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The role of race, ethnicity and tribal enrolment on asset accumulation: an examination of American Indian tribal nations

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ABSTRACT

We analyse survey data from the National Asset Scorecard for Communities of Color Project for asset accumulation in Tulsa, Oklahoma. The survey oversampled the American Indian/Alaska Native population in order to examine asset accumulation among a variety of racial, ethnic and legal status groups. We examine differences in asset accumulation across tribal members from a variety of American Indian tribes. Additionally, we make comparisons across those that are tribally enrolled to those that are not tribally enrolled. We find substantial difference across tribal affiliation in our data once we disaggregate the category of American Indian. Our research adds a new dimension to the literature examining differences in wealth accumulation by race and political status for a little-studied group. Specifically, we examine the intersection of race and legal status in wealth and asset accumulation.

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Introduction

Although an extensive body of research indicates substantial inequality in the distribution of wealth by racial and ethnic groups, few studies include measures related to American Indian/Alaska Native populations (hereafter natives) in the U.S.A. (see, e.g. Blau and Graham 1990; Oliver and Shapiro 1995; Conley 1999; Chiteji and Hamilton 2002; Gittleman and Wolff 2004; Lui et al. 2005; Ong 2006; Chiteji 2010; Loving, Finke, and Salter 2012; Fontes and Kelly 2013; Kochhar and Fry 2014; Marre 2014; McKernan et al.

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2014; Tippett et al. 2014; Hamilton et al. 2015; Muñoz et al. 2015).[1] Data and sample size are usually limited, and the studies that count native respondents tend not to disaggregate by tribes, tribal affiliation or regional concentration. In the U.S.A., there are 566 federally recognized tribes endowed with varying levels of government sovereignty. There are also substantial differences in regional population distributions. While self-reported natives comprise 1.8 per cent of the U.S. population, their share is larger in six Western states (ranging between five per cent and thirteen per cent of the population).[2]

Natives are a diverse group, socially and economically. Income and education levels differ tremendously across different tribal affiliations and reservations (Akee and Taylor 2014). Geographic isolation plays an important role in determining outcomes for natives. Additionally, the assignment of political institutions, property rights and legal jurisdiction all affect current economic development (Cornell and Kalt 1995; Anderson and Parker 2008; Akee 2009; Dimitrova-Grajzl, Grajzl, and Guse 2014; Akee, Jorgensen, and Sunde 2015). The traumas of being forced onto reservations and into board schools have affected native tribes in differential ways, depending upon their location and perceived levels of assimilation (Lomawaima 1994; Feir 2013, 2015). Very little research has focused on wealth and asset disparities by tribal affiliation, primarily due to a lack of data.

This study fills a lacuna in the literature by examining individual asset accumulation by race and ethnicity in Tulsa, Oklahoma. We use a unique data set to conduct our analysis – the National Asset Scorecard for Communities of Color (NASCC) project.

Our analysis examines the intersection of race and political status on asset and wealth accumulation for an understudied U.S. minority (and political) group. Prior research has examined the disparities across race in asset accumulation in the U.S.A.; this analysis adds an additional layer of complexity by including political status (enrolled tribal citizenship) for the native population in Tulsa. While natives are distinct racially and ethnically, they also may possess a tribal enrolment status that distinguishes them significantly from other U.S. groups.

We find that there are large differences across native tribes within the Tulsa area with regard to asset accumulation. Certain tribes, such as the Muskogee,[3] tend to have uniformly lower asset amounts than Cherokee tribal members. Cherokee tribal members have wealth that is similar to whites in Tulsa. In terms of median wealth, we find that Cherokee tribal members have lower assets than whites have.

Among the native respondents, we find that tribal enrolment is a protective factor in the acquisition of assets and wealth. When examining the arithmetic means of wealth, we find the counter-intuitive result that tribally enrolled individuals (across all tribes) tend to have lower asset levels than non-enrolled individuals. Given the large positive skew in wealth distributions

and the limited number of observations in our sample, the median results may be more indicative of the "typical" asset holdings for members of a particular ethnic/tribal group.[4]

In the next section, we discuss the related literature on asset building for natives. The section following describes the novel data set used in our analysis. Subsequent sections provide the empirical specification and discuss the regression results as well as the paper's conclusions.

Literature review

There is relatively little research conducted on the asset accumulation of natives in the U.S.A. One of the primary obstacles is a dearth of data available to analyse the topic. In typical nationally representative survey data, natives only appear in a few observations, making it difficult if not impossible to conduct further analysis.

Existing publications have focused on the nature of existing programmes for these native populations. The First Nations Development Institute has several publications examining the history and strategies employed by various non-profits, tribal entities and coalitions that have engaged in financial literacy, training and asset-development programmes (2007, 2015). There are a wide range of programmes and services offered across the native community such as financial literacy courses, entrepreneurship courses, community-lending programmes via Community Development Finance Institutions (CDFI) as well as Individual Development Accounts (IDA).

