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Return to *Being Black, Living in the Red*: A Race Gap in Wealth That Goes Beyond Social Origins

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Abstract In the United States, racial disparities in wealth are vast, yet their causes are only partially understood. In *Being Black, Living in the Red*, Conley (1999) argued that the sociodemographic traits of young blacks and their parents, particularly parental wealth, wholly explain their wealth disadvantage. Using data from the 1980–2009 waves of the Panel Study of Income Dynamics, I show that this conclusion hinges on the specific sample considered and the treatment of debtors in the sample. I further document that prior research has paid insufficient attention to the possibility of variation in the association between wealth and race at different points of the net worth distribution. Among wealth holders, blacks remain significantly disadvantaged in assets compared with otherwise similar whites. Among debtors, however, young whites hold more debt than otherwise similar blacks. The results suggest that, among young adults, debt may reflect increased access to credit, not simply the absence of assets. The asset disadvantage for black net wealth holders also indicates that research and policy attention should not be focused only on young blacks "living in the red."

Keywords Wealth · Inequality · Racial disparities · Multigenerational

Introduction

Wealth is typically defined as net worth: the sum of assets, less debts (Spilerman 2000; Yamokoski and Keister 2006). Wealth allows individuals to insure against negative income shocks, access desirable neighborhoods and schools for their children, and hold social and political power. Wealth is also a mediator of the intergenerational transmission of inequality. Parental wealth is associated with children's educational attainment (Conley

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1999, 2001a) and academic achievement (Orr 2003), labor market outcomes (Conley 1999), and mate selection (Charles et al. 2012), net of other measures of social origins.

In 2009, the median wealth of white households was 20 times that of black households, the greatest disparity in at least 25 years (Kochhar et al. 2011). Although vast racial disparities in wealth are well-documented (Avery and Rendall 2002; Gittleman and Wolff 2004; Oliver and Shapiro 2006), the recent widening of this gap renews questions of the source of racial inequality in financial assets.

In *Being Black, Living in the Red* (hereafter *BBLR*), Conley (1999) exploited the genealogical nature of the Panel Study of Income Dynamics (PSID) to examine the wealth of young adults living as heads of their own households in 1994 but living as children in their parents' homes in 1984. Conley found that although race differences in young adults' wealth in 1994 remain after controlling for their own characteristics, these differences disappear when parents' attributes, especially parental wealth in 1984, are included as control variables. These results suggest that race matters directly for asset accumulation only to the extent that it is correlated with class. Conley (1999:49) writes: "In the end it may be the economically disadvantaged family backgrounds of young African Americans more than the color of their skin that hurts their efforts to accumulate wealth."

Although the *BBLR* results have been widely cited, they are distinctive: most other analyses of race differences in wealth fail to explain the entire gap. There are at least three reasons that the *BBLR* results may not be robust. First, the *BBLR* analytic sample was small and excluded large numbers of young adults who were still living with their parents, as well as all married women. As a result of the small sample size, the statistical power of the analysis was low; as a result of the selectivity of the sample, the coefficients may have been biased. These limitations can be remedied now that an additional 15 years of PSID data are available and the young adults of the *BBLR* sample have almost all established their own households. Second, the results may have been affected by the treatment of debtors. The *BBLR* dependent variable was the log of individuals' net worth, with debtors assigned small positive net worth to avoid excluding them. This transformation disproportionately inflates the wealth of blacks, who are more likely to be net debtors. Lastly, the *BBLR* analysis focused exclusively on mean differences, which may mask large variation in the association between race and wealth at the top and bottom of the wealth distribution.

In this article, I test the robustness of the *BBLR* results to alternative samples and modeling techniques that address the aforementioned limitations. I find that the *BBLR* results are qualitatively, but not quantitatively, robust when alternative samples are considered. Although the residual race gap in wealth remains nonsignificant, a sample that includes married women, later cohorts, and somewhat older adults yields an estimated residual wealth disadvantage of about 20 % for young blacks. The nonsignificance of the gap is due in part to the extremely large standard errors that result from recoding debtors' net worth to $1. When I allow the association between race and wealth to vary across the wealth distribution, I find considerable heterogeneity. Net of other covariates, there are no significant race differences for young adults in the likelihood of having positive net worth. Among wealth holders, however, young black adults have a large and statistically significant residual wealth disadvantage of about 20 %. Among net debtors, blacks hold significantly *less* debt than their white counterparts, by about 20 %. These results both challenge the *BBLR* finding of no significant association between race and wealth and raise questions about

the appropriate interpretation of debt holdings among young adults. For young adults, debt may reveal access to investment-related credit, not merely the absence of assets.

Race and Wealth

Conceptually, explanations for the racial wealth gap can be grouped into three main categories: income, savings, and return on investments. Income represents the total inflow of financial capital that can be used for asset-building, savings indicate the fraction of that capital that is set aside as assets, and returns are the yield on those assets.

Although race differences in income are substantial, accounting for these differences does not fully explain the race gap in net worth (Barsky et al. 2002; Conley 2001b; Oliver and Shapiro 2006). The role of savings rates in the black-white wealth gap is smaller, with some evidence that income differences fully explain race differences in savings rates (Gittleman and Wolff 2004). Lastly, blacks' lower rates of entrepreneurial activity and lower likelihood of holding income-producing assets may contribute to lower rates of return on investments (Oliver and Shapiro 2006). Conley (2001b) found that the black-white gap in wealth accumulation over a five-year period was nonsignificant after accounting for race differences in the types of assets held at the beginning of the period. Race differences in the return on housing investments have received particular attention, since home equity is the largest asset for both blacks and whites (Gittleman and Wolff 2004). Blacks as a group may experience a lower return on housing investments because they are less likely to own a home; receive, on average, less favorable mortgages; and experience slower home appreciation (Charles and Hurst 2002; Oliver and Shapiro 2006). In summary, race differences in wealth can be partially attributed to both race differences in income and race differences in the return on investments, including housing, but these differences are typically insufficient to explain the entirety of the black-white wealth gap.

