Does the US Individual Income Tax Display Systemic Racism? Evidence from 1967-1973 Anonymous Tax Return Data

A Presentation to the Tax Economists Forum

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Outline of Presentation

- Introduction and motivation
- Individual Income Taxes in the US: some historical background
- Effective Tax Functions
- Systemic Racism in Individual Income taxation?
- Data
- The results: Five Different Regression Experiments
- Conclusions

Introduction and Motivation 1

- Thanks for Tax Economists Forum for Opportunity to Present Results.
- This presentation is the sole responsibility of the authors.
- Disparities in earnings, employment, income, education, health or life expectancy, housing patterns, lending etc. by race in US are well known in the social sciences and routinely measured by various federal statistical agencies. There are many studies. E.g. Myrdal(1944), Moynihan(1964) documenting adverse effects of race.
- Is the tax system another area where racial disparities exist, i.e. is the US tax system systemically racist?
- Tax law and rules are *per se* color blind (and so are the databases available).
- However, racism could be present through the existence of patterns for exemptions, deductions, credits and flat taxation of specific income sources that may disproportionately benefit some groups and adversely affect others.
- Of interest is to compare private sector outcomes to public sector outcomes; the private sector market outcomes (e.g. incomes) are transformed by the tax system into revenues for the US Treasury through the effective tax function due to Gouveia-Strauss(1994).
- There are claims that the tax system is systemically racist, surveyed in Gale (2021), and by others.

Introduction and Motivation 2

- Not many empirical studies of income taxes by race.
- Sullivan (2021) uses taxes and ethnic composition by zip codes and uncovers a pattern where lower black incomes have lower taxes but the opposite happens for higher black incomes compared to whites.
- This paper contributes to the public discussion by studying Individual Income Tax data for 1967-1973. Data is from an historical anonymous public use file constructed by the US Treasury as part of its ongoing research on sales of capital assets.
- Our results: we do not find material evidence of systemic racism in the workings of the US Individual Income Tax over the period 1967-73.

Background

- Statutory tax rates, exemptions and standard deductions for 1967-73

Tax year	Personal exemptions			Tax rates for regular tax				Standard Deduction*
				Lowest bracket		Highest bracket		
	Single persons	Married couples	Dependents	Tax rate (percent)	Taxable income under	Tax rate (percent)	Taxable income over	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1967	600	1,200	600	14.0	1 000	70,0	200 000	Min{ Max(10% AGI,*$200+Exemptions*100), $1,000}
1968	600	1,200	600	14.0	1 000	75.25	200 000	Min{ Max(10% AGI,*$200+Exemptions*100), $1,000}
1969	600	1,200	600	14.0	1 000	77.0	200 000	Min{ Max(10% AGI,*$200+Exemptions*100), $1,000}
1970	625	1,250	625	14.0	1 000	71.75	200 000	$ 1,000
1971	675	1,350	675	14.0	1 000	70.0	200 000	$ 1,500
1972	750	1,500	750	14.0	1 000	70.0	200 000	Min{ 15% AGI, $ 2,000}
1973	750	1,500	750	14.0	1 000	70.0	200 000	Min{ 15% AGI, $ 2,000}

Source: https://www.irs.gov/statistics/soi-tax-stats-historical-table-23 and Tax Forms. * For all but married filing separately. In 1971 for AGI less than $11,538.43, standard deduction is 13% of AGI.

- In addition to the personal exemptions, there were additional personal exemptions for blind taxpayers and for taxpayers aged 65 or over.