There has been little research on the effectiveness of these programmes, with the exception of IDAs.[5] A handful of research papers evaluate how these programmes affect native asset accumulation. Dewees and Floria (2003) provide some background information about these programmes in native and Hawaiian communities. Rothwell (2009, 2011) analyses the experience of asset accumulation via IDA programmes in Hawaii-based programmes. He finds that lack of an automobile and having children in the household diminish the likelihood of individuals successfully completing the programme.

In related work, Jorgensen and Morris (2010) discuss tribal savings accounts created for minors that are unavailable until the child becomes an adult. The authors detail the types of conditions imposed in order to achieve desired social outcomes, such as high school graduation or college attendance.

Murphy, Gourd, and Begay (2014) examine financial literacy in native communities using the nationally representative Health and Retirement survey data. As is the case with many national surveys, the sample size is quite small – there are only 56 individuals who are natives out of a total of 2817 respondents. Natives scored lowest compared to Asians, blacks and whites in the sample group. Jorgensen and Mandell (2007) report on low levels of financial literacy for native teenagers.

National asset scorecard for communities of colour (NASCC) data description

The NASCC research initiative includes a survey in targeted metropolitan areas to provide insights about the asset and debt positions of racial and ethnic groups at the detailed ancestral origin level. The questionnaire is designed primarily to ascertain information about specific assets, liabilities, financial resources, and personal savings and investment activity. The instrument also includes modules on core demographic characteristics found in most surveys, such as age, gender, education, household composition, nativity, income and family background. Respondents have been interviewed over the telephone in five U.S. cities: Los Angeles, Miami, Tulsa, Washington, DC and Boston.

For consistency with an existing national data set, the NASCC asset and debt module of the questionnaire replicates questions used in the Panel Study of Income Dynamics (PSID). For the non-asset and debt-based questions, the instrument replicates questions found on the Multi-City Study of Urban Inequality (MCSUI).

Overall, the NASCC data provide a relatively representative sample of natives in the Tulsa area. Using U.S. Census American Community Survey (ACS) data for 2013 for Tulsa, approximately twenty-one per cent of natives in the area have a bachelor's degree or higher, compared against fourteen per cent nation-wide. Per capita income for natives in Tulsa is approximately $21,000 compared to $17,000 nationally. Approximately fourteen per cent of natives in Tulsa are employed fulltime with thirty-three per cent in the rest of the U.S.A. On average, natives in Tulsa tend to have modestly better economic outcomes than natives residing elsewhere in the U.S.A.

Native populations, specifically, were oversampled in the Tulsa survey. The state of Oklahoma is home to thirty-eight federally recognized tribes and U.S. Census estimates that the state population is thirteen to fourteen per cent native. Parts of Tulsa County in northeastern Oklahoma lie within or are contingent to tribal lands administered by the Cherokee, Seminole, Muscogee and Osage Nations. A total of 156 sample respondents self-identified as natives; the largest tribal groups represented are Cherokee, Muscogee- and Choctaw in descending order. The proportions from the unweighted samples are close to the proportions in the 2013 ACS Five-Year average.

Approximately fifty-one per cent of natives in Tulsa are Cherokee according to the ACS and they comprise almost forty-five per cent (twenty-eight per cent for Cherokee enrolled and seventeen per cent for Cherokee non-enrolled) of the NASCC sample, as shown in Table 1. Muscogee are about sixteen per cent of the ACS average sample and about nineteen per cent of the NASCC sample. Finally, Choctaw comprise approximately six per cent of Tulsa natives in ACS, matching the six per cent found in the NASCC sample. The category "NEC"

Table 1. Ethnic distribution of NASCC data in Tulsa.

Ethnicity	Number of observations	Unweighted share (%)	Percent of native total (%)
White	89	22	
Black	66	17	
Mexican	55	14	
Hispanic – other	22	6	
Cherokee, enrolled	44	11	28
Cherokee, not enrolled	27	7	17
Muscogee	30	8	19
Choctaw	9	2	6
Other tribes enrolled	27	7	17
Other tribes not enrolled	19	5	12
NEC	8	2	
Total	396	100	

indicates individuals for whom no ethnic category has been specified. We omit these eight observations in all regression analyses.[6]

The Tulsa NASCC survey data consist of 396 total observations. Table 2 below gives the weighted mean and median asset values for the Tulsa metropolitan area.[7] These were divided into the categories of Liquid Assets excluding retirement assets; Financial Assets, which includes retirement accounts; Tangible Assets, in home and car ownership; and, finally, Total Net Worth, which incorporates all assets and debts. The mean household in our data has about $102,000 in liquid assets, $166,000 in financial assets, $94,000 in tangible assets, and a total net worth of approximately $228,000. The median values are much lower – $3,000 in liquid assets, $6,000 in financial assets, $46,000 in tangible assets and $48,000 in total net worth.

As expected, there is a high degree of positive skew in the Tulsa asset data, driven by a concentration of assets at the high end of the distribution. Table 2 contains the control variables used in the following regression analyses. The average respondent is about fifty-four years old and is more likely to be female. About one-third of household heads have a college degree or more. Forty-four per cent of the household heads are currently employed

Table 2. Variables.

