen, a married father who lives in Georgia, works full-time for a government agency and also works part-time job at a local restaurant. He described his reasons for taking on a second job:

> When I was at school, I had some loans. I am doing the part-time work so that I can pay off my loans fast. Because every month goes by the interest increases. That is one of the main reasons that I am working part-time, just to get rid of the student loan.

Similarly, Jim is a father who shares custody of his son. He works full-time for a government agency, and earns extra money through two supplemental income sources:

> In my fulltime job, I am an engineer. I also work in the ski industry as an instructor, and in event production in terms of like running events, marathons, triathlons, things of that nature. For me, those are supplemental sources of income. I use them to plan for things and for family purposes.

Salaried workers had higher, more predictable income, yet many could not manage their financial lives with a single source of income. The data suggest that salaried workers' motivation for seeking secondary sources of income varied by gender. Female workers were more likely to mention family obligations such as providing for children or supporting other family members. In contrast, male workers were more likely to describe specific financial goals, such as debt reduction or building savings. Further, some salaried workers expressed a sense of security related to having more than just one source of income, particularly in the context of COVID. In Jim's words:

> One of the things I've kind of realized is it's a huge benefit if you have multiple avenues of income. When COVID hits and the service industry gets completely destroyed, if you have something else in another industry you can focus there and try to make up those losses. If you're in a position where all of your dependence is on one job, one company, one stream of income and that does completely go away, that's a huge change.

Importantly, none of the salaried workers experienced disruptions to their primary jobs as a result of COVID, each of the other categories included workers who did experience some type of employment disruption. Despite having predictable income, some participants in this subcategory discussed similar feelings of economic insecurity as their counterparts whose income was less stable or predictable.

Hourly Workers. The study sample included 15 people who were paid hourly at their primary job. These hourly workers who ranged in age from 28 to 53. On average, hourly workers' income tended to be lower than salaried workers; only four hourly workers reported household income above the sample median. There was more variation in educational attainment within this subgroup, ranging from a high school diploma to a bachelor's degree. Notably, there were no graduate-degree holders within this group. Hourly workers included 13 females and two males. Each of the race categories was represented in this group.

Hourly workers experienced income volatility when the number of hours they worked changed. These changes could be voluntary, such as taking time off from work for an appointment, or involuntary, such as being furloughed. The extent to which income changes contributed to hardship depended on a participants' circumstances. The same type of change, such as working overtime, could be helpful to some but harmful to others.

Teresa, who processes claims for an insurance company, and her husband, an assistant manager at a grocery store, could anticipate their baseline monthly income since both were guaranteed a 40-hour work week. But she also earned extra income from working overtime. "I don't have a side job, but I was working quite a bit of overtime until just before COVID started. There was just so much work. We worked ten hours of mandatory overtime a week." In her situation, income volatility from overtime was positive.

For Karima, a nurse at a mental health hospital, and her husband, who works for a security company, changes to their hours and overtime hours created uncertainty. At the time of our interview, he was working fewer hours due to COVID and Karima was working substantial overtime. “We have a lot of staff that don’t want to be here during the COVID, and they have that right. So that makes staff very short. We offer to stay over and come in on our off days.” But the overtime pay did not necessarily counterbalance changes in her husband’s income. “I mean it helps, but after so much overtime, the tax [eats it] up, so it’s like not even helping.”

Income volatility was most problematic for hourly workers who were financially precarious. Tammy and her husband were both paid hourly, and their monthly income was not predictable. She works in the kitchen at a local school, and he is a manager at a car wash.

> It [monthly income] varies because it depends on how many hours we work. And mine also depends on if there’s a school vacation or if the kids get out early…We just never fully know how many hours we’re going to be working.

Some hourly workers had employment conditions that were similar to salaried jobs, such as offering employer-sponsored benefits and long-term relationships with their employers. Two thirds of hourly workers had employer-sponsored health insurance. But even the most stable hourly workers could face income changes that were beyond their control. In that way, hourly work had some characteristics in common with contract work.

Independent Contractors. A third worker category was independent contractors. Three participants reported independent contracting as their primary income source.[3] The three contract workers ranged in age from 39 to 56. All three reported annual earnings that were below the sample median. One held a graduate degree, another had a bachelor's degree, and one had a high school diploma and cosmetology certification. All three contract workers were non-white and female. Contractors do not typically have access to employer-sponsored benefits, therefore each of these participants relied on public health insurance programs. One person qualified for Medicaid due to family size and household earnings. The other two purchased subsidized health plans, although one person had since let her plan lapse and was uninsured at the time of our interview.

Contract workers described income changes due to different payment rates on contracts or periods of not working in between projects. The number of short-term assignments each worked on per year varied. Leticia estimated working on four or five contracts in the previous year, including for one company that employed her for more than one project. Jessica worked on an estimated 20 contracts in the previous year ranging in length from one day to about six months. Viola worked with just one organization, a major sports broadcasting network, but she worked on several projects throughout the year. Importantly, none of the three independent contractors were working at the time of their interview due to COVID restrictions on the type of places where they typically worked.

[3] Two additional participants described temp work that was arranged through a placement agency. They were included among hourly workers because the nature of their work was different from the skilled independent contractors described here.

Viola, a hair and makeup artist had been out of work since March 2020, when the pandemic started. “When they decided to start shutting stuff down and sports got shut down, that affected our makeup and hair department. We were told not to come back until further notice.” Leticia, a health promotions contractor, typically worked on-site at different companies. “The nature of our business is, we go into other companies and perform different types of health services. That kind of folded, at least in the interim because of COVID.” Jessica, a marketing contractor, had a similar experience:

> I was working as a field manager, an independent contractor for a bunch of marketing companies that do pop-ups and that kind of thing. We primarily worked at events and large-scale tradeshows. Since COVID my work has come to a screeching halt because there aren’t any large-scale events going on.

Independent contractors described more predictable earnings once they became established their fields. Viola could count on working at annual events such as the NCAA Final Four Tournament. She developed relationships with some TV anchors who would request her services when they were in her area. Similarly, Jessica benefitted from a good reputation and connections in the field. “I would say after a year or two it was pretty regular. All the companies I worked for, it was sort of word of mouth, and I would get [hired] based on reputation because I have such a good track record.” While contractors’ earnings were somewhat predictable before COVID, the economic shutdown revealed vulnerability associated with this type of work.

Each of these workers had resources that counterbalanced the income volatility they experienced. Viola and Leticia were married or partnered; therefore, each had other sources of household income. Leticia described her partner’s income as salaried and very stable compared to her own. Viola did not provide details about her husband's earnings, but the household was not dependent on her wages alone. Further, the family qualified for Medicaid due to their household size, mitigating concerns about access to medical care.[4] They are a blended family with a total of seven children. Jessica rented a bedroom in her brother and sister-in-law's home because her assignments could involve relocating for a few months at a time:

> One reason I live with my brother, is because of the nature of my work, I travel a lot. It's really great to be away for months at a time and then come back and have a space to be in without worry about housing.

Perpetually Unstable. Beyond those in more traditional employment categories (e.g., salaried, hourly, independent contractors), another subgroup within the interview population could be described as perpetually unstable. All four were female; three were middle aged, and one was in in her late 20s. Three of four participants earned annual income below the sample median, and one reported earnings slightly above. Three participants had attended some college, but not completed a degree. Half of this group was white, and the other half was non-white. None of the participants in this category were working at the time of our interview, and all of them had been in positions that had ended due to COVID. When describing their work history prior to COVID, each mentioned short-term positions and job changes.

For this subgroup, income volatility was due to frequent job changes and/or multiple job holding. Some faced individual challenges, such as chronic health conditions

[4] The role of health care in household financial health is discussed in greater detail in a later section.

that affected their ability to work. Katelyn was diagnosed with an autoimmune disorder and put on medication to suppress her immune system. Pre-COVID she worked in customer service call center which allowed her the flexibility to manage her condition. “I was getting sick being in the [call center] hub, that’s when I went to working from home. I love working from home, even if I feel crappy, it doesn’t matter so much.” She was furloughed in the summer of 2020 and eventually laid off as the pandemic persisted.

Keisha left school before completing the final year of interior design degree. She struggled to balance school while working, and eventually left for financial reasons. She described “ups and downs with employment” over the past two years:

> Before I was working in the doctor’s office, I was doing a bit of freelance. I would do like different apps, like DoorDash and something called TaskRabbit. Then I was a tennis coach for about two years, and I was able to just freelance. I had a bunch of odd jobs.

She later took a job in a doctor’s office because it offered some stability. But she was laid off due to COVID.

> It wasn’t necessarily that I wanted to work in a doctor’s office. The doctor who owned the practice, I was her personal assistant, and I felt the need to get like actual benefits, such as insurance. She had an opening where she needed a medical receptionist.

While this group fits the description of middle-income, their experiences stand out from the rest. Their jobs were short-term and did not offer benefits. They received health insurance through public plans or they were uninsured. While the quantitative findings do not point to a relationship between higher education and financial health, this group suggests otherwise. None of participants in this category had higher education credentials which may have influenced their employment opportunities.

In addition to participants who were perpetually unstable, a single destabilizing event could also cause income volatility and subsequent economic instability.

Economically Shocked. Lastly, a few participants fall into the final category of workers, those who experienced economic shocks such as being laid off or a medical emergency. Edward, a pharmacy technician, became unemployed when he was laid off by his employer of seven years. He was unemployed for about 18 months until he started a full-time job in May of 2020.

> The company still exists, but they closed down the wing that I was in. They laid off about 2,000 people across three different states. I tried looking for a job for a while. But since this particular field I was in, there were lots of people unemployed. I couldn't find the comparable income that I was at. So, I just relied on my savings and I drove for Uber and Lyft, that sort of thing.

Erica and her husband are both scientists who had been employed at a large Midwest university. Erica lost her job about a year ago when her research contract was not renewed. Since then, her husband accepted a position at NIH and the family relocated to Maryland. All of these changes contributed to income volatility.

Other participants experienced income volatility stemming from medical events. Karima became ill and needed surgery. She was unable to work for about six months. She and her husband faced considerable financial hardship because of a delay in receiving disability insurance benefits.