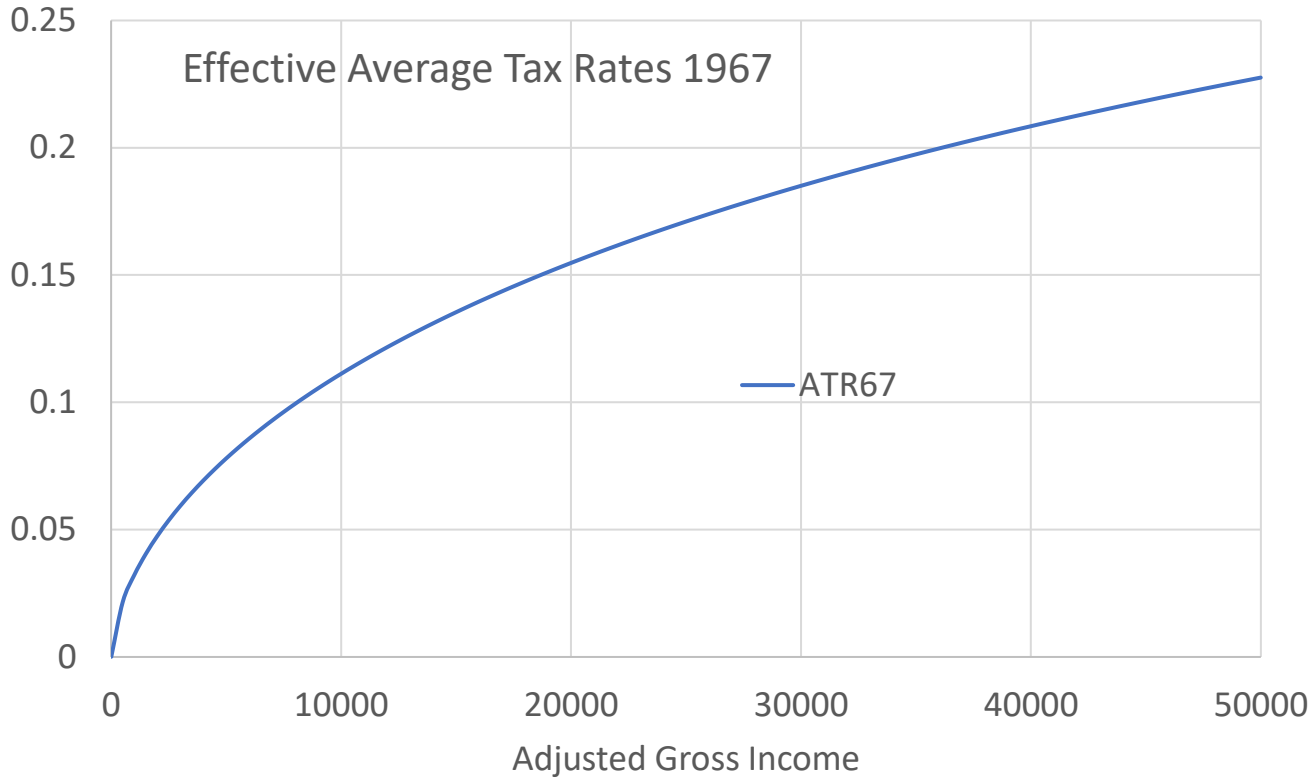
- For the period 67-73 exemptions and standard deductions change. Statutory tax rates change due to the Vietnam War surcharge in 1968-1970.

Effective Tax Functions on Broad Measures of Income

See:

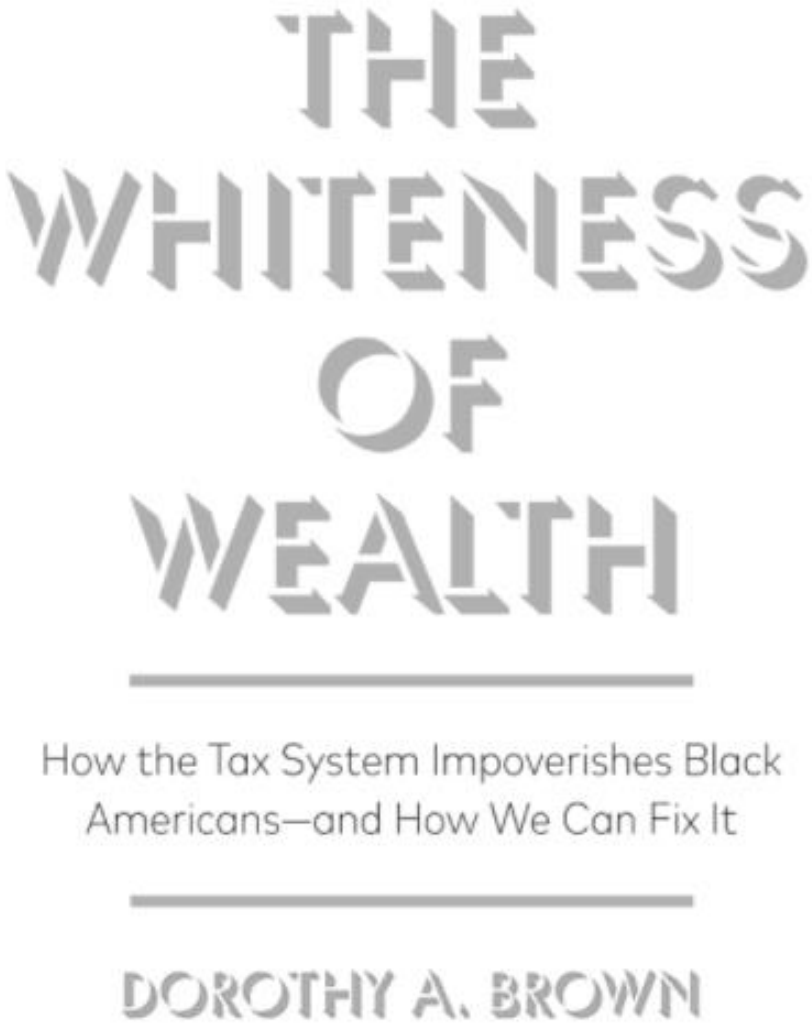
- Berliant-Gouveia: JPubEcon 1993 pp. 219-40
- Gouveia-Strauss: NTJ 1994 pp. 317-39

$$ATRi = b - b(1 + s\, y^{p})^{-\frac{1}{p}} + \varepsilon_i$$



Systemic Racism in Tax System: Claims 1

- Whites itemize more;
- Whites have larger shares of tax-exempt income;
- Tax tables for joint filers benefit more couples with 1 income earner (higher prevalence in whites)
- Preferential tax treatment of family transfers benefits whites more
- Whites have larger mortgage interest deductions because houses have higher value
- Etc..



Books…

Systemic Racism Claims 2

- Academics Legal vs. Empirics

taxnotes
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New Evidence of Racial Disparities in the Tax Code

Posted on Jul. 12, 2021

Across low-income ZIP codes, as the proportion of Black residents increases, average effective tax rates decline. The tax code appears biased in favor of low-income Black Americans. Across high-income ZIP codes, as the proportion of Black residents increases, average effective tax rates rise. The tax code appears to be biased against high-income Black Americans. These observations are made possible by merging Census Bureau ZIP code data on population characteristics with IRS ZIP code data on tax.

Martin A. Sullivan

Postal-code analysis comparing incomes, taxes and proportion of black residents(ZIP)-

Northwestern Journal of Law and Social Policy
Volume 15 (Spring 2020)

Racialized Tax Inequity: Wealth, Racism, And The U.S. System of Taxation

Palma Joy Strand
Nicholas A. Mirkay*

ABSTRACT

This Article describes the connection between wealth inequality and the increasing structural racism in the U.S. tax system since the 1980s. A long-term sociological view (the

Invited Paper: 2020 NTA Presidential Address

PUBLIC FINANCE AND RACISM

William G. Gale

Mainstream public finance research has largely ignored race issues. This paper calls on public finance economists to explore racial issues more extensively. The obvious reasons are to understand the effects of inequitable and inefficient policies, help develop remedies, and ensure that public finance is addressing the issues most salient to society. The less obvious reason is that public finance has tools and frameworks that can provide useful insights into the economics of racism. As economists search for issues that are both amenable to analysis and important for society, the pervasive effects of racism stand out in both regards.