Intergenerational transfers are a distinct form of income. Gale and Scholz (1994) estimated that transfers and bequests, and the interest they accrue, account for at least half of aggregate household wealth. Whites' wealth advantage compared with blacks is partially due to their greater likelihood of receiving inheritances and larger inheritances received (Avery and Rendall 2002; Conley 2001b; Conley and Glauber 2008; Gittleman and Wolff 2004; Menchik and Jianakoplos 1997; Smith 1995). This intergenerational transfer of wealth contributes to a "sedimentation of inequality," by which historical racial differences in wealth are propagated across generations and contribute to current disparities (Oliver and Shapiro 2006). For example, race differences in transitions to home-ownership can be partially explained by race differences in parental and extended-family wealth (Charles and Hurst 2002; Hall and Crowder 2011). Financial resources received from family members during young adulthood are particularly important because the value of assets acquired early in life compounds over the longest time horizon.

However, race differences in parental resources are also typically insufficient to explain the entire black-white wealth gap. Blacks have lower net worth, even after controlling for their own income, education, family structure, age, and inheritance received, as well as the education, income, and family structure of their parents (Keister 2003; Yamokoski and Keister 2006). Conley (2001b) found similar results, even after controlling for parental wealth and inheritance. The *BBLR* results are therefore distinctive in explaining the entirety of the black-white wealth gap with measures of parental class.

This distinctiveness may be due to any of several unique features of the *BBLR* analysis. First, as previously noted, the *BBLR* sample is small and selective. Second, as Conley noted (1999:50), the analysis is based on a sample of young adults, whereas other analyses have considered a wider age span. It may be more appropriate to analyze wealth among older adults, who have had more time to accumulate assets both from their own earnings and through intergenerational transfers (Barsky et al. 2002; Conley and Glauber 2008). Lastly, the *BBLR* analysis uses the log of net worth as the outcome variable, with debtors' net worth recoded to a small positive value. By contrast, Conley (2001b), in a subsequent study, excluded debtors; Yamokoski and Keister (2006) modeled the dollar value of net worth, rather than the logged value; and Keister (2003) shifted the net worth distribution up to avoid debtors. This study tests whether the *BBLR* finding is robust when alternative samples and coding of the dependent variable are used.

The Potential for Heterogeneity in the Black-White Wealth Gap

Most prior research on the black-white wealth gap, including *BBLR*, neglects the possibility that the relationship between race and wealth may differ across the wealth distribution. However, Wilson (1987) argued that disadvantage for blacks is most pronounced among the underclass—those who have the least. Compared with whites who have similar incomes, the largest relative net worth disadvantage for blacks occurs among those with the lowest incomes (Smith 1995). Because of the correlation between income and wealth, this suggests that the black wealth disadvantage is likely to be greatest among those at the bottom of the wealth distribution. Yet, other evidence suggests that the black wealth disadvantage may be greater at higher levels of wealth. Oliver and Shapiro (2006) cited lower rates of home appreciation and diminished access to entrepreneurial opportunities as possible sources of the black-white wealth gap, both of which are more likely to affect middle-class blacks than those with the fewest assets.

Furthermore, interpretation of race differences in net worth is complicated for young adults. For mature adults, net worth clearly indicates financial advantage: assets allow them to provide for themselves during retirement, as well as transfer assets to family members. Young adults, however, are still investing in future income streams, and access to credit may be an advantage, particularly for those who seek to finance higher education or entrepreneurship. Among young adults, white households are more likely than nonwhite households to hold debt and various types of debt, including mortgages, auto debt, credit card debt, and installment debt, and they have higher debt-to-income ratios (Chiteji 2007). The higher income and rates of entrepreneurial activity that augment whites' assets later in life may be purchased by taking on considerable debt in young adulthood. Thus, examining only mean net worth differences between young blacks and whites may mask considerable variation in the association between race and wealth at different points of the wealth distribution.

Modeling Wealth: Methodological Issues

In addition to the aforementioned issues, there is little consensus about the most appropriate way to model net worth. Perhaps the most common approach is to treat net worth as the outcome variable (Barsky et al. 2002; Smith 1995; Yamokoski and

Keister 2006). However, the distribution of wealth is highly skewed; thus, untransformed, the highest wealth values may be highly influential, and heteroskedasticity is common (Carroll et al. 2003; Pence 2006).

Log transforms are a popular method for reducing skewness, especially because exponentiated coefficients can be easily interpreted. Log transforms, however, are problematic because about 10 % of households in the United States have zero or negative net worth (Budría et al. 2002), and it is not possible to take the log of nonpositive values. Debtors may be excluded (Conley 2001b), but this ignores their experiences. Alternatively, a constant may be added to net worth values so that all sample values are positive (Keister 2003), or nonpositive net worth values may be replaced with a small positive number (Conley and Glauber 2008; Hall and Crowder 2011). The latter method is employed in the *BBLR* analysis (Conley, personal communication, April 25, 2012). However this approach is also problematic. First, the choice of any small positive value is arbitrary, and the results may be sensitive to the decision. Furthermore, recoding all nonpositive values to the same positive value distorts the shape of the wealth distribution and loses substantial information, as well as inflating the net worth values of debtors.

