Dr. James Curtis, Jr.

"Economic History, Inequality of Labor, and Prosperity,

an Encyclopedia of Economic Understanding"

September 2021, February 18, 2023

ABSTRACT

Curtis, Jr. (2021, 2023, jecjef.net...) presents the following context of the (nonprofit) Chairman of the Department of Economics and the Chief Economist,

5 06 2022 AAHEA Affiliate Office, , Director, Dr. Curtis, 001.1

5 06 2022 AAHEA Affiliate of AAHEA Branch Director, 002.7

8 17 2022 AAHEA Branch Director Home Office, 003.8 (H.dsw.) Dr. Curtis ijsw 1 2023

AAHE AAHEA IGDU IGRI
JECJEF, 2022 Chairman, Department of Economics, 2023 Chief Economist ...

Dr. Curtis was inspired by funding initiatives proposed and implemented by the Executive Office of the US government (1976-1980, 2008-2016, 2021) to organize the reasearch project. Dr. Curtis was also inspired by the proofreading advice and invitation from the reviewers of KDP™, and the editor of the 2023 "Encyclopedia of Economic Sciences" (KSP journals) to publish the research project of Dr. James Curtis, Jr.

Keywords

1. Administrative Sciences and Religious Studies,
2. Advanced Biblical Economics,
3. Doctoral Studies/Higher Education,
4. Economic History,
5. Economics of Religion,
6. Inequality,
7. Labor economics,
8. Religious Studies.

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CHAPTER 1. Economics Education and The Theory of Consumer Choice, Excerpts from Economics Textbook Materials Description of Syllabus and Projector Slides

James E Curtis Jr

December 25, 2017, 2018

ABSTRACT Curtis Jr (2018) describes the objective of the university course, to convey intermediate and advanced concepts of consumer choice theory to students using explanatory, graphical and mathematical methods of analysis. The only prerequisite for this course is successful completion of Calculus, Principles of Microeconomics …, or equivalent. After completing the requirements in this course, students should have a sufficient set of skills to thoroughly analyze interesting economic questions and to effectively participate in (*i*) advanced undergraduate economics courses, (*ii*) core graduate economic theory courses, and (*iii*) graduate courses in the school of business, including MBA programs. The emphasis of this paper is that economics is the study of the efficient choices made by individuals, including consumers, workers, owners of firms and social planners … Policy writers, students and wealthy philanthropists reading this paper might conclude that corporate board members, and higher education endowment strategists and budget executives, should focus on and enhance the effectiveness of the individual, conditional on the capacity and constraints, whether they are innate, financial or political.

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Economics Education, 2002 econometrics graduate education, approved by Charles Becker, Ph.D., Department of Economics

Reviewers of this paper include John C Ham, Ph.D. from Princeton University, Full/Tenured Professor & Provost, Advisor; Tenured Professor and Provost; Richard H Steckel, Ph.D. from The University of Chicago, Retired Full/Tenured Professor, Retired Member of the University Faculty Senate, Co-Advisor.Several portions of this paper were originally written and presented by James Edward Curtis Jr. August 21, 2001; 2003; May 13, 2014, and July 31, 2017.

INTRODUCTION.

Curtis Jr (2018) describes consumer participation in markets based on prices in based on "*Wealth, Prices of market consumption products, and Price-Adjusted Wealth or Real Wealth.*

> When markets are competitive and firms have all the same cost structure, a large number of firms and buyers in the market cause prices to be fixed at the additional cost to providing the good or service because information is fully available on alternative suppliers and customers. Furthermore, free entry and exit price markups, causing market prices to be at equilibrium and markets to be efficient—where voluntary participation in a market-oriented distribution of goods and services maximizes the net gains to producers and consumers.
>
> However, when markets are less competitive, such as monopoly, prices are marked up over the additional cost to providing the good or service, based on consumers' responsiveness to price and the producer's share of the market. This leads to an amount of goods and services, which are bought and sold, that is below the competitive market outcome leading to inefficiencies and additional gains from government regulation. Moreover, when markets are less competitive, producers can price discriminate if they know the willingness and ability of individual consumers to purchase their good and services. While such practices are generally accepted and encouraged for goods such as senior and student movie theater tickets or lunch and dinner restaurant prices, price discrimination based on race is equivalent to statistical discrimination—making predictions about a person based on membership in a certain group (Stockton, 1999, p. 434) and using an individual's membership in a certain group as information on the individual's skill and productivity (Borjas, 2000, p.357). Offering an individual in a racial group a price that is different from a price offered to an individual in another racial group, such as mortgage rate, (holding all other variables constant), constitutes economic discrimination" (Curtis Jr, 2018).