Variable	Mean value	Median value
Dependent variables		
Value of liquid assets	$101,781.60	$3,000.00
Value of financial assets	$166,250.00	$6,000.00
Value of tangible assets	$93,823.71	$46,000.00
Value of net worth	$228,113.20	$48,000.00
Household respondent control variables		
Age	54.08	
Male	0.33	
College-plus	0.34	
Currently employed	0.44	
Number of children in the household	0.68	
Married	0.51	

and the average number of children in the house is less than one, which is probably due to older household heads in this sample. Finally, a little over half of the households are married.

We compare differences across assets and net worth by race and tribal enrolment in Table 3. Due to missing or non-response values, some of the ethnic/tribal categories listed in Table 1 are either collapsed or omitted.[8] The table presents unweighted mean and median values for the mutually exclusive racial, ethnic and tribal groups that present large enough sample sizes to conduct regression analyses. The data allow us to examine central tendency and distribution characteristics. In Panel A, we find that whites have higher mean and median values of assets and net worth compared with blacks, and Mexicans/Hispanics.

To a lesser degree, whites also had higher values than natives in Tulsa. In terms of liquid and financial assets natives, blacks and Mexican/Hispanics are more similar at the 50th percentile, whereas the typical native household has substantially higher levels of tangible assets (inclusive of home equity) than black and Mexican/Hispanic households. As a result, overall net worth for natives is also much closer to whites in this sample. There is a significant rightward skew of the value of all assets and net worth for all races and asset type.

Panel B presents the four asset categories for natives by tribal affiliation and enrolment. The large differences between mean and net worth values, particularly for non-tribally enrolled natives and the category of "other" tribally enrolled natives, suggest that the mean results are driven by some extreme values on the high end, and that the median values may be more indicative of typical household experience within group.

If we examine median asset values, although lower than those for whites, tribally enrolled Cherokee households have substantially higher resources than their tribally enrolled Muscogee and other tribe counterparts. Non-tribally enrolled natives display median asset patterns similar to their black and Mexican/Hispanic counterparts. We note that Muscogee households have fared *comparatively* well with regard to home equity measured by tangible asset value. This heterogeneity across tribal affiliation and enrolment would not be evident by examining the aggregate category of native in Panel A alone.

Empirical specification and results

Our analysis focuses on explaining differences in value of assets across individuals in the NASCC Tulsa data set. We acknowledge that this particular analysis is simply observational and we are unable to infer causation. Still, the analysis does provide some new evidence of relationships between tribal affiliation and enrolment status.

Table 3. Average value of assets by race and by enrolment status.

Panel A								
	White		Native		Black		Mexican/Hispanic	
Variable	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Value of liquid assets	$95,494	$5,000	$61,690	$250	$13,016	$0	$41,144	$122
Value of financial assets	$163,780	$15,000	$98,660	$725	$17,253	$0	$46,299	$80
Value of tangible assets	$106,602	$75,700	$105,650	$59,600	$17,819	$5,500	$35,355	$13,500
Value of net worth	$213,076	$78,005	$189,174	$57,850	$19,482	$5,000	$82,204	$8,800
Panel B								
	Cherokee enrolled		Muscogee enrolled		Other tribes enrolled		Other tribes not enrolled	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Value of liquid assets	$97,683	$1,000	$5,719	$0	$36,637	$1,010	$77,476	$100
Value of financial assets	$109,703	$12,500	$12,824	$0	$91,959	$1,016	$148,420	$100
Value of tangible assets	$85,177	$75,000	$83,512	$41,000	$99,821	$69,500	$149,007	$33,500
Value of net worth	$180,738	$68,600	$53,892	$27,250	$180,190	$6,000	$303,269	$7,600

We estimate the following empirical specification:

$$Y_i = \alpha + X'\beta + \sum_j \nu_{ij} + \varepsilon_i. \quad (1)$$

The outcome variable Y is the value of the assets contained in the NASCC data: liquid assets, financial assets, tangible assets and total assets. The models are estimated in two ways: (1) ordinary least squares (OLS) regressions to the mean, and (2) quantile regressions to the median. In both cases, robust standard errors are utilized. The vector X contains the variables, which measure household and household head characteristics – age, gender, collage attainment and employment status of head, and number of children and marital status of the household, along with the standard constant term.

Finally, the series of indicator variables v_{ij} provide measures of whether the household head belongs to a particular racial, ethnic or tribal group defined as: white, native, black and Mexican/Hispanic. In additional specifications, we include variables that account for different tribes and omit the native variable. In those models, the omitted category is always white. In subsequent analysis, the native tribal dummy variables are Cherokee, Muscogee, native-other tribes, and an indicator of non-tribally enrolled natives. Our sample size in the regressions below are constrained by missing information for some of the independent variables.

Table 4 presents the race, ethnic and tribal affiliation coefficients from the respective OLS and median regressions of the various asset types.[9] White is the omitted racial category and the resulting racial coefficients should be interpreted relative to that of the white population in the Tulsa area. The other household and household coefficients, along with the R-squared statistics and sample sizes for the respective regressions are presented in the appendix.[10] The OLS coefficients on blacks relative to whites in Panel A are negative, large and statistically significant in all specifications.