> It was just really hard because we were under the impression that I would have income coming in because I had been paying for insurance. So, he took a month off from work to care for me. And at the time, when he was off work, he didn't get paid. So, there was no income. It [the insurance] was supposed to be paying me, but it did not pay me until two weeks after I went back to work.

Similarly, Gina's husband sustained a serious injury that left him unable to work. He received six months of short-term disability benefits, but it took about four months for the benefits to be paid. "The impact was huge on our finances. His paycheck before the injury was, on average, about $1,000 a week take home. His sickness benefits paid us less than half of that, and it took a long time to get them." When those benefits ended, there was a lag of ten months between when they applied for long-term disability and when they began to receive payments.

Those who had economic shocks did not experience income volatility as frequent ups and downs in income. In these cases, a single shock destabilized the household leaving families to manage regular household expenses and medical bills with fewer resources. Social welfare benefits, such as disability insurance, did not come quickly enough and benefits could be unpredictable when a person was covered by more than one plan.

Pathways Between Income Volatility and Financial Health

Regardless of participants' employment type, all faced challenges stemming from income volatility. This section describes specific challenges participants faced. The three most common financial challenges participants mentioned were the high cost of living (including mortgage payments or rent, utilities, food, cable and internet service, mobile phone service, insurance, debt payments, and vehicle expenses) relative to their income, debt, and medical expenses. Importantly, most participants could manage their basic expenses, but it required substantial effort and often subjected participants to considerable stress. In addition to feeling like they were just making ends meet, participants discussed the challenge of getting ahead financially or fears about suffering a setback due to precarious finances.

High Cost of Living

The cost of living relative to earnings was a common theme in interviews. Participants described feeling vulnerable because they were just able to manage their expenses on a tight budget. Sameer described he and his wife's experience living in an urban area of Texas:

> We were living in a place that was very expensive, a lot more expensive than we're currently paying. We had a lot more bills. So, there were a lot of expenses, and like any falter in income would have put our bills in…kind of needing support.

Viola and her husband were a blended family. She described a constant struggle to make ends meet:

> There was never a point when we were good with two incomes to be able to take care of our family. So, there was always the maneuvering of needing assistance for this, coverage for that. Yes, I work at a nice place, I'm getting money from ESPN, but it was never enough for us and four or five kids, however many were

> in the house at the same time. Like I had seriously ridiculously high bills for light and gas.

Participants acknowledged that their income placed them in a better position relative to workers who earned less, but not enough to feel economically secure. The cost of housing compared to income was a common concern. Keisha, a 28-year-old female who lives in the DC area described her experience:

> [I'm] concerned about the high cost of living in this area, as compared to minimum wage. Just because I am a single person that lives in a one-bedroom, and I have very low rent for the area. Just having a minimum wage job would not be enough to cover me paying my rent as well as affording other things. I pay $875, which is very low for D.C. I believe the average one-bedroom is somewhere between like $1,200 and $1,500.

Miguel, a Latino male in his late 30's who lives in southern California, raised similar concerns:

> The truth is this is systematic. I think there's a high increase in poverty because of the cost of living, specifically in Los Angeles and San Francisco. Certain parts of California are very, very expensive. And the minimum wage doesn't even match the minimum it takes to live in L.A. or to live in San Francisco. So, because of that, a lot of people, including myself even right now I'm living paycheck to paycheck.

For some participants, the cost of housing led them to make sacrifices in other areas. For example, Lynda a middle-aged African American woman who is a single parent to a young adult daughter, talked about choices she has made in order to afford her rent:

> I just wish I could, I mean, it might sound selfish, I wish I could go to Whole Foods. I wish I could eat better food. But I feel like I can't. Because if I do, that's taking away from my, what I really need to pay for, which is kind of crazy. Like when you think about what I make, and then my rent is $1,350…It's just, I don't want a roommate. I can get a roommate, but always afraid that you might get the psycho roommate.

Parents of adult children discussed housing costs as burdensome for their children who struggled to afford their own places. Della, an African American woman who lives in Texas and has two adult children living at home, relayed the following:

> I think we need to have a cap on living [expenses], on rentals. When you're young like 26 or under 30, it can be hard to get started on your own when you live in an area where your average one bedroom goes for…I'm from California, and I've been in Texas ten years. And ten years ago, a one bedroom was going for $1,700. And that can be hard for someone starting out on their own.

For some parents of adult children, the COVID pandemic created new housing affordability challenges. Carla, an African American woman in her 50s, occasionally provided financial support to her adult daughters. Two of her daughters were furloughed as a result of COVID, and they turned to their mother for help: "They had money for their rent, but they needed money for like lights, or sometimes they needed gas money."

These examples show how the cost of living affects middle-income workers. Many stretched their budgets to afford housing, and many lacked sufficient savings to help them manage financial shocks. For those reasons, many participants turned to credit cards or other forms of debt.

Debt

Debt was the second most common financial challenge study participants mentioned, including credit cards and student loans. Both types of debt were discussed in response to questions about recurring monthly expenses and as financial concerns.

Credit Card Debt. Participants incurred credit card debt from a variety of sources including managing unexpected bills or drops in income, financing major purchases, and carrying balances that accrued interest over time.

Elaine, a Caucasian woman in her 50s, who worked in a university fundraising office, was paying off credit card debt that from a period of time when her husband was unemployed:

> My husband was out of work for two years, and we went pretty heavily into debt. I was about $35,000 into credit card debt. It's down to like $23,000 now. We're still paying on it. I don't pay the minimum. I pay like at least double, maybe triple on that every month, but it's still going to be a long haul to get out of that hole.

Della was paying off about $16,000 in credit card debt from household expenses: "I mean, a couple of different major purchases, and then some smaller ones. Appliances, like household items." She and other participants described paying more than the minimum amount each month to try to pay it off quickly.

Erica had recently been able to pay down credit card debt that previously accounted for a large chunk of the household's monthly budget:

> We used to carry a lot of credit card debt, which was a big portion of our income, and when we sold the house, we were able to pay off a lot of it. It was easily a third of our income. This was accumulating over time. I was just saying like over the past 15 years we just had a lot of expenses and purchases. I mean, you know, after mortgage then, which is typically one-third, and then credit cards debt was another third, and then we just had not much afterwards for other things.

Credit cards enabled participants to stretch their resources and monthly payments were generally manageable. Several participants also mentioned that they were in the process of or had recently paid off credit card debt. This suggests that using credit cards can be an effective strategy for some in this population, rather than trapping them in a cycle of debt. In contrast, participants had a less favorable view of student loan debt.

Student Loan Debt. More than half of participants (n=18) mentioned student loan payments as recurring monthly expenses; this included debt from their own education or from supporting their children. Student loan debt holders ranged in age from 27 to 53. The amount of debt ranged from $7,500 to a combined total of $120,000 in a household where two adults held some debt. Most participants who had student loan debt had completed their degrees, two were currently enrolled in graduate programs, and three reported leaving school before graduating. Participants held debt from a range of degree programs: two-year associates degrees, four-year undergraduate degrees, and graduate education. Because of the COVID-related pause on federal student loan payments and interest accrual, participants were not required to make loan payments at the time of our interviews. Some, but not all were continuing to pay even though it was not required.

Participants did not necessarily struggle to afford monthly student loan payments. But they discussed the impact to their financial health.

Interest rates and payment terms that hindered participants' ability to make meaningful progress towards reducing their debt, despite making consistent payments for a number of years. This was true for participants who had been making payments for relatively short periods of time, such as four years, and for those who had been making payments for ten years or more. Their frustration is illustrated by the following quote from Miguel, a Latino man in his late 30s:

> For the past ten years, I've been paying anywhere from like $180 to $200 [per month] for my student loans, and it still hasn't dropped, not even 5%. I started with $30,000, and it's still, like it's at $29,800. So, in ten years I've paid off $200 on principal. The rest has been interest. I said yes to it, because I needed to finish school, and I wanted to graduate, and go about my life. But I never really understood the aftermath of accepting these contracts.

Flexibility associated with federal loans could be an advantage since it made monthly payments affordable and monthly payments could be adjusted when income changed. But participants were conflicted about whether federal repayment options were helpful or harmful. For example, Sameer, an Asian man in his late 20s, had been making modest payments when he was enrolled in the public service loan forgiveness program. When he lost his job unexpectedly, his income changed from a stable salary to periodic earnings from consulting work. He was able to modify his loan payments to stretch household income further. But the deferment means that the loan term is extended:

> I think the burden that student loans can be and the way that it lingers it's kind of a catch 22. Because mine were federal, you have a lot more options when it comes to payment plans and deferments and different things like that. But when they are utilized, it feels like it [the loan] sticks around forever. And you know, five, six, seven, eight, ten years after your graduation, you're still paying it, and you feel like you could never get [out from] under it.

Similarly, for Della, an African American woman in her 40s, payments had been reduced or paused at various times. She worried about carrying loan debt into retirement:

> I haven't been paying them long. Because I've always qualified for either an economic hardship, because I'm a teacher, or because, well, I live in Texas and we're in a disaster area. So, between my income and natural disasters, I haven't had to pay. But it's still collecting interest, and I'm just concerned. I don't want to be 90 years old still paying for a student loan.

Participants also worried about the effect of student loans on their credit and their ability to make future plans. Kira, an African American female who is married and has a two-year-old child, worried about her family's ability to plan for the future:

> I worry about just how impactful and predatory student loans are and how much that can just impact your ability to participate in the economy in a different way. Like it can affect your credit and your ability to purchase a home, purchase property or try to start a business because you're spending so much on student loans.

Student loan debt was burdensome in the short-term because payments consumed a portion of household income. It also influenced long-term financial health, particularly when borrowers struggled to repay loans over a long period of time. Debt payments contributed to participants' concerns about their ability to plan for the future.

Retirement

Workers across the age spectrum worried about retirement. Younger workers tended to worry about saving enough money for retirement, and some expressed doubts about Social Security. Sarah, a 27-year-old young woman described her concerns: "I worry too because I pay into Social Security just like everybody else that has a full-time employer, but by the time I retire, I don't know that it's even going to be there for me."