Keywords: tax equity, racism, critical race theory, tax credits, racism and tax policy

Data – Panel for 1967-1973 1

- The data utilized is from a historical anonymous public use file constructed by the US Treasury that added race to a small sample of tax returns for analysis of sales of capital assets.
- Not many alternative sources of federal individual income tax information are available on the topic
- The years under study follow historical changes in policies and legislation regarding discrimination such as the Civil Rights Act of 1964 or the Voting Rights Act of 1965 as well as the struggle against discrimination lead by Martin Luther King and others

Taxpayers by Years in the Panel				Returns by Tax Year	
Number of Years Present	Frequency	Percent		Tax Years	Frequency
1	2.936	14.86		1967	12.590
2	1.949	9.86		1968	13.052
3	1.536	7.77		1969	13.383
4	1.463	7.40		1970	13.594
5	1.504	7.61		1971	13.750
6	2.245	11.36		1972	14.209
7	8.125	41.12		1973	14.581
Average number of Years	4.82			Average	13.594

AGI and ATR
From Panel for 1967-1973 2

- Adjusted Gross Income is not a perfect measure of Economic Income (some income sources were not included) but it is a variable defined by tax law, directly available in the data.

Race	Freq.	Percent	Mean AGI* ($)	St. Dev. AGI* ($)	Mean Average Tax Rate*
White	11,804	86.8	9,375.63	7,584.74	0.096
Black	1,171	8.6**	6,669.59	5,013.80	0.073
Other	215	1.6	7,532.75	5,717.84	0.081
No Info	404	3.0	17,767.47	39,086.44	0.107
Total	13,594	100	9,363.14	10,056.74	0.094

*Average of annual averages, weighted by returns per year

** In the 1970 census, Blacks were 11.1% of the population

Data– Panel for 1967-1973 3

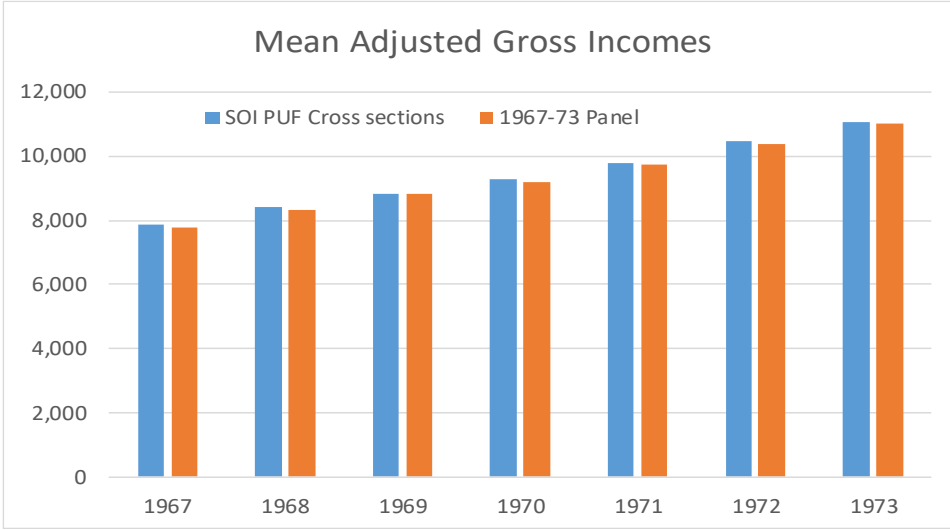
- Average of individual salaries and wages *share* of Adjusted Gross Income by year and race

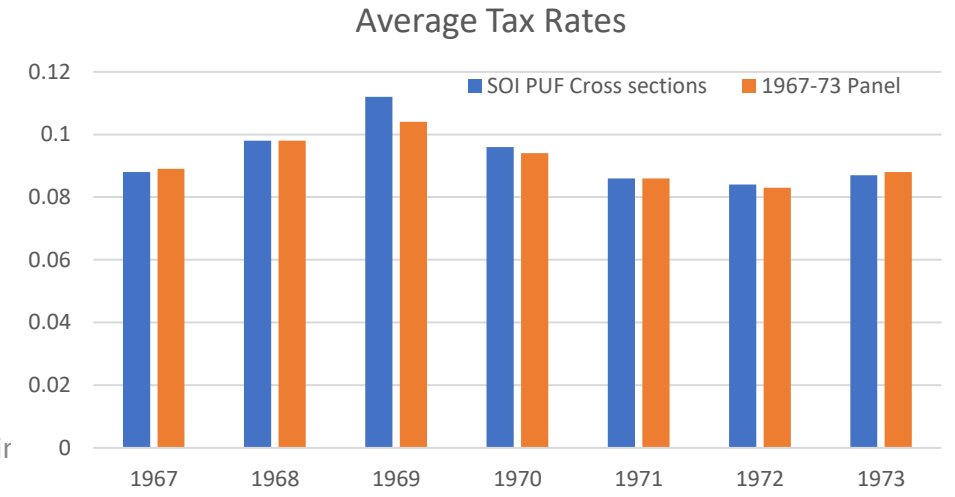
	ALL	White	Black	Other	NoraceID
1967	0.854	0.853	0.963	0.912	0.563
1968	0.856	0.852	0.966	0.939	0.608
1969	0.858	0.854	0.967	0.926	0.634
1970	0.867	0.861	0.968	0.933	0.681
1971	0.864	0.858	0.975	0.913	0.685
1972	0.866	0.859	0.974	0.930	0.716
1973	0.874	0.866	0.977	0.940	0.755
Average	0.863	0.858	0.970	0.928	0.667