An emerging solution to this problem is to transform net worth values in a way that reduces skewness while still using the information contained in the relative order of the net debt values. The inverse hyperbolic sine (IHS) function is one possible transformation of this kind (Carroll et al. 2003; Pence 2006). However, the IHS transformation does not relax the assumption that the association between covariates and net worth is the same for net wealth holders and net debtors.

One method for evaluating the association between race and net worth across the net worth distribution is first to examine the relationship between race and the likelihood of having positive net worth, and then separately to examine the amount of (logged) wealth or (logged) indebtedness among those with either positive or negative net worth. A disadvantage of this approach is that the analysis does not produce a single estimate of the average residual racial wealth gap. Results may be particularly difficult to interpret if race is associated with the probability of having positive net worth (net of other controls), so that there is selection on the basis of race into the samples of wealth holders and debtors. As will be shown, however, among young adults, race is not directly associated with the probability of having positive net worth. Moreover, this approach facilitates a clear examination of the variation in the association between race and wealth across the wealth distribution. It is therefore the primary method I use, as an alternative to setting nonpositive net worth values to a small positive value.[1]

Data and Methods

I analyze data from the 1980–2009 waves of the PSID (Panel Study of Income Dynamics 2012), a household survey that began in 1968 and has subsequently

[1] Quantile regression is another common analytic technique used when variation is suspected in the association between a key independent variable and the outcome. However, quantile regression estimates coefficients at quantiles of the *conditional* distribution of the outcome and is therefore not appropriate for considering the conceptual question addressed here, which relates to the unconditional distribution.

surveyed original sample members and their descendants annually or biannually. The PSID collected data on household wealth every five years between 1984 and 1999 and biannually thereafter (2001–2009).

I present results from two samples of young adults. The first is very similar to the *BBLR* sample: I include individuals who were aged 8–18 and children of the household head in 1984. Following *BBLR*, the sample is limited to young adults who were household heads in 1994. It is appropriate to exclude young adults still living with their parents, for whom household net worth is not an appropriate measure of individual assets. Limiting the sample to household heads, however, also excludes all married women, because the PSID designates the male partner as the household head in married couples. I refer to this as the "restricted sample."

The second sample includes married women, additional cohorts, and additional ages. I pool together three cohorts of young people observed as children aged 8–18 who were living in their parents' home in one of the first three waves in which the PSID collected data on wealth: 1984, 1989, or 1994. I refer to these years as the "base year" for each cohort. For the second and third cohorts, I exclude any respondent included in an earlier cohort. For each cohort, wealth as young adults is measured beginning 10 years after the base year and then subsequently through 2009 in any survey waves in which the young adult is the head of the household or the wife or long-term cohabiting partner of the household head. This leads to a maximum of seven, six, and three observations for young adults in the first, second, and third cohorts, respectively. I refer to this as the "expanded sample."

Flags for missing values are used for all covariates with missing data. No covariate has a missing rate of more than 8 % in either sample. All analyses are weighted using year-specific individual weights, renormalized to average 1 in each year. All financial variables are adjusted to 2010 dollars, top-coded at the 99th percentile, and bottom-coded at the 1st percentile when they are not naturally bounded below, to guard against unduly influential outliers. I follow the set of control variables used in *BBLR* and their operationalization to the greatest extent possible, unless otherwise noted.

The analysis proceeds in four stages. First, I use a sample and model very similar to the *BBLR* analysis, with the exception that covariates are based on 1994 data rather than 1992 data as in *BBLR*. For young adults, economic circumstances may be changing rapidly, especially for those still in school or living with parents in 1992, making covariate values in 1994 much better predictors of 1994 net worth. Thus, the analysis is not a replication of *BBLR*, although it produces similar results. Details of attempts to replicate the *BBLR* sample and analysis are described in Online Resource 1. Second, I maintain the *BBLR* specification of covariates and treatment of debtors but use the expanded sample. Third, I allow more flexible specifications of several of the covariates. Lastly, I use the expanded sample and flexible covariate specification but examine the association between race and net worth separately for debtors and wealth holders.

Child Characteristics

Wealth Household net worth is constructed by the PSID as the sum of net worth from checking and savings accounts, vehicles, equity in the main home, real estate other than the main home, farms or businesses, stocks, private annuities or IRAs, and other

assets (such as a valuable collection or rights in a trust or estate), less other debts (such as credit card debt or student loans).[2]

Race Individuals are identified as belonging to one of four racial or ethnic categories as in the *BBLR* analysis: white, black, Hispanic, and other racial groups. Individuals who identify as Hispanic are considered to be Hispanic, while other racial groups include only non-Hispanic members.

Female A dummy variable is set equal to 1 for women, reflecting the fact that gender differences in wealth may arise for individuals not living with opposite-sex partners (Yamokoski and Keister 2006).

Age Because wealth is positively associated with age through middle age, as households accumulate assets and prepare for retirement (Conley 2001b; Keister 2003; Yamokoski and Keister 2006), all models control for the respondent's age.

Number of Siblings Race differences in average sibship size may contribute to race differences in wealth if additional siblings dilute parental resources (Keister 2003). The young adult's number of siblings is the sum of his or her reported numbers of brothers and sisters.