The coefficients for the Mexican/Hispanic category are also negative and large, but statistical significance is evident only when tangible assets are estimated (columns 5 and 6). The coefficients on the native category are negative in columns 1 and 3 (liquid and financial assets) and positive in columns 5 and 7 (tangible assets and net worth). However, none of the coefficients is statistically significant. In general, after controlling for basic household characteristics, "natives" as a homogenous group seem to have slightly lower financial assets and similar tangible assets in comparison to whites, but none of the estimates is statistically significant.

In columns 2, 4, 6 and 8, we disaggregate the "native" group into various tribal components. There is no clear pattern relative to whites across the various asset categories based on the coefficients for the tribally enrolled Cherokee groups; their large estimated standard errors suggest that they are statistically similar to whites in terms of asset ownership. However, large

Table 4. Value of assets for all Tulsa NASCC households.

Variables	(1) Value of liquid assets	(2) Value of liquid assets	(3) Value of financial assets	(4) Value of financial assets	(5) Value of tangible assets	(6) Value of tangible assets	(7) Net worth	(8) Net worth
Panel A: OLS mean regression race/ethnicity/tribal affiliation coefficients								
Race/ethnicity/tribal affiliation								
White	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category
Native	−20,312		−31,680		15,640		7,939	
	(39,491)		(61,539)		(23,154)		(73,981)	
Black	−57,685*	−58,182*	−85,601*	−86,036*	−56,049***	−56,273***	−125,396**	−126,521**
	(32,260)	(32,310)	(50,024)	(50,033)	(19,684)	(19,633)	(63,027)	(62,740)
Mexican/Hispanic	−11,774	−12,631	−43,619	−44,112	−38,330*	−39,226*	−32,866	−34,004
	(42,177)	(42,217)	(64,269)	(64,288)	(20,601)	(20,493)	(81,838)	(81,676)
Native by tribal enrolment								
Cherokee		25,856		−5,953		−7,923		14,626
		(48,940)		(64,135)		(23,186)		(77,243)
Muscogee		−96,436**		−149,112**		−3,824		−162,722**
		(40,115)		(62,743)		(27,241)		(69,114)
Other tribe		−47,753		−30,621		10,061		13,625
		(38,322)		(64,089)		(27,718)		(78,082)
Not Enrolled		−5,527		16,230		66,846		116,163
		(57,531)		(94,245)		(51,289)		(144,827)
Panel B: Quintile median regression race/ethnicity/tribal affiliation coefficients								
Race/ethnicity/tribal affiliation								
White	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category	Omitted category
Native	−2,969		−5,404		−10,730		7,269	
	(5,000)		(8,024)		(17,943)		(33,555)	

(*Continued*)

Table 4. Continued.

Variables	(1) Value of liquid assets	(2) Value of liquid assets	(3) Value of financial assets	(4) Value of financial assets	(5) Value of tangible assets	(6) Value of tangible assets	(7) Net worth	(8) Net worth
Black	−3,396	−3,337	−6,716	−6,963	−40,719***	−38,102**	−29,360	−29,510
	(5,945)	(6,709)	(7,779)	(9,014)	(14,203)	(15,362)	(31,202)	(34,339)
Mexican/Hispanic	−3,177	−3,008	−6,436	−6,772	−16,128	−19,492	−16,568	−19,841
	(5,797)	(6,545)	(7,837)	(9,201)	(15,415)	(16,568)	(32,804)	(36,437)
Native by tribal enrolment								
Cherokee		−2,447		2,550		−10,890		8,430
		(7,580)		(14,965)		(24,369)		(38,552)
Muscogee		−2,745		−6,508		−2,288		−12,578
		(9,392)		(8,938)		(26,834)		(44,502)
Other tribe		−2,414		−5,711		−20,797		−1,836
		(8,576)		(11,160)		(38,228)		(88,634)
Not enrolled		−3,146		−6,546		−14,831		−5,802
		(8,057)		(10,478)		(26,011)		(44,695)

Notes: Control variables include age, sex of household head, employment status of head, marital status of head and intercept term; Robust standard errors in parentheses.
*$p<.1$.
**$p<.05$.
***$p<.01$.

and statistically significant differences are observed for the tribally enrolled Muscogee. With the exception of tangible assets, Muscogee display lower asset estimates than blacks. In fact, apart from tangible assets, tribally enrolled Muscogee are estimated to have the lowest mean financial asset and net worth levels in Tulsa.

The results for "other" tribally enrolled native respondents mirrored natives overall (e.g. imprecisely measured lower than the white category financial assets, and slightly higher tangible and net worth asset estimates), while native respondents reporting no tribal enrolment are estimated to have much higher mean tangible and net worth assets. The latter results also are measured without statistical precision and probably are driven by the outlier respondents, given the limited number of non-tribally enrolled respondents and the large positive asset value skew (see Table 3). Nonetheless, these results suggest that there are distinct asset accumulation differences across native groups and between them and other ethnic/racial groups in Tulsa.

Panel B of Table 4 presents the race, ethnic and tribal affiliation coefficients from the *median regressions*. These results are not sensitive to outlier values. However, regressions for a particular point in the distribution (i.e. median) do not utilize the full dispersion of the data and thus yield less precise estimates around that particular point.