Relatively older workers (i.e., 50s) worried about their ability to retire at all. In Elaine's words: "I'm concerned that I'm not saving enough for retirement, and I'll never be able to retire. I'll have to work until I die." Teresa, who is also in her 50s expressed a similar concern about her financial future:

> Retiring, if I'll have enough money to do that. I mean, I have a 401(k), and they do match, but just in general . . . the way that prices have gone up, housing is going up, every, just the cost of living in general has gone up so much. It seems to go up faster than incomes and rates of return.

In addition to concerns about themselves, participants worried about others who may be in a worse financial position. Miguel:

> For retirement, I'm thinking like I don't have a plan. I, literally, this year, was the very first year that I started my retirement plan. I just haven't had the opportunity to. And I'm not sure… I can say that for minorities and for people living in poverty, retirement is almost a dream. It's a fantasy, because they're living day to day.

Concerns about retirement were particularly distinct, as they (more so than other forms of debt discussed), seemed to represent a type of looming threat for participants. Unlike credit card or student loan debt (which paid for more tangible goods or experiences), retirement benefits are, by definition, deferred. For many participants, this deferral, combined with their experiences with other types of predatory debt, led participants to question whether they would benefit from this system, even if they had paid into it (e.g., Social Security).

In addition to concerns about debt and retirement savings, participants described challenges stemming from the cost of medical care, and in some cases, medical debt.

Medical Care

The final most common financial challenge was paying for health care. The majority of participants had health insurance; only three were uninsured. The type of health plan and the kind of health care influenced the degree to which participants could afford care. Participants' health plans tended to cover primary and preventive care and most participants could afford this type of care, but they depended on multiple income streams and used a range of financial coping strategies to manage their household budgets. Financial coping strategies are discussed in greater detail in a later section. Those with comprehensive health plans were least likely to have trouble affording any type of health care. For example, Naveen, who works for a state government agency pays very little out of pocket for health care. "If I have to take my son to an urgent care, my copay is only $25. If I have to go to a hospital, it's like $100. I don't have any deductible or anything." But those who had other types of plans or were uninsured were more likely to report difficulty paying for care.

High Deductible Health Plans. Roughly one-third of the qualitative sample was covered by a high-deductible health plan; these plans offer lower premiums but less coverage than comprehensive plans. Participants who had high-deductible plans were more likely to express concerns about the cost of care. Karima is a nurse at a mental health hospital, where she has worked for the past eight years. When asked about the value of her insurance, Karima responded, "it's actually horrible, but it's something." She went on to describe her experience accessing prescription drugs:

> Initially, when I first joined it, you paid the deductible, then you only pay like your copays once you met your deductible. Now, you pay your deductible, you still have a bill anywhere from 25% to 50%. You only get like 25% off or 50% off the medicines. So, it's really not good, but it's something.

Several participants who were enrolled in high-deductible plans also used Health Savings Accounts (HSAs) to manage health expenses. HSAs are tax-favored accounts that allow consumers to set aside a portion of their pre-tax earnings for health care expenses.[5] Some participants valued HSAs as tools that helped them plan for expenses. This was common for those who had high out-of-pocket costs and later adjusted the amount of money they set aside. Naima is a loan processor for a major bank who works with home equity customers. In Naima's case, two unexpected medical events resulted in steep medical bills.

[5] In 2019, the limit was $3,500 for individuals and up to $7,000 for families. There are tax benefits associated with using HSAs; an individual's contribution to an HSA is tax deductible and employer contributions may not be counted as gross income (Internal Revenue Service, 2019).

> In 2018, I had a dental emergency, and I had to do a dental surgery, and I had to pay that out of pocket. [Then later] I fell down the stairs at my home, and I had to do physiotherapy for eight weeks, all in one year. So, my medical, my out-of-pocket was just ridiculous. I probably paid $4,000 to $5,000 out-of-pocket in that one year. And that is why the next year I changed my plan, maxed out everything that I could. I think I'm contributing probably $2,000 or is it $2,600 to my HSA just so I don't have to think about finding this money, because it's already drawn out of my pay every week.

Others received limited financial protection from their health plan and HSA, such as when they did not reach their deductible within the plan year. That was the case for Tammy, a married mother of an adolescent son who lives in the northeast. She paid out of pocket for annual check-ups and twice-yearly visits to her cardiologist.

> I have $50 taken out of my paycheck every paycheck, which is biweekly, so it’s $25 a week. So that’s going into an account, and then I use that for [medical] bills. As far as I understand, it will cover 100% [after meeting the deductible]. But I’ve never made my deductible. I’ve been told it’s $2,000, and then I’ve been told it’s $3,000. But my boss just hit $2,000, and she’s still paying. So, I think it’s $3,000.

Despite having health insurance coverage, nearly every participant described having trouble affording health care at some point in time. This section summarizes specific kinds of care that were burdensome.

Dental care. Participants’ health plans often didn’t cover dental care at all or provided limited coverage, such as an annual limit. Eight participants discussed needing or undergoing costly dental care. Elaine delayed getting crowns on her teeth for ten years, and then divided the work over two years to avoid reaching the annual coverage limit on her health plan. Sarah put off having her wisdom teeth removed until it became unavoidable.

> I put off getting my wisdom teeth pulled up until July of this year actually because it was expensive, but it got to the point where I couldn't avoid it anymore. There was always pain there because they grew in sideways, and they were pushing all my teeth together. It got to the point where I started not being able to eat without excruciating pain. Tylenol didn't help anymore. So, I went to the dentist. They took an x-ray and showed me how much my teeth had been pushed together over the last decade, and it was kind of scary. But then we also found out that I had some kind of cyst in my jaw because of not getting them removed, and they thought it might have been cancer, so I didn't have a choice anymore.

The procedure cost $3,800 and drained Sarah's emergency fund.

Physical Therapy. Six participants discussed difficulty affording physical therapy because the copays tended to be higher than for other types of care – around $50 compared to between $10 and $30 respectively – and because participants needed several sessions to address their condition. For example, Jim suffered an ankle injury and needed six months of physical therapy:

> Some of the major stuff I had to have like MRIs and X-rays, that was all covered. But when it came to the actual physical therapy, they paid for it but the [$50] copay was pretty expensive because I was going twice a week, it was starting to add up.

Similarly, Lynda's daughter needed physical therapy to strengthen her legs. Lynda didn't recall the details of her health plan, but she recalled that it was expensive.

> I was having $750 a month coming out of my check just for myself and my daughter for health insurance [premiums]. And then on top of that, I would get bills, most of them were for her care, and it was just really difficult to pay those. It was physical therapy to make her legs stronger. One of her legs was shorter than the other. So, she had to go through physical therapy, and it was twice a week. It [the insurance] wasn't really covering any of it.

Half of the participants who used physical therapy indicated that they stopped their treatment due to cost. In Mercedes' case, a misunderstanding about insurance coverage left her with an outstanding bill of $1,200. "I stopped because I didn't want to keep shelling out money. I started off at one institution and apparently, they weren't fully covered by my insurance. Now I have a huge bill from them for my portion that I owe." Gina and her husband decided to stop his physical therapy because they couldn't afford it on top of monthly copays for other services: "I would say we're paying about $375 a month. And then it would be about another $300 if we included the physical therapy."

Injury or Serious Medical Event. More than half of participants (n=14) described an experience where they or a family member suffered an expensive injury or serious medical event. Alexis' husband, an engineer, was injured while visiting one of the plants he manages. He received workers' compensation, but the monthly benefit was less than half of his typical monthly pay. The family was able to manage based on Alexis' income and savings, but the amount of workers' compensation insurance and the lag time of several weeks before benefits were paid made things difficult. He was able to return to work at full capacity after a period of 18-months. At the time of their interviews, both Gina and Keisha were dealing with outstanding medical bills stemming from serious medical events.

The table below summarizes serious injuries or medical events mentioned in interviews. The extent to which these events caused hardship varies, they are included here to show the range of serious medical events participants and their families experienced. Participants were asked if they had ever experienced a serious health matter that contributed to financial strain. In a sample of 32 individuals, nearly half (n=14) had an injury or medical event requiring more than primary care. This is on top of other conditions that require ongoing treatment or medications, such as diabetes. The number and seriousness of these events highlight the importance of having health insurance that can protect middle-income people against financial ruin.

Table 7: Injuries and Serious Medical Events.

Participant	Medical Event or Condition
Alexis	- Husband was injured at work and was not able to return to work at full capacity until 18 months after the injury
Elaine	- Husband was injured on the job and was out of work for several months - Elaine was involved in a motorcycle accident and spent six weeks recovering in a hospital and a rehab center
Gina	- Husband was injured in a serious accident, remains unable to work
Jessica	- Injured while riding an electric scooter, has not repaired tooth that was cracked in the incident

Participant	Medical Event or Condition
Karima	- Became ill and needed surgery, was unable to work for six months
Katelyn	- Became ill and needed a hysterectomy
Keisha	- Suffered a severe asthma attack, was taken to the emergency room by ambulance
Kira	- Emergency room visit
Leticia	- Suffered a broken arm in an ice-skating accident
Miguel	- Needed expensive oral surgery
Naima	- Fell down the stairs at home, needed eight weeks of physical therapy
Naveen	- Five-year-old son broke his hand

Accessing Care. When participants struggled to pay for care, they used a few common strategies: using credit, delaying or skipping care, or pursuing discount programs. It is worth noting that the same strategies were used by insured and uninsured participants, highlighting gaps in insurance plans.

Credit. Using credit, including using health-specific credit cards, was an effective strategy for those who could pay off the balance in a reasonable amount of time. For example, Summer had recently changed health plans, and faced an unexpected bill for a medical test:

> In January, I had an ultrasound. I wasn't anticipating how expensive it was going to be with my high deductible plan, and it ended up being $380. Because I hadn't anticipated it, I didn't have money in my checking account to cover it, so I put it on my credit card.