Income As previously discussed, the race gap in income explains a portion of the race gap in wealth. The multivariate models therefore control for the logged value of total household income in the prior calendar year.

Education There is a positive association between education and wealth, net of the mediating role of income (Conley 2001b; Keister 2003). All models include dummy variables for the individual's highest level of education, specified as either a high school diploma or a bachelor's degree (less than a high school diploma is the omitted category). Because few students are heads or wives of their own households, the sample includes few students. However, the exclusion of students does not affect the results.

Parental Characteristics

Black children have less-advantaged parents, on average, which may disadvantage their asset accumulation (Conley 1999, 2001b; Keister 2003; Yamokoski and Keister 2006). In order to control for these differences, I measure parental class with educational attainment, occupational prestige, household income, and wealth. Family structure and receipt of welfare by parents are additional indicators of parental resources. Parental attributes, including parental wealth, are drawn from the base year.

[2] In general, household wealth and income values are imputed by the PSID. In 1994, 28 households that would otherwise have been eligible for the sample did not have household wealth imputed and are dropped from the sample.

Education Consistent with *BBLR*, parental education is measured as the number of years of education of the head of the parental household in the base year.[3]

Occupational Prestige Parental occupational prestige is measured by the average Hodge-Siegel-Rossi prestige score (Smith et al. 2011) of the occupation of the head of the parental household in the five years leading up to and including the base year.[4] When the parent is not currently employed, his or her most recent occupation is used.

Income Parental income is measured as the log of the average income in the child's household, as reported in the five years leading up to and including the base year.

Wealth Parental wealth in the base year is measured as the natural log of total household net worth, including home equity. In order to avoid excluding families with nonpositive net worth, an indicator variable is included for whether the parental household has positive net worth.

Family Structure The young adult's family structure while growing up is measured as the number of years in the five years leading up to and including the base year in which he or she lived in a female-headed household.[5]

Welfare Receipt Welfare receipt is measured with an indicator variable for whether the head or wife in the parental household received income from Aid to Families with Dependent Children (AFDC) in the prior year.[6]

Age of Parental Household Head Parental age may be associated with children's wealth if older parents are more likely to be deceased at the time of the follow-up survey, potentially having left bequests. Parental age is the age of the head of the child's household in the base year.

Cohort In models that include respondents from multiple cohorts, I include indicator variables for the cohorts to adjust for any cohort-specific factors that may have affected young adults' wealth accumulation.

Year In models that include observations from multiple years, I include indicator variables for each year to account for yearly factors, such as business cycles, that may affect wealth.

[3] For years in which only categorical information is available, the midpoint of each category is used. Supplemental models that specified parental education in the same categories as young adults' education produced similar results.

[4] Three-digit occupational codes are available beginning in 1981. For the first cohort, only four years are used.

[5] If information is not available for all five years, information from the available years is rescaled to be comparable to observations with full information.

[6] *BBLR* reports welfare receipt in the base year (1984). I assume that this is welfare receipt as reported in the 1984 survey, which pertains to receipt in calendar year 1983.

Methods

In all models, the outcome of interest is some transformation (f) of the individual's (i) household net worth (w) in a given year (t). Each linear model can be written as

$$f\left(w_{it}\right) = \mathbf{x}'_{it}\boldsymbol{\beta} + \varepsilon_{it}, \tag{1}$$

where $\mathbf{x}$ is a vector of covariates and ε is an error term.

The first model follows *BBLR*, using ordinary least squares (OLS) regression to estimate Eq. (1), replacing nonpositive net worth values with $1 and taking the log of the transformed values. Thus,

$$f\left(w_{it}\right) = \begin{cases} \ln\left(w_{it}\right) & \text{if } w_{it} > 0 \\ 0 = \ln\left(1\right) & \text{if } w_{it} \le 0 \end{cases}. \tag{2}$$

Second, I use a two-step model to test the possibility of heterogeneity in the association between race and wealth at different points of the wealth distribution. I estimate a logit model for the likelihood of having positive net worth, using the same covariates from Eq. (1):

$$\ln\left(\frac{\Pr\left(w_{it} > 0\right)}{1 - \Pr\left(w_{it} > 0\right)}\right) = \mathbf{x}'_{it}\boldsymbol{\eta}. \tag{3}$$

I then estimate Eq. (1) separately among net wealth holders and net debtors, using OLS and the following transformations:

$$f(w_{it}) = \ln(w_{it}), w_{it} > 0 \tag{4}$$

$$f(w_{it}) = \ln(-w_{it}), w_{it} < 0. \tag{5}$$

In all models, standard errors are clustered at the level of the 1968 household to account for the correlation among observations from the same individual across multiple years, as well as among individuals within the same family.

Results

The first column in Table 1 presents descriptive statistics for the restricted sample of 758 young adults who were aged 18–28 in 1994 and heads of their own households (either men or unmarried women). The second column shows results from the expanded sample of 3,536 individuals and 13,916 person-year observations, including married women, additional cohorts, and subsequent observations from individuals as they leave the parental household and grow older.

