Intergenerational Economic Transfers and Wealth Inequality in the United States

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Acknowledgements

This paper is a product of my admiration towards the work of my advisor, Prof William Darity. His work encourages me, and his words motivate me. Had it not been for his enthusiasm, encouragement, and advice, this paper would have just been a draft. I am grateful to have had the constant support of Prof Michelle Connolly during this process. Her consistent feedback and candor have made the journey much more fulfilling.

I am indebted to Ryan Denniston from Duke Libraries, whose willingness to help me navigate through the PSID has been invaluable. I have also benefitted greatly from my peers in Econ 495 and 496 whose regular comments have allowed me to continually refine my work. Of course, many thanks to my friends and family who have encouraged me during countless late nights and early mornings. Excelsior!

Abstract

Using longitudinal data from Panel Study of Income Dynamics (PSID) from 2007-2021, this paper investigates the role of economic transfers (inheritances and gifts) in asset accumulation processes of US households, in both short-term and long-term. Analysis is done through dimensions of race, wealth quartile, and age. Examining quartiles reveals significant wealth disparities, mirrored in income and education levels. Racially, White households consistently hold higher wealth, income, and educational levels compared to Black households, indicating systematic racial disparities. Multivariate analysis uncovers relationships between socio-economic factors and wealth. Past wealth positively influences future accumulation, except for the lowest quartile. Labor income *negatively* impacts wealth, particularly in lowest quartile, potentially indicating poverty traps and dissaving, in both short-term and long-term. Race is significantly associated with wealth, with young Black households consistently disadvantaged, though this reverses for the wealthiest quartile and in longer-term. Transfers' (inheritances and gifts) impact varies across quartiles, showing diminishing returns and switching signs as wealth quartile increases, indicating differential returns for upper quartiles. Noteworthy is the positive association between transfers received 8-10 years ago and current wealth, irrespective of age and wealth quartile, highlighting their significant long-term role in wealth accumulation.

JEL Classification Numbers: D14, D31, J15
Keywords: Intergenerational transfers, Inheritance, Racial Wealth Inequality

1. Introduction

The distribution of household wealth exhibits a considerably greater degree of inequality as compared to income or consumption expenditure (Davies and Shorrocks, 2000). Among the member nations of the Organization for Economic Co-operation and Development (OECD), statistical estimates indicate that in 2014, approximately half of the total wealth is held by the wealthiest 10% of households, with the next 50% holding nearly the entirety of the remaining half. In contrast, the least wealthy 40% hold a disproportionately meager share, hovering slightly above 3%. This stands in stark contrast to their proportionate share of total household income, which approximates 20% (OECD, 2015). The issue of wealth inequality has more recently assumed greater prominence as recent research findings indicate a clear upward trend in wealth inequality over the past few decades (Piketty, 2014; Saez and Zucman, 2016). For instance, Saez and Zucman (2016) have illustrated that, in the context of the United States (US), wealth concentration witnessed a decline from 1929 to 1978, only to exhibit an upward trajectory thereafter. The top 0.1% of wealth holders have observed a rise in their wealth share, increasing from 7% in 1978 to 22% in 2012, mirroring the level of 23% observed in 1929.

This discrepancy raises concerns about fairness, equal opportunities, and the lasting impact of racial bias. One reason to explore wealth as an indicator of economic well-being, rather than relying solely on income or consumption, is its role as a store of value characterized by attributes not found in other flow measures. Unlike income or consumption, wealth provides a financial cushion for families during economic shocks that disrupt their income streams. It can also be used as collateral to secure financing, opening up additional opportunities. Furthermore, wealth can be passed down as an inheritance to support future generations and wealth increase the access to and fosters better use of education. Additionally, it plays a crucial role in financing retirement and ensuring financial security during one's later years.

While understanding wealth is essential, it is also complicated. Household wealth is a result of a complex combination of factors that unfold over extended periods. Change in wealth over time period is regarded as savings during that time period and savings are the difference between inflows (income and intergenerational transfers) and outflows (consumption) during the period. Income is generated through employment, entrepreneurial endeavors, investments. Transfer of assets across generations through inheritances and inter vivos gifts are additional inflows that add to stock of wealth. Outflow takes into

account autonomous consumption like that of food, rent, and medicine, marginal propensity to consume, and the amount of real disposable income.

The process of amassing wealth is influenced by various determinants, such as the commitment to education (including decisions regarding high school completion, choice of college, field of study, and the pursuit of advanced degrees), career choices (including the selection of occupations, entrepreneurship, and the duration and intensity of work), financial decisions (including the amount allocated for savings and the risk appetite in investments), and family dynamics (encompassing matters of marriage, partnerships, and family size). Furthermore, the support and contributions of family members through gifts, inheritances, and various forms of assistance play an integral role in shaping one's accumulation of wealth. One of the most disputed topics in this area is how important intergenerational transfers are as determinants of the level and distribution of wealth.

Notably, the extreme upper tail of the wealth distribution cannot be explained by the commitment to education, career choices, financial decisions, and family dynamics of just the current generation, suggesting the significance of incorporating bequests into the framework analyzing the wealth accumulation process (Atkinson, 1971; Oulton, 1976; Gittleman and Wolff, 2004). Davies and Shorrocks (2000) conclude, upon review of existing studies that assess the contributions of inheritance and lifecycle factors, that a reasonable estimate of the contribution of such transfers to aggregate wealth is in the range of 35% to 45%. Thus, it becomes increasingly apparent that intergenerational transfers are likely to have a substantial influence in shaping the wealth accumulation process. Nevertheless, the precise impact of such transfers on wealth inequality remains a subject of debate, as different findings emerge from different empirical investigations. This question, though, holds important policy implications, as it bears direct relevance to policymakers engaged in the formulation of strategies to address issues of inequality.

The objective of this study is to quantify the impact of intergenerational economic transfers on a short-term (0-2 year within receiving a transfer) basis and long-term (0-2 years, 2-4 years, 4-6 years, 6-8 years, and 8-10 years of receiving a transfer) basis on the asset accumulation processes within US households. The impact is dissected on the basis of race, age, and wealth quartile of the household.

Data used in this paper comes from the Panel Study of Income Dynamics (PSID) prepared by the University of Michigan. By utilizing the PSID's characteristic of following families over time since its first survey wave in 1964, this study reconstructs the path of wealth accumulation to observe changes in wealth over time and the associated intergenerational transfers.

The following section discusses current literature on debates over the effect on intergenerational transfers and wealth. This is followed by a discussion of the dataset used in this study. The paper then provides an analytical setup of the different regression models. Finally, the paper concludes with a discussion of findings and makes policy implications of the findings.

2. Literature Review

Direct financial transfers between generations, either in the form of inheritances or inter vivo gifts, are often considered a significant pathway through which families transmit their wealth advantages from one generation to the next. Thus, it is commonly assumed that these intergenerational transfers contribute to wealth inequality and the persistence of wealth disparities by favoring individuals from affluent backgrounds while limiting opportunities for families to improve their social and economic status. Empirical evidence supports this assumption that wealth transfers facilitate intergenerational wealth transmission and financial wellbeing (Benton and Keister, 2017). Receiving such transfers can facilitate savings and reduce the need for consumer debt. Moreover, these transfers indirectly promote savings and wealth accumulation by facilitating endeavors such as homeownership (Spilerman and Wolff, 2012) and the establishment of new businesses (Holtz-Eakin et al., 1994a, 1994b).

Avery and Rendall (1997) determined that about 20% of the racial wealth gap between Black and White families could be attributed to inheritance. Similarly, Menchik and Jianakoplos (1997) attributed 10% to 20% of the wealth gap to inheritance. Although Blau and Graham (1990) did not have data on transfers, they inferred their significance from the unexplained differences in their reduced-form models. Gittleman and Wolff (2004), concentrating on racial differences in wealth accumulation rather than wealth levels, simulated that equalizing inheritances and other private transfers would decrease the Black/White wealth gap by approximately 15% (5 percentage points). In an analysis covering the period from 1984 to 2009,

Shapiro et al. (2013) found that inheritances and financial support from family, when considering homeownership, explained 5% of the increase in the racial wealth gap.

Alternative studies suggest that financial intergenerational transfers do not play a significant role in driving wealth inequality. The majority of households tend to receive inheritances later in life, typically after they have already established a discernible trajectory for wealth accumulation and have amassed the majority of their assets (Wolff, 2015). Sabelhaus and Thompson (2023) argued that most people receive no inheritances of substantial value, ultimately consume the inheritances they receive, and assets that account for a large majority of household wealth are not inherited.

Drawing insights from Swedish household surveys, Klevmarken (2004) observed a phenomenon wherein bequests contribute to a reduction in wealth inequality. This reduction is primarily attributed to the tendency of parents to equitably distribute their wealth among their offspring. This equitable distribution is made possible by the transfer of wealth from more affluent parents to their less prosperous children. Furthermore, the significance of this reduction in wealth inequality is underscored by the fact that even though individuals with fewer assets receive smaller bequests, these bequests hold relatively greater importance for them. However, Klevmarken (2004) concurrently highlighted a paradoxical aspect, explaining that the accumulation of wealth with the intention of leaving bequests is liable to exacerbate wealth inequality. In other words, the bequest motive tends to intensify inequality while the actual transmission of wealth to subsequent generations serves to diminish it.