Summer was not necessarily in the habit of paying her credit card bill off each month, but she did not anticipate having trouble paying off the balance within a few months.

When participants could not afford medical care, some decided to delay or skip care.

Delaying or skipping care. Participants delayed or skipped treatment for three reasons. Uninsured participants delayed or skipped treatment all together. Jessica, a healthy woman in her late 30's, had not seen a doctor in about two years since allowed her health insurance coverage to lapse. Katelyn, who suffers from serious chronic illness, was managing several health conditions as best she could without insurance.

> I've got a lot of problems. I'm on the up and up, but I don't have access to a lot of the things I normally do at reasonable pricing without insurance. I've been good about getting my medications. I got the Walgreens prescription discount. But when it comes to actual doctor's appointments and stuff, even telehealth is pretty expensive. I've had televisits with my neurologist and my psychiatrist. But both the dermatologist and the primary [care physician] I have to see for physical things, so I had to go in person. But now that I don't have [insurance], … still have the cysts, but I've been putting it off. I just can't afford to pay out-of-pocket right now.

Insured participants avoided or limited care for services that were not covered by their plan or only partially covered leaving them with large co-pays. Nia started, but later stopped going to counseling when she realized her sessions were not fully covered by her health plan. Since many large employer-sponsored plans had waived copays for mental health services due to COVID, Nia and the therapist believed her plan would cover the full cost of sessions.

> I was going to mental health therapy pretty regularly, until I realized that it was not covered. And it's pretty expensive, more so than I anticipated. It turns out your company had to opt into the COVID waiver. Mine did not. And I saw her [the therapist] seven times over the summer at a rate of $100 an hour. That's a big difference from my expectation that it would be free.

When participants couldn't delay or skip care, some looked for other ways to cover the cost. The next section discusses discount programs which participants tended to use when faced a bill for emergency care or another unavoidable medical service.

Discount Programs. When participants could not afford care, some turned to hospital or provider discount programs, usually following a medical emergency. Existing research points to the unique vulnerability associated with medical debt (Seifert, 2004). In an emergency, the cost of care is often unknown, and people are not likely to decline care because of cost. Further, they may not be in a position to comparison shop for better prices.

In the study sample, both insured and uninsured participants relied on discount programs. Leticia, an independent contractor, needed financial assistance after she severely broke her arm while ice skating. She was insured at the time, but her plan didn't cover an out-of-network emergency room visit.

> I ended up going to the emergency room at a hospital, then I got like the bills from the emergency care room, which it wasn't under my plan. It was a pretty hefty amount, like $3,000 or $4,000. I didn't have the money to pay that. I wrote them a letter telling them I couldn't afford to pay them. They had a program where you could get your bills reviewed, and if you qualified, then you could

> either pay a small portion or not pay any at all. I think I had to send them some financial tax returns or something like that. I definitely wasn't able to pay my bills at that time because I was between jobs. And then the insurance I had, again, it didn't cover it because they were out of network.

This section discussed the three primary themes that emerged from discussions about financial challenges middle-income populations face: the high cost of living relative to wages, debt, and the cost of medical care. Participants were spending a substantial amount of income on housing and related expenses, debt payments, and medical care. As a result, people had less income available to save towards short- or long-term financial goals, which are two critical components of financial health. The next section describes the strategies participants used to make ends meet.

Strategies

This section describes strategies participants used to manage their financial lives. The researcher asked participants to discuss the strategies they used to manage specific financial challenges they encountered in the past. Participants were also asked to consider how they might meet a hypothetical need in the future, such as an unexpected bill or income disruption. The findings presented here reveal a wide range of financial coping strategies, and in some cases, participants combined strategies. This section discusses financial coping strategies using three themes: seeking support from public programs, self-driven solutions, and borrowing.

Public Programs

This study is focused on middle-income households, a population that is excluded from most social welfare benefits due to income limits. However, middle-income workers do qualify for Unemployment Insurance (UI), and people discussed seeking unemployment benefits to cope with job loss.

As mentioned in a prior section, interviews were started about five months after the COVID-related pandemic began. Therefore, most people discussed unemployment benefits stemming from COVID-related job loss. The context is important for a few reasons. State-based unemployment benefits are available to workers who have earned a certain amount of money during a specific amount of time. UI payments are based on a percentage of that earned income and each state determines the benefit amount. Therefore, the UI benefit amount may be more or less generous depending on where a person lives.

The CARES Act, which provided economic stimulus payments and other financial support to workers, made a few important changes to the UI system (Pallasch, 2020). First, it extended the length of time for which an individual could receive UI benefits. Second, the federal government provided an additional $600 per week ($2,400 per month) on top of state-provided benefits, meaning UI recipients who lost work due to COVID received substantially more support than they would have received under the normal system. Finally, the CARES Act made gig workers and individuals who are self-employed eligible for UI benefits. In the past, the process for determining eligibility for UI was more difficult for independent contractors, who typically report income using 1099 forms rather than W2 forms. For these reasons, the experiences described here may not be comparable to a non-COVID context.

The qualitative study sample included three workers who were independent contractors, all of whom were not working at the time of the interview. Gig workers and independent contractors faced a unique hurdle when applying for UI benefits, uncertainty about their eligibility. Jessica, a marketing contractor, worked primarily at events and tradeshows until COVID restrictions caused these events to close down. Some projects classified her as a part-time employee (reported using a W2 form) and others classified her as an independent contractor (reported using a 1099 form). Being classified as a part-time employee made the process easier:

> My longest gig was that six-month-long one, and it was actually a W-2 gig and not a 1099. That gig, plus a few other ones I did that were also W-2, allowed me to apply under the regular system, rather than under the new gig worker legislation. That helped a lot. I have friends that were only 1099, and they were trying to get the money through the gig legislation, and that was terrible for them. It was so confusing, and there wasn't enough [people] working in the unemployment office. I know a lot of people, regardless of the state that they're living in, that had trouble.

Applying for benefits could be burdensome, but the additional financial support provided by the CARES Act was a critical source of support for those who were out of work.

Enhanced UI benefits. As mentioned, the CARES Act provided an additional $600 per week in federal support on top of state-based UI benefits. The federal match prevented participants from experiencing hardship. Clark received UI benefits while he was temporarily furloughed: "I've been lucky enough that I haven't had a massive disruption in income through the course of all this. I was furloughed, but I was able to get on unemployment. So that wasn't a big financial hit for me."

Keisha, who had been working in a doctor's office until she was laid off, considered picking up gig work, such as meal delivery. But she had recently been diagnosed with asthma and was worried about being exposed to COVID. In Keisha's case, the enhanced benefit enabled her to pay bills and prepare for what could be an indefinite period of unemployment:

> Thank goodness for the unemployment and the extra $600 that we are receiving a week. I was able to save, I was able to pay a few bills in advance. But if it wasn't for the additional $600, I probably would have had some type of strain.

Participants did not discuss other social welfare benefits related to or independent of COVID. However, they did describe a range of financial coping strategies they used to manage income volatility and the challenges that were described in the previous section. Financial coping strategies is defined as "strategies households use to make ends meet when their regular cash flow is insufficient to meet expenses" (Bartfeld & Collins, 2017, p. 3). Previous research finds that individuals and families may use one or more financial coping strategy depending on the size of the need. Strategies may include drawing from savings, seeking support from family or friends, and using credit. The next section describes self-driven strategies.

Self-Driven Solutions

Participants prioritized relying on their own resources, including adjusting their budgets or finding ways to earn more money, over borrowing money to meet their needs. This is consistent with Bandura's self-efficacy which predicts that people who have a strong sense of self-efficacy are likely to adapt their behavior and to be persistent in the pursuit of their goals (Bandura, 1977). SaverLife contributed to this sense of self-efficacy by empowering participants with financial information and a greater sense of control over their financial condition and goals.

Saving and Budgeting. Building savings and budgeting were the most common self-driven strategies that were mentioned. Individual strategies were often informed by SaverLife resources, such as prize linked savings which helped participants build short-term savings, and general financial tips. Miguel learned about SaverLife through his job at an anti-poverty organization. After joining the organization, he began setting savings goals:

> I started with SaverLife when I started getting engaged in financial empowerment work. Once I started making decent money, I started figuring out ways to save. Prior to SaverLife, I didn't have an actual savings account. Not that I wasn't educated, I just wasn't paying attention to setting goals. My income increased, so that's really helped me pay off my [credit card] debts and really start saving. My next goal is to be a homeowner.

Sabrina learned about SaverLife a few years prior, as part of a first-time homebuyer program. She re-engaged with the organization recently with the goal of improving her budgeting and advancing towards her financial goals:

> I'm putting in time and attention into changing my spending habits and being more knowledgeable about finances and savings. I feel like I'm investing in myself and seeking help when needed. So, I'm hopeful that my finances will continue to increase, and my savings will continue to increase, and that myself and family will have a healthy financial situation.

Importantly, financial coping strategies could be both solutions to and causes of income volatility. For example, taking on a part-time job to supplement earnings from a primary job could increase income and help an individual build savings. But variable hours and earnings associated with that secondary job also caused volatility.

Multiple jobs. Roughly two-thirds of the interview sample discussed earning income from multiple sources. This includes those who took on extra work occasionally to manage occasional expenses, such as Erica, who took on a part-time job at an Amazon warehouse during the holiday season. It also includes participants who depended on consistent income from secondary sources such as Sabrina, whose second job at a non-profit organization and self-employment comprise a meaningful share of her household budget:

> The main reason why I got a second job was for finances, just because it's so expensive in the Bay Area. And my primary job doesn't pay enough for me to afford everything that my family needs and the cost of living. Preferably my goal is to have my own business. Because I can't be there right now, to have just one big great job would be great.

Types of secondary work varied widely. Some participants engaged in independent contract work that was related to a primary job. Clark, an audio-visual technician at a local theater company, does similar work for community-based groups on the side. Summer, who works full-time in the communications department for a small college, also does freelance work with the local school district, preparing monthly newsletters and managing their social media. Jim, a full-time engineer, also works as a ski instructor and as event staff for triathlons and other athletic competitions. Nia worked as a brand ambassador, demonstrating new products or representing companies at conventions and other large events. One third of the interview sample reported using traditional gig work, such as driving for Uber or Lyft, to supplement income or during a period of unemployment.

