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Income and Wealth as Salient Gradational Aspects of Stratification

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INCOME AND WEALTH AS SALIENT GRADATIONAL ASPECTS OF STRATIFICATION

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Economic resources are enormously consequential to well-being, life chances, politics, and almost all outcomes social scientists care about. We live in societies where it costs money to live, and even more to live well. Therefore, economic resources are pivotal to our lives. Among economic resources, income and wealth are particularly important to social stratification.

This chapter argues income and wealth are two paramount gradational measures of social stratification. The chapter makes this case while reviewing recent social science on income and wealth. First, I begin by explaining how income and wealth are essential for purchasing well-being. Second, I review the definition and measurement of income and wealth. This section is particularly critical because one of my overarching themes is that measurement is absolutely essential to studying income and wealth. Unfortunately, the field of social stratification – especially within the U.S. – has arguably problematically neglected measurement. Along the way, I provide empirical evidence demonstrating that measurement critically influences estimates of levels of inequality, intergenerational mobility, proxies for permanent income, and levels and trends in racial inequality. Third, I describe the levels of inequality in income and wealth. Fourth, I describe the intergenerational inheritance of or mobility in income and wealth.

Fifth, I show how income and wealth outperform other measures of social class as proxies of longer term resources, such as permanent income. Sixth, I demonstrate how income and wealth matter to stratification partly because they are mechanisms for other salient inequalities, including especially racial inequalities. Altogether, this chapter both reviews arguments for income and wealth and discusses some limitations in current practices of studying income and wealth. Ultimately, this chapter welcomes students and scholars into the lively debates about how income and wealth shape our lives.

PURCHASING WELL-BEING

Economists often simply call income and wealth "well-being" or "utility". This has never been a clear way to think about either economic resources or well-being. It is better to acknowledge there is a difference between economic resources and well-being, and to define well-being as health, life satisfaction, and happiness. Some people have high income/wealth and lower well-being, and some have low income/wealth and higher well-being. Income and wealth are resources that enable one to "purchase" well-being. As Sen (1992: 110) writes, "Poverty is not a matter of low well-being, but of the inability to pursue well-being precisely because of the lack of economic means." People with low incomes and low wealth typically do not have sufficient resources to purchase well-being and that is largely why income and wealth matter.

Economic resources indisputably shape life satisfaction, physical and mental health, happiness and many other outcomes (Alderson and Katz-Gerro 2016; Hastings 2019). Indeed, one of the best established social science conclusions is that being poor is bad for your health. Decades of social science, public health, and epidemiology have established that income and wealth contribute to health (Avendano et al. 2009; Bond Huie et al. 2003; Brady et al. 2022;

Marmot 2005; Phelan et al. 2010) and well-being (Alderson and Katz-Gerro 2016; Brule and Suter 2019; Gibson-Davis and Hill 2021; Hastings 2019; Lersch 2017b). Income has been linked with an array of health outcomes across a wide diversity of populations and settings. Income buys access to healthcare; purchases food, housing, and other necessities; cultivates security; and raises one's status and connections with others. Income and wealth also have long term consequences for health and well-being (Brady et al. 2022). For instance, Johnson and Schoeni (2011) demonstrate that income at ages 13-16 in 1968-1975 influences self-rated health, asthma, hypertension, diabetes, stroke, heart attack, and heart disease at ages 39-56. There is convincing evidence that income predicts mortality as well (e.g. Dowd et al. 2011; McDonough et al. 1997).

Considerable research also shows wealth contributes to better health. For example, Semyonov and colleagues (2013) find a strong positive association between wealth and health across 16 countries. Finnigan (2014) shows that home ownership robustly predicts self-rated health. There is evidence that the relationship between wealth and health holds even after controlling for other socio-demographic characteristics, and even income (Brule and Suter 2019).

Regardless of whether the relationship is causal and/or reciprocal, overwhelming evidence shows income and wealth predict health and well-being. The relationship between these economic resources and health is so strong and so robust, it is almost difficult to find a health outcome that is not correlated with income and wealth. Because they are so central to health and well-being, income and wealth deserve our attention as paramount gradational measures of stratification. Moreover, it would be wise for stratification researchers to use the comparative predictive validity for health and well-being as a test for adjudicating between income, wealth, and other social class variables.

DEFINITIONS AND MEASUREMENT

Income is defined as the flow of resources minus taxes that enter a household (HH) over a time period. The flow of resources includes earnings, capital income (such as investment returns, rental income, and dividends), and welfare transfers. Wealth is the stock of resources – defined as assets minus debts – held presently at one point in time or for the future. The stock of assets and debts is a stored value, and includes such factors as equity in housing and property, savings, investments, and pensions.

To analyze the patterns in and causes and effects of income and wealth properly, it is absolutely essential to measure income and wealth as well as possible. Fortunately, the international income literature has made tremendous progress. Most lessons learned about income should be applied to wealth as well. As I explain below however, the wealth literature lags behind the income literature.

In the 1990s, the United Nations (2011) convened "The Canberra Group," which led to an international consensus on best practices in income measurement (Atkinson 2015; Brady and Parolin 2020; Duncan and Peterson 2001; Rainwater and Smeeding 2004). This consensus was then institutionalized by the world's leader in income data – the Luxembourg Income Study (Gornick and Smeeding 2018). This consensus holds that optimal income measures should: (1) include all sources and (2) all HH members; (3) incorporate taxes and transfers (i.e. be "post-fisc"); (4) and adjust for HH size. Whenever possible, income measures should also (5) be observed over multiple time points.

These criteria realistically recognize that individuals share resources within HHs and only have "disposable" income after taxes and transfers (Brady and Bostic 2015; Guillaud et al. 2020; Rainwater and Smeeding 2004). While, of course, income and wealth are not always equally

shared between HH members (Lersch 2017b), living in HH's and accessing transfers are principal ways individuals smooth their incomes, manage volatility and maximize well-being (Brady et al. 2018; Brady and Parolin 2020). For example, welfare transfers to a household improve children's well-being and have lasting benefits into adulthood (Hoynes et al. 2016). As well, tax credits and transfers definitively reduce poverty and inequality (Brady and Bostic 2015; Parolin 2021; Rainwater and Smeeding 2005). Obviously, as well, individuals do not actually have access to their "gross" income "before" they pay taxes. No one lives in a "pre-fisc" world, and pre-fisc is a simulation that assumes zero behavioral response to taxes and transfers.