Wolff (2002) examined US data and found that wealth transfers represent a larger proportion of the current wealth holdings for poorer households compared to richer ones. In other words, a small gift to the poor holds more significance than a large gift to the rich. However, Wolff (2002) contended that while intergenerational transfers have an equalizing effect, this does not necessarily translate to reduced wealth inequality, as poorer individuals are inclined to spend their inheritances, while the wealthy are more likely to save theirs. Similarly, Karagiannaki (2015) observed in the context of the United Kingdom that intergenerational transfers contribute to reducing wealth dispersion among less affluent households when measured relative to wealth. Nonetheless, these transfers are unevenly distributed, with larger transfers typically going to those already possessing higher non-inherited wealth, thereby exacerbating absolute disparities in wealth distribution (Karagiannaki 2015).

Various explanations for the racial wealth gap have been explored, such as differences in the receipt of inheritances (Menchik and Jianakoplos, 1997; Gittleman and Wolff, 2004), permanent income (Altonji and Doraszelski, 2005), saving behavior (Altonji and Doraszelski 2005; Gittleman and Wolff 2004), and cultural differences in attitudes toward risk, financial decision-making, time preference, or expectations of family support (Chiteji and Hamilton, 2002; Boshara et al., 2015). These explanations are only weakly supported by data, with the exceptions of inheritances, which Menchik and Jianakoplos (1997) estimated account for 10-20% of the racial wealth gap, and differences in parental and sibling need, which Chiteji and Hamilton (2002) found account for up to 27%. Conditional on income, evidence suggests that Blacks save slightly more than Whites (Hamilton and Darity, 2010; Darity and Mullen, 2020). Dal Borgo (2019), using quantile decompositions, found that after adjusting for socio-economic characteristics, including retirement assets, the savings rate gap between Black and White households disappears, although the gap between White and Hispanic households remains.

It is important to note that wealth serves not only as an asset for accumulation but also as a resource that can be consumed. Economists have observed that as wealth grows, households often opt to spend rather than save, converting their assets into leisure or goods. For instance, households with investments in stocks tend to increase consumption and decrease savings as the value of their investments rises (Poterba, 2000; Nau and Tumin, 2012; Elinder et al., 2018). This phenomenon, known as the "wealth effect," is particularly pronounced with financial investments and may extend to gains in less liquid assets like homes (Juster et al., 2004). Similarly, individuals who win the lottery are more likely to retire early, foregoing potential earnings, with larger winnings correlating with higher rates of workforce departure (Arvey et al., 2004). Furthermore, households adjusting their financial behavior in response to windfalls may become accustomed to elevated levels of consumption, making it challenging to reduce spending in the future (Schor, 1998). Wealth transfers could provoke household responses akin to other windfalls, potentially prompting increased consumption and reduced propensity to save or earn, thus diminishing the long-term advantage of the windfall rather than fostering further wealth accumulation.

In addition to seeking more leisure or increased consumption, households might adapt financially to receiving wealth transfers for social motives. As highlighted by Weber (1946), status is a pivotal aspect of social dynamics alongside class; therefore, households may approach wealth accumulation not solely

for its intrinsic value but also for its perceived status implications. In capitalist societies, wealth often translates into access to goods that signify prestige and success (Veblen, 1973), especially in the case of "positional goods" whose value stems from their relative scarcity rather than inherent qualities (Frank, 2005). Moreover, alongside explicit status-seeking, households may increase consumption based on culturally defined standards of living that have been skewed upwards due to growing inequality in recent decades (Dwyer, 2009). Lastly, households might choose to allocate a portion of their newfound wealth to support or express gratitude towards individuals outside the household, such as family or close friends. These inter vivos transfers, occurring while the giver is alive, constitute a significant portion of total wealth transfers (Gale & Scholz, 1994). Given that receiving wealth transfers may prompt households to boost consumption, decrease savings, and redistribute wealth to others, the receipt of wealth transfers could potentially diminish future wealth accumulation.

Most research on wealth and transfers is constrained by the cross-sectional design of the data and inconsistent measures of private transfers. Cross-sectional data does not adequately address the potential endogeneity of private transfers. The varying results in the literature may stem from differences in how private transfers are measured in different data sets and how they are defined by researchers, such as interhousehold versus intrahousehold transfers, cash versus in-kind transfers, and inheritance versus inter vivos transfers. By examining the role of intergenerational transfer through race, wealth quartile, and age in both short-term and long-term time horizons, the goal of this study is to utilize the economic identity of wealth accumulation equation to resolve some of the debate.

3. Data

The data used in this study comes from the Panel Study of Income Dynamics (PSID), a long running longitudinal panel survey following over 5,000 U.S. families since 1968. The PSID has collected detailed information about households' assets and debts every year from 1984 to 1999 and biennially ever since. The PSID survey data is representative of the U.S. population (Toney and Robertson, 2021) and recent estimates suggest that both average and median wealth measure in the PSID align with those found in the Survey of Consumer Finances (SCF), a reputable survey on household wealth in the United States (Pfeffer et al., 2016).

For this study, the PSID offers some clear advantages when compared to other datasets for investigating wealth disparities based on race. First, it tracks families over time and asks about changes in their assets, making it easier to understand how their net worth changes due to intergenerational transfers and capital gains and compare them with families who did not receive an intergenerational transfer. Second, the PSID includes more African American families than the SCF because PSID intentionally includes a larger number of low-income households. Third, it's likely that the PSID's interviewers build trust with participants over time, leading to fewer instances where people refuse to answer questions about their wealth: not a small consideration because many families are reluctant to share information about their net wealth (Hurst, Luoh, and Stafford, 1998; Gittleman and Wolff, 2004).

Collected from all respondents, PSID content includes demographic data, e.g. gender, race, and sex; and economic data, e.g income (labor income – from head of household, spouse, and others in family unit; asset income – from business, rents, dividends, and interest from head of household, spouse, and others in family unit), wealth, education, and gifts and inheritances. Gifts and inheritances will be referred to as transfers from this point on.

Age, sex, and education level of the head of household are reported. Wealth of the household is measured in the PSID by adding the net values of the home, real estate other than the main residence, the farm or business, and vehicles together with holdings in stocks, checking and saving accounts and "other savings," and then subtracting non-mortgage debt, including debt from farm or business credit card, student loan, medical bills, legal bills, loans from relatives and other debt.

Labor income is reported from previous year and includes income from wages and salaries, any separate reports of bonuses, overtime, tips, commissions, professional practice or trade, market gardening, additional job income and miscellaneous labor income from the year before survey. Labor income of spouse of head of household and labor income of other family members in the household are also included. Total labor income of the household is calculated. Asset income from previous year includes annualized income from business, rents, dividends, interest, and rent from the year before survey. Asset income from spouse and other members of the family are included. All components of asset income are available from 2005 onwards, except business income, which is available for all years. Total asset income of the household is calculated.

Outflow consists of total expenditures and support to others in the previous year. Total expenditure includes expenditure on food at home, food delivered, food eaten out, hospital, doctor bills, prescriptions, health insurance, mortgage, rent, utilities, telephone & internet, homeowners insurance, property taxes, household repairs, household furnishings, vehicle loans, vehicle leases, vehicle down payments, auto insurance, additional vehicle expenses, vehicle repairs, gasoline, parking, bus, taxi, other transportation expenses, education, childcare, clothing, trips, and other recreation expenses done in the year before the survey. Support to others is the money altogether given to anyone outside the family unit in the year before the survey.

From 1999, on a biennial basis, respondents were asked about up to three transfers received within the last two years. This study uses the sum of these transfers. For consistency, data used in this study starts from 2007, which includes transfers received in the last two years, and consistent metrics of asset income. Data is weighed using analytic weights provided in the survey.

4. Methodology

The wealth accumulation equation is defined as:

$$Wealth_t = Wealth_{t-n} + \sum_{i=t-n}^{t} Income_i - \sum_{i=t-n}^{t} Expenditures_i \quad (1)$$

Since the PSID is biennial, values of labor income, asset income, expenditures, and support to others are interpolated on a linear basis to fill data for non-survey years. For an instance, labor income for a missing year can be defined as:

$$Labor\ Income_{t-2} = Avg\ (Labor\ Income_{t-1},\ Labor\ Income_{t-3}] \quad (2)$$

The short-term asset accumulation equation can hence be defined as:

$$(Wealth_t) = (Wealth_{t-2}) + \sum_{i=t-2}^{t-1} Labor\ Income_i + \sum_{i=t-2}^{t-1} Asset\ Income_i + Transfers_{t-2\ to\ t} - \sum_{i=t-2}^{t-1} Total\ Expenditures_i - \sum_{i=t-2}^{t-1} Support\ to\ others_i$$

where t = 2007, 2009, … 2021 (3)

To account for the skewed data, multiple transformations are performed to check for accuracy. Appendix A1 shows skewness and kurtosis of key variables. Inverse hyperbolic sign (IHS) transformation is used throughout the study to preserve zero and negative values and have skewness and kurtosis closest to the assumptions of normality. The IHS transformation can be defined as:

$$z = arcsinh(w) = ln\left[w + \sqrt[2]{w^2 + 1} \right] \quad (4)$$

for some variable w

This transformation is approximately equal to ln (2w) = ln (w) + ln (2), for all but extremely small values of w. As such, it can be interpreted, approximately, as a logarithmic dependent variable (Burbidge et al., 1988; Pence, 2006).