Self-Employment. A few participants described self-employment as a financial coping strategy. Many engaged in "income patching," which refers to using self-employment as an income supplement while keeping other paid employment to mitigate risk (Aspen Institute, 2013). For these participants, self-employment was a means of diversifying their income streams, such as Kira, who had recently invested in a small business.

> The other half [of the stimulus] I used as startup costs for the business I recently started. It's something I'd been wanting to do for the last few years but was kind of hesitant because of startup costs. I think it's just a certain level of risk that has really held me back or stopped me. I think it will just be like an additional source of income. I'll always probably keep my job.

Some started businesses with the hope that self-employment would ultimately become their primary job. That was the case for Naima, an African American woman in her mid-30s:

> I'm studying to do my real estate license in September, and that's because one of my passions is real estate investing. So last year, one of the moves that I tried to make, I'm still working on it, I started a real estate business.

Seeking Better Employment Opportunities. A few participants (n=7) discussed seeking a promotion at their current job, looking for a different job, pursuing education or skills training, or some combination of these things, in order to increase their earnings. Participants were taking these steps while working at more than one job, which is evidence of their significant efforts towards improving their financial lives. Naima, an African American woman in her late 30s, works as a loan processor for a major bank and also started driving for Lyft. She was working towards improving her income in two ways: she was working towards getting her real estate license and pursuing a promotion at her primary job:

> I'm looking to move up or into another role within the next 12 months. I'm going to work very hard before fatigue sets in. I like working for this company. They do have a lot of opportunities. So, I would say I'm looking to move up at the company. But if I don't get into a good … what I deem to be a good place at the company within the next 12 months, I probably will look for something else.

Similarly, Carla, an African American woman in her early 50s, recently pursued a position that paid more. Carla was employed full-time as a substance use counselor, held a part-time position as a receptionist a Jewish Community Center, and owned a janitorial services business. She was also enrolled in a master's program to further her public health training. At the time of our interview, Carla had recently resigned from her primary job to accept a position that offered higher pay.

> I just made a change. I gave my resignation on Thursday. It just went so fast. On Tuesday I, got an offer. Wednesday had the interview. Thursday accepted it. I'm feeling kind of melancholy because I'm going to miss my colleagues here. But it's an increase. I think it's more than $6,000 more [per year].

Other participants sought education or training in order to pursue work in different fields. That was the case for Edward, an Asian man in his early 40s who lives in Texas with his wife and son. He is currently employed as a pharmacy technician and is taking courses towards pursuing a different career path:

> I would like to start my own business one day. At this time, I'm working full time to support the family and build up the foundation for the future plans. I'm investing some time and some money in my education to polish my skills, to add more skills to what I can offer, whether it comes to running a business in the near future or just changing my lane, my profession altogether.

In cases where participants were seeking promotion, they did not necessarily discuss stopping or curtailing secondary work. Therefore, it is not clear whether a promotion would eliminate the income volatility they were experiencing. But higher wages could improve their overall financial health. While these examples show people pursuing formal employment, other participants used informal and occasional methods to increase household earnings.

Selling Household Items. Some participants sold household items to earn extra money. They typically scaled this activity up or down in response to their needs, rather than treating it like a consistent job. Patricia, a white woman in her mid-40s described how she managed unanticipated expenses: "What I've done before is I've posted art for sale, and some folks have bought it. What I ended up doing to make ends meet this year, I purged my yarn stash and I sold finished pieces of crochet work." Parents of children described selling items their children no longer use. That was the case for Della, a mother of four children who ranged in age from 17 to 26: "I do things like sell on eBay or like

Facebook Marketplace. When my kids were younger, it was their old bundles of clothing or collectibles or educational supplies…Hello Kitty. It just depends on what they're not interested in anymore."

Participants also mentioned generating income through cash rewards or points earned through shopping apps and completing occasional surveys or engaging in other research that pays incentives.

Borrowing or Using Credit

Participants discussed borrowing money through a variety of different sources in order to manage their financial lives. Using credit cards to supplement income or manage unexpected expenses was covered in previous sections, therefore it is not discussed in detail here. Credit cards were most often used when participants faced an unexpected shortfall or a large expense.

Borrowing from Family or Friends. Several participants mentioned borrowing from family and friends. Some had done so in the past and others described it as an option they would consider in response to a question about a hypothetical need. In Erica's case, she and her husband each borrowed money from family members during a period of time when they were facing a lot of expenses and substantial credit card debt:

> I borrowed money from my sister and my mom, and my husband borrowed money from his mom and one of his brothers. I was able to pay back my loans to my sister and my mom. And my husband's mom, he's paying her back a monthly income, which is good for her.

Other participants were reluctant to borrow from family and expressed concerns about the impact to their relationships. Sameer indicated his preference for using savings or credit to manage an unexpected bill or income disruption. He discussed his hesitation about borrowing from family:

> I think it's a combination of things including coming from a culture that relied heavily on community-type banking or financing like lending circles and things like that. And seeing the opposite end where relationships were really strained by lending. I dabbled in it for a little while where I would lend someone $100 or $200, and they'd pay me back. Then it got slower and slower to where the payment wasn't coming back when we asked so I just decided it wasn't something for me. Then, when I started getting myself in debt and then got married, it added a lot more factors, so it wasn't a route we wanted to continue down.

Similarly, other participants mentioned that they were the person others in their network would come to for support. That was the case for Viola who said she could not count on family or friends for financial help: “Nope. They're never there for me. They never have been. I'm the one that people come to for help.”

Borrowing from a Retirement Plan. A few participants mentioned borrowing from a 401k retirement plan in the past, or as an option they would consider in response to a hypothetical question about financial challenges. Kira used a 401k loan to consolidate credit card debt. Gina had taken a distribution from a former retirement plan in order to manage household expenses and medical care after her husband was injured.

> I took a retirement distribution from a prior job. We had a lot of medical expenses which we still have. So, it has been a whirlwind of expenses over the last year and a half. Very difficult to manage. We thought we were going to be in a position where we were going to lose our house.

This option speaks to advantages and challenges this population faces. Having access to a retirement plan, especially an employer-sponsored plan, suggests that an individual has a stable job, earns enough money to set some aside each month, and has accumulated some assets. Borrowing from assets may help in the short-term but could be detrimental in the long-term, such as when people are not able to rebuild savings and may not have sufficient resources for retirement.

More broadly, one economic shock puts people at risk for further shocks (Hill et al., 2017). This sets up a cycle of instability when resources are depleted and when they cannot access support from social welfare programs. In Katelyn's case, a family emergency and change in her living situation contributed to insecurity. She described a situation a few years ago. "I had at one point lots of money saved in my savings, and I was able to redo the floors and I got myself some new rugs and, I felt really good about [my financial situation] at that point." After a death in the family, she invited an extended family member to live with her but was later stuck with high utility bills and other household expenses when her family member stopped paying rent. "I ended up racking up credit card bills on top of depleting my savings." Before COVID hit, Katelyn was able to start building up savings. But she has since lost her job. She has a health condition that puts her at high risk for serious illness if she contracts COVID, which limits her employment options.

> Once COVID happened, the unemployment was good, and we got some stuff we needed that I hadn't been able to. But then that money stopped. They only give you a few months of unemployment to begin with, I do plan on trying to apply again, but I don't think there's any . . . left for me at this point.

Financial Stress

As a result of the challenges described here and financial coping strategies, participants were experiencing financial stress which has negative implications for health. Some participants discussed direct connections between their finances and health, such as not being able to afford health care or experiencing symptoms of poor mental health due to worries about debt or retirement. Naima spoke about symptoms of poor mental health stemming from financial stress:

> I feel so unstable. I feel like I'm walking on uneven ground, and it gives me so much anxiety, sleepless nights. Right now, literally, the reason I was feeling sick today is because I know I'm low-grade depressed, and it's directly related to my finances.

For other participants, financial stress stemmed from their financial coping strategies such as having to work multiple jobs in order to make ends meet. Sabrina, her partner, and two sons live in the Bay Area. She discussed health concerns associated with her employment situation as well as the impact to her family:

> In order to just like make ends meet and afford the cost of living, I'm having to work three different jobs and raise a family. And that that's just not sustainable, and not a healthy situation for people to be in. So, there's work to be done to make sure people working full time can get the salary, the pay they need to afford the cost of living.

CHAPTER 4: DISCUSSION AND LIMITATIONS

Key Findings

This study adds to the existing income volatility literature by focusing on an understudied population: middle-income households. The study was guided by three primary research questions that asked about the demographics of the study population, their income sources and drivers of income volatility, the challenges they faced, and financial coping strategies. The findings reveal a diverse study population and multiple pathways between income volatility and financial health. Many participants prioritized self-driven financial coping strategies when confronted with financial challenges.

Income Volatility is an Indicator of Economic Insecurity and a Response to It.

A key insight gained from this study relates to drivers of income volatility; many participants relied on secondary sources of income to supplement wages from a primary job. These secondary sources appear to be responsible for much of the income volatility salaried workers were experiencing. Other sources of volatility included hourly work with variable hours and independent contracting as a primary income source. The most advantaged workers within the study population included prime working-age adults who were more educated than the general population, who had health insurance, and earned above median household income of $60,000. However, these financial and social advantages were not enough to ensure economic security, access to affordable health care, or overall financial health.

Despite Relative Advantages, Middle-Income Households are Economically Vulnerable.

Median financial scores showed that, in aggregate, the population was somewhere between financially coping and financially vulnerable, meaning they were struggling in one or more aspects of their financial life (Financial Health Network, 2020). Qualitative findings provide some insights to explain their vulnerability:

- Low wages compared to the cost of living, which led some participants to incur credit card debt or rely on other forms of borrowing.
- Participants reported considerable student loan debt and difficulty paying it off despite consistent monthly payments over several years.
- Insufficient private social welfare benefits: health insurance that does not enable patients to access affordable treatment beyond primary care and preventive services, and disability insurance that does not pay out quickly enough to avoid financial strain.
- Insufficient public social welfare benefits: Those who qualify for short-term UI support receive time-limited benefits that cover only a portion of lost wages. Until recently, the unemployment system made it difficult for independent contractors to qualify for benefits.