Adjusting for HH size embraces that there is an economies of scale to HH size. This adjustment is called an "equivalence scale" and size-adjusted income is "equivalized." While there has been debate over different scales, Rainwater and Smeeding (2004) conclude that it is crucial to adjust for HH size, but less crucial which particular scale one uses. Most simply divide income by the square root of HH members. This splits the difference between having zero economies of scale (i.e. dividing simply by the number of HH members) and complete economies of scale (i.e. assuming additional HH members have no added cost).

Because income can be volatile over time, income measures become more reliable with multiple observations over time (Brady et al. 2018; Killewald et al. 2017; Mazumder 2016). With multiple observations of childhood income for example, one can better predict subsequent health, well-being and life chances (Brady et al. 2020). Further, as shown below, multiple observations reveal greater intergenerational transmission of and less mobility in income (Brady et al. 2020; Fox et al. 2016; Justman and Stiaggnie 2021; Mazumder 2016). The advantages of multiple time points appear to hold for wealth as well (Killewald et al. 2017).

As I demonstrate further below, measuring income and wealth properly has real consequences (Brady et al. 2018; Brady and Parolin 2020). For example, Brady and colleagues (2020) show that using weaker measures leads to the biased impression that childhood wealth is more important than childhood income to adult life chances. If one uses better income and wealth measures, this conclusion reverses and childhood income becomes more important than wealth. Further, they demonstrates that using weaker measures biases our conclusions about how much Black-White inequalities remain after adjusting for childhood income and wealth.

Despite considerable evidence endorsing these criteria, weak income and wealth measures remain unfortunately common. Scholars often use gross earnings instead of post-fisc income and/or do not adjust for HH size. For instance, Census data is usually reported and analyzed without these adjustments. The Panel Study of Income Dynamics' (PSID) "edited" measure of annual total family income includes earnings and investment income and cash transfers like Temporary Assistance to Needy Families (TANF), but omits near cash transfers like the Supplemental Nutritional Assistance Program (SNAP), tax credits like the Earned Income Tax Credit (EITC) or Child Tax Credit (CTC), and all taxes. In recent years, more than four times as much money is spent on each of SNAP, the EITC, or the CTC, as is spent on TANF (Parolin 2021). This means the PSID's measure is not a very valid operationalization of family income. Moreover, SNAP, CTC and EITC spending have grown considerably over recent decades while TANF spending has declined considerably. This means the PSID measure is not a reliable operationalization of family income over time.

Weak measures are even more common for wealth. Although the number of children and workers, and family structure influence wealth (Oliver and Shapiro 1997), wealth analyses often do not adjust for HH size. If wealth matters because parents transfer to or invest in children (e.g.

paying for college or giving a mortgage down payment), it obviously matters if there are more children. Wealth also has more missingness and requires greater respondent sophistication than income (Rothstein and Wozny 2013). As even Oliver and Shapiro (1997: 57) acknowledge, "Home equity determination, for instance, presumes knowledge of local housing markets." Wealth data and analyses almost never incorporate taxes even though wealth is taxed when holding (e.g. property tax) and transferring (e.g. inheritance tax). This is the case even though, fifty years ago, Atkinson (1971) pointed out the essential role of taxes to the wealth distribution and lamented the neglect of taxes from wealth analyses.

The biggest challenges with wealth measure regards pensions. Wealth analyses often include savings but not pension savings accounts (e.g. 401ks) (e.g. Altonji and Doraszelski 2005). Having a robust pension savings account would surely shape consumption and savings behavior during prime working years. For example, it is far easier to spend on housing knowing one does not have to save for retirement as much.

Some wealth analyses include pension savings accounts but omit defined benefit pensions (e.g. Gibson-Davis and Hill 2021; Oliver and Shapiro 1997). Yet, for the vast majority of workers, a pension would be far more secure than a pension savings account like a 401k. This omission is even more problematic for public pensions. The U.S. spends nearly $1 trillion on Old Age Survivor's Insurance (OASI) and pensions are always the first or second largest social welfare expenditure in all rich democracies. In most rich democracies, public pensions are larger and more important to far more people than private pensions. Indeed, Feldstein (1974: 905) claimed, "For the great majority of Americans, the most important form of wealth is the anticipated social security retirement benefits." Further, to the best of my knowledge, wealth analyses do not include public social insurance in wealth estimates even though disability and

unemployment insurance function like wealth in buffering against hardship, serving as a nest egg, and smoothing consumption. Yet, scholars almost never factor these publicly distributed forms of wealth into wealth measures like we factor public transfers into income.

A few pioneering recent studies have developed strategies to correct for the omission of public pensions from wealth estimates. Jacobs and colleagues (2022) develop an augmented wealth concept that incorporates defined benefit pensions and OASI. This augmented measure reveals much lower wealth concentration and smaller increases in wealth inequality over time in the U.S. In a similar approach with German data, Bönke and colleagues (2019: 854) show that the Gini coefficient declines from 0.79 to 0.59 with an augmented wealth measure. When wealth is augmented, they find large increases in net worth especially for the bottom half of the distribution. Comparing the U.S. and Germany, Bönke and colleagues (2020) estimate pension wealth amounts to 48% in the U.S. and 61% in Germany of household wealth. They also find that adding pension wealth reduces the Gini coefficient on wealth from 0.89 to 0.70 in the U.S. and from 0.76 to 0.51 in Germany. These studies are pioneering and are a very new direction for wealth measurement. However, these studies confirm that pensions certainly matter to wealth.

Despite these serious measurement challenges, please let me make clear that both income and wealth are certainly useful as stratification measures (Brady et al. 2020; Hällsten and Thaning 2021). Wealth and income are strongly correlated (Killewald et al. 2017). Indeed, as one uses better measures of wealth and income – including multiple observations over time, incorporating taxes and transfers, adjusting for HH size – the correlation gets even stronger (Brady et al. 2018; Killewald et al. 2017). Income is probably the most important predictor of wealth, and wealth contributes to income as well (Altonji and Doraszelski 2005; Oliver and Shapiro 1997; Shapiro 2004). Hence, wealth and income should be viewed as related but

complementary and somewhat distinct aspects of social stratification (Fisher et al. 2021; Hällsten and Thaning 2021; Killewald et al. 2017; Torche and Spilerman 2009).