Of otherwise eligible young adults aged 18–28 in the 1994 PSID sample, only 51 % of white men, 39 % of black men, 24 % of white women, and 50 % of black women were heads of their own households and hence are included in the restricted sample that follows the *BBLR* criteria. In my expanded sample, a larger share of the

Table 1 Sample statistics

	Restricted Sample	Expanded Sample
% Cohort Included		
White men	51.0	68.3
Black men	39.1	56.0
White women	24.2	74.3
Black women	50.0	72.3
Respondent Characteristics		
Wealth (median) ($)	8,085 (142,337)	16,605 (230,403)
Positive net worth (%)	72.9	74.8
White (%)	78.0	82.2
Black (%)	16.3	13.3
Hispanic (%)	3.4	3.2
Other race (%)	2.3	1.4
Female (%)	32.0	50.9
Age	24.5 (2.5)	30.1 (5.5)
Number of siblings	0.5 (1.3)	1.7 (1.8)
High school graduate (%)	65.3	62.1
College graduate (%)	18.6	29.3
Income (median) ($)	33,945 (34,761)	53,600 (57,023)
Received inheritance (%)	3.5	15.8
Inheritance, if >0 (median) ($)	38,750 (67,072)	35,904 (72,598)
Parental Characteristics		
Age of household head	41.7 (7.9)	40.3 (7.0)
Years female-headed household	1.0 (1.9)	0.8 (1.7)
Welfare receipt (%)	8.8	6.5
Years of education of household head	12.1 (2.7)	12.9 (2.6)
Occupational prestige of household head	40.1 (12.7)	42.5 (13.1)
Income (median) ($)	59,788 (50,396)	66,218 (50,325)
Net worth (median) ($)	72,450 (527,235)	89,760 (544,025)
Positive net worth (%)	88.5	91.2
Sample Size	758	13,916

Note: Standard deviations are shown in parentheses for continuous variables.

cohort is represented because of the inclusion of both married women and later ages, when more adults have left home.[7]

Demographically, the two samples differ because of the sample restrictions. Because married women are excluded, women are only 32 % of the restricted sample,

[7] Even in the expanded sample, 44 % of otherwise-eligible black men are not heads of their own households. However, when the sample is limited to individuals 27 years old and older, at least 80 % of the cohort is included in the sample for each race-gender combination, and the results are similar to those from the full age range. Therefore, I maintain the larger sample for increased statistical power.

compared with 51 % in the expanded sample. The expanded sample also has a higher median household income ($53,600 versus $33,945), is more likely to hold a four-year college degree (29 % versus 19 %), and is older (30.1 years versus 24.5 years), on average. In both samples, between 70 % and 75 % of young adults have positive net worth, although median net worth is somewhat higher in the expanded sample ($16,605 versus $8,085). Otherwise, the two samples are similar. About 80 % of the sample is white, around 15 % is black, and few sample members are Hispanic or members of other races. On average, parents were about 40 years old in the base year and had between 12 and 13 years of education. Parents' median net worth was $72,450 in the restricted sample and $89,760 in the expanded sample, and about 90 % of observations in both samples had positive parental net worth.

Table 2 shows the multivariate results that follow the *BBLR* analytic approach as closely as possible but vary first the sample and then the specification of several covariates. The original *BBLR* results are presented in the first column; the results for my restricted sample are in the second column. The main findings are the same: own income is strongly positively and significantly associated with wealth, the wealth disadvantage for women is marginally statistically significant, and parental wealth is positively associated with wealth with at least marginal statistical significance. Consistent with the *BBLR* results, I find no significant association between race and wealth, and even a wealth advantage for young blacks, although the magnitude is smaller in my sample (0.16 versus 0.32). The update to 1994 covariates and other unidentified differences between my analysis and the *BBLR* sample and covariates therefore do not substantially alter the *BBLR* conclusion.

One noteworthy difference between the first two columns of results is that the coefficient on own income is much larger in the restricted sample than in the original *BBLR* results (1.39 versus 0.61, both statistically significant). This is likely because household income in 1993 (measured in 1994) is a stronger predictor of 1994 household wealth than household income in 1991 (measured in 1992), given that the former better captures young adults' recent financial circumstances and their present household composition.

The third column shows the results of the same model, estimated on the expanded sample. Parental wealth remains strongly associated with young adults' wealth, and the coefficient on own income is even larger (1.83). Although the wealth disadvantage for women remains marginally significant, the coefficient is smaller (–0.79 in the restricted sample and –0.29 in the expanded sample). Because the restricted sample excludes married women, the negative association between being female and wealth in that sample is partly due to the wealth disadvantage for single individuals compared with married couples. In the expanded sample, blacks are estimated to have a residual wealth disadvantage compared with otherwise similar whites of about 19 % (1 – exp(–0.21)), rather than a wealth advantage, but the difference remains nonsignificant. This change from a residual wealth advantage for young blacks in the restricted sample is partly due to the inclusion of later cohorts and partly due to the inclusion of older ages (results available upon request).

The final column of Table 2 uses the expanded sample but makes several changes to the model specification. First, a quadratic term for age is added to allow a more