These Findings are Indicative of Larger Economic Trends.

The declining value of middle-income wages, the rising cost of living, and the erosion of public and private social welfare benefits (Chalise, 2020; Hacker, 2006; Joint Center for Housing Studies of Harvard University, 2020; Reeves & Sawhill, 2020; U.S. Department of Education, 2019) contribute to the need for secondary income sources. Findings also document the growth of alternative work, which is an important source of secondary income (Abraham & Housman, 2019; L. F. Katz & Krueger, 2019). Consistent with previous studies, the data also show income volatility stemming from economic shocks, such as job loss, and structural changes in the economy, such as the growth of hourly full-time jobs and the erosion of jobs characterized by the SER (Dynan et al., 2012; Gottschalk & Moffitt, 2009; Ziliak et al., 2011).

Financial Health Outcomes Vary According to Demographic Categories.

Median financial scores showed significant differences according to race and gender. Women tended to have lower financial health scores than men. This is consistent with previous research showing wealth and earnings disparities between men and women (Castro & Martin-West, 2018; Hegewisch, 2018). Qualitative findings also offer some explanations for these differences. Female participants who were parents were more likely to discuss periods of single parenthood, where they were the primary caregiver and primary earner for their household. Some, but not all, reported receiving financial support from the non-custodial parent. In addition, only female participants mentioned providing financial support to adult children. Existing literature shows that parents supporting adult children is common. A 2013 Pew study found that almost two-thirds of adults (63 percent) provided some financial support to an adult child within the past year (K. Parker & Patten, 2013). Among adults with at least one child age 18 or older, nearly one-third (31 percent) say they are the primary source of financial support to at least one of their grown children (K. Parker & Patten, 2013). A more recent AARP study found that more than half of parents of adult children provided $1,000 or more to an adult child, and more than one-fourth contributed more than $5,000 in the past year (Skufca, 2020). These explanations may be specific to the qualitative study sample, which was overwhelmingly female. But it suggests that for women familial financial responsibility may extend far beyond childhood years.

This study reached different conclusions about financial health score and race and compared to the large body of research showing worse financial outcomes among non-white people (Bhutta et al., 2020; Darity, Addo, & Smith, 2020). Within the quantitative sample, median financial health score was higher among non-white participants than whites. In contrast to previous studies (Andersen et al., 2015; Dynan et al., 2012; Elmi et al., 2017; Latner, 2019), quantitative analysis did not find significant relationships between age or education level and financial health.

These differences likely relate to three factors. First, the study sample is not representative of the U.S. population, and therefore some differences are expected. A second possible explanation is the context. This study was conducted during the COVID pandemic during which an unprecedented number of people lost jobs or wages. In April 2020, the unemployment rate was 14.7 percent and the number of unemployed people exceeded 23 million Americans, due to the pandemic and public health efforts to contain it (U.S. Bureau of Labor Statistics, 2020b). The administrative data were received in August 2020, roughly five months after the pandemic started and most observations (about 83 percent) joined SaverLife in 2020. If the majority of the administrative sample was experiencing economic hardship – including job loss and lost wages – the data are not likely show variation according to demographic characteristics. Finally, differences may be explained by data quality. For example, there were inconsistencies between education level reported in the qualitative screening survey and participants' own reports of their highest level of education. If this is indicative of a systematic data quality problem, education level (or other demographic information) as reported in the administrative data may also include inaccuracies.

Qualitative findings suggest a relationship between a higher level of education and economic stability, which is consistent with existing literature (Andersen et al., 2015; Dynan et al., 2012; Latner, 2019). Salaried workers were least likely to have experienced disruptions to their primary job due to COVID; all of the salaried workers had completed at least some college and just two salaried workers did not hold at least a college degree. Most graduate degree holders' primary employment was not affected by COVID. Only one participant who held a graduate degree was not working at the time of our interview, due to her status as an independent contractor. Workers who had less education were more likely to be paid hourly or to have otherwise unstable employment histories.

Health Insurance Coverage Is Not Enough

Health insurance could not guarantee access to health care or prevent financial hardship when faced with a serious medical need. Most of the qualitative interview participants had health insurance – often an employer-sponsored plan – that enabled them to access primary and preventive care. But paying for other services was burdensome because participants were financially precarious and because of the cost of care. In addition, participants who lived in states that did not expand Medicaid under the ACA (Florida and Texas), had fewer coverage options, particularly when they lost their jobs and employer-sponsored coverage (Kaiser Family Foundation, 2021).

Inadequate health insurance saddled participants with high out-of-pocket costs and forced them to make difficult decisions about when to delay or skip care. Some participants made extra efforts to protect themselves from health-related financial shocks by purchasing private disability insurance plans. But the process timing of disability insurance meant that participants waited months before receiving financial support. In the meantime, they depleted savings, relied on credit cards or other forms of debt, and tapped into retirement savings, which has implications for their financial future. The health care affordability challenges discussed here show how the rising cost of health care, declining value of private health insurance, and lack of comprehensive public health insurance option negatively affects middle-income households. The examples also illustrate Jacob Hacker's argument in The Great Risk Shift, that individuals bear a greater responsibility for economic risks now than in the past (Hacker, 2006).

Economic Context is More Impactful Than Self-efficacy in Financial Health

Participants displayed a great deal of self-efficacy, or belief in their own ability to successfully meet financial challenges (Bandura, 1977). Participants were familiar with a wide range of financial products and services – including savings, budgeting, and investing tools – and expressed confidence in their ability to meet specific financial goals. Unsurprisingly, building short-term emergency savings and long-term savings for homebuying or retirement were common strategies participants employed towards improving their financial health. Others discussed navigating financial challenges, such as negotiating with a creditor or medical provider when faced with a bill they could not afford.

Self-efficacy theory predicts that individuals with a high degree of self-efficacy would be in a better financial position, due to their mastery of skills and persistent effort towards reaching their goals (Bandura, 1977). The study population included individuals who were disciplined savers, who were adept at financial decision-making, and sought self-driven solutions to their financial challenges (e.g., budgeting, saving, seeking secondary income sources, self-employment). Yet these efforts did not necessarily translate to better financial outcomes. These findings show that an individuals' effort may only go so far and emphasize the important role of the larger social and economic context (wage stagnation, increasing cost of living, rising income volatility, and inadequate public and private social welfare protections) in the study population's financial health.

Financial Skill Building is Valued

The findings show that participants valued financial education, which contrasts with some empirical evidence questioning the value of financial literacy (also called financial education) programming. Some studies find that financial literacy programs have little impact on financial behavior or in financial decision-making, except in specific cases, such as just-in-time instruction that coincides with a specific financial decision (Fernandes, Lynch, & Netemeyer, 2014). Evaluations of financial literacy programs find that classroom-based instruction alone, such as lessons about financial terminology, is less effective than programming that helps participants gain financial skills and mastery of tools to manage financial transactions confidently (Bartholomae & Fox, 2017; Rothwell et al., 2016). Consistent with findings related to financial skill-building, study participants valued financial tools and information from SaverLife that helped them navigate financial systems more confidently. A second explanation for participants' attitudes about financial education relate to the population. Participants who joined SaverLife aimed to build savings or otherwise improve their financial condition. Therefore, they may be primed for accepting and acting on new financial tools and information, and not comparable to the general population.

Notably, participants who advocated for financial literacy or financial education raised it in response to questions about policy solutions that could help someone like them. A few participants indicated that they would have benefitted from receiving financial information at a younger age, such as learning how a to establish a credit history and how credit score affects future financial options, when they were just starting their financial lives.

Income Volatility and Wellbeing

This study found some evidence of a relationship between economic insecurity (volatile income and expenses, debt, and substantial efforts to make ends meet) and stress that are consistent with literature (Friedline et al., 2020). Consistent with existing literature, women were more likely than men to discuss symptoms of poor physical or mental health related to their finances (Afifi et al., 2018; Lai, 2011; Park & Kim, 2018; Stein et al., 2013).

Findings related to sources of financial stress differed slightly from existing studies. Literature finds that financial stress stems from difficulty meeting basic needs, paying bills, not having money left over at the end of the month, or persistent financial obligations, and is associated with poor physical or mental health (Afifi et al., 2018; Ponnet et al., 2016; Romo, 2014; Valentino et al., 2014). In addition, having higher income and wealth are associated with lower financial stress (Lai, 2011). This study found evidence of financial stress and symptoms of poor physical or mental health among those who were able to meet monthly expenses but had concerns about their financial future such their ability to afford retirement or ability to manage unexpected bills. Another pathway between income volatility and poor health found here is the practice working excessively due to multiple jobs. This is consistent with the literature related to precarious work, where workers may accept multiple assignments in order to hedge against (Chan, 2013). While these findings suggest some pathways between income volatility and stress, the sample size is too small to draw firm conclusions.

Implications

This study found economic insecurity among a middle-income population that included highly educated adults, who had stable jobs with health benefits, and earned median income of $60,000. Very few participants in the qualitative sample mentioned that they could not pay monthly bills, the first component of financial health. But many discussed the substantial effort required to keep up with their basic expenses. Those who were sole earners with children (or financial responsibility for children), participants who were unemployed at the time of the interview, or individuals who were dealing with an economic shock were most vulnerable. Other participants discussed having only modest savings and substantial debt, two other factors that contribute to poor financial health.

There is a tendency to focus on economic insecurity among the most vulnerable people in society, which is valid. But focusing only on individuals who are unable to make ends meet, and overlooking precarious middle-income workers is short-sighted. These workers may be stable at present but may be one serious event away from needing support. If they need support, they may not qualify for public social welfare benefits due to their income level. Depending on the nature and amount of the expense, their personal financial support systems may not be enough. One financial shock that destabilizes a household, puts the household at risk of experiencing further shocks.