LEVELS OF INEQUALITY

To understand stratification in income and wealth, we often describe how unequally distributed those economic resources are. Societies with higher levels of income and wealth inequality are likely to be societies with more skewed distributions of political power and greater social problems. Inequality also undermines cohesion, solidarity and community. Arguably, a highly unequal society is also unjust (Atkinson 2015; Sen 1992). Despite claims common in Economics textbooks, inequality is probably not even efficient (Kim and Sakamoto 2008).

Figure 1. Gini Coefficients in Permanent Income, Short-Term Income, Short and Long Term Wealth, and Earnings in Germany and the U.S.
Source: Adapted from the Online Appendix to Brady et al. (2018).

A classic measure of the level of inequality is the Gini coefficient and sociologists have done considerable study of variation in Ginis (e.g. Moller et al. 2009; VanHeuvelen 2018). Figure 1 shows the Gini coefficients for a variety of measures of economic resources for two of the most prominent rich democracies: Germany (using the Socio-Economic Panel [SOEP]) and the U.S. (using the PSID combined with the Cross-National Equivalent File [CNEF]) (Brady et al. 2018; Frick et al. 2007). This figure also reinforces the importance of measurement.

First, inequalities in income and wealth are higher in the U.S. than in Germany. Regardless of how one measures income and wealth, the U.S. exhibits higher levels of income and wealth inequality than most other rich democracies (Brady and Bostic 2015; Fisher et al. 2021; Gornick and Smeeding 2018; Rainwater and Smeeding 2004; VanHeuvelen 2018).

Second, measuring income and wealth over longer periods of time results in lower inequality. People smooth their income over time, and there is less inequality after averaging out short-term volatilities. As well, short-term measures are more likely to be biased by measurement error, whereas such bias is attenuated in longer-term measures. Indeed, the top bars show the Ginis in "permanent" (i.e. 20+ years of observations) post-fisc equivalized HH income (PI). With Ginis of .20 in Germany and .27 in the U.S., PI is the least unequal of the measures. PI is less unequal than one random year of post-fisc HH income (.25 in Germany and .36 in the U.S.). Similarly, there is less inequality in five-years of post-fisc HH income than two-year, and less inequality in two-years than one-year.

Third, incorporating taxes and transfers reduces poverty and inequality dramatically (Brady and Bostic 2015; Brady and Parolin 2020; Gornick and Smeeding 2018; Rainwater and Smeeding 2004). For instance, the Ginis for pre-fisc HH income (.44 in Germany and .45 in the U.S.) are much higher than the Ginis for post-fisc HH income (.25 in Germany and .36 in the

U.S.). Relatedly, the differences in pre-fisc Ginis are smaller between Germany and the U.S. than in post-fisc Ginis. This is because Germany redistributes income more through taxes and transfers than the U.S. does, and that greater redistribution is a critical reason inequality is higher in the U.S. than Germany (Gornick and Smeeding 2018; Rainwater and Smeeding 2004). This difference in inequality between Germany and the U.S. would be obscured considerably if one does not incorporate taxes and transfers.

Fourth, wealth exhibits higher Ginis (.74 in Germany and .80 in the U.S) than in income (.25 in Germany and .36 in the U.S.). Keeping in mind the substantial measurement challenges about wealth, wealth exhibits the highest Ginis of any of these measures of economic resources (Fisher et al. 2021; Killewald et al. 2017; Pfeffer and Killewald 2018). Assets and debts exhibit similar Ginis, though long-term net worth has moderately lower Ginis.

Fifth, weaker income measures signal higher levels of inequality. For instance, the Ginis for individual earnings are .51 for Germany and .58 for the U.S. These Ginis for individual earnings are not quite as high the Ginis for HH wealth, but are much higher than the Ginis for HH pre-fisc or post-fisc income. This illustrates that inequality between individual workers is much higher than between HHs. Individuals pool resources within HHs and live with others as a strategy to increase and equalize economic resources. That said, long-term earnings exhibit Ginis lower than one year of pre-fisc HH income (.37 for Germany and .45 for the U.S). Still, there is more inequality in permanent individual earnings than permanent HH income.

Any way one measure economic resources, there is considerable economic inequality and especially in the U.S. Moreover, economic inequality has risen across most rich democracies and is often even higher in developing countries. The particular measure of economic resources one

uses will shape the level of inequality that one observes. Therefore, it is best to measure income and wealth as well as possible in order to properly describe levels of inequality.

INTERGENERATIONAL INHERITANCE AND MOBILITY

If there is limited intergenerational mobility, a society is further from a meritocracy (Fox et al. 2016; Jäntti and Jenkins 2015; Torche 2015). Without mobility, most people are the victims or beneficiaries of their parents' economic resources, and most of those parents were themselves the victims or beneficiaries of their parents' economic resources. Such intergenerational inheritance demonstrates the reproduction of advantage rather than the reward for effort, innovation, and capacities. There has long been an argument that societies with high intergenerational inheritance in income and wealth are unjust. Indeed, the U.S. has less mobility and more inheritance than most other rich democracies (Jäntti and Jenkins 2015; Torche 2015).

As stratification students know, there is a great deal of intergenerational transmission (Fox et al. 2016; Jäntti and Jenkins 2015). Indeed, much of one's income and wealth can be predicted by one's parents' income and wealth (Brady et al. 2020; Bloome 2014; Cheng and Song 2019; Mazumder 2016; Mitnik et al. 2019; Pfeffer and Killewald 2018). This is especially the case in the U.S. (Jäntti and Jenkins 2015; Torche 2015; Torche and Spilerman 2009), but this pattern prevails across most countries (Torche 2014). Although this is well-established, measurement challenges have driven some misconceptions about income and wealth mobility.