After controlling for basic household characteristics, our results suggest that the average black household in Tulsa has lower liquid, financial, tangible and net worth assets in comparison to their white counterparts; this is also the case for the Mexican/Hispanic group. Natives as a group generated mixed results. The typical native household has less liquid, financial and tangible assets, but higher net worth than the typical white household.

When the native category is disaggregated, the coefficients for all tribally and non-tribally enrolled groups are negative, with the exception of tribally enrolled Cherokees. Tribally enrolled Cherokee households had slightly higher levels of median wealth than white households; however, the high standard error of this estimate suggests that it should be interpreted with caution. In fact, the only estimates in Panel B that are statistically significant are the black coefficients for tangible assets, which suggests that the typical black household has about $40,000 less in tangible assets than the typical white household, largely accounted for by differences in home equity.

Despite the lack of precision, the median results suggest that a racial wealth gap persists in Tulsa with whites at the top, blacks and Mexican/Hispanics at the bottom, and considerable variation among natives based on tribal affiliation.

In Table 5, we restrict our analysis to the native sample alone. The category of enrolled Cherokee, the native group with the largest sample size, is our reference group in all specifications. The NASCC survey asks individuals about both their tribal affiliation and their tribal enrolment status; the first

Table 5. Value of assets for only native Tulsa NASCC households.

Variables	(1) Value of liquid assets	(2) Value of financial assets	(3) Value of tangible assets	(4) Net worth
Panel A: OLS mean regression tribal affiliation coefficients				
Native by tribal enrolment				
Cherokee	Omitted category	Omitted category	Omitted category	Omitted category
Muscogee	−96,452**	−119,725**	−6,993	−202,231**
	(42,598)	(53,143)	(28,090)	(90,462)
Other tribe	−55,932	−22,539	2,069	−44,983
	(39,540)	(55,730)	(29,859)	(88,105)
Not enrolled	−15,100	35,211	65,681	72,964
	(49,686)	(69,977)	(47,483)	(109,731)
Panel B: Quintile median regression tribal affiliation coefficients				
Native by tribal enrolment				
Cherokee	Omitted category	Omitted category	Omitted category	Omitted category
Muscogee	−1,606	−973.1	−21,548	−50,171
	(6,736)	(4,235)	(32,815)	(65,381)
Other tribe	148.6	−802.3	−11,697	−18,889
	(6,941)	(6,878)	(28,547)	(87,716)
Not enrolled	−732.1	−858.3	5,652	−37,071
	(7,598)	(3,686)	(21,550)	(50,834)

Notes: Control variables include age, sex of household head, employment status of head, marital status of head and intercept term; robust standard errors in parentheses.
*$p<.1$
**$p<.05$.
***$p<.01$.

may indicate ethnic or racial identification while the second may indicate political and citizenship status.[11] Similar to Table 4, the mean regression results in Panel A of Table 5 are bigger in magnitude and measured with more precision than the median regression results presented in Panel B. Appendix Table A2 presents the household regression coefficients characteristics for the respective mean and median regression results.[12]

There is a fairly consistent finding that Muscogee tend to have lower levels of assets and net worth compared to enrolled Cherokees. The differences are particularly pronounced in financial assets in the mean regression results, and more pronounced, albeit not statistically significant in tangible assets when comparing the medians. There are no consistent patterns across the various assets in both the mean and median regressions for either "other" tribally enrolled or non-tribally enrolled natives in comparison to tribally enrolled Cherokees. This may be the result of small sample sizes since there are only seventy-six natives, across all four groups for whom we have full information (see Appendix Table A2).

In the last set of results, we examine the role of tribal enrolment on asset accumulation. As discussed earlier, it is conceivable that tribal enrolment may play a role in individual household asset acquisition and accumulation.

Specifically, there are tribal government programmes that aim to affect tribal members' asset levels.[13] Like Table 5, the results in Table 6 are based solely on our native sample. In this case, we present binary indicators for natives who are not enrolled in a tribe, with the omitted reference category set as tribally enrolled natives.[14]

We find inconclusive evidence whether tribal affiliation is associated with higher asset accumulation. The mean regression results presented in Panel A suggest that, independent of basic household characteristics, non-tribally enrolled natives accumulate more assets than their tribally enrolled peers, whereas the median regression – with the exception of tangible assets – suggests the opposite. None of the coefficients is estimated with statistical precession. The mean results seem to be driven by outliers and skewed data as indicated by the large differences between median and mean estimates. For instance, Table 3 presents a mean estimate of over $300,000 in net worth, and less than a $8,000 median net worth estimate for natives not enrolled in a tribe.

The inconclusive results might be explained by reliance on self-identification. Passel (1997) presents compelling evidence that the dramatic growth of the native populations since 1960, based on self-reports, is demographically impossible without immigration or some shift in the trend in how people self-identify. He suggests that this changed pattern of self-identification might come from people "with only partial or distant native ancestry … in reaction to social, political, or economic conditions or variations

Table 6. Value of assets based on tribal enrolment for only native Tulsa NASCC households.