Comparing the Panel Data to the SOI Public Use File (PUF) Cross Sections

Adjusted Gross Income (AGI) and Average Tax Rates (ATR) for AGI > $ 1000

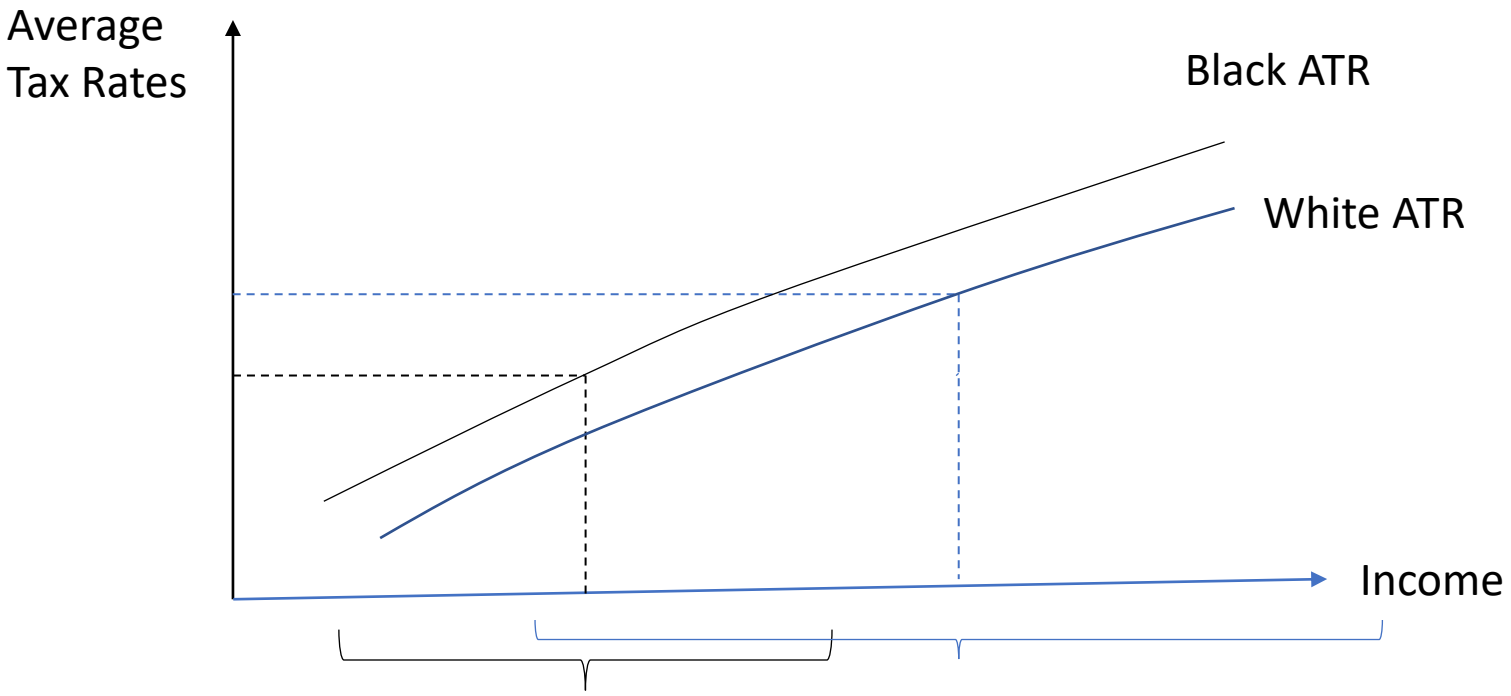
	SOI PUF Cross sections		1967-73 Panel	
Year	AGI $	ATR	AGI $	ATR
1967	7,868	0.088	7,792	0.089
1968	8,391	0.098	8,306	0.098
1969	8,831	0.112	8,804	0.104
1970	9,268	0.096	9,176	0.094
1971	9,786	0.086	9,736	0.086
1972	10,482	0.084	10,370	0.083
1973	11,071	0.087	11,021	0.088