THE CLASS DESCRIPTION.

The goal of this paper is to provide class materials for studies in consumer economics, intertemporal consumption, and labor supply for individuals, irrespective of grouping, based on business equity/ownership, community/government/social planner responsibilities, education/schooling, ethnicity/race, gender, identity, income/wealth, and region/state/urban dwelling/immigration/migration.

Students should obtain a copy of the required textbook and refer to the recommended textbooks for additional student resources.*Required Textbooks* **(1)** Varian, Hal R ***Intermediate Microeconomics: A Modern Approach*** , Norton: New York, 1999.

Recommended Textbooks **(2)** Frank, Robert H.***Microeconomics and Behavior*** , Boston: McGraw-Hill, 2000; **(3)** Mankiw, N. Gregory,***Principles of Microeconomics*** , Fort Worth: Dryden, 1998; **(4)** Pindyck, Robert S. and Daniel Rubinfield,***Microeconomics*** , Macmillan: Simon & Schuster: New Jersey, 1995; **(5)** Stockman, Alan C. ***Introduction to Microeconomics*** , Fort Worth: Dryden, 1999; and **(6)** Varian, Hal R.***Microeconomic Analysis*** , Norton: New York, 1992.

THE CLASS MATERIALS.

Curtis Jr (2018) presents the teaching materials separately, attached to this document, presented in printed Microsoft Powerpoint slides created by James Edward Curtis Jr (2001) for projector transparency presentation by an instructor, and student study.

The following is the outline of the class materials

I. BUDGET CONSTRAINTS

II. PREFERENCES AND AXIOMS

III. OPTIMAL CHOICE AND DEMAND
III.i Income and Substitution Effects
III.ii. Income and Engal Curves

IV. APPLICATIONS
IV.i. Labor Supply
IV.ii. Intertemporal Consumption

REFERENCES.

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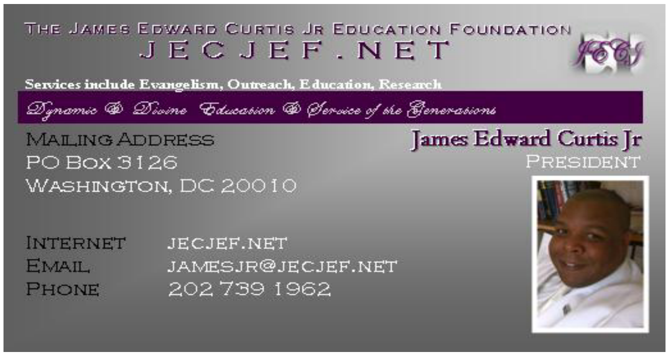
Curtis Jr, James Edward, “Wealth Discrimination Theory”, Working Paper Number 1751670 (Available at SSRN: http://ssrn.com/abstract=1751670), January 31, 2011.
Frank, Robert H. Microeconomics and Behavior, Boston: McGraw-Hill, 2000;
Mankiw, N. Gregory, Principles of Microeconomics, Fort Worth: Dryden, 1998;
Pindyck, Robert S. and Daniel Rubinfield, Microeconomics, Macmillan: Simon & Schuster: New Jersey, 1995;
Stockman, Alan C. Introduction to Microeconomics, Fort Worth: Dryden, 1999;
Varian, Hal R. Intermediate Microeconomics: A Modern Approach, Norton: New York, 1999.
Varian, Hal R. Microeconomic Analysis, Norton: New York, 1992.

OTHER ACKNOWLEDGEMENTS.

The Closing I believe that it would inappropriate for me to credit anything that I have attained to my family, friends or personal investments in education, professional training or associations. The credit should go to God. In the Old Testament of the Bible, Job (7;17) once asks God, ‘What is man that you should set your heart upon him?’ If you are also seeking the answer to this question, simply know that “God created man in his own image” (Genesis 1:27). Based on this fact alone, you should have the will to persevere and “Let patience have her perfect work.” (James 1:4).