First, a few prominent studies (e.g. Chetty et al 2014) have cultivated the impression that there is more intergenerational mobility than previously thought. The estimate of intergenerational inheritance is usually the coefficient for parents' income/wealth predicting child's income/wealth during adulthood (usually logged but can also be measured with rank

percentiles) (see Fox et al. 2016; Jäntti and Jenkins 2015). This is the "intergenerational elasticity" (IGE). Unfortunately, scholars like Chetty and colleagues overestimate mobility and underestimates the IGE by: (a) measuring income too narrowly (e.g. gross earnings instead of total income); (b) omitting taxes and/or transfers; (c) measuring childhood income only once or only during adolescence instead of averaging over all of childhood; and, (d) measuring adult income too early (e.g. at age 25+ not 30+ when incomes are noisier, more volatile, and less reflective of permanent income) (Brady et al. 2020; Justman and Stiassnie 2021; Mazumder 2016; Mitnik et al. 2019; Torche 2015).

Second, wealth researchers routinely claim that wealth is more intergenerationally inherited than income (Shapiro 2004, 2017). They do so partly by comparing weak measures of income against cherry-picked measures of wealth. They also do so without rigorous empirical side-by-side comparisons of both wealth and income. Sometimes they make these claims without evidence at all. This bold rhetoric by wealth scholars has not really served the field well, and the best intergenerational wealth analyses carefully avoid such claims (e.g. Killewald et al. 2017; Pfeffer and Killewald 2018; Torche and Spilerman 2009).

For all these reasons, it is crucial that IGE estimates be based on the best data and measures possible (Brady et al. 2020; Jäntti and Jenkins 2015). In Table 1, I display different IGE estimates in the U.S. while varying the income definition and/or observation window. I also show the best available IGE I can estimate for wealth. Here I show only logged income and wealth, although on will find similar patterns with rank-rank and inverse hyperbolic sine (e.g. Brady et al. 2020, see Appendix I).

Table 1. Intergenerational Elasticities (IGE) from Log-Log Models with Various Measures and Samples.

	Elasticity	*Confidence Intervals*	R^2	*N*
Log Post-Fisc Equivalized Income: Childhood Averages Ages 0-17, and Requires 2+ Childhood Income Observations; Adulthood Averages Ages 30-54	0.564	(0.535, 0.594)	0.167	7161
Log Household Earnings Non-Equivalized: Childhood Averages Ages 13-17; Adulthood Observed Once at Oldest Age 25-54	0.283	(0.253, 0.312)	0.036	9494
Log Equivalized Household Net Worth (including home equity); Childhood Averages Ages 0-17, and Requires 1+ Childhood Wealth Observations; Adulthood Averages Ages 30-54	0.411	(0.378, 0.443)	0.111	4973

Source: WZB-PSID File 2019 v4, which combines the PSID and Cross-National Equivalent File. See Appendix I for Stata code and links to dataset.

First, the best IGE for income uses post-fisc equivalized HH income, requires respondents have more than one observation of childhood income, and observes adult income at 30+ years old. This IGE is 0.56, which is higher than many reported IGEs, but consistent with some who have sought to optimize income measurement and observation (e.g. Brady et al. 2020; Jäntti and Jenkins 2015; Mazumder 2016). Thus, if we measure income properly and observe it at the right ages and over longer periods of time, there is more intergenerational inheritance than was previously thought and certainly more than some prominent studies (e.g. Chetty et al. 2014).

Second, as we depart from the optimal income measurement, the IGE estimates are biased downwards (Jäntti and Jenkins 2015; Mazumder 2016). To illustrate this, I estimate the IGE with non-equivalized HH gross earnings, which is a weaker measure of income than post-fisc equivalized HH income. Also, I observe childhood only during adolescence (i.e. 13-17 years

old) and start observing adults already at 25 years old. Although I include adults up to age 54, I only require one observation during adulthood. By weakening both the measurement of income and the observations, this approach mimics Chetty and colleagues (2014). The end result is a dramatically lower IGE of 0.28 – indeed, about half as large as the IGE for post-fisc equivalized income. Thus, the IGE estimates are biased downwards by weaker income measures and by when and how much income is observed. It can be shown that most of the bias is due to the use of non-equivalized household earnings instead of equivalized post-fisc income, and less is due to the ages and timing of observations. That said, a clear pattern emerges. The better one measures income, the more intergenerational transmission one finds. This confirms that it is essential to measure income properly to understand intergenerational transmission.

Third, contrary to the bold claims of some wealth scholars, wealth is not more intergenerationally inherited than income. The last row in Table 1 shows that the IGE for the best available measure of wealth is 0.41. Therefore, both wealth and income are certainly very inherited across generations. The best estimates show us there is not very much intergenerational wealth or income mobility. Nevertheless, recall the best IGE for income is 0.56. In fact, the confidence intervals do not even overlap for the IGEs in income and wealth. Therefore, wealth does not appear to be more intergenerationally inherited than income (Brady et al. 2020).

One reason there may be an impression that wealth is more intergenerationally inherited than income is because past studies used weak measures of income. Table 1 also shows that the IGE for equivalized net worth (0.41) is much higher than the IGE for non-equivalized household earnings (0.28). In fact, the confidence intervals do not even overlap. If one uses weak measures of income, as too many unfortunately do, one is likely to draw mistaken conclusions about the intergenerational transmission of income and wealth.

Overall, measurement matters immensely to the study of intergenerational inheritance and mobility. That said, the paramount conclusion, of course, is that both income and wealth are highly intergenerationally inherited in the contemporary U.S. (Cheng and Song 2019; Fox et al. 2016; Pfeffer and Killewald 2018) and probably most societies (Jäntti and Jenkins 2015; Torche 2014; Torche and Spilerman 2009).

PROXYING LONGER TERM RESOURCES

For a long time, stratification scholars have argued that a given measure of social class should be preferred because it best proxies permanent income. The idea was that we should care most about people's economic resources over the long term. People smooth their consumption and well-being based on access to credit, savings and expected future income – all of which are plausibly driven more by permanent income than short-term income.

In turn, one of the classic arguments for "big social class" or occupation-based measures was that they are better proxies of permanent income than income or earnings (Wright 2005). For instance, Hauser and Warren (1997) criticize others' use of current income, and claim occupation data suffer from fewer problems of refusal, recall, reliability, and stability. Hauser and Warren (1997: 198) even write, "Occupational status may be a better indicator of long-term – or, as economists call it, permanent – income than is income at a single point in time." Similarly, Erikson and Goldthorpe (2002: 34) claim their measure of social class: "serves as a good proxy for permanent income." For their part, wealth scholars routinely claim that wealth is more stable and better proxies long term economic resources than current income (Oliver and Shapiro 1997; Shapiro 2004, 2017). Despite all this rhetoric, there have been remarkably few empirical tests of which measures of social class best proxy permanent income.