Table 2 Multivariate associations between wealth and race, *BBLR* model

	BBLR Results	Restricted Sample	Expanded Sample	Flexible Model
Respondent Characteristics				
Black	0.32 (0.61)	0.16 (0.54)	–0.21 (0.22)	–0.24 (0.21)
Hispanic	–1.79 (1.14)	0.12 (0.93)	0.18 (0.40)	–0.02 (0.41)
Other race	2.15 (3.31)	–0.44 (1.34)	0.11 (0.76)	0.01 (0.74)
Female	–0.74 (0.40)†	–0.79 (0.45)†	–0.29 (0.15)†	–0.28 (0.15)†
Age	0.05 (0.07)	–0.09 (0.09)	0.11 (0.03)**	–0.41 (0.10)***
Age, squared				0.01 (0.00)***
Number of siblings	0.02 (0.09)	0.03 (0.14)	–0.09 (0.04)*	–0.11 (0.04)**
High school graduate	–0.36 (0.58)	0.01 (0.46)	0.37 (0.26)	0.57 (0.26)*
College graduate	–0.32 (0.44)	–1.12 (0.77)	–0.36 (0.33)	–0.34 (0.32)
Ln(Income)	0.61 (0.15)***	1.39 (0.21)***	1.83 (0.10)***	
Quartile 1				0.86 (0.15)***
Quartiles 2–4				2.78 (0.13)***
Parental Characteristics				
Age of household head	–0.04 (0.03)	0.00 (0.03)	0.02 (0.01)†	0.02 (0.01)†
Years female-headed household	–0.99 (0.61)	–0.37 (0.13)**	0.06 (0.06)	0.02 (0.06)
Welfare receipt	0.01 (1.16)	0.46 (0.77)	0.56 (0.36)	–0.10 (0.35)
Education	–0.10 (0.08)	0.06 (0.09)	–0.01 (0.04)	–0.03 (0.04)
Occupational prestige	0.03 (0.02)	0.00 (0.02)	–0.01 (0.01)	–0.01 (0.01)
Ln(Income)	0.62 (0.38)	–0.05 (0.41)	0.09 (0.17)	–0.14 (0.17)
Has wealth	–2.89 (1.54)†	–1.85 (1.41)	–3.29 (0.57)***	–0.30 (0.72)
Ln(Wealth)	0.42 (0.14)**	0.27 (0.14)†	0.42 (0.05)***	
Quartile 1				0.09 (0.08)
Quartiles 2–4				0.70 (0.09)***
R^2	.15	.20	.23	.25
N	625	758	13,916	13,916

Notes: The first column presents results from Model D of Table A2.5 in *BBLR*. Models in the remaining columns include missing flags for the child's race, number of siblings, and educational attainment, and for the parents' occupational prestige and education. For income variables, a flag is set to 1 if the value is nonpositive. Dummy variables are included for year and cohort, when appropriate. Standard errors are clustered at the family level.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

flexible age-wealth relationship. I also allow a more flexible association between income and wealth, as well as between parental wealth and young adult wealth. Barsky et al. (2002) found that the wealth returns to income are larger at higher income levels, with implications for the magnitude of the black-white wealth gap that remains after controlling for income. The direct association between parental wealth and young adult wealth may also vary with different levels of parental wealth. For example, inheritances are extremely unequally distributed in the population (Blinder 1973; Smith 1995). For young adults

whose parents have few assets to pass on, parental wealth may not confer much direct wealth advantage.

In this fourth column, I specify both income and parental wealth as a linear spline with a knot at the 25th percentile. Exploratory analysis that allowed knots at the 25th, 50th, and 75th percentiles revealed that significant nonlinearities for both variables appear only between the first quartile of the distribution and the other three quartiles. As expected, the coefficients on both income and parental wealth are smaller in the bottom quartile of the distribution than in the top three quartiles. For young adults whose parents are in the bottom quartile of the parental wealth distribution, parental wealth is not significantly associated with young adult wealth. Own income is significantly associated with wealth at all points of the distribution, but the coefficient is more than three times larger in the top three quartiles than in the bottom quartile of the distribution (0.86 versus 2.78). However, the magnitude of the black wealth disadvantage is quite similar to the estimate in column 3 (21 % versus 19 %) and is again not statistically significant.

In summary, although the race-wealth association remains nonsignificant when the sample is expanded to include married women, new cohorts, and older adults, the estimated wealth disadvantage for blacks is substantively large in the expanded sample—around 20 %—even when more flexible associations are permitted between wealth and key covariates.

Given that the sample size is large—13,916 person-year observations from 3,536 individuals and 1,417 families—it is puzzling that this substantively large wealth disadvantage is statistically nonsignificant. However, the treatment of debtors is critical in shaping the standard errors: because all those with nonpositive wealth are treated the same, a great deal of information is lost in Table 2, and the standard errors are inflated compared with their size in alternative models.

This issue is addressed in Table 3, which shows the results of the two-step model of net worth. This portion of the analysis therefore tests the robustness of the results to alternative modeling approaches. The first column shows the results of a logit model estimating the likelihood of positive net worth. The second and third columns show the results of OLS models estimating the natural log of net worth among those with positive net worth and the natural log of debt among those with negative net worth, respectively. Therefore, in the final column, a positive coefficient indicates that the trait is associated with greater debt among net debtors.

Column 1 of Table 3 shows that there is no race gap in the likelihood of having positive net worth, net of other demographic characteristics and social origins. The coefficient in column 1 is –0.06 and is not statistically significant. This suggests that selectivity by race into the samples of net wealth holders and net debtors will not substantially bias the results for these subgroups. Young adults with greater income and higher parental net worth are more likely to have positive net worth, as expected. College graduates are less likely to have positive net worth than those with less education, and having a larger number of siblings is also significantly and negatively associated with having positive net worth.