Each model is estimated using panel data from 2007-2021. Dollar values are converted to real 2021 dollars. Dummy for race, wealth quartile, and age are included. Interactions of transfer amount with race, wealth quartile, and age are included to understand the effects of transfers relative to different socio-economic groups. Outliers that could be attributed to data entry errors of an order of magnitude of 7 and above are deleted. These include observations where change in wealth from previous years changes by a magnitude of 10^7 or more, either positively or negatively.

It is hypothesized that each household will have some time invariant fixed effects within itself. To check whether variation across households is not random, the Hausman-test is utilized. Results are shared in

Appendix A2 Panel A. The null of Hausman-test is rejected, and fixed effects of each household are included in model. Since there are cases where head of household changed their race, race of the household is not one of the fixed characteristics absorbed by the intercept. Rather, the fixed effect can be interpreted as capturing abstract characteristics like household culture and values.

Next, it is hypothesized that time fixed effects for each year are needed in addition to household fixed effect and nominal to real transformation of dollar values. A Joint F-test is run. Results are shared in Appendix A3 Panel A. We reject null that the coefficients for the years are jointly equal to zero, and hence time fixed effects are included in the model.

To check if all variables have the same finite variance and fit the assumption of homoskedasticity, the Modified Wald test for fixed effects models is run. Results are shared in Appendix A4 Panel A. The null of homoscedasticity is rejected and heteroskedasticity is concluded. Thus, all regressions are run with robust standard errors to control for heteroskedasticity.

To study the long-term impact of intergenerational transfers, transfers are divided into 5 buckets, and the asset accumulation equation can be defined as:

$$
\begin{aligned}
(Wealth_t) &= (Wealth_{t-10}) + \sum_{i=t-1}^{t-11} Labor\ Income_i + \sum_{i=t-1}^{t-11} Asset\ Income_i \\
&+ Transfers_{t\ to\ t-2} + Transfers_{t-2\ to\ t-4} + Transfers_{t-4\ to\ t-6} \\
&+ Transfers_{t-6\ to\ t-8} + Transfers_{t-8\ to\ t-10} - \sum_{i=t-1}^{t-11} Total\ Expenditures_i \\
&- \sum_{i=t-1}^{t-1} Support\ to\ others_i \qquad (5) \\
&\text{where t = 2015, 2017, … 2021}
\end{aligned}
$$

The IHS transformation of each variable is used. Data is in 2021 real terms. Despite a lag of 10 years, no additional present value or future value discounting is necessary since multiplying data of each variable from each year by the same factor will not change the variance (hence the standard error).

Since the maximum we can go back in time due to data consistency is 2005, 10-year, long-term effects are studied from 2015 onwards. Interactions of each bucket of transfer amount with race, wealth quartile, and age are included to understand effects of transfers relative to different socioeconomics groups. Outliers are trimmed according to the same logic as in the short-term effect.

Similar logic of time invariant household fixed effects and year fixed effects are hypothesized. Results from Hausman-test and Join F-test are shared in Panel B of Appendix A2 and A3 respectively. The null of Hausman-test and Joint F-test is rejected, and household fixed effects and year fixed effects are included. The Modified Wald test for fixed effects model is run and results are shared in Appendix A4 Panel B. The null of homoscedasticity is rejected, and regressions are run with robust standard error to control for heteroskedasticity.

Data in both regressions is weighed using analytic weights from the PSID. Regressions are run for the entire sample and then for each wealth quartile, with Quartile 1 being the lowest wealth quartile for the year.

5. Discussion

5.1.Descriptive analysis

By Wealth Quartile

The PSID offers a roughly even split of the sample based on wealth quartiles – with each quartile having about 14000-17000 respondents. Results of the mean and medians of different asset accumulation variables are displayed in Table T1. For the entire sample, there is an increase in wealth at both the average and median level since the previous wave. Mean wealth is 6.19 times the median wealth and mean labor income is 1.45 times the median labor income. This signals towards the right-skewed nature of wealth and income distribution in the United States, confirmed in Appendix A1 Panel A where wealth and income have positive skewness. The case of asset income is even worse, where mean asset income is over 1000 times the median asset income.

The bottom wealth quartile has negative mean and median wealth. Mean wealth grows by 150% when we go from Quartile 1 to Quartile 2, by about 600% when we go from Quartile 2 to Quartile 3, and by about 845% when we go from Quartile 4 to Quartile 4. Effects at the median are more pronounced at about

360%, 717%, and 430% respectively. These huge jumps in wealth signal the sizeable wealth disparity in the US. Increases in mean income by each quartile are less severe at 20%, 52%, and 55% respectively. Mean asset and mean transfer income rise by 134% and 257% and 646% and 674% from Quartile 2 to Quartile 3 and Quartile 3 and Quartile 4. This signals households in the upper wealth quartiles having more income generating assets and larger transfers from friends and family. Rise in mean expenditures are in line with rise in mean incomes with the former rising by 13%, 32%, and 40% respectively as we move to upper quartile. Mean support to others surprisingly decreases by 23% as we go from Quartile 1 to Quartile 2. This provides evidence for the practice of family support in the lowest wealth groups. In contrast, average support to others rises by 149% as we go from Quartile 3 to Quartile 4.

Mean age of households' heads increases as we go up the wealth quartiles by 3%, 14%, and 16% respectively. This gives evidence for the upward sloping portion of the life cycle hypothesis that individuals gain more wealth as they get older. The downward sloping portion of the hypothesis is not observed within this method of sub-grouping by wealth quartile. Mean education, in number of years, decreases slightly by 2% when we go from Quartile 1 to Quartile 2 but increases by 5% and 10% as we go from Quartile 2 to Quartile 3 and Quartile 3 to Quartile 4, respectively. This provides further evidence for the positive correlation between wealth and education.

Table T1. Weighted Summary Statistics (real 2021 $) by Wealth Quartile and Total (2007-2021)

	N	Mean	Median
Quartile 1			
Wealth	15714	-39607.787	-6181.510
Wealth lagged (2 years)	15714	2277.021	0.000
Total labor income	15714	107483.02	73502.633
Total asset income	15714	1551.553	0.000
Total transfer amount	15714	513.725	0.000
Total expenditure	15714	98366.255	81580.078
Total support to others	15630	1764.477	0.000
Age	15713	41.319	38.000
Education (# of years)	15457	12.851	12.000
Quartile 2			
Wealth	13956	20461.428	16267.133
Wealth lagged (2 years)	13956	40682.411	11386.993
Total labor income	13956	129312.99	109388.336
Total asset income	13956	1901.724	0.000
Total transfer amount	13956	675.518	0.000
Total expenditure	13956	110747.59	100930.648
Total support to others	13883	1357.373	0.000
Age	13956	42.677	39.000
Education (# of years)	13735	12.616	12.000
Quartile 3			
Wealth	15056	142637.56	132885.391
Wealth lagged (2 years)	15056	153597.07	102482.938
Total labor income	15056	196736.62	174871.672
Total asset income	15056	4449.916	40.668
Total transfer amount	15056	2411.951	0.000
Total expenditure	15056	146920.25	136225.039
Total support to others	14963	1535.325	0.000
Age	15056	48.757	47.000
Education (# of years)	14796	13.191	13.000
Quartile 4			
Wealth	17162	1348099.8	705993.562
Wealth lagged (2 years)	17162	1124901.4	569349.625
Total labor income	17162	305577.86	234409.383
Total asset income	17162	33200.25	2812.587
Total transfer amount	17161	18682.081	0.000
Total expenditure	17162	205384.95	181777.891
Total support to others	17051	3816.996	0.000
Age	17162	56.478	57.000
Education (# of years)	16908	14.465	15.000
Total			
Wealth	61888	403095.97	65068.531
Wealth lagged (2 years)	61888	359062.51	51241.469
Total labor income	61888	189052.39	130137.062
Total asset income	61888	11112.044	9.760
Total transfer amount	61887	6050.022	0.000
Total expenditure	61888	142647.5	122874.195
Total support to others	61527	2185.704	0.000
Age	61887	47.639	46.000
Education (# of years)	60896	13.328	13.000

By Race

Households of Black or White household heads form majority of the PSID sample. Black heads make 36% of the sample while White heads make 57% of the sample. The Others; Asian and Pacific Islander; American Indian, Eleut, and Eskimo; and 1 groups make up 3%, 1%, 0.6%, and 0.1% of the sample respectively. As observed, the original PSID sample contains too few Latino households to provide reliable estimates either for Latinos as a group or for major subgroups of Latinos (PSID User Guide, 1991). Results of the mean and medians of different asset accumulation variables are displayed in Table T2.

The absolute wealth gap, both at the mean and median levels, is highest between the Black and White groups. At an average, a White household in the sample owns 514% more wealth than the average Black household. This differenced is even more pronounced at the median level where a White household holds 1385% more wealth than a Black household. These differences in wealth are huge in comparison to the differences in labor income – a White household receives about 85% more labor income than a Black household, both at mean and median levels. However, a White household receives 516% more asset income and 894% more transfers than a Black household, at the mean. This observation further motivates the scope of this study to find the impact of transfers in wealth accumulation. White households have about 50% more expenditure in both mean and median levels as compare to a Black household – which aligns with the differences in income. White households also provide 121% more support to other family members at the mean level as compared to the Black households. A difference of 8% at the mean and 17% at the median is also observed in the difference of education levels between White and Black household heads, White heads having received more years of education.