Previous research has linked evolving patterns of work and household earnings to the declining value of wages. Warren and Warren Tyagi (2003) discuss the shift from women's earnings as a secondary source to supplement men's earnings, to the need for both parents in the household to work. The argument may be outdated in terms of assumptions about gender and family configuration. As this study has shown, several women are sole or primary breadwinners in their households; this has historically been true for non-white women. In addition, household composition varied substantially across the study population. However, the principle of needing more income to manage household finances applies. This study finds patterns of two-earner households where both hold full-time positions and at least one earns supplementary income, such through a part time job, rideshare driving, or independent contract work. These are middle-income households with greater advantages than lower-income counterparts, which illustrate the problems of wage stagnation, rising cost of living, and insufficient public and private social welfare benefits to protect workers against unemployment and illness. The financial challenges described here could be addressed by a stronger UI system, lower cost higher education options, and an affordable health care system.

If the SER, which historically applied to jobs that were only available to the most advantaged workers is the standard by which jobs are compared, the findings from this raise questions about the state of worker protections and employment overall. Findings showed that volatile income and broader economic insecurity were present, even among workers whose jobs did resemble the SER. Those whose working conditions provide less security – including hourly workers and independent contractors – are starting from a worse economic position and face even greater risks. Women, who earn less than men, and Black and Hispanic or Latino workers who are affected by the racial earnings and wealth gaps and have fewer resources to draw from, are among the most vulnerable in an economy where full-time workers in two-income households cannot necessarily expect to achieve economic security.

Social Welfare Programs May Reflect Outdated Understandings About Middle-Income Workers' Financial Lives

Public Programs. In order to provide adequate protection against financial ruin, public and private social welfare programs must be responsive to the risks workers face. But our understanding of middle-income workers' financial lives – including sources of income and income volatility – may be inaccurate. For example, when asked to describe their work using categories from the Federal Reserve Survey of Household Economic Wellbeing, many participants struggled to answer the question. Multiple-job holders fit into more than one category, such as full-time and part-time worker. Some participants interpreted the categories as overlapping. For example, an independent contractor who worked full time was not sure which category applied: works full-time for someone else or independent contractor.

This line of question and participants' difficulty answered revealed a limitation associated with existing surveys that measure income and work. These surveys are valuable tools for tracking employment and income trends over time. But they may not accurately capture income and employment dynamics in a changing economy. This can lead to misunderstandings about the population, such as the extent to which middle-income workers depend on secondary sources of income and how they earn supplemental income, contributing to a mismatch between policy solutions and workers' needs.

The CARES Act provision that made independent contractors eligible for UI benefits was an important step towards protecting more workers who might otherwise have been left out. But state-based UI systems were overloaded by the volume of COVID-related claims and burdened by incorporating new program rules show vulnerabilities in the system. Workers faced considerable difficulty applying for and receiving benefits. Considering that UI is the only public social welfare program that is available to middle-income workers, the COVID crisis has revealed weaknesses in the existing system.

Private Social Welfare Benefits. The Affordable Care Act established a basic level of insurance coverage by requiring health plans to cover preventive and primary care services. But paying for care beyond primary or preventive services was burdensome, both because so many participants were financially precarious and because of the cost of care. The scale of healthcare affordability challenges was clear: nearly half of the qualitative sample described a situation where they or a member of their household struggled to pay for medical care. Those who had access to and could afford comprehensive health plans were better served. The degree to which comprehensive plans were available and affordable is unknown, but the data reveal critical coverage gaps and indicate a need for health plans that do more than guarantee access to primary care.

Study findings also suggest a need for disability insurance that can be more responsive to consumers' need. Two participants who suffered medical events and sought benefits from a disability insurance plan described lengthy wait times before benefits were paid out. In the meantime, they incurred credit card and other debt while trying to meet financial needs, which negatively affected their credit. When benefits were eventually paid out, delinquent payments were already recorded and they had incurred substantial debt, both of which had affected their credit scores.

Financial Stress and Well-Being. Participants discussed connections between their finances and health directly, such as not being able to afford health care or experiencing symptoms of poor mental health due to worries about debt and retirement. Participants also discussed the burdens associated with working multiple jobs, including health risks and concerns about the impact to their families. These experiences show the potential for compounding, where financial stress contributes to health problems and vice versa, potentially setting up a cycle of instability and poor health. These findings suggest that the economic context described in the background section poses risks to financial health and well-being.

Study Limitations

There are a few important limitations associated with the data sources for this study. The administrative data sample and qualitative study participants were drawn from SaverLife's membership, which is not representative of the U.S. population, therefore findings may not be representative and should not be interpreted as such. SaverLife's member demographics reflect the demographics of places where they recruit from, including non-profit organizations, fintech partners, and large employers. SaverLife's members are roughly 80 percent female and 20 percent male (T. Lucas, Personal Communication, February 5, 2020). For comparison the U.S. population is roughly 51 percent female and 49 percent male; among prime working age adults men are more likely than women to participate in the labor force (Congressional Budget Office, 2018; U.S. Census Bureau, 2019). In terms of race, roughly 60 percent of the U.S. population is non-Hispanic white and the quantitative study sample is 48 percent white (U.S. Census

Bureau, 2019). The data presented here do offer some insights about the experiences of middle-income households, but the non-representative sample and small qualitative sample size mean that the data are not sufficient to determine if the patterns observed here are generalizable to the U.S. population or to the population of prime working age adults.

The administrative data were collected for a different purpose. Therefore, quantitative modeling was based on the data that were available. For example, the data showed the year when a member joined and the person's financial health score captured during the SaverLife intake process. Given that SaverLife promotes saving – an important component of financial health – it is reasonable to expect that for members who have been able to save or otherwise improve their financial health, financial health scores would improve over time. However, the data only include a cross-sectional financial health score measure. In addition, since the majority of observations in the sample joined SaverLife in 2020, and their financial health was likely affected by the COVID pandemic and may change over time.

The outcome variable, financial health score, is designed to provide a more complete assessment of financial circumstances than a narrower measure like credit score by including financial data, such as the amount of money in a savings account, and financial behaviors, such as the extent to which a household plans for the future. However, financial health is also driven by an individual's specific circumstances (S. Parker et al., 2016). For example, a heavy debt load and limited long-term savings may be less financially risky for a young person, who has many years of earning ahead, compared to the same circumstances for an older person who is approaching retirement age. But the two could, in theory, have similar financial health scores.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

This study contributes to the body of income volatility research showing the financial risks associated with volatile income by focusing on a middle-income population. Previous research potentially overlooked financial vulnerability among this group whose resource levels suggested they were financially healthy compared to their low-income counterparts. While household income above a certain threshold places individual in the middle-income category, considering expenses and financial obligations offers a more nuanced understanding of this population's financial health. The study population included prime working-age, middle-income adults, many of whom needed multiple income streams to manage their monthly expenses. The cost of living, health care expenses, and debt were important factors influencing how far a middle-class income could stretch and the extent to which people could make long-term financial plans.

Many participants made just enough their bills each month, often with considerable effort, and many lacked a sense of economic security. Participants had limited savings or insufficient wealth to guard against short- or long-term income disruptions; the economic slowdown caused by COVID highlighted these vulnerabilities. Even the most stable participants – salaried workers who earned income from secondary sources – experienced income disruptions and had to make adjustments. Overall, financial health was a fine balance that rested on continued employment in one or more jobs, limited personal reserves, and the hope that they would not face an expensive emergency. This research confirms the value savings in short- and long-term financial health.

The range of experiences presented here demonstrated a need for additional research on subpopulations within the broader middle-income category. Compared to the demographics of prime working age adults in the overall U.S. population, the study sample included more females and more non-white participants. Quantitative data showed meaningful differences in financial health scores according to race, qualitative findings offer some explanations for the observed gender differences. But the differences also reflect longstanding gender-based inequality. The quantitative data also showed significant differences in financial health scores according to race. The qualitative data did not allow me to draw firm conclusions about differences between individual race categories. However, qualitative findings do suggest that differences in household financial responsibilities and support systems could explain some of the observed differences.

Finally, this study provides evidence to counter dominant narratives about financial health and the role of work in economic security. Ideology-based opposition to social welfare programs often argue that people who need assistance are not working hard enough. This study revealed the experiences of people who have attempted to follow the prescribed path to economic security such as pursuing higher education and seeking jobs that pay well. Despite their efforts, many participants did not earn enough money at one job and higher education left many people saddled with debt. However, they were also incredibly resourceful. Very few study participants had just one income source and most preferred self-driven solutions to meet their financial needs.

If current income volatility trends continue, we risk a society characterized by widespread insecurity. The risks are most pronounced among those who have faced historic economic disadvantages. However, policymakers can take steps address the challenges outlined here through policies that can improve wages and labor arrangements for workers and enhance social welfare protections to mitigate the negative consequences of economic shocks.

Future Research

Future research could explore alternatives to employer-sponsored benefits. As shown here, full-time workers may be employed in positions that offer limited benefits or no benefits at all. Findings from this study have demonstrated a need for what have traditionally been employer sponsored benefits, including health insurance and retirement plans, to protect workers from common financial risks. But non-employer-based models exist as well, such as health and disability benefits provided by the Freelancer's Union ("Freelancers Union | About Us - Freelancers Union," n.d.). Future research could explore models like this to test a suite of benefits that could be made available to workers who do not have options to employer-sponsored options or have only limited options.

The qualitative sample included a few workers whose primary job was independent contracting, and their experiences highlighted the need for additional research to understand this population. Within the qualitative sample, independent contractors were more likely than other workers to describe a "passion" for their work. Further, they valued the flexibility that came along with this type of work, such as choosing down time in between projects. This is in contrast to studies of hourly workers which finds that many would prefer a position with a regular schedule to a job that pays more but has an irregular schedule (Larrimore et al., 2018; Morduch & Schneider, 2019). Income level and family configuration may explain some of the difference, but further research could delve more deeply into conditions of independent contract work that make it more or less attractive to workers.

Further research could also explore the experiences of independent contractors in specific sectors to determine sector-specific challenges they may face. For example, the contractors interviewed here all worked outside their respective homes, which meant they were not able to work during the COVID pandemic. But independent contractors in other sectors, who had the option to work from home, may report different experiences.