	(1)	(2)	(3)	(4)
Variables	Value of liquid assets	Value of financial assets	Value of tangible assets	Net worth
Panel A: OLS mean regression tribal affiliation coefficients Native by tribal enrolment				
Enrolled in a tribe	Omitted category	Omitted category	Omitted category	Omitted category
Not enrolled in a tribe	27,353	75,507	67,031	142,077
	(44,763)	(69,034)	(46,258)	(113,515)
R-squared	0.146	0.225	0.268	0.343
Panel B: Quintile median regression tribal affiliation coefficients Native by tribal enrolment				
Enrolled in a tribe	Omitted category	Omitted category	Omitted category	Omitted category
Not enrolled in a tribe	−80.99	−56.48	19,329	−8,179
	(5,591)	(1,752)	(17,389)	(25,775)
Observations	93	90	103	76

Notes: Control variables include age, sex of household head, employment status of head, marital status of head and intercept term; Robust standard errors in parentheses.
*$p<.1$.
**$p<.05$.
***$p<.01$.

in question wording". It is plausible that this "partial or distant" identification may be more common with non-tribally enrolled natives.

Slightly over fifty per cent of the non-tribally enrolled natives used in our wealth regressions also identified as white; the next highest group is the tribally enrolled Cherokee, among whom twenty per cent identified as white. Moreover, the mean and median wealth values ($497,049.80 and $84,100) for non-tribally enrolled natives who identified as white in our sample is considerably higher than their counterparts who did not identify as white ($91,871.36 and $36,000). When comparing the asset position of natives based on tribal enrolment, it is difficult to isolate the political impact of tribal enrolment from other variables related to self-identification.

Conclusion

Overall results indicate that, on average, the regression coefficients for natives (relative to whites) are negative in sign but not often statistically significant. Disaggregating natives by tribal affiliation and enrolment status reveals patterns for specific groups that otherwise are confounded by homogenous grouping. For example, Muscogee enrolled households had financial assets and net worth positions more resembling the low levels of black and Mexican/Hispanic households than the higher levels of white and Cherokee enrolled member households. Despite the lack of statistical precision in our results, we find consistent patterns of a persistent racial wealth gap in Tulsa as well as a wealth gap among natives based on tribal affiliation.

We have noted differences in tribal programmes aimed at encouraging asset accumulation for tribal members (and non-members in some cases); however, an evaluation of programme effectiveness is beyond the scope of our analysis. Although our findings regarding tribal versus non-tribal enrolment are inconclusive, our findings of higher asset acquisition for Cherokee, in comparison to Muscogee enrolled households, may relate to different tribal resources and programmes. Recent reports from Cherokee and Muskogee Nations indicate substantial differences in revenues managed by tribal governments (Financial Resources Department, Muskogee Nation 2012).

Also, of the three largest tribes in Tulsa, we were only able to identify the Cherokee Nation with a well-established and broad-based IDA programme. These accounts

> … are designed to assist Cherokee citizens to save money and achieve long-term financial goals. If eligible, Cherokee citizens can save for home purchase, home rehab, or business … for every $1 a Cherokee citizen saves, Cherokee Nation iSave will match it from $3–$5.

On the other hand, the proliferation of tribal government programmes that encourage tribal citizens' asset accumulation may indicate that there is a large

selection issue across the two enrolment statuses of natives. Tribal enrolment may be related to preferences for asset accumulation. It may also be related to cultural and economic integration and play a direct role in whether tribal citizens accumulate assets.

To our knowledge, this is the first study to examine quantitative variations in asset values for natives disaggregated by tribal affiliation and enrolment status. A limitation of this study is a sample size too small to consistently generate power to detect statistical significance. Even so, a strength of this study is the disaggregation of groups by tribal affiliation, which does in fact reveal substantial variations in asset accumulation. It is also important to keep in mind the limitation of this study with regard to external validity. Tulsa was chosen as the area to compare ethnic variation in asset ownership, because of relatively high concentration of and variation in native groups that reside there. As a result, Tulsa may not be representative of other urban settings in the U.S.A.

Notes

1. The term "American Indian" is used to indicate those who self-identify in U.S. Census racial categories as American Indian or Alaskan Native; however, we primarily examine only American Indian populations. The tribal groups studied are collectively referred to as "native".
2. The six states include Arizona (5.4 per cent), Montana (8.1 per cent), North Dakota (6.4 per cent), New Mexico (10.4 per cent), Oklahoma (13.4 per cent) and South Dakota (10.0 per cent). The Alaska Native population is 19.6 per cent and Hawaii, which includes Native Hawaiians and other Pacific Islanders, is 28.2 per cent (Source: 2012 American Community Survey, 1-year estimate).
3. Tribal government websites refer to the tribe as "Muscogee" and "Muscogee (Creek)". We use "Muscogee" in our analysis.
4. The extreme positive skew in the data is evident by the much higher mean relative to median asset values exhibited in Table 2.
5. IDA refers to programmes designed to aid low-income families in the asset accumulation process. An IDA is usually a savings account in which funds saved by the family are matched with funds from government agencies.
6. The race, ethnic and tribal affiliation variables are constructed such that respondents who identified as native and black, white or Hispanic are identified as native and non-native respondents who identified as Mexican or other Hispanic, black or white generally were classified by the category of self-identification. Four respondents identified as black and white, three of these also identified as native, and are coded as native leaving one observation that was identified as black and white and recoded as NEC.
7. The weights used for values in Tables 2 and 3 are anchored on U.S. Census American Community Survey social economic indicators for representativeness of Tulsa metropolitan area households across all ethnic/tribal groups.
8. The "Other Hispanic" category only has fourteen observations of net worth information and is subsequently not analysed as a separate category, but rather combined with Mexicans to form the category of Mexican/Hispanic. Also, the