Testing for Systemic Racism with ATR: Graph of Effective Tax function What it Might Look Like if Black ATR > White ATR

- Point-specific statistics (e.g., mean of average tax rates) may be misleading in a progressive tax system:
  - income averages differ across groups
  - Jensen's inequality – whites have larger AGI dispersion



Results 1 – Basic Gouveia-Strauss Tax Function: Black ATR < White ATR (!)

$$ATRi = b - b(1 + s\ y^p)^{-1/p} + D_b * Black + Do * Other + Dni * NoID + \varepsilon_i$$

	1967	1968	1969	1970	1971	1972	1973
Basic parameters of Gouveia-Strauss Effective Tax Function							
b	0.5408*	0.7136*	0.6655*	0.3860*	0.3316*	0.4032*	0.3717*
s	0.0006*	0.0005*	0.0006*	0.0002*	0.0001*	0.0001*	0.0001*
p	0.5976*	0.5937*	0.5951*	0.7814*	0.9098*	0.8807*	0.8676*
Ethnicity Analysis Parameters (White is dropped category)							
Black	**-0.0060***	**-0.0067***	**-0.0082***	**-0.0086***	**-0.0060***	**-0.0047***	**-0.0051***
Other	0.0021	-0.0006	0.0006	-0.0012	-0.0037	-0.0066**	-0.0067**
No Info	0.0046***	0.0054***	0.0079*	0.0084*	0.0083*	0.0070*	0.0099*
N	12,590	13,052	13,383	13,594	13,750	14,209	14,581
R-squared	0.866	0.873	0.878	0.874	0.888	0.888	0.893

Note: * p<0.001. ** p<0.01. *** p< 0.05. Omitted group is White

Building an *Augmented* Gouveia-Strauss Effective Tax Function: Do itemizing, exemptions, marital status matter? 1967-1973

Ethnicity	Percent Itemizers	Mean Number of Exemptions	Percent Singles	Percent Married Filing Jointly	Percent Other Marital Statuses*
White	46.5	2.85	30.5	62.7	6.8
Black	35.8	3.00	32.5	44.0	23.6
Other	32.9	2.92	36.3	53.8	10.0
No Info	32.9	2.19	56.3	38.4	5.4
Total	45.1	2.84	31.5	60.2	8.3

Table reports average of annual averages, weighted by returns per year.

* Others: Married filing separately. Unmarried heads of household, Widow or Widower with dependent children

Results 2 – Augmented Tax Functions

	1967	1968	1969	1970	1971	1972	1973
Basic parameters of Gouveia-Strauss Effective Tax Function							
b	0.4554*	0.5664*	0.5490*	0.3778*	0.3656*	0.4011*	0.3902*
S	0.0008*	0.0007*	0.0006*	0.00009*	0.00006*	0.00006*	0.00006*
P	0.6980*	0.6896*	0.7239*	1.0319*	1.0419*	0.9986*	1.0239*
Ethnicity Analysis Parameters (White is dropped Category)							
Black	-0.0009	-0.0009	-0.0026**	-0.0025**	-0.0009	-0.0002	-0.0008
Other	0.0019	0.0008	-0.0004	0.0016	-0.0007	-0.0010	-0.0015
No Info	-0.0053*	-0.0036**	-0.0026**	0.0032***	0.0018	0.0021**	0.0032**
Additional Controls							
# Exemptions	-0.0145*	-0.0163*	-0.0145*	-0.0144*	-0.0132*	-0.0134*	-0.0135*
Itemizing (1=Yes, 0=No)	-0.0199*	-0.0237*	-0.0279*	-0.0243*	-0.0217*	-0.0208*	-0.0228*
Mar Fil Jointly	-0.0248*	-0.0303*	-0.0369*	-0.0245*	-0.0161*	-0.0150*	-0.0167*
Mar Fil Sep	-0.0043*	-0.0036*	-0.0067*	0.0052*	0.0131*	0.0150*	0.0152*
Unmarried Heads of H	-0.0149*	-0.0196*	-0.0221*	-0.0118*	-0.0059*	-0.0061*	-0.0072*
Widows	-0.0279*	-0.0355*	-0.0385*	-0.0200*	-0.0131*	-0.0123*	-0.0146*
N	12,590	13,052	13,383	13,594	13,750	14,209	14,581
R-squared	**0.9673**	**0.9687**	**0.9647**	**0.9568**	**0.9631**	**0.9622**	**0.9643**