Using panel data from both Germany and the U.S., Brady and colleagues (2018) provide the rare test of whether social class, occupation, wealth, earnings or income best proxies permanent income. They innovatively define permanent income as average post-fisc equivalized HH income over 20+ years. They also demonstrate that 20+ years of income data almost perfectly predicts the full 29-34 years of income data available in the SOEP and PSID-CNEF.

Contrary to the rhetoric above, Brady and colleagues (2018) find that the best proxy for permanent income is actually current post-fisc equivalized HH income. They show that a randomly chosen year of this explains about 46% of the variation in permanent income in the U.S and 50% in Germany. If a researcher only has one year of cross-sectional data, current income is by far the best proxy.

By contrast, Erikson-Goldthorpe social class only explains about 25% of the variation in permanent income in Germany and 14% of the variation in the U.S. Even fine-grained occupation can only explain about 23% of the variation in permanent income in Germany and 24% in the U.S. Current post-fisc equivalized HH income also performs much better than wealth. For instance, one year of net worth only explains about 16% of the variation in Germany and 27% in the U.S. Even long term measures of wealth can only explain 20% of the variation in Germany and 36% of the variation in the U.S. No other measure proxies permanent income anywhere near as well as current income.

Brady and colleagues also confirm and buttress the aforementioned criteria on income measurement. For instance, HH income is a much better proxy for permanent income than individual income. A given year of individual earnings only explains about 10% of the variation in permanent income in Germany and about 14% in the U.S. Even measures of individual earnings during prime working years (13% in Germany and 17% in the U.S.) or individual

permanent earnings over a 20-year period (17% in Germany and 14% in the U.S.) do not proxy permanent income as well as current HH income.

Incorporating taxes and transfers certainly improves proxies for permanent income as well. While current post-fisc equivalized HH income can explain about half the variation in permanent income, pre-fisc income (i.e. omitting taxes and transfers) can explain only about 21% of the variation in Germany and 29% in the U.S.

Observing income over multiple time points also greatly improves one's ability to proxy permanent income. While one random year of income explains about half of the variation in permanent income, two random years explains about 73% of the variation in both Germany and the U.S. Five years can explain fully 88% of the variation in permanent income in both Germany and the U.S. Hence, if one has more than 5 years of income data, one can proxy permanent income very well. This is more the case among children, prime working-age adults and the elderly, and even is reasonably effective among young adults.

A few recent studies provide further evidence on how well social class measures proxy long term economic resources (e.g. Shahbazian and Bihagen 2022). For example, Bloome and Furey (2020) show intra- and intergenerational income mobility dynamics equalize lifetime income much more than characteristics of occupations.

Kim and colleagues (2018) are similar to Brady and colleagues (2018), but analyze individual permanent earnings rather than HH permanent income (also Shahbazian and Bihagen 2022). They demonstrate that cross-sectional short-term earnings outperforms occupation-based social class and fine-grained occupation. One year of earnings explains 43% of the variation in permanent earnings and three years explains 58%. By contrast, fine-grained occupations only explain 30% of the variation and Erikson-Goldthorpe class only explains 17%. Unlike Brady and

colleagues, Kim and colleagues even test education as a proxy for permanent earnings because many argue human capital predicts long term economic resources and is the key to socio-economic attainment. Yet, they find that precise educational attainment (including field of study) can only explain about 20% of the variation in permanent earnings. Thus, just like Brady and colleagues, Kim and colleagues (2018) find that gradational stratification measures – in their case, earnings – proxy long-term economic resources than categorical measures. To proxy permanent earnings or income, the best approach is short-term earnings or income.

MECHANISMS FOR OTHER INEQUALITIES

A key reason that income and wealth are so important to stratification is because they function as mechanisms for race, gender, and other inequalities. At least partly, race and gender shape life chances and well-being because women and racial/ethnic minorities tend to have fewer economic resources (Baker et al. 2022; Finnigan 2014; Lersch 2017b; Manduca 2018; Maroto 2016; Shapiro 2004). Obviously, race and gender shape life chances and well-being through other channels. However, because there are large race and gender disparities in income and wealth (Lersch 2017a; Shapiro 2017), these are two of the principal channels of racial and gender disadvantage (Phelan and Link 2015). Income and wealth thus mediate some of the relationships between race/gender and life chances and well-being (Brady et al. 2020).

This perspective moves beyond viewing race/gender and economic resources as competing or rival explanations of life chances. Rather, racial/gender inequalities are channeled through inequalities in economic resources (Altonji and Doraszelski 2005; Bobo 2017; Brown et al. 2016; Finnigan 2014; Gibson-Davis and Hill 2021; Lersch 2017a; Pais 2014; Sewell 2016). Racial/gender stratification causes economic inequalities earlier in and at various stages of life,

and these economic inequalities then contribute to and exacerbate racial/gender inequalities later in life (Addo and Lichter 2013; Bloome 2014; Brown 2018; Williams 2019).

Focusing just on Black-White inequalities in the contemporary U.S., racism can be viewed as a "fundamental cause" and income/wealth can be viewed as mechanisms for how racism shapes life chances (Phelan and Link 2015). White people have advantages in flexible economic resources that can be employed for multiple, reliably replaceable mechanisms. Inequalities in wealth and income have accumulated from historical racism interacting with ongoing discrimination (Shapiro 2017). These economic resources are used both strategically and unconsciously by White people to maintain and perpetuate advantages over Black people (Shapiro 2004). This acknowledges that Black people may occasionally narrow the gap on one mechanism or in one social sphere. However, White people's advantages in wealth and income fill in to reproduce and maintain BW disadvantages (Bloome 2014). Although wealth and income are not the only resources that White people have at their disposal, wealth and income are very likely salient resources (Phelan and Link 2015).