Table T2. Weighted Summary Statistics (real 2021 $) by Race and Total (2007-2021)

American Indian, Aleut, Eskimo

	N	Mean	Median
Wealth	393	324897.77	40667.832
Wealth lagged (2 years)	393	292231.11	32534.266
Total labor income	393	140211.88	98416.156
Total asset income	393	22926.497	0.000
Total transfer amount	393	3167.745	0.000
Total expenditure	393	123432.91	114606.016
Total support to others	391	1571.659	0.000
Age	393	46.13	44.000
Education (# of years)	391	13.1	13.000
Asian, Pacific Islander			
Wealth	786	782808.96	294435.094
Wealth lagged (2 years)	786	681680.1	220663.656
Total labor income	786	296718.47	227878.539
Total asset income	786	20815.86	229.367
Total transfer amount	786	5652.104	0.000
Total expenditure	786	194991.75	174512.180
Total support to others	785	2541.382	0.000
Age	786	50.345	50.000
Education (# of years)	752	14.664	16.000
Black			
Wealth	22735	98004.684	10736.308
Wealth lagged (2 years)	22735	85961.478	8283.224
Total labor income	22735	124251.69	91095.938
Total asset income	22735	2672.706	0.000
Total transfer amount	22735	966.477	0.000
Total expenditure	22735	108659.44	95535.250
Total support to others	22530	1270.736	0.000
Age	22734	45.098	43.000
Education (# of years)	22394	12.788	12.000
Mentions Latino origin or descent			
Wealth	58	453662.57	74828.812
Wealth lagged (2 years)	58	456879.11	84210.879
Total labor income	58	282305.03	249331.219
Total asset income	58	10604.67	28.467
Total transfer amount	58	0	0.000
Total expenditure	58	195500.28	173265.297
Total support to others	58	3218.284	0.000
Age	58	48.086	47.000
Education (# of years)	58	15.155	16.000
Other			
Wealth	1939	258534.47	39041.117
Wealth lagged (2 years)	1939	225170.83	26027.412
Total labor income	1939	173875.42	133141.609
Total asset income	1939	7792.364	0.000
Total transfer amount	1939	2620.001	0.000
Total expenditure	1939	146292.82	134392.547
Total support to others	1934	1557.991	0.000
Age	1939	46.589	45.000
Education (# of years)	1877	11.527	12.000

White			
Wealth	35511	601361.16	159417.906
Wealth lagged (2 years)	35511	537021.48	130137.062
Total labor income	35511	229635.09	169178.188
Total asset income	35511	16463.041	183.819
Total transfer amount	35510	9610.135	0.000
Total expenditure	35511	163182.36	142752.219
Total support to others	35369	2811.795	0.000
Age	35511	49.316	47.000
Education (# of years)	35070	13.756	14.000
Total			
Wealth	61888	403095.97	65068.531
Wealth lagged (2 years)	61888	359062.51	51241.469
Total labor income	61888	189052.39	130137.062
Total asset income	61888	11112.044	9.760
Total transfer amount	61887	6050.022	0.000
Total expenditure	61888	142647.5	122874.195
Total support to others	61527	2185.704	0.000
Age	61887	47.639	46.000
Education (# of years)	60896	13.328	13.000

5.2.Multivariate analysis

Short-term

Results from the multivariate analysis are shared in Table T3. Since each model is an IHS-on-IHS specification model, coefficients can be interpreted and %-% change. Firstly, wealth two years ago has a significant and positive effect on current period's wealth. This is true in the entire sample and is true in all wealth quartile except Quartile 1. Next, total labor income over the last two years has a negative and highly significant coefficient on wealth of the current period at the aggregate level. This means that for a unit % increase in labor income, wealth is associated with a decrease of 0.25%. This can be interpreted as the sample displaying patterns of dissaving, i.e., in the event of additional income, the household uses its current stock of wealth to fund its expenditures, leaving reduced wealth. Within each Quartile, this effect is true and greatest in magnitude for Quartile 1, in line with assumptions of the poverty trap hypothesis. The effect is statistically insignificant for Quartile 2 and Quartile 3. However, for Quartile 4, the effect is flipped in direction – it is positive and significant. This means that for a household in the top wealth quartile, a unit % increase in labor income does in fact correlate to a positive effect on current wealth, increasing it by 0.006%. This can be interpreted as households from the top wealth quartile not displaying patterns of dissaving in short-term, i.e., in the event of additional income, a household from top wealth quartile adds to its current stock of wealth.

The effect of asset income is insignificant in the aggregate sample but significant and positive for Quartile 2, 3, and 4. This means that for a unit increase in asset income, a household from these quartiles sees positive correlation with wealth. Since asset income (like income from dividends and rent) is derived from assets in wealth (like holdings in stock and real estate), it can be interpreted that increase in income from underlying assets motivates households to increase their allocation towards the very same assets.

The effect of total expenditure is negative and significant at the aggregate level, which is expected – as expenditure increases, household wealth decreases, perhaps due to selling of assets. However, this effect is significant and reversed in direction when looking within Quartile 2, 3, and 4. This means that in upper quartiles of wealth, for a unit % increase in expenditures, the household wealth increases. This could be linked to the shading of reported income by families from Quartile 2, 3, and 4. In that case, expenditure

might more accurately be reflecting income levels than the reported income. The effect of support to others is insignificant across all models.

The coefficients on race indicator variable can be interpreted as short-term marginal effects on the regression constant as virtue of change in race, when other dummy variables are set to reference, i.e., Quartile 1 and 15-29 year age group. For Black households, it is observed that this constant is negative, significant, and similar in magnitude at the aggregate level and within Quartile 2. This means that if all other variables are set to zero, a Black household from Quartile 1 with a head of age 15-29 years is observed to have about 2.3% less wealth than a White household. However, in Quartile 4, this effect is reversed in direction and significant. That is, in wealth Quartile 4, the young Black household has 1.38% more wealth than a White household. Certain coefficients are empty under this variable due to collinearity. This can be traced to the small number of observations in the omitted groups, as is evident in Table T2. Small number of observations in the dummy will lead to a higher variation inflation factor (VIF), which leads to these omitted observations (Murray et al., 2012).

Coefficients on the Quartile indicator can be interpreted in the same way. The marginal effect on the constant of switching from a lower wealth quartile to a higher wealth quartile is significant, positive, and increases in magnitude as we go to upper quartiles. This effect is definitional, expected, and in line with the increasing change in mean wealth as noted from Table T1. Lastly on the dummy variables side, the effect of age is insignificant in aggregate and most cases of Quartile 1 and Quartile 2. However, within Quartile 3 and 4, the effect is highly significant. In Quartile 3, the marginal effect of a higher age bracket relative to the reference age bracket is positive and significant in all but one case. It is significant and negative in the 90-105 age group. This is in line with the life cycle hypothesis that wealth is higher in older population but decreases after a cutoff. In Quartile 4, the effect of age is positive and statistically significant, except in the 90-105 year old age group, where it is insignificant.

The effect of transfers for a particular group across race, age, and wealth quartile can be calculated by using four coefficients – one from the direct coefficient on the transfer amount variable, and three from the interaction terms. The direct coefficient from the full sample represents a White household, from wealth Quartile 1, whose head is 15-29 years old. It is significant and negative, meaning that a unit % increase in the transfer amount is associated with a decrease in household wealth by 0.151%. This is in

line with the dissaving in low wealth quartile groups observed before. The direct coefficient from model (2) conveys the same information with similar magnitude. The sign of the direct effect changes in Quartile 3 and 4. Here, the representative household head is White, from wealth Quartile 2 or 3 respectively, and is 15-29 years old. The coefficient can be interpreted as the % increase in wealth due to unit % increase in transfer amount in the described household. Thus, there is evidence of dissaving from transfers in young White households in the bottom wealth quartile. An alternate explanation for negative coefficient could be natural decline in wealth of an already low wealth household. In this case, the direction of causality is reversed, and transfers are received in times of declining wealth. The direct coefficient is insignificant for the top quartile.

Marginal changes of transfers on the wealth, attributed to race, can be interpreted from the coefficients on the interaction of transfer amount with race. This effect is insignificant in all models for Black and American Indian, Aleut, Eskimo households. It is negative and significant for Asian, Pacific Islander groups in Quartile 2 and 3. This means for a unit % increase in transfer amounts, as compared to a White household, an Asian, Pacific Islander household's wealth would increase lesser, by a factor of 0.047% points and 0.102% points. This can be attributed to the higher base of wealth of the average Asian, Pacific Islander household (Table T2), which means even the same unit % increase in transfer amount will yield lower % increase in wealth for Asian, Pacific Islander household than a White household because a Asian, Pacific Islander household has more base wealth to begin with.

The coefficients on interaction of transfers on wealth quartile are positive, significant for all wealth quartiles and decreasing in magnitude as the wealth quartile increases. However, the net coefficient, which can be found by adding the significant direct coefficient with significant interaction coefficient is positive for Quartile 2-4. This provides evidence for the positive influence of transfers on the current wealth of upper wealth quartile households.