In the second and third columns, it is easy to see that the predictors of wealth among net wealth holders and of debt among net debt holders are not mirror images. Among net wealth holders, blacks hold approximately 19 % less wealth than otherwise similar whites, and the difference is statistically significant. Among net debt holders, however, blacks hold about 20 % less debt, which is also a statistically

Table 3 Multivariate associations between wealth and race, piecewise models

	Logit: Wealth >0	Ln(Wealth)	Ln(–Wealth)
Respondent Characteristics			
Black	–0.06 (0.11)	–0.21 (0.09)*	–0.22 (0.10)*
Hispanic	0.01 (0.23)	0.03 (0.16)	0.31 (0.18)†
Other race	–0.16 (0.42)	0.30 (0.18)	0.18 (0.23)
Female	–0.16 (0.08)†	–0.08 (0.05)	0.01 (0.08)
Age	–0.23 (0.06)***	–0.09 (0.04)*	0.10 (0.07)
Age, squared	0.00 (0.00)***	0.00 (0.00)***	0.00 (0.00)
Number of siblings	–0.05 (0.02)**	–0.01 (0.01)	0.01 (0.02)
High school graduate	0.12 (0.14)	0.55 (0.12)***	0.09 (0.17)
College graduate	–0.56 (0.17)**	0.76 (0.13)***	0.70 (0.19)***
Ln(Income)			
Quartile 1	0.30 (0.07)***	0.40 (0.11)***	–0.03 (0.07)
Quartiles 2–4	1.17 (0.09)***	1.33 (0.05)***	0.36 (0.08)***
Parental Characteristics			
Age of household head	0.01 (0.01)	0.01 (0.00)†	–0.02 (0.01)*
Years female-headed household	0.01 (0.03)	0.01 (0.02)	0.00 (0.02)
Welfare receipt	–0.11 (0.17)	0.13 (0.17)	–0.09 (0.16)
Education	–0.02 (0.02)	0.01 (0.02)	0.05 (0.02)*
Occupational prestige	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Ln(Income)	–0.07 (0.09)	0.00 (0.07)	0.21 (0.09)*
Has wealth	0.03 (0.34)	–0.18 (0.39)	0.30 (0.38)
Ln(Wealth)			
Quartile 1	0.02 (0.04)	0.04 (0.04)	–0.02 (0.04)
Quartiles 2–4	0.37 (0.05)***	0.21 (0.04)***	–0.05 (0.06)
R^2	.12	.41	.15
N	13,916	9,939	3,087

Notes: Models include missing flags for the child's race, number of siblings, and educational attainment, and for the parents' occupational prestige and education. For income variables, a flag is set to 1 if the value is nonpositive. Dummy variables are included for year and cohort. Standard errors are clustered at the family level.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

significant difference.[8] The results in Table 3 reveal the importance of the treatment of debtors for the standard errors. Compared with the analysis that replaced debtors' net worth with $1 (Table 2, column 4), the magnitude of the black wealth disadvantage among net wealth holders is similar, but the standard error is less than half as large, despite a smaller sample. Once the distortionary effect of recoding debtors' net worth is removed, the black wealth disadvantage is much more precisely estimated.

[8] There is no evidence that either of these results changes significantly with age. The results are similar when the sample is limited to blacks and whites. Prior evidence suggests that wealth among blacks is less responsive to income and demographic traits than it is among whites (Altonji and Doraszelski 2005). I find evidence of significant differences between whites and blacks in neither the association between own income and net worth nor the association between parental wealth and net worth.

Other demographic traits show similarly divergent associations at different points of the wealth distribution. Among those with positive net worth, being a college graduate is associated with significantly higher wealth; among net debtors, it is associated with significantly greater debt. Income and parental wealth are both associated with greater likelihood of having positive net worth and greater net worth among those who hold positive wealth. Among net debtors, however, parental wealth is unassociated with the level of debt, and higher income is associated with greater debt.

What does this pattern of results suggest? The fact that, for young adults, demographic traits that are typically positively associated with net worth—such as education, income, and social origins—do not appear to diminish debt among debt holders, and in some cases are even associated with higher levels of indebtedness, suggests that for these young adults, debt is not simply the absence of net worth but may also reflect access to credit that will facilitate future income streams.

Inheritances

It is possible that young adults' family resources are not entirely captured by parental wealth. For example, they may benefit from the wealth of grandparents or other extended family members (Hall and Crowder 2011). This is consistent with Keister's (2003) finding that blacks are less likely than whites to have received an inheritance, even after accounting for race differences in parents' income, education, and family structure. In the PSID, reports of inheritances are imprecise, because they exclude small inheritances and are reported at the household level rather than the individual level. Furthermore, the role of inheritances in the black-white wealth gap is not best considered in a sample of young adults, few of whom have received an inheritance. Because of these limitations, I explore the role of inheritances in mediating the black-white wealth gap among young adults but treat the results as supplementary.

PSID respondents are asked to report whether they or anyone else in their household has received a gift or inheritance of at least $10,000 in recent years. Using these reports, I construct a measure of whether the young adult's household has ever received a large transfer and, if so, the amount of the transfer. Although whites are substantially more likely than blacks to have received large transfers (18 % versus 6 %) and, among receivers, the median inheritance is larger for whites than for blacks ($37,800 versus $24,200), controlling for inheritance produces results that are very similar to those shown in Table 3 (see Table S7 in Online Resource 1).

Discussion

Being Black, Living in the Red (Conley 1999) addressed an important question: how much of the race gap in wealth can be explained by race differences in social origins and individual traits, such as education and income? Conley concluded that contemporary young black adults are disadvantaged in asset accumulation primarily because of their social class rather than because of any direct effect of race. In my own tests of the robustness of the *BBLR* findings, the answer depends on where you look.