Note:

* p<0.001.

** p<0.01.

*** p< 0.05.

Omitted groups are White and Single

Results 3 – Gouveia-Strauss Tax Functions (Basic and Augmented) with Common Support

- This is a Robustness check: results of regressions with AGI within annual income limits containing the central 80 per cent of the Black income distribution.

Black coefficients (in red) in Average Tax Rate regressions with common support

Year	Basic Regressions	p-value	Augmented Regressions	p-value	N
1967	-0.0073	0.000	-0.0004	0.513	8337
1968	-0.0091	0.000	-0.0011	0.102	8794
1969	-0.0105	0.000	-0.0038	0.000	9067
1970	-0.0105	0.000	-0.0026	0.000	9421
1971	-0.0062	0.000	-0.0008	0.125	9602
1972	-0.0044	0.000	0.0003	0.546	9866
1973	-0.0055	0.000	-0.0003	0.540	9346

Results 4 – Exclude observations with no race ID

- Robustness check.

Black coefficients in Average Tax Rate regressions with Blacks, Whites, and Others

Year	Basic Regressions	p-value	Augmented Regressions	p-value	N
1967	-.0062	0.000	-.0008	0.168	12,242
1968	-.0071	0.000	-.0010	0.112	12,653
1969	-.0083	0.000	-.0027	0.000	12,991
1970	-.0087	0.000	-.0029	0.000	13,196
1971	-.0059	0.000	-.0011	0.052	13,336
1972	-.0046	0.000	-.0003	0.546	13,766
1973	-.0050	0.000	-.0009	0.088	14,144

Results 5 – Augmented Regression Model with Black x AGI Interaction: Is effect of race constant across AGI? (I)