Lastly, coefficients on interaction of transfers on age are insignificant at the aggregate level. The coefficient is highly significant for the 45-59 year age group in Quartile 1 and 75-89 year age group in Quartile 2. The net coefficients associated with the age groups are positive. However, since rest of the other coefficients are insignificant, it is hard to formulate a general conclusion.

Table T3. Short-Term OLS Regression of Current Period's Wealth (IHS-on-IHS)

	(1) Full Sample	(2)	(3)	(4)	(5)
		Wealth Quartile			
		1	2	3	4
Wealth lagged (2 years)	.012**	-.01	.008***	.007***	.01***
	(.005)	(.012)	(.002)	(.001)	(.004)
Total labor income	-.025**	-.148***	.011	.002	.006**
	(.01)	(.051)	(.008)	(.003)	(.003)
Total asset income	-.005	-.015	.011**	.007***	.013***
	(.007)	(.036)	(.005)	(.002)	(.003)
Total transfer amount	-.151***	-.142**	.048*	.016*	.004
	(.035)	(.066)	(.027)	(.009)	(.011)
Total expenditure	-.314*	-.189	.463***	.123***	.124***
	(.171)	(.351)	(.063)	(.027)	(.027)
Total support to others	-.003	-.043	-.002	-.001	.003
	(.006)	(.042)	(.006)	(.003)	(.002)
Race (White)					
Black	-2.268**	-2.363	-2.301***	-.501	1.386***
	(.912)	(5.652)	(.148)	(.459)	(.036)
American Indian, Aleut, Eskimo	-.825	-.48	.417***		
	(1.231)	(.89)	(.121)		
Asian, Pacific Islander	-.347	-.632**	-1.49***	.147	.102
	(.887)	(.288)	(.292)	(.26)	(.547)
Mentions Latino origin or descent	.64	3.969	-.914***		.055
	(.994)	(5.694)	(.11)		(.571)
Other	-.603	-10.629***	.396	-.277	-.291
	(.993)	(3.548)	(.288)	(.456)	(.433)
Total transfer amount * Race (White)					
* Black	.007	.052	.054	-.011	.018
	(.035)	(.113)	(.042)	(.015)	(.022)
* American Indian, Aleut, Eskimo	-.019			.02	.026
	(.024)			(.018)	(.032)
* Asian, Pacific Islander	0		-.047*	-.102***	-.007
	(.013)		(.027)	(.005)	(.012)
* Mentions Latino origin or descent					
* Other	-.042**	-.474	.012	.003	-.015***
	(.021)	(.37)	(.017)	(.022)	(.005)
Wealth Quartile (1st)					
2nd	16.15***				
	(.181)				
3rd	18.769***				
	(.172)				
4th	20.108***				
	(.178)				
Total transfer amount * Wealth Quartile (1st)					
* 2nd	.254***				
	(.041)				
* 3rd	.179***				
	(.037)				
* 4th	.169***				
	(.038)				

Age (15-29)					
30-44	-.029	-.71*	.08	.142***	.21**
	(.131)	(.396)	(.057)	(.036)	(.085)
45-59	.078	-.593	.206*	.154***	.322***
	(.181)	(.722)	(.106)	(.05)	(.093)
60-74	.113	-.373	.214	.173***	.434***
	(.21)	(1.015)	(.152)	(.065)	(.099)
75-89	-.138	-1.594	-.031	.155*	.274**
	(.254)	(1.65)	(.227)	(.089)	(.109)
90-	-.142	2.927	-.74**	-.285**	.032
	(.399)	(3.165)	(.318)	(.129)	(.168)
Total transfer amount * Age (15-29)					
* 30-44	.007	.09	-.023	-.005	.004
	(.02)	(.069)	(.029)	(.01)	(.012)
* 45-59	0	.215***	-.027	-.008	.005
	(.022)	(.083)	(.031)	(.01)	(.012)
* 60-74	-.007	-.369	-.06	-.004	.007
	(.021)	(.243)	(.056)	(.01)	(.011)
* 75-89	-.001		.069**	0	.015
	(.022)		(.028)	(.009)	(.012)
* 90-					
Year (2007)					
2009	-.055	.202	.016	-.007	-.105***
	(.072)	(.365)	(.05)	(.023)	(.02)
2011	-.143**	.002	.032	.002	-.06***
	(.072)	(.369)	(.055)	(.024)	(.021)
2013	-.051	.126	.052	.003	-.007
	(.072)	(.374)	(.057)	(.026)	(.023)
2015	.012	.106	.119*	.039	.069***
	(.077)	(.4)	(.061)	(.028)	(.025)
2017	.141*	.413	.148**	.084***	.17***
	(.081)	(.424)	(.067)	(.03)	(.027)
2019	.16*	.398	.161**	.135***	.265***
	(.09)	(.485)	(.071)	(.032)	(.029)
2021	.411***	1.054*	.231***	.271***	.469***
	(.1)	(.559)	(.08)	(.037)	(.032)
Constant	-1.583	-.806	4.808***	10.696***	12.004***
	(2.051)	(4.435)	(.74)	(.35)	(.348)
Observations	44742	11291	9901	10756	12794
R-squared	.795	.021	.08	.099	.186

Robust standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Long-term

Results from long-term multivariate analysis are shared in Table T4. First, wealth from 10 years ago is significant and positive for the entire sample as well as each quartile. Next, labor income from last 10 years is significantly and negatively correlated with current wealth in the aggregate sample, i.e., for a unit % increase in labor income, current wealth is predicted to decrease by 0.047%. This again provides evidence for the case of dissaving in the sample, where any additional income points towards decrease in the stock of wealth. This effect is especially true in Quartile 1, where it has the highest magnitude, and Quartile 4, as opposed to short-term effect where the coefficient was positive in Quartile 4. The effect of asset income since the last 10 years is insignificant at the aggregate level but statistically significant within each Quartile. The sign is negative in the case of Quartile 1, again directing towards the case of dissaving. The coefficient in Quartiles 2, 3, and 4 is consistent with the short-term effect, positive in sign and increasing in magnitude from lower to higher quartiles. This provides further evidence that increase in income from underlying assets motivates households from Quartiles 2, 3, and 4 to increase their allocation towards the very same assets, in both short-term and long-term.

The effect of total expenditure since the last 10 years is also consistent with the short-term results – significant in all models, negative at the aggregate level, most negative in Quartile 1, and positive in Quartile 2, 3, and 4. This gives reasons to further check the accuracy of reported income in the PSID with actual income, which could be better reflected by the expenditures. The effect of support to others over the last 10 years is insignificant across all models, except in Quartile 4, where the effect is positive and highly significant. This means that for a unit % increase in support to others over the last 10 years from a family in Quartile 4, a 0.008% increase is associated in the current wealth. This hints at the transactional relationships between families in higher wealth quartile where monetary support to others could lead to receiving similar support (financially, or abstractly through better networks, access to jobs, education and healthcare) to ultimately increase current wealth. Since support to others is not studied from a lens of time in this study, the timeline of this effect is unclear.

Though significant in all models for Blacks, the coefficients on race indicator variable display opposite signs as of the short-term model. In the long-term model, the coefficient can be interpreted as the marginal effect on the regression constant as virtue of change in race, when all other variables since the last 10

years are set to zero. At the aggregate level, this coefficient is positive, i.e., a Black household from Quartile 1 with head aged 15-29 years is associated with 0.272% more current wealth than a White household head with the same characteristics. Coefficients on the Quartile indicator are consistent with the results from short-term - significant, positive, and increases in magnitude as we go to upper quartiles, which is definitional. Due to an unknown reason, the statistical package software used for this study omits the regression constant in Quartile 2, 3, and 4 due to collinearity but instead places a coefficient on the respective dummy for Quartile. Lastly on the dummy variables' side, the long-term effect of age is insignificant at aggregate levels. However, for the 90-105 year old age group, this coefficient is significant and positive within every Quartile. This means that relative to the 15-29 year old age group, the 90-105 year old age group has more current wealth when other variables are controlled and dummy variables are at reference.

In the long-term, transfers are split into 4 buckets, depending on when they were received within the last 10 years. Similar to the short-term model, the effect of a specific transfer bucket for a particular group across race, age, and wealth quartile can be calculated by using four coefficients – one from the direct coefficient on the transfer amount variable, and three from the interaction terms. The direct coefficient on each bucket from the full sample represents a White household, from Quartile 1, whose head is 15-29 years old. It is significant and negative for all transfer buckets except for transfer received 6-8 years ago, where it is positive. The negative coefficients are consistent with dissaving in young, White, low wealth households from the short-term model. In fact, the long-term model provides further evidence for this observation irrespective of the timing of transfer. However, it is hard to provide an intuitive explanation for the positive sign on transfer received 6-8 years ago. An explanation could be that a transfer received 6-8 years ago by 15-29 year old holds critical importance unlike a transfer received at any other age, leading to positive wealth outcomes. However, the sign on significant coefficients within each quartile do not consistently match that of the full sample in each bucket, so it is hard to come to a generic conclusion regarding these observations. The coefficients observed within each quartile are further explored with interaction terms below.

The marginal changes of each transfers' bucket on current wealth, attributed to race, can be interpreted from the coefficients on the interaction of transfer amount with race. Multiple coefficients are omitted

because of collinearity which can be linked back to the reduced sample size in each dummy's subset, which causes a higher VIF.