Indeed, growing evidence shows that inequalities in childhood income and wealth account for a considerable share of Black-White disadvantages in adult life chances. For instance, childhood income can explain much of Black-White disadvantages in adult income and educational attainment (Brady et al. 2020; Rothstein and Wozny 2013). Relatedly, Black people have long been disproportionately constrained to reside in segregated neighborhoods (Massey 2016). Segregation then disproportionately reduces opportunities for homeownership and home equity among Black people (Flippen 2004; Sewell 2016), which worsens racial wealth inequality (Shapiro 2004). That wealth then perpetuates and exacerbates Black-White inequalities that manifest throughout and later in life (Oliver and Shapiro 2019).

Brady and colleagues (2020) show that childhood wealth and income explain substantial shares of Black-White disadvantages for 15 measures of adults life chances. For children of the 1980s and 1990s, childhood income and wealth explain more than 75% of the Black-White gap in adult wealth, income, employment, educational attainment, and self-rated health. Even for home ownership, single parenthood and life satisfaction – outcomes with huge racial inequalities – childhood income and wealth can explain more than 40% of the Black-White gap.

While there is no doubt that racial inequalities in income and wealth are large in the U.S., correctly understanding those racial inequalities depends greatly on measurement (Baker et al. 2022). Building on the themes above, it is essential to measure income and wealth as well as possible in analyzing both levels and trends in racial inequalities.

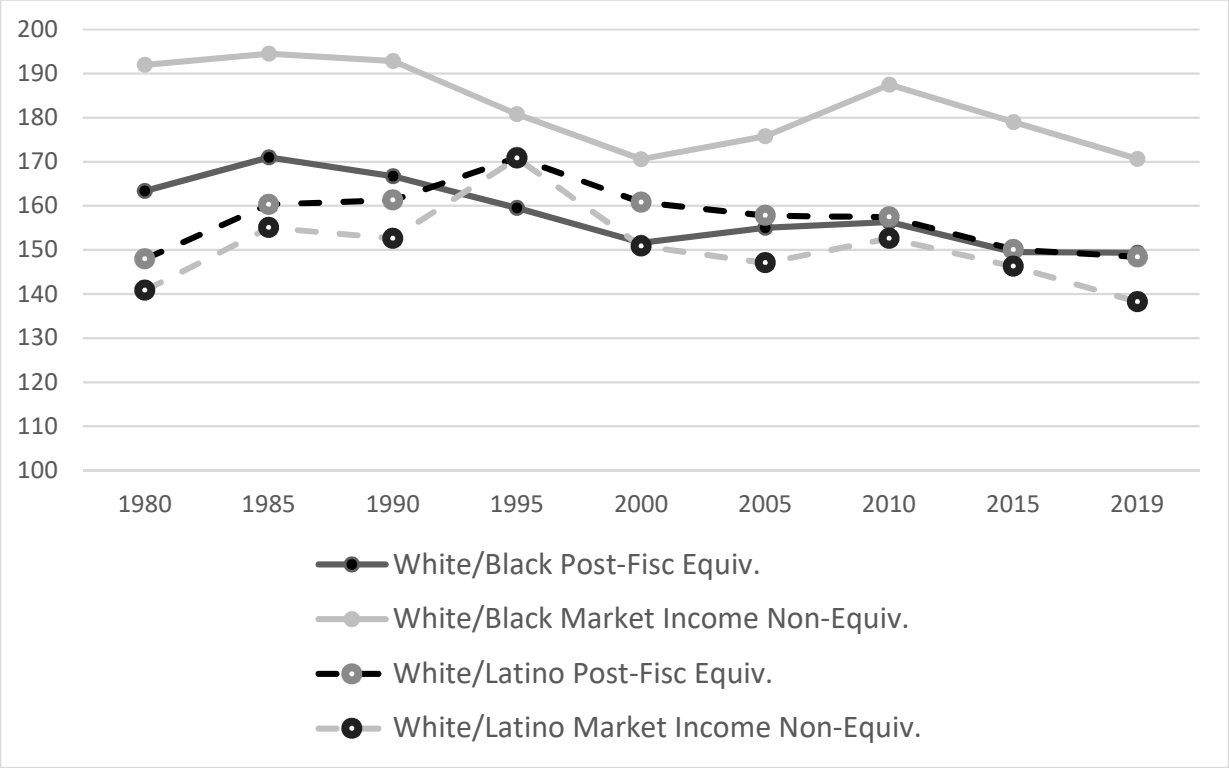

Figure 2. Trends in Racial Inequalities in White/Black (solid lines) and White/Latino (dashed lines) Ratios of Median Incomes in the U.S., 1980-2019.
Source: Luxembourg Income Study. See Appendix II for Stata code.

Figure 2 shows White/Black & White/Latino ratios in median incomes using the better post-fisc equivalized income versus a cruder measure of market non-equivalized income. Market income includes labor market earnings, capital income, private pensions, and private transfers but omit taxes, tax credits and public transfers. As explained above, post-fisc income is a superior measure because it more realistically assess the income a household has at its disposal. Also, as shown above, post-fisc equivalized income shows greater intergenerational inheritance and better proxies permanent income. Unfortunately, most studies of racial inequalities in income use a measure that is far closer to this measures of market income. Figure 2 shows the cruder market income gives an incorrect impression about the levels and trends in racial inequalities compared to the better post-fisc income. This is the case even though almost any measure of income will show very large racial inequalities in the U.S.

Figure 2 reveals that Black-White inequalities are smaller with post-fisc equivalized income versus market income. This is because taxes and transfers are effective at reducing some of the gigantic Black-White inequalities in market income. By contrast however, Latino-White inequalities are actually larger with post-fisc equivalized income. Plausibly, this is partly because taxes and transfers disproportionately benefit Whites more than Latinos. This is partly because a greater share of Latinos are immigrants, and immigrants have greater difficulty accessing public welfare transfers despite often paying taxes. Therefore, one will over-estimate Black-White inequalities and under-estimate Latino-White inequalities with the cruder measure.