Policy Solutions

There is a need for policies counterbalance years of wage stagnation that have eroded the value of earnings relative to cost of living increases. Universal Basic Income programs, which are being piloted in several U.S. cities and abroad, have shown the benefits associated with receiving regular infusions of unrestricted cash, such as mitigating income volatility and improving recipients' health and well-being (Marinescu, 2017; West, Castro Baker, Samra, & Coltrera, 2021). While income thresholds for these programs may exclude middle-income households, basic income research shows the value of a cash benefit that can increase and stabilize household income.

Increasing wages would also improve people's ability to manage occasional income disruptions or broader economic shocks, by enhancing their ability to save. The abrupt economic shutdown stemming from COVID shown the importance of having liquid resources to meet immediate needs. In addition, unrestricted cash benefits – including unemployment insurance and the stimulus payments – were critical income sources for those who experienced job loss and allowed recipients to spend the money according to their needs. For those who did not lose their jobs, stimulus payments helped them pay down debt and build savings to buffer against future shocks.

Given the growth in independent contracting and other forms of work that do not offer benefits, there is a need to expand social welfare benefits that are not tied to employment. The COVID pandemic provides another justification. When millions of people lost their jobs, they also lost their health insurance during a global public health emergency. Widely available portable benefit plans have potential to give workers more options to protect themselves against economic risks. These plans have potential to benefit all workers, not just independent contractors, if they serve as an alternative to existing employer-sponsored options that offer limited protection. Portable benefit options could be government-operated, such as the OregonSaves program, a state-run retirement plan that is open to all Oregonians ("OregonSaves," 2019). OregonSaves also partners with employers to facilitate employee enrollment into the plan. Non-government options also exist. For example, the Freelancer's Union offers insurance plans to members, including dental and vision care plans and disability insurance ("Freelancers Union | About Us - Freelancers Union," n.d.). Expanding portable benefit options like these types of options has potential to give workers and their families more options. This recommendation depends on the quality of these plans and on workers' ability to afford them. As shown here, having health insurance is not the same as having access to health care.

There is a need for health insurance plans that do more than allow people to access primary care and preventive services. Implementing a universal health care system is the most direct path to ensuring access to affordable health care. In the absence of an immediate solution, the U.S. has taken steps towards improving access to care. The Affordable Care Act (ACA) gave states the option to expand income thresholds for Medicaid and created health care marketplaces where qualified consumers could purchase subsidized private health plans. Despite these efforts, affordable comprehensive health plans remained out of reach. The American Recovery Plan Act builds on the ACA with a provision that enhanced federal subsidies make health plans purchased through the Marketplace more affordable. Theoretically, consumers who previously chose high-deductible plans due to cost now have the option to purchase more comprehensive, more affordable coverage.

The policy recommendations included here will require substantial financial investments and they cannot likely be implemented quickly. However, they do have potential to improve social welfare support systems over time, which would benefit all workers and contribute to a more stable and equitable society. The risk of leaving millions of middle-income households vulnerable is even greater.

APPENDIX A: SAVERLIFE SCREENER SURVEY QUESTIONS

1. In what year were you born?
2. Have you worked for pay within the past twelve months?
3. What was your total household income in 2019? Please include income from all sources.
4. How often did your monthly income change in 2019? Response options: often, sometimes, never.
5. What is your gender? Response options: female, male, nonbinary.
6. What is your ethnicity: Response options: African-American, Asian, Caucasian, Latino, Multiple, or Other.
7. Are you willing and able to speak with a researcher from University of Pennsylvania about your finances and healthcare decision-making at some point in the next two weeks? If so, we will introduce you via email and share your first name, email, and phone number, and together you will coordinate a time to talk. Conversations will last 30 - 45 minutes, and SaverLife will compensate you $40 for your time. The results of those conversations will fall under privacy conditions found in the SaverLife Member Panel Terms and Conditions.

APPENDIX B: SEMI-STRUCTURED INTERVIEW PROTOCOL

Opening

1. Can you tell me a bit about yourself? Age range, where you live, who's in your household.
2. How did you find out about SaverLife?
3. How long have you been a SaverLife member?

Employment: The first set of questions is related to work.

4. Are you currently working? What kind of work do you do?
   - Prompt: Title or sector
5. If no, did you lose your job as a result of the COVID-19 crisis? If you lost your job as a result of the crisis, please answer this set of questions as if you're talking about your last paid job.
6. How would you describe your job? Please indicate all options that apply to your work.
   - Work full-time for someone else
   - Work part-time for someone else
   - Work for yourself (self-employed) or as a sole proprietor?
   - Work as a partner in a partnership (e.g. partner in a law firm, medical practice)?
   - Work as a consultant or a contractor?
   - Homemaker or full-time caregiver?
7. Is your current work arrangement by choice?

8. How long have you been at your current job? For those who lost jobs as a result of COVID-19, how long were you employed at your last job?
9. Do you have a degree or training related to the kind of work you do?
10. Are you doing the kind of work you want to do?
    - Why or why not? (Prompt: For example, let's say you got a degree in English Literature wanting to be a writer, but you're not working as a writer. In an ideal world, what kind of work would you be doing or what would your job look like?)
11. A lot of people have side jobs or take on extra work to make ends meet. Do you have a side job, or have you taken on work to earn extra money the past year?
12. If you worked for more than one employer in the past year, how many different employers paid you in the past year?
    - Prompt: How many W2 and/or 1099 forms did you use to file your taxes?

Income + Expenses: this set of questions deals with income. I'm not asking you to tell me your specific income. I'm trying to get a sense of how consistent it is or if it changes.

13. How predictable is the income that comes into your household every month?
    - If your income changes, what causes it to change: variable hours, downtime in between short-term projects, etc.
14. How predictable are your monthly household expenses? What are your recurring expenses? (Prompt: rent or mortgage, utilities, food, healthcare, debt, other?)
15. Can you tell me about a time when you had a large, unexpected change in income?

- Probe for details

Financial Stability/Instability

16. Thinking about the period of time before the COVID-19 crisis, would you say you felt economically stable, unstable, or somewhere in between?
17. Has covid changed that?
18. What factors contributed to your feeling economically stable or unstable? Probe:
    - debt (mortgage, student loans, other)
    - income (low or unpredictable)
    - material hardship (difficulty affording food, housing, utilities, medical care, etc.)
    - savings (short- or long-term savings, or lack thereof)
    - marital status or change in marital status
    - having a child or children
19. If you don't feel economically stable, what would have to change in order for you to feel stable?

Making ends meet

20. In a typical month, how hard is it for you to pay all of your bills?
    - very difficult
    - somewhat difficult
    - not difficult at all
21. Let's say you had an unexpected drop in income, or an unexpected bill, how would you make ends meet?
    - Probe: borrow from friends or family, use savings, use credit, other?

- As you think about the options available to you, how would you rank them?

FinTech

Some people use financial apps or fintech to track expenses, savings, etc., or an app from their bank.

22. Do you use financial apps? Y/N
23. If Y: What do you use these apps for?
24. If N: Why don't you use financial/fintech apps?

Health + Health Insurance: I'm going to ask some questions about your health.

25. In general, how would you rate your physical health today? Using a scale of 1 to 5; one meaning poor and five meaning excellent.
26. What about your mental health or emotional health today? Using a scale of 1 to 5; one meaning poor and five meaning excellent.
27. Do you currently have health insurance? Y/N
    - If yes, Probe for details: individual plan or plan purchased through the health insurance exchange, employer-sponsored plan, other? Are you covered under someone else's plan?
28. Do you, or any member of your household have recurring medical expenses? Y/N
29. Who is in the household, who has the health issue? You, spouse, child, parent, other?
    - Probe for details: monthly/weekly treatment, medical supplies, prescriptions, etc.?

30. I'm particularly interested in how recurring medical expenses affect people. Does your plan cover your recurring expenses or help pay for them?
31. On average, how much do you pay each month for recurring medical expenses?
32. How do you typically pay for recurring medical expenses?
    - Are you able to cover your recurring medical expenses in full each month? Do you use credit or other means of deferring the cost?
33. Sometimes people delay seeking treatment, delay prescriptions, split pills to stretch the doses, or share medication due to cost. Have you done any of these or taken other steps to afford health care?
34. Have you ever had trouble paying for medical expenses?
    - Probe for details: what happened? how did you manage?
35. Let's assume you had an unexpected drop in income. How would you handle your recurring medical expenses?

Coronavirus Related Questions. This next set of questions deals with the COVID-19 crisis. While different states reacted at different times, for this set of questions, I'm referring to the time period starting on March 15. I'm trying to get a sense of how the crisis is affecting people.

36. You said you are/are not currently working for pay? Y/N
    - If yes, to what extent has your typical work been affected by the COVID-19 crisis?
37. Did you/your household get a stimulus payment?
    - How did you use the money?
38. How has your household been impacted by the COVID-19 crisis? Probe:

- lost work/reduced number of hours/reduced wages
- working from home
- additional expenses associated with working from home
- balancing caregiving while working from home
- earning more due to hazard pay
- other

39. If you lost work, have you filed for unemployment insurance?
    - Probe: describe the process, have you received benefits?
40. If your household has been negatively affected by the COVID-19 crisis, what specifically is causing financial strains?
    - Housing (rent or mortgage)
    - Utilities
    - Food
    - Health or health care (health insurance costs, recurring medical expenses, injury or illness, etc.)
    - Debt (include all sources of debt: credit card, medical debt, payday loans, student loans, etc.)

Closing

41. If you were to speak to the Mayor, Governor, or your representatives in DC, what would you want them to know about your (or someone like you) financial life?
42. Can you think of a policy change (or other change) that might make your financial life easier? For example: universal childcare, student loan forgiveness, mortgage relief, unemployment insurance, access to health insurance, other?

43. When you think about your financial future, what are you most concerned about?
44. When you think about your financial future, what are you most hopeful about?
45. Is there anything we haven't talked about that you think I should be thinking about?

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