For transfers received 0-2 years ago, at the aggregate level, for all racial groups, the coefficient is statistically insignificant. However, in Quartile 2, after adding the direct coefficient associated with transfers received 0-2 years ago the net is positive for Blacks. The direct coefficient is also positive for Quartile 4. This provides evidence for the positive affect of transfers on wealth for households in Quartile 2 and 4.

The coefficient associated with interactions of transfers received 2-4 years ago and race are all insignificant at the aggregate level, except for Blacks, whose coefficient is still negative. In Quartile 1, the net coefficient for Blacks is negative, implying the dissaving associated in the low wealth group. In Quartile 2, the net coefficient associated with American Indian, Aleut, Eskimo is positive, implying the positive effect of transfers received 2-4 years ago on current wealth in a higher Quartile.

The coefficient associated with the interaction of transfers received 4-6 years ago with race are insignificant for all except Asian, Pacific Islander group at the aggregate level. In Quartile 2, the net coefficient is positive for Blacks and American Indian, Aleut, Eskimo. In Quartile 4, the net coefficient is positive for Blacks. This provides further evidence of positive effect of transfers received 4-6 years ago on the current wealth as we go up the wealth quartile.

The net coefficient associated with transfers received 6-8 years ago is positive at aggregate level and negative in Quartile 2 for Blacks. It is negative for American Indians, Aleuts, Eskimos in Quartile 2 and Asian, Pacific Islanders in Quarter 3. The net coefficient on transfers received 8-10 years ago for Blacks in Quartile 2 and Quartile 3 is positive and negative in Quartile 4. No general conclusion can be drawn from the coefficients from these last two transfer buckets.

The exact same trend of short-term can be observed on the coefficients of interaction of each transfer bucket on wealth quartile - positive and significant for all wealth quartiles and transfer buckets and decreasing in magnitude as the wealth quartile increases. This means that for the same unit % increase in amount of transfers, irrespective of when the transfer is received, the % decrease (since net coefficients

are still negative) in wealth decreases as we go up the wealth quartile, at the aggregate level, i.e., dissaving decrease.

The coefficients on interaction of transfer buckets on age are in contrast to the short-term, where they were insignificant. For transfers received 0-2 years ago, at the aggregate level, for all age groups, the coefficient is significant and positive, except the 90-105 year old age group. Since the interaction is a margin effect, after adding the direct coefficient associated with transfer received 0-2 years ago, the net is still negative for all age groups at the aggregate. This means as the household head gets older, the dissaving rate associated with a transfer received 0-2 years ago, decreases, as it become less negative. The only exception is 90-105 year old age group, whose dissaving rate increases to become more negative. This make intuitive sense because for someone to receive a transfer 0-2 years ago when they are 90-105 year old, there is less incentive to save to current wealth, rather more incentive to increase expenditures because of the cushion in form of the transfer. Since only the direct coefficient on Quartile 2 and 4 is significant, on adding it to the significant coefficients of interactions in Quartile 2, we observe positive association of transfer with current wealth in Quartile 2. Though interaction terms in Quartile 4 are insignificant, the direct coefficient is positive and significant, in line with the previous observation, giving further evidence of positive effect of transfers in Quartile 2 and 4.

The coefficients associate with interaction of transfers received 2-4 years ago and age are all insignificant at the aggregate level and sporadically significant within quartiles. Thus, a general conclusion cannot be drawn about these transfers.

The coefficient associated with interaction of transfers received 4-6 years ago with age follow the same trend as those transfers received 0-2 years ago at the aggregate level. Adding the significant direct coefficient to the significant interaction coefficient in Quartile 1 still leads to net negative coefficients for all age groups except 45-59, suggesting dissaving in lowest wealth quartile.

The coefficients on interaction of transfers received 6-8 years ago with age are negative and significant at the aggregate level. Combined with the positive and significant direct coefficient of this bucket, the net is still negative, implying dissaving in older ages at the aggregate level. Within quartiles, the net coefficients are still negative, except for the 90-105 age group in Quartile 4.

The coefficients on interaction of transfers received 8-10 years ago with age are significant starting from the 60-74 year old age group. The net coefficient combined with direct coefficient is still negative at the aggregate level. In Quartile 1, the net coefficient is significant and positive for 75-89 year old age group. In Quartile 2, the net coefficient is significant and positive for 15-29, 30-44 and 45-59 year old age group. In Quartile 3, the net coefficient is significant and slightly negative for all age groups, except 15-29 and 60-74. In Quartile 4, the net coefficient in significant and positive for 45-59, 60-74, and 75-89 year old age groups. Thus, within each Quartile, after adding the direct significant coefficients, the net is positive, for at least one age group. This provides evidence for the positive influence of transfer received 8-10 years ago on current wealth, irrespective of the age group.

Table T4. Long-Term OLS Regression of Current Period's Wealth (IHS-on-IHS)

	(1) Full Sample	(2)	(3)	(4)	(5)
		Wealth Quartile			
		1	2	3	4
Wealth lagged (10 years)	.023***	.06***	.003*	.005***	.011***
	(.004)	(.011)	(.002)	(.001)	(.002)
Total labor income	-.047***	-.109***	.016**	.002	-.01***
	(.012)	(.04)	(.007)	(.003)	(.004)
Total asset income	0	-.08***	.01***	.007***	.035***
	(.007)	(.026)	(.003)	(.002)	(.004)
Total transfer amount (0-2 years)	-.384***	-.069	-.032**	-.044	.013**
	(.056)	(.058)	(.013)	(.027)	(.006)
Total transfer amount (2-4 years)	-.332***	-.271***	.033	.002	.009
	(.06)	(.069)	(.02)	(.006)	(.022)
Total transfer amount (4-6 years)	-.567***	-.613***	-.014	.005	.001
	(.054)	(.149)	(.018)	(.007)	(.006)
Total transfer amount (6-8 years)	.276**	.035	-.145***	.012**	.006
	(.126)	(.157)	(.01)	(.006)	(.006)
Total transfer amount (8-10 years)	-.211***	.061	.1***	.037***	-.029**
	(.069)	(.178)	(.008)	(.014)	(.013)
Total expenditure	-.9***	-3.536***	.399***	.172***	.533***
	(.077)	(.214)	(.037)	(.018)	(.033)
Total support to others	-.005	-.018	0	-.001	.008***
	(.006)	(.026)	(.004)	(.002)	(.002)
Race (White)					
Black	.272***	1.432***	-.109***	-.067***	-.267***
	(.076)	(.267)	(.035)	(.017)	(.032)
American Indian, Aleut, Eskimo	-.049	2.926	-.099	-.176*	.075
	(.459)	(3.203)	(.187)	(.09)	(.237)
Asian, Pacific Islander	.712***	2.286	-.211	-.101	.115
	(.171)	(1.617)	(.177)	(.102)	(.107)
Mentions Latino origin or descent	.602**		-.087	.2***	-.169
	(.286)		(.088)	(.022)	(.231)
Other	.47**	2.556***	-.234**	-.015	-.182**
	(.22)	(.825)	(.104)	(.043)	(.078)
Total transfer amount (0-2 years)* Race (White)					
* Black	-.008	-.041	.052*	.001	.013
	(.034)	(.108)	(.031)	(.012)	(.015)
* American Indian, Aleut, Eskimo	-.026			0	-.041*
	(.035)			(.022)	(.022)
* Asian, Pacific Islander	.021				-.02
	(.047)				(.023)
* Mentions Latino origin or descent					
* Other	-.022		.178***	-.008	-.025
	(.038)		(.02)	(.012)	(.017)
Total transfer amount (2-4 years)* Race (White)					
* Black	-.065**	-.202**	-.005	-.003	.007
	(.026)	(.09)	(.032)	(.011)	(.017)
* American Indian, Aleut, Eskimo	-.007		.067**	.02	-.045
	(.032)		(.027)	(.023)	(.031)
* Asian, Pacific Islander	-.06	-.237			.007
	(.067)	(.193)			(.017)

* Mentions Latino origin or descent					
* Other	.003		-.021	.007	-.008
	(.028)		(.084)	(.024)	(.015)
Total transfer amount (4-6 years)* Race (White)					
* Black	.019	.11	.032*	.007	.024*
	(.039)	(.138)	(.018)	(.008)	(.014)
* American Indian, Aleut, Eskimo	-.038	-.33	.084***	.023	-.077***
	(.051)	(.27)	(.025)	(.024)	(.026)
* Asian, Pacific Islander	.079*			-.015	.005
	(.043)			(.011)	(.02)
* Mentions Latino origin or descent					
* Other	.112	1.24***	0	.047***	-.009
	(.123)	(.153)	(.021)	(.016)	(.037)
Total transfer amount (6-8 years)* Race (White)					
* Black	-.055*	-.1	.037*	-.006	-.007
	(.032)	(.124)	(.021)	(.01)	(.013)
* American Indian, Aleut, Eskimo	-.011		.067**	-.017	-.056
	(.038)		(.027)	(.031)	(.057)
* Asian, Pacific Islander	-.043			-.055***	-.006
	(.043)			(.012)	(.036)
* Mentions Latino origin or descent					
* Other	.01	.693***		-.026	-.007
	(.051)	(.078)		(.02)	(.009)
Total transfer amount (8-10 years)* Race (White)					
* Black	.063	.196	.029	-.005	-.027**
	(.04)	(.129)	(.024)	(.008)	(.011)
* American Indian, Aleut, Eskimo	-.056			.017	-.003
	(.036)			(.032)	(.032)
* Asian, Pacific Islander	-.007			-.012	-.001
	(.032)			(.012)	(.023)
* Mentions Latino origin or descent	-.064***				-.012
	(.023)				(.011)
* Other	-.074	-.123	-.056	.029	.005
	(.05)	(.1)	(.078)	(.019)	(.023)
Wealth Quartile (1st)					
2nd	15.563***		4.448***		
	(.154)		(.49)		
3rd	18.144***			9.757***	
	(.148)			(.272)	
4th	19.94***				5.931***
	(.157)				(.481)
Total transfer amount (0-2 years) * Wealth Quartile (1st)					
* 2nd	.354***				
	(.046)				
* 3rd	.286***				
	(.042)				
* 4th	.284***				
	(.043)				