In addition, one will misunderstand trends in racial inequalities with the cruder measure. In fact, one over-estimates declines in Black-White and Latino-White inequalities with market income versus the better post-fisc income. Of course, racial inequalities are mostly stable at high levels. But, including taxes and transfers shows any decline is smaller than market income

suggests. Specifically, the White/Black ratio in the cruder market income declined 11% from 1980 to 2019, but the White/Black ratio in the better post-fisc income only declined 8.5% 1980-2019. While the White/Latino ratio in market income declined almost 2% 1980-2019, the White/Latino ratio actually increased 0.3% 1980-2019. Moreover, the gaps between market and post-fisc lines vary considerably over time. Therefore, the cruder market income ratios are not even a reliable proxy over time for the racial inequality in the better post-fisc income ratios.

Ultimately, because we care about race and gender inequalities, we need to care about income and wealth inequalities (Baker et al. 2022; Manduca 2018). There remain large gender and racial inequalities in income and wealth, and income and wealth are crucial for purchasing well-being. Therefore, income and wealth determine a lot about the well-being of different groups. Further, wealth and income are pivotal to the intergenerational transmission of racial and gender inequalities. One reason we have such large racial and gender inequalities in life chances is because there are large racial and gender inequalities in income and wealth.

At the same time, optimizing the definition and measurement of income and wealth is critical to properly understanding racial inequalities. Less rigorous measures of income and wealth will give us an incorrect impression about the levels and trends in racial inequality. To properly analyze racial inequalities in these gradational aspects of stratification, the field needs to better incorporate advances in income and wealth measurement.

CONCLUSION

This essay makes the case for income and wealth as salient – perhaps the paramount – gradational aspects of social stratification. This essay illustrates how income and wealth are essential measures in the social stratification scholar's toolkit. We can understand a lot about the

social world based on people's economic resources. The essay reviews recent scholarship on these measures and discusses challenges. As well, I show evidence demonstrating that measurement critically influences estimates of levels of inequality, intergenerational mobility, proxies for permanent income, and levels and trends in racial inequality.

The essay begins by reviewing state-of-the-art definitional and measurement issues. Optimal income and wealth measures should: comprehensively include all sources and all HH members; be post-fisc; adjust for HH size; and, be observed over multiple time points. These measurement criteria are justifiable on methodological and theoretical grounds, but also matter to the results that one will find. While much international income research has embraced these measurement standards, the wealth literature lags behind.

The essay then contends that one of the most important reasons income and wealth are important is because they purchase well-being. Rather than equating income/wealth with well-being, it is clarifying to think of them as instruments for purchasing well-being. Income and wealth likely cause most health and well-being outcomes. In turn, health and well-being are useful for adjudicating the predictive validity of income, wealth and social class.

The chapter then describes levels in income and wealth inequality. Inequality is higher in the U.S. than in Germany and other rich democracies. Measuring income and wealth over time results in lower estimates of inequality than at one point in time. There is also less inequality after incorporating taxes and transfers. Wealth is more unequally distributed than income. In general, one finds lower levels of inequality with better measures of income and wealth.

Next, the essay describes the intergenerational inheritance of income and wealth. Both income and wealth are highly intergenerationally inherited in the contemporary U.S. When measured optimally, the IGE's in income are higher than previously reported. If one uses weaker

measures of income or wealth, the IGEs will be biased downwards. The timing of how much and when income/wealth are measured during childhood and adulthood matters. However, it is most important that income measures include taxes and transfers. When income and wealth are measured optimally, there is more intergenerational inheritance in income than wealth.

Further, I showed how income and wealth outperform other measures of social class as proxies of permanent income. Current income is the best proxy for permanent income. Current income outperforms wealth, and outperforms occupation or other measures of social class. I show how it is essential to measure resources at the HH (not individual) level, incorporate taxes and transfers, and use multiple time points. Indeed, when doing so, income is actually quite strong as a proxy for permanent income.

Finally, the essay explains how income and wealth are important because they are mechanisms for other salient inequalities. Race and gender inequalities cause inequalities in income and wealth, which then perpetuate and exacerbate race and gender stratification. Thus, income and wealth are two of the principal channels and mechanisms by which other inequalities get generated, maintained and reproduced. For instance, much of adult racial inequalities in the U.S. are driven at least partly by racial inequalities in childhood income and wealth. Our understanding of levels and trends in racial inequality also depends critically on measurement.

Stratification students should keep income and wealth in their center of their analytical toolkits. Moreover, they should follow the leading international standards in measurement. If we measure income and wealth properly, they are extremely useful for predicting life chances and well-being and for understanding how inequality works in modern societies.

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ONLINE APPENDIX I. Stata Code for Table 1.

```
*Use WZB-PSID 2019 v4
*For code to build data file, see:
*https://bradydave.files.wordpress.com/2022/07/wzbpsid_2019v4_retrival.pdf
*For the codebook, see:
*https://bradydave.files.wordpress.com/2022/07/wzbpsid_2019v4_codebook.pdf

set more off

**POST-FISC INCOME
*inc04eq is post-fisc equivalized income, convert to log
gen lninc04eq = cond(inc04eq>= 1,ln(inc04eq),0)
*calculate mean post-fisc equivalized income while under 18*
egen lnavginc04 = mean(lninc04eq) if age<18, by(x11101ll)
egen lnchildinc04= max(lnavginc04), by(x11101ll)
*calculate adult post-fisc equivalized income as averaged age 30-54
egen lnavgadultinc04b = mean(lninc04eq) if age>29 & age<55, by(x11101ll)
egen lnadultinc04b= max(lnavgadultinc04b), by(x11101ll)
*define analytical sample
egen oldest= max(age) if age>29 & age<55, by(x11101ll)
gen last=0 if age!=.
replace last=1 if oldest==age
gen sample04=0
replace sample04=1 if inc04obsch>2 & !mi(inc04obsch) & last==1
*Log-Log 30-54 year olds
reg lnadultinc04b lnchildinc04 if sample04b==1 [w=wght01_im]

**HH EARNINGS
*inc02 is HH earnings, leave un-equivalized and convert to log*
gen lninc02 = cond(inc02>= 1,ln(inc02),0)
*calculate mean HH earnings while 13-17 years old*
egen lnavginc02 = mean(lninc02) if age>12 & age<18, by(x11101ll)
egen lnchildinc02= max(lnavginc02), by(x11101ll)
*treat adult HH earnings as oldest age 25-54
egen oldest02= max(age) if age>24 & age<55, by(x11101ll)
gen last02=0 if age!=.
replace last02=1 if oldest02==age
*define analytical sample
egen inc02obs= count(pctinc02) if age<18, by (x11101ll)
egen inc02obsch=max(inc02obs), by (x11101ll)
gen sample02=0
replace sample02=1 if !mi(inc02obsch) & last02==1
*Bivariate Intergenerational Models
*Log-Log 25-54 year olds
reg lninc02 lnchildinc02 if sample02==1 [w=wght01_im]
```

```
**WEALTH
*equivalize net worth (including home equity)
gen wlt02eq = wlt02/(fu01^.5)
*convert to log
gen lnwlt02eq = cond(wlt02eq>= 1,ln(wlt02eq),0)
*calculate mean post-fisc equivalized income while under 18*
egen lnavgwlt02 = mean(lnwlt02eq) if age<18, by(x11101ll)
egen lnchildwlt02= max(lnavgwlt02), by(x11101ll)
*calculate adult post-fisc equivalized income as averaged age 30-54
egen lnavgadultwlt02 = mean(lnwlt02eq) if age>29 & age<55, by(x11101ll)
egen lnadultwlt02= max(lnavgadultwlt02), by(x11101ll)
*define analytical sample
egen wlt02obs= count(pctinc02) if age<18, by (x11101ll)
egen wlt02obsch=max(wlt02obs), by (x11101ll)
egen oldestw= max(age) if age>29 & age<55, by(x11101ll)
gen lastw=0 if age!=.
replace lastw=1 if oldestw==age
gen samplew=0
replace samplew=1 if !mi(inc04obsch) & lastw==1
*Bivariate Intergenerational Models
*Log-Log 30-54 year olds
reg lnadultwlt02 lnchildwlt02 if samplew==1 [w=wght01_im]
```