"Cherokee, Not Enrolled" and the "Choctaw" categories are collapsed into "American Indian, Not Enrolled" and "Other Tribes, Enrolled", respectively, since each of them on their own have less than fifteen observations of net worth values. There are 250 non-missing observations of net worth—92 whites, 45 blacks, 51 Mexican/Hispanics, 90 natives (30 enrolled Cherokee, 16 enrolled Muscogee, 23 other tribally enrolled Natives, and 23 non-tribally enrolled Natives), and 7 not elsewhere categorized respondents, which are subsequently dropped from analysis.

9. Liquid assets include all currently liquid financial assets such as unrestricted savings and checking accounts and cash. Financial assets include pension, IRA, annuities, business assets. Tangible assets include measures of household assets such as homes and automobiles. Total net worth includes the value of all types of assets and debts as provided in the survey.
10. Educational attainment (college plus education) has a large and significant relationship with all forms of asset accumulation in both the mean and median regressions. Age is also positively related to asset accumulation and statistically significant in all cases except for median regressions of liquid and financial assets (inclusion of an age-squared variable does not qualitatively change the observed results. It does, however, diminish the statistical significance of the age coefficient). Current employment is positive in all the median regressions, and significantly related to net worth; however, it was not significant in any of the OLS regressions and in the cases of liquid and financial assets is negative. As expected, the marriage indicator is positively related to asset accumulation in all cases, and statistically significant in the median regressions for tangible assets and net worth.

    The models follow the literation and specify demographic and socio-economic characteristics as directionally related to asset accumulation. However, there is the possibility that asset or debt accumulation itself may influence certain demographic and socio-economic characteristics as well (see Hamilton et al. 2015 for a discussion regarding the simultaneity wealth and education and employment, for instance).
11. All members of native population groups, born in the U.S.A. are American citizens and enjoy the same rights and opportunities to participate in local, state and federal political processes as any other citizen. Official enrolment as a member of one of the 566 federally recognized tribes is akin to dual citizenship. Tribal members participate in political processes and enjoy full benefits as determined by the respective tribal government.
12. Noteworthy is a comparison of the size of the college plus coefficient for the native alone results in Appendix Table A2 in comparison to the results inclusive of all ethnic groups in Appendix Table A2. The much larger effect size in Appendix Table A2 suggests that a college degree seems to be more relevant in the acquisition of assets for natives specifically in the Tulsa metropolitan area.
13. We compiled a detailed listing of Cherokee, Muscogee and Choctaw tribal government programmes and services as found on tribal websites. We found that the Cherokee tribal government offers 94 different programmes and services, the Muscogee tribal government offers 83 different programmes and services while the Muscogee tribal government offers 114 different programmes and services. We categorized the total amount of tribal government programmes into four categories: Community Development & Individual Asset Building, Social Services, Education and Training and Tribal Cultural Enrichment. A simple count of

the number of programmes does indicate differences in tribal allocations as the Cherokee government tends to have more programmes directed towards Community Development and Individual Asset building than the other two tribes. The Muscogee and Choctaw tribal governments appear to offer more programmes in the Education and Training Category.

14. The coefficients for the household characteristics of the various regressions closely resemble those presented in Appendix Table A2, so for space consideration are not included in the appendix section, but are available upon request.

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Appendix

Table A1. Value of assets for all Tulsa NASCC households.