Total transfer amount (2-4 years) * Wealth Quartile (1st)					
* 2nd	.39***				
	(.047)				
* 3rd	.356***				
	(.045)				
* 4th	.346***				
	(.045)				
Total transfer amount (4-6 years) * Wealth Quartile (1st)					
* 2nd	.164**				
	(.07)				
* 3rd	.162**				
	(.066)				
* 4th	.159**				
	(.066)				
Total transfer amount (6-8 years) * Wealth Quartile (1st)					
* 2nd	.146**				
	(.071)				
* 3rd	.132*				
	(.069)				
* 4th	.121*				
	(.069)				
Total transfer amount (8-10 years) * Wealth Quartile (1st)					
* 2nd	.174***				
	(.065)				
* 3rd	.143**				
	(.063)				
* 4th	.148**				
	(.063)				
Age (15-29)					
30-44	-.043	.152	.113	.129	.042
	(.361)	(.658)	(.146)	(.137)	(.191)
45-59	.394	.868	.154	.152	.179
	(.366)	(.679)	(.147)	(.137)	(.191)
60-74	.436	1.355*	.219	.215	.408**
	(.366)	(.71)	(.15)	(.137)	(.191)
75-89	.138	1.483*	.234	.313**	.481**
	(.379)	(.896)	(.17)	(.14)	(.194)
90-	.459	3.19***	.489*	.292*	.571***
	(.454)	(1.102)	(.281)	(.151)	(.212)
Total transfer amount (0-2 years) * Age (15-29)					
* 30-44	.131***	-.036	.057*	.051*	
	(.039)	(.073)	(.029)	(.028)	
* 45-59	.126***		.043**	.058**	.005
	(.039)		(.019)	(.028)	(.007)
* 60-74	.138***	.088	-.029	.054*	.007
	(.039)	(.203)	(.021)	(.028)	(.006)
* 75-89	.123***		.104***		.012
	(.04)		(.016)		(.009)
* 90-	-.092**		-.055**		

	(.042)		(.027)		
Total transfer amount (2-4 years) * Age (15-29)					
* 30-44	.014	.144	-.039	-.001	-.009
	(.04)	(.088)	(.027)	(.008)	(.023)
* 45-59	.015	.116	-.044*	.006	.002
	(.039)	(.142)	(.025)	(.008)	(.022)
* 60-74	.018				.005
	(.039)				(.022)
* 75-89	.005		-.038	-.016*	.001
	(.041)		(.042)	(.009)	(.023)
* 90-					
Total transfer amount (4-6 years) * Age (15-29)					
* 30-44	.442***	.566***	.027	.007	-.001
	(.088)	(.14)	(.024)	(.008)	(.008)
* 45-59	.434***	.69***	0	-.008	.006
	(.091)	(.202)	(.024)	(.009)	(.008)
* 60-74	.437***	.433**			.014**
	(.091)	(.169)			(.007)
* 75-89	.42***		-.175***	.002	
	(.09)		(.02)	(.023)	
* 90-					
Total transfer amount (6-8 years) * Age (15-29)					
* 30-44	-.365***	.054	.15***	-.008	-.004
	(.098)	(.165)	(.021)	(.009)	(.008)
* 45-59	-.375***	-.078	.13***	-.019**	0
	(.098)	(.136)	(.024)	(.008)	(.008)
* 60-74	-.367***		.127***		.01
	(.098)		(.023)		(.006)
* 75-89	-.385***			-.038	
	(.098)			(.032)	
* 90-					.111***
					(.025)
Total transfer amount (8-10 years) * Age (15-29)					
* 30-44	.074	-.186	-.09***	-.043***	.025*
	(.049)	(.18)	(.015)	(.014)	(.014)
* 45-59	.071	-.215	-.083***	-.041***	.031**
	(.05)	(.196)	(.023)	(.015)	(.014)
* 60-74	.086*		-.12***	-.037**	.04***
	(.048)		(.035)	(.015)	(.013)
* 75-89	.109**	.354*		-.041**	.04***
	(.055)	(.189)		(.02)	(.015)
* 90-	-.127***				
	(.043)				
Year (2015)					
2017	.086*	.365*	.025	.034**	.056***
	(.049)	(.212)	(.036)	(.016)	(.015)
2019	.161***	.595***	.047	.078***	.11***
	(.052)	(.225)	(.037)	(.016)	(.017)
2021	.341***	1.194***	.106**	.14***	.262***

	(.056)	(.245)	(.041)	(.018)	(.019)
Constant	7.045***	42.057***			
	(1.051)	(2.798)			
Observations	18912	3799	3370	4749	6994
R^2-squared	0.7698	0.0187	0.0195	0.0897	0.1338

Robust standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

6. Conclusion

Examining wealth distribution by wealth quartiles highlights a pronounced increase in wealth as one moves up the quartiles, indicating substantial wealth disparity. This trend is echoed by disparities in income and education levels, with higher quartiles generally exhibiting higher levels of income and education. Moreover, the analysis demonstrates a right-skewed distribution of wealth and income, underscoring the unequal distribution prevalent within the U.S. Secondly, the examination of wealth distribution by race reveals stark differences between Black and White households. White households consistently exhibit significantly higher levels of wealth, income, and education compared to Black households, indicative of systemic racial disparities.

The short-term multivariate analysis reveals intricate dynamics shaping short-term wealth accumulation among households, shedding light on the nuanced relationship between income, expenditure, demographic factors, and transfers. Notably, wealth from two years prior consistently positively influences current wealth across most quartiles, indicating a degree of persistence in wealth accumulation. However, the impact of labor income on wealth is more complex, with a significant negative effect observed overall, suggesting a practice of dissaving, particularly pronounced in lower wealth quartiles but reversed in the highest quartile, suggesting poverty traps and differing saving behaviors across wealth strata. Asset income emerges as a positive driver of wealth in upper quartiles, reflecting a propensity to increase asset allocation in response to income growth. Moreover, expenditure patterns vary across wealth quartiles, with higher expenditures associated with increased wealth in upper quartiles, potentially indicative of more accurate income reflection through expenditure in affluent households.

Demographic factors also play a significant role, with disparities evident between racial groups and age cohorts. Black households in lower wealth quartiles exhibit lower wealth compared to their White counterparts, while age impacts wealth accumulation differently across quartiles, aligning with the life cycle hypothesis. Transfers, on the other hand, exhibit complex effects, with dissaving tendencies observed in low-wealth quartiles, particularly among young White households. This is consistent with the results of Nau and Tumin (2012) and Elinder et al. (2016). The interaction of transfers with race further explains disparities, with Asian and Pacific Islander households experiencing lesser wealth increases compared to White households due to their higher baseline wealth. The interaction of transfers with

quartile provides evidence for positive influence of transfers on the current wealth of upper wealth quartile households.

The findings from the long-term multivariate analysis offer significant insights. Firstly, the enduring significance of wealth from a decade ago underscores its lasting impact on current wealth across all quartiles, indicating a persistent wealth effect over time. Conversely, labor income from the past decade exhibits a consistent negative correlation with current wealth, indicative of dissaving behaviors within the sample, particularly pronounced in Quartiles 1 and 4. This dissaving trend is further emphasized by the negative association between asset income and current wealth in Quartile 1, suggesting a propensity to draw down on assets over time in the lowest wealth Quartile. Moreover, the consistent significance of total expenditure over the past decade highlights its role in reflecting actual income, especially given its negative correlation with wealth at the aggregate level. Interestingly, while support to others lacks significance in most cases, its positive impact on wealth in Quartile 4 suggests intricate transactional relationships within higher wealth quartiles, potentially contributing to increased social capital and access to resources.

The analysis of race indicators reveals nuanced dynamics, with young Black households from lowest wealth quartile exhibiting a positive association with wealth, contrary to short-term findings. This underscores the complexity of racial wealth disparities and the need for deeper examination within longitudinal studies.

The interaction of transfer amounts with race highlights disparities in wealth accumulation, with evidence of both negative (in lowest wealth quartile) and positive (in other wealth quartile) effects across different racial groups. Particularly noteworthy are the positive associations observed for transfers received in Quartiles 2 and 4, indicating a beneficial impact of transfers on wealth accumulation for households in these quartiles, irrespective of race.

Furthermore, the examination of age-related factors reveals intriguing patterns, particularly regarding the influence of transfers received over the past decade. While the dissaving trend persists across various age groups, the positive influence of transfers received 8-10 years ago on current wealth becomes evident, underscoring their lasting impact, irrespective of age.