ONLINE APPENDIX II. Stata Code for Figure 2.

```
*Using the Luxembourg Income Study, see www.lisdatacenter.org
*Analyses conducted July 2022 using LISSY
*The following code can be submitted to the LISSY interface of the Luxembourg Income Study
*(www.lisdatacenter.org) by registered users.

** Loop for creating the yearly files and merging them
**include all most recent U.S. datasets on 7/17/22**

global c " us79 us80 us81 us84 us85 us86 us89 us90 us91 us94 us95 us96 us99 us00 us01 us04
us05 us06 us09 us10 us11 us12 us14 us15 us16 us18 us19 us20"

foreach x of global c {
*HH file
use $`x'h, clear

*drop missing
drop if dhi==.
drop if dhi==0
drop if hwgt==.
drop if hwgt==0

*equivalize and top and bottom-code income
gen wt=hwgt*nhhmem
gen ey=dhi/(sqrt(nhhmem))
qui sum ey [w=wt]
gen botlin=0.01*_result(3)
replace ey=botlin if ey<botlin
quietly sum dhi [w=wt], de
gen toplin=10*_result(10)
replace ey=(toplin/(nhhmem^0.5)) if dhi>toplin

*Poverty threshold
quietly sum ey [w=wt], de
generate povl5=_result(10)*.5

*Define poverty
gen poor5=.
replace poor5=0 if ey>= povl5 & ey!=.
replace poor5=1 if ey< povl5 & ey!=.

*create non-equivalized pre-fisc market income defined as labour income + capital income +
private pensions + private transfers
gen hhmarket=hifactor+hi33+hiprivate
*top and bottom code hhmarket
qui sum hhmarket [w=wt]
```

```
gen botlinm=0.01*_result(3)
replace hhmarket=botlinm if hhmarket<botlinm
quietly sum hhmarket [w=wt], de
gen toplinm=10*_result(10)
replace hhmarket=toplinm if hhmarket>toplinm

sort hid
keep hid did year dname cname hwgt ey dhi poor5 hhmarket
save $mydata/brady/`x'h, replace

*Person File
use $`x'p, clear

recode sex (1=0)(2=1)(.=.), gen(female)
recode sex (1=1)(2=0)(.=.), gen(male)

sort hid
keep hid pid did year age sex ethnic_c male female
save $mydata/brady/`x'p, replace

merge m:1 hid using $mydata/brady/`x'h, keep(match) nogen

save $mydata/brady/`x', replace
}

*** append country files
global c " us80 us81 us84 us85 us86 us89 us90 us91 us94 us95 us96 us99 us00 us01 us04 us05
us06 us09 us10 us11 us12 us14 us15 us16 us18 us19 us20"

use $mydata/brady/us79, clear
foreach x of global c {
append using "$mydata/brady/`x'"
}

tab dname

save $mydata/brady/income, replace

**Code Race/Ethnicity for US Datasets**
recode ethnic_c (1 = 1 "White") (3 = 2 "Black") (2 4 6 8 10 12 = 3 "Latino") (else=4 “Other”),
gen(race)
tab race, m

gen white=0 if race!=1 & race!=.
replace white=1 if race==1
gen black=0 if race!=2 & race!=.
```

```
replace black=1 if race==2
gen latino=0 if race!=3 & race!=.
replace latino=1 if race==3

*1980
tabstat ey hhmarket poor5 if year>1978 & year<1982 [w=hwgt], by(race) stats (p50 mean n)
*1985
tabstat ey hhmarket poor5 if year>1983 & year<1987 [w=hwgt], by(race) stats (p50 mean n)
*1990
tabstat ey hhmarket poor5 if year>1988 & year<1992 [w=hwgt], by(race) stats (p50 mean n)
*1995
tabstat ey hhmarket poor5 if year>1993 & year<1997 [w=hwgt], by(race) stats (p50 mean n)
*2000
tabstat ey hhmarket poor5 if year>1998 & year<2002 [w=hwgt], by(race) stats (p50 mean n)
*2005
tabstat ey hhmarket poor5 if year>2003 & year<2007 [w=hwgt], by(race) stats (p50 mean n)
*2010
tabstat ey hhmarket poor5 if year>2008 & year<2011 [w=hwgt], by(race) stats (p50 mean n)
*2015
tabstat ey hhmarket poor5 if year>2013 & year<2016 [w=hwgt], by(race) stats (p50 mean n)
*2019
tabstat ey hhmarket poor5 if year>2017 & year<2021 [w=hwgt], by(race) stats (p50 mean n)
```