Variables	(1) Value of liquid assets	(2) Value of liquid assets	(3) Value of financial assets	(4) Value of financial assets	(5) Value of tangible assets	(6) Value of tangible assets	(7) Net worth	(8) Net worth
Panel A: OLS mean regression household characteristics coefficients								
Household and household head characteristics								
Age	1,412*	1,551**	2,171**	2,346**	2,180***	2,103***	4,599***	4,592***
	(722.0)	(718.3)	(936.7)	(920.4)	(555.3)	(528.9)	(1,607)	(1,533)
Male	9.257	4,710	31,753	36,496	11,697	10,717	3,867	7,031
	(28,005)	(27,773)	(42,799)	(42,999)	(15,926)	(15,885)	(50,924)	(50,144)
College+	70,201**	70,993**	135,051***	132,480***	66,401***	62,329***	181,571***	178,844***
	(32,476)	(31,714)	(50,383)	(48,944)	(18,673)	(17,977)	(62,816)	(59,205)
Currently employed	−19,465	−28,156	−32,878	−39,394	15,815	16,252	2,180	−7,567
	(24,119)	(24,383)	(37,280)	(38,015)	(15,454)	(15,852)	(47,986)	(47,912)
Number of children	−13,290*	−10,485	−13,504	−11,281	969.6	728.3	−15,040	−13,389
	(7,179)	(6,990)	(9,706)	(9,542)	(5,925)	(6,209)	(13,173)	(13,058)
Married	40,711	36,974	60,755	57,595	14,520	18,272	55,150	55,294
	(26,682)	(25,966)	(37,989)	(37,583)	(17,248)	(16,972)	(55,255)	(55,110)
Constant	−8,791	−13,798	−27,597	−34,535	−55,569	−51,839	−114,853	−111,463
	(52,162)	(51,898)	(71,360)	(69,444)	(36,343)	(35,120)	(108,611)	(101,537)
R-squared	0.104	0.123	0.136	0.152	0.243	0.264	0.204	0.230
Panel B: Quintile median regression household characteristics coefficients								
Household and household head characteristics								
Age	13.90	28.70	37.98	37.95	1,230***	1,271***	1,181**	1,124*
	(145.2)	(164.6)	(59.24)	(129.7)	(252.0)	(275.1)	(502.3)	(628.8)
Male	253.0	451.8	201.3	197.7	−1,342	−4,847	4,515	5,788
	(4,068)	(4,606)	(1,559)	(2,639)	(7,248)	(8,510)	(17,289)	(19,045)
College+	17,754***	13,052***	44,364*	44,364*	36,606**	32,186**	92,600*	94,506**
	(4,346)	(4,916)	(24,694)	(24,201)	(17,172)	(16,002)	(47,457)	(47,026)

Currently employed	518.2	1,009	1,579	1,578	3,977	9,678*	21,366*	20,597*
	(4,055)	(4,644)	(1,292)	(2,041)	(4,710)	(5,490)	(12,169)	(12,289)
Number of children	−109.5	−148.1	−426.3	−341.4	−816.8	−644.1	−4,942	−4,987
	(1,715)	(1,951)	(426.1)	(1,085)	(1,734)	(1,820)	(7,296)	(3,236)
Married	1,428	1,804	3,066	2,816	22,769***	25,254***	39,001***	41,273**
	(3,921)	(4,439)	(2,287)	(3,481)	(7,256)	(7,474)	(13,559)	(16,662)
Constant	2,507	1,500	4,395	4,649	−22,012	−25,593	−37,780	−34,747
	(10,460)	(11,821)	(8,694)	(10,590)	(19,762)	(21,312)	(42,611)	(48,217)
Observations	263	263	249	249	257	257	207	207

Notes: Racial/ethnic/tribal affiliation identifiers presented in main text tables; Robust standard errors in parentheses.
*$p<.1$.
**$p<.05$.
***$p<.01$.

Table A2. Value of assets for only native Tulsa NASCC households.

Variables	(1) Value of liquid assets	(2) Value of financial assets	(3) Value of tangible assets	(4) Net worth
Panel A: OLS mean regression household characteristics coefficients				
Household and household head characteristics				
Age	2,376*	2,639*	2,930***	5,110*
	(1,408)	(1,563)	(980.6)	(2,642)
Male	−45,115	14,162	9,633	4,142
	(29,824)	(52,705)	(27,219)	(84,246)
College +	60,309	178,273**	110,185***	341,669***
	(55,249)	(72,320)	(34,144)	(112,438)
Currently employed	30,385	13,666	−7,445	−33,322
	(38,873)	(60,734)	(29,195)	(102,543)
Number of children	−1,375	10,323	11,103	7,581
	(11,850)	(14,835)	(15,100)	(20,828)
Married	67,726	97,646*	54,830**	167,791**
	(42,415)	(54,456)	(23,602)	(82,440)
Constant	−67,480	−118,422	−125,160*	−205,447
	(86,842)	(105,919)	(63,685)	(172,535)
R-squared	0.175	0.250	0.269	0.370
Panel B: Quintile median regression household characteristics coefficients				
Household and household head characteristics				
Age	33.57	5.491	1,943***	1,294
	(144.1)	(152.2)	(562.1)	(1,538)
Male	233.6	−121.2	29,667*	−4,699
	(2,838)	(3,725)	(16,385)	(45,356)
College+	26,682	143,050*	118,700***	279,686***
	(33,134)	(83,497)	(36,644)	(67,708)
Currently employed	666.4	202.3	−11,506	−13,573
	(5,737)	(6,605)	(6,605)	(53,920)
Number of children	−342.9	−24.29	1,134	9,783
	(660.9)	(660.9)	(5,565)	(14,901)
Married	3,963	5,867	59,689***	65,137
	(29,201)	(25,033)	(16,688)	(49,876)
Constant	−1,108	623.4	−79,815**	−38,782
	(8,161)	(6,335)	(37,231)	(99,759)
Observations	93	90	103	76

Notes: Racial/ethnic/tribal affiliation identifiers presented in main text tables; robust standard errors in parentheses.
*$p<.1$.
**$p<.05$.
***$p<.01$.