The results of this study are limited to correlation. Nevertheless, the limitations of this study open multiple avenues for further research to understand wealth dynamics better. Firstly, extending the longitudinal analysis to encompass a more extensive time frame could provide deeper insights into the persistence of wealth effects, dissaving behaviors, and the evolving impact of transfers over time. This longitudinal approach could also facilitate a link between parental and grandparental wealth to map the intergenerational wealth dynamics. Economic shocks and policy interventions influence wealth accumulation patterns across families and extending the longitudinal analysis to multiple generations can enable this. Secondly, incorporating qualitative methodologies such as interviews or focus groups could provide richer contextual understanding of the quality of PSID dataset, particularly regarding the accuracy of reported income and expenditures. Next, incorporating geospatial data analysis could provide insights into spatial patterns of wealth distribution and disparities within regions or urban-rural divides. This approach could uncover localized factors influencing wealth accumulation, such as access to amenities, housing markets, and local economic conditions. Additionally, integrating behavioral economics frameworks could shed light on the psychological factors influencing saving, spending, and investment behaviors across different wealth quartiles. Exploring cognitive biases, social norms, and decision-making processes could offer insights into the underlying mechanisms driving wealth accumulation disparities.

Closing the wealth gap requires a comprehensive approach that extends beyond income-based policies. Direct transfer policies like Hamilton and Darity's (2010) Baby Bonds proposal – a progressive system of trust funds based on net worth, deposited in federally managed investment accounts with guaranteed returns, and accessible at age 18 – are designed to directly reduce the racial wealth gap and prevent its re-emergence by equalizing returns across races. Additionally, a pure reparations policy for African Americans, as proposed by Darity and Mullen (2020), could help equalize returns, as a substantial one-time transfer would enable Black households to acquire higher-return assets.

Policies that create or extend matched savings accounts, such as Individual Development Accounts (IDAs) and Child Development Accounts (CDAs), can also help offset disparities in private transfers. IDAs, proposed in 1991 (Sherraden, 1991), are savings accounts for low-income households that encourage saving for specific investments by matching earned income deposits and providing other supports. Currently, IDA programs are only in a national demonstration phase. CDAs are subsidized accounts given

to children at birth, with an initial government deposit and matching savings, often targeted at low-income families. These programs are operational in some areas, such as San Francisco's Kindergarten to College program, but there is no national demonstration or program.

Large gifts often finance higher education or home down payments. Targeted education scholarships and homeownership assistance for low-wealth individuals and minorities can help close the racial wealth gap by moving beyond income support. Homeownership is typically the largest asset for families, and a recent study found that White families can buy homes at least eight years earlier than Black families, delaying wealth accumulation for the latter.

Other policy options could focus on tax code areas that favor wealth accumulation for higher-income families. For example, the federal estate tax currently impacts few families and does little to close disparities. Additionally, the home mortgage interest deduction gives larger tax breaks to those with higher incomes and more expensive homes, allowing them to retain and pass on more wealth to their children. The larger intergenerational transfers expected from the Baby Boom generation may worsen racial disparities.

Efforts to reverse the negative impacts of structural racism on housing markets can also help close the gap in differential returns. Since low home values are often linked to poor-performing, underfunded schools in neighborhoods, targeted investments in public education in majority Black and Hispanic areas would boost home values, thereby reducing both the racial wealth gap and the gap in returns. Additionally, targeted public investment in environmental improvements, such as brownfield clean-up, relocation of hazardous waste facilities, modernization of water-treatment infrastructure, and increased pollution regulation, would similarly help. Black and Hispanic neighborhoods disproportionately suffer from negative environmental impacts and addressing these issues would improve living conditions and potentially boost property values, helping to close the racial wealth gap.

7. Appendix

A1. Skewness and Kurtosis of Different Transformations

A. No transformation

	N	Mean	Median	Max	Min	Skewness	Kurtosis
Wealth	61888	403095.97	65068.531	96699968	-5200602.5	18.558	777.012
Wealth lagged (2 years)	61888	359062.51	51241.469	92958528	-4392109.5	21.744	970.795
Total labor income	61888	189052.39	130137.062	17934516	0	16.157	720.15
Total asset income	61888	11112.044	9.760	3741435.5	-1192787.5	20.465	705.539
Total transfer amount	61887	6050.022	0.000	19520560	0	98.218	15030.846
Total expenditure	61888	142647.5	122874.195	4600378.5	0	4.235	89.639
Total support to others	61527	2185.704	0.000	7320698	0	166.283	34077.654

B. Log transformation

	N	Mean	Median	Max	Min	Skewness	Kurtosis
Wealth	48041	11.585	11.860	18.387	.487	-.735	4.176
Wealth lagged (2 years)	47578	11.438	11.712	18.348	.487	-.718	4.188
Total labor income	54533	11.717	11.948	16.702	2.096	-1.535	7.245
Total asset income	32318	7.121	7.107	15.135	-.207	-.084	2.37
Total transfer amount	2097	11.152	10.891	16.787	9.614	.836	3.393
Total expenditure	61879	11.649	11.719	15.342	2.789	-.761	5.659
Total support to others	10916	8.231	8.311	15.806	-.207	-.242	3.122

C. Absolute log transformation (with sign preserved)

	N	Mean	Median	Max	Min	Skewness	Kurtosis
Wealth	57597	7.986	11.346	18.387	-15.464	-1.613	3.95
Wealth lagged (2 years)	57674	7.684	11.125	18.348	-15.295	-1.534	3.683
Total labor income	54533	11.717	11.948	16.702	2.096	-1.535	7.245
Total asset income	32839	6.873	7.038	15.135	-13.992	-1.436	8.303
Total transfer amount	2097	11.152	10.891	16.787	9.614	.836	3.393
Total expenditure	61879	11.649	11.719	15.342	2.789	-.761	5.659
Total support to others	10916	8.231	8.311	15.806	-.207	-.242	3.122

D. Square Root Transformation (with sign preserved)

	N	Mean	Median	Max	Min	Skewness	Kurtosis
Wealth	61888	371.266	255.085	9833.614	-2280.483	2.235	14.967
Wealth lagged (2 years)	61888	343.157	226.366	9641.5	-2095.736	2.386	17.245
Total labor income	61888	362.863	360.745	4234.917	0	.875	8.495
Total asset income	61888	42.45	3.124	1934.279	-1092.148	4.44	38.678
Total transfer amount	61887	10.981	0.000	4418.208	0	13.696	355.629
Total expenditure	61888	358.46	350.534	2144.849	0	.779	5.964
Total support to others	61527	14.6	0.000	2705.679	0	8.984	291.566

E. Cube Root Transformation

	N	Mean	Median	Max	Min	Skewness	Kurtosis
Wealth	61888	134365.32	21689.510	32233322	-1733534.1	18.558	777.012
Wealth lagged (2 years)	61888	119687.5	17080.490	30986176	-1464036	21.744	970.795
Total labor income	61888	63017.463	43379.020	5978172	0	16.157	720.15
Total asset income	61888	3704.015	3.253	1247145.1	-397595.84	20.465	705.539
Total transfer amount	61887	2016.674	0.000	6506853.5	0	98.218	15030.847
Total expenditure	61888	47549.166	40958.064	1533459.5	0	4.235	89.639
Total support to others	61527	728.568	0.000	2440232.8	0	166.283	34077.654

F. Inverse Hyperbolic Sine (IHS) Transformation

	N	Mean	Median	Max	Min	Skewness	Kurtosis
Wealth	61888	7.863	11.776	19.08	-16.157	-1.404	3.438
Wealth lagged (2 years)	61888	7.581	11.537	19.041	-15.988	-1.346	3.253
Total labor income	61888	10.936	12.469	17.395	0	-2.018	5.564
Total asset income	61888	4.004	2.974	15.828	-14.685	.254	2.174
Total transfer amount	61887	.401	0.000	17.48	0	5.241	28.825
Total expenditure	61888	12.34	12.412	16.035	0	-1.438	17.749
Total support to others	61527	1.583	0.000	16.499	0	1.825	4.547

A2. Hausman Tests

A. Hausman (1978) specification test (Short-term)

	Coef.
Chi-square test value	4122.751
P-value	0

B. Hausman (1978) specification test (Long-term)

	Coef.
Chi-square test value	324.572
P-value	0

A3. Joint F-Tests

A. Joint F-Test (Short-term)

	Coef.
(1) 2009.year	0
(2) 2011.year	0
(3) 2013.year	0
(4) 2015.year	0
(5) 2017.year	0
(6) 2019.year	0
(7) 2021.year	0
F(7, 47640)	18.40
Prob > F	0.0000

B. Joint F-Test (Long-term)

	Coef.
(1) 2017.year	0
(2) 2019.year	0
(3) 2021.year	0
F(3, 12642)	14.46
Prob > F	0.0000

A4. Heteroskedasticity

A. Modified Wald test for groupwise heteroskedasticity in fixed effect regression model (Short-term)

	Coef.
Chi-square test value	1.2e+38
P-value	0.0000

B. Modified Wald test for groupwise heteroskedasticity in fixed effect regression model (Long-term)

	Coef.
Chi-square test value	6.3e+60
P-value	0.0000

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