For the approximately two-thirds of young adult blacks who hold positive net worth, there is a wealth disadvantage of approximately 20 % compared with

otherwise similar whites, even after adjusting for parental wealth and inheritances and gifts received. This disadvantage is masked when debtors are recoded to $1 of net worth, as in the *BBLR* analysis, because the recoding inflates standard errors, greatly reducing the power of the analysis to detect a significant result.

Future research is needed to explore the sources of the remaining race gap in wealth. For example, race differences in homeownership and marriage rates have the potential to explain some of the remaining disadvantage for black asset holders. Identifying the causal relationship between each of these factors and wealth is challenging, however, because wealth promotes both homeownership (Hall and Crowder 2011) and marriage (Schneider 2011), and they, in turn, promote asset accumulation (Oliver and Shapiro 2006; Zagorsky 2005). Health, too, may both influence and be influenced by wealth (Smith 1995). Future research will therefore need to carefully consider the cumulative effect of race on net worth differences, including through endogenous mediating variables.

Future research may also benefit from examining the role of social origins in shaping young adults' wealth in ways that go beyond parental class. I considered the role of inheritances and bequests, which may come from members of the extended family as well as parents, and found that, for young adults, race differences in these wealth transfers explain little of the race gap in wealth beyond what is captured by measures of parental wealth, education, occupation, and income. However, race differences in other indicators of social origins, such as differences in childhood neighborhoods and school quality resulting from racial segregation (Massey and Denton 1993), might play a role in depressing young blacks' assets beyond what is captured by parental class.

In analyses of race differences in net worth, treating debtors as if they had small positive net worth or excluding them altogether has led to an incomplete picture of the determinants of net worth among young adults. Among the approximately one-third of young blacks and one-quarter of young whites who are net debtors, whites hold about 20 % more debt, net of other characteristics. In unadjusted terms, the median white debtor holds over 60 % more debt than the median black debtor ($12,707 versus $7,735). Models that examine only the likelihood of having positive net worth or that pool together individuals at all points of the net worth distribution miss the strong but opposing associations between wealth and race at both ends of the net worth distribution.

The results challenge the conventional understanding of wealth and debt as simple poles of the same continuum. Young debtors are not simply young adults who lack the assets to be wealthy. For this age group, debt signals access to credit as well as the absence of assets. Many of the traits that predict higher wealth among those with positive net worth, including college education, income, and parental wealth, are not associated with lower debt levels, and some are even associated with increased debt. Thus, it is unclear whether blacks' lower net debt levels are a sign of advantage, as the unidimensional interpretation of net worth suggests, or a sign of disadvantage, revealing diminished access to investment-facilitating credit. Future research is needed to test whether young white debtors are more likely to hold the types of debt that are associated with future income, such as education debt and entrepreneurial loans.

This study has several limitations. Although the analytic sample is more inclusive than that used in the *BBLR* analysis, it excludes children who did not live in their parent's home, such as those raised by grandparents; it also excludes young adults who are institutionalized, which for young adults is primarily those who are incarcerated or in the military. These exclusions would disproportionately exclude blacks. The analysis also

does not identify the mechanism by which the remaining race differences in net worth arise. Although I speculate that whites' larger debt holdings among debtors are due to greater access to credit, the PSID contains no direct measure of credit access.

Despite these limitations, the results have implications for both public policy and future research on racial inequality in assets. Methodologically, the results highlight the importance of decisions regarding the specification of net worth as an outcome. Prior research has not focused enough on the treatment of debtors, but this decision substantially affects the precision of the estimates. Diverse treatments of nonpositive net worth values in past research may be responsible for varying estimates of the magnitude of the black-white wealth gap.

Substantively, I find that the asset disadvantage faced by young blacks compared with otherwise similar white peers is found among those with positive net worth, not among debtors or in the likelihood of being a debtor. In other words, young blacks' asset disadvantage is not primarily a question of "living in the red." In descriptive terms, blacks are more likely to be debtors than are whites, but this difference can be entirely explained by race differences in other traits, such as education, income, and social origins. However, young blacks who live "in the black"—who hold some positive net worth—have accumulated fewer assets than their white peers. Thus, it may be important for policy makers to target the processes by which wealth holders gain additional assets. Housing markets are likely sites for the perpetuation of racial inequality in wealth (Massey and Denton 1993; Oliver and Shapiro 2006), and they are also particularly relevant to households who hold some financial assets. Policies that provide incentives for integrated communities may offer one mechanism to reduce the disparity in the home equity of blacks and whites (Conley 1999:145–146). Other avenues include stringent enforcement of antidiscrimination laws in the housing market (Massey and Denton 1993:229–233) and support for public services that discourage the deterioration of housing prices in black neighborhoods (Oliver and Shapiro 2006:252–255). Finally, if increased access to credit used to enhance future income streams is a source of advantage for young whites, then public policy might attempt to equalize this access, either through enforcement of antidiscrimination laws protecting prospective students and entrepreneurs applying for loans or by targeting federal funds to support young blacks making these investments.

The results presented in *BBLR* suggested that race differences in wealth could be entirely attributed to race differences in demographic traits and social origins. One possible interpretation of these results is that the race gap in wealth is purely the artifact of a legacy of racial discrimination rather than resulting from any effect of race itself on the opportunities for asset accumulation among contemporary young adults. The results presented here, however, demonstrate that such a vision is inaccurate, forcing the question of what contemporary social processes create disadvantages for young blacks' asset accumulation. Without answering this question and enacting policies that seek to remedy these disadvantages, even if race gaps in education, income, and social origins narrow, blacks are likely to continue to experience significant wealth shortfalls compared with their white counterparts.

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