$$ATRi = (\dots) + D_b * Black + ID_b * (Black * AGI) + \varepsilon_i$$

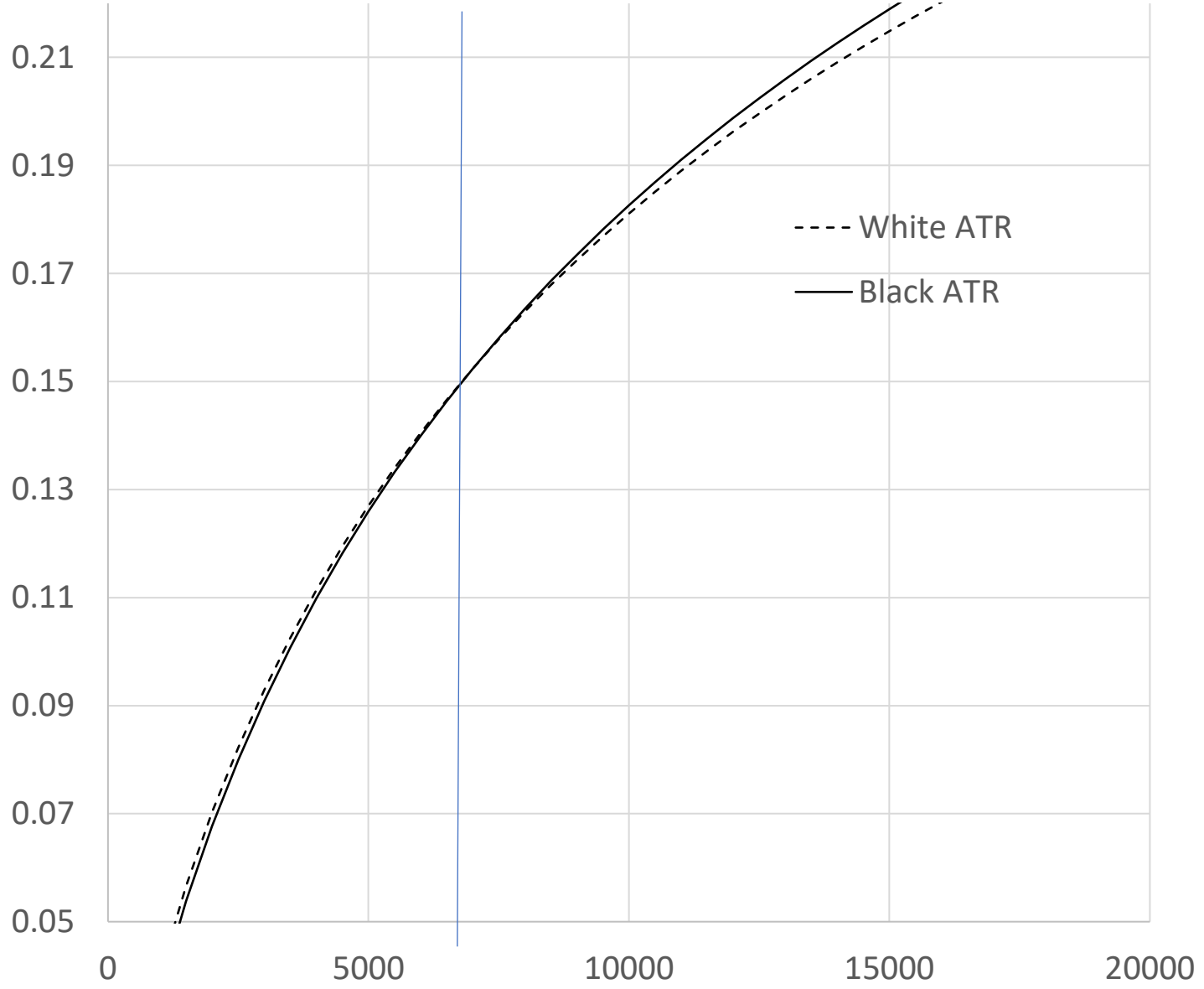
Year	D_B	ID_B	Breakeven AGI Threshold $	AGI Percentile of Breakeven (Approx.) %
1967	-0.00358	5.10E-07	7,019	78
1968	-0.00381	4.71E-07	8,086	79
1969	-0.00645	6.01E-07	10,724	88
1970	-0.00639	5.21E-07	12,265	89
1971	-0.00181	NS	-	-
1972	NS	NS	-	-
1973	-0.0027	2.17E-07	12,428	83

NS- not statistically significant
Breakeven Threshold - AGI level where difference in ATR is zero

- Results suggest higher AGI black taxpayers had higher average effective rates but other black taxpayers had lower rates
- These results are in line with those of Sullivan (Tax Notes 2021)

Results 5 – Augmented Regression Model with Black x AGI Interaction: Is effect of race constant across AGI? (II)

1967 example



Conclusions

- No reason to believe, given their Adjusted Gross Incomes, that Black taxpayers as a group paid higher income taxes than other ethnicities in 1967-73. This is a descriptive finding. We have documented, however, that the level and components of AGI vary by race.
- There is some evidence that higher AGI Black taxpayers may have had higher average effective tax rates but other Black taxpayers with lower AGI had lower average effective tax rates than Whites.
- Obviously, the analysis does not deal with the reasons why Black incomes were lower than White incomes. This observation about Black-White earnings or income differentials is well known empirically and captured by the CPS, American Community Survey, Survey of Consumer Finances etc.
- However, other specific areas of the individual income tax system could still exhibit discrimination. For instance, compliance costs.
- Situation may have changed since 1967-1973. But for this period, we do not find large, systemic differences in how the tax system, *per se*, affects Blacks vs. Whites.