For, I pray that the glory of God manifests itself throughout his kingdom in a manner that achieves his good and perfect will.



James E Curtis Jr, MA 1998, PhD Candidate 2000, PhD 2003.

CHAPTER 1.A. & 2.B. A Study of Consumption Decisions and Wealth, Individual Data, Political Economy and Theory

James E Curtis Jr

December 31, 2017

Recent studies have used regression decomposition to analyze recent data and found that over seventy percent of the black-white wealth differences remained unexplained (See, e.g., Gittleman and Wolff 2000; Altonji, Doraszelski and Segal 2000; and Blau and Graham 1990). Their results are limited to the variation in modern data. This study contributes improved methodology and historical empirical results to the literature on economic discrimination. In this paper, (i) James Curtis Jr presents structural regression decompositions, which are modifications to methods developed by Becker (1957) and Oaxaca (1973); (ii) James Curtis Jr presents a basic empirical test when analyzing structural regression decompositions; (iii) James Curtis Jr reports the estimated sources of black-white differences in wealth directly before and after emancipation; (iv) James Curtis Jr links these findings to recent studies. Empirical estimates confirm that the size and persistence of modern black-white wealth differences have historical roots. (v) James Curtis Jr presents decision-making considerations of "individuals" in an economy with grouped individuals, owners of firms, and social planner(s), conditional on wealth constraints with applied social economic considerations.

JEL Codes: J7 D9 E2 C2 H5 N3

Key words: theory of economic discrimination, structural regression decomposition, wealth inequality

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I. Case One: Agent-Specific Constraints

$$\text{MAX}_{\{x_{nij} \geq 0\}} \quad U = \gamma_U \Pi_{SP=1} U_{SP}^{\theta(SP)}$$

subject to $X_{ijSP} \leq E_{ijSP}$

Let: $U_{SP} = \gamma_{U(SP)} \Pi_{j=1} (\Pi_{i=1} u_{ij(SP)}^{\theta ij(SP)})$

such that $U = \gamma^* \Pi_{SP=1} [\Pi_{j=1} (\Pi_{i=1} u_{ij(SP)}^{\theta^*})]$

where $\gamma^* = \gamma_U \Pi_{SP=1} \gamma_{U(SP)}$

$\theta^* = \theta_{ij(SP)} \theta_{(SP)}$

Further, let: $u_{ijSP} = \gamma_{uijSP} \Pi_{n=1} (x_{(n)ij} - s_{x(n)ijSP})^{\alpha(n)}$

such that $U = \gamma' \Pi_{SP=1} [\Pi_{j=1} (\Pi_{i=1} (\Pi_{n=1} (x_{(n)ij} - s_{x(n)ijSP})^{\alpha(n)'}))]$

where $\gamma' = \gamma_U [\Pi_{SP=1} \gamma_{U(SP)} (\Pi_{j=1} (\Pi_{i=1} \gamma_{uijSP}))]$

$\alpha(n)' = \alpha(n) \theta_{ij(SP)} \theta_{(SP)}$

Further, let: $E_{ijSP} = \Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + p_{x(l)} e_{x(l)ij} + e_{ijSP}$ *for all* $n = 1,2,..,E \neq l$

Further, let: $X_{ij} = \Sigma_{n=1} P_{x(n)j} x_{(n)ij} + p_{x(l)j} x_{(l)ij}$

where $P_{x(n)j} = p_{x(n)} (1 + \delta_{xjg} + \Sigma_{q=1} t'_{qx(n)})$

$P_{x(E)} = \eta(B)$

Therefore, the decision becomes:

$$\text{MAX}_{\{x_{nij} \geq 0\}} \quad U = \gamma' \Pi_{SP=1} [\Pi_{j=1} (\Pi_{i=1} (\Pi_{n=1} (x_{nij} - s_{x(n)ijSP})^{\alpha(n)'}))]$$

subject to $\Sigma_{n=1} P_{x(n)j} x_{(n)ij} + p_{x(l)j} x_{(l)ij} \leq \Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + p_{x(l)} e_{x(l)ij} + e_{ijSP}$

Further, let: $\Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + \Sigma_{v=1} w_v h_{vij} = W_j$

where $w_v = p_{x(l)}$

$h_{vij} = e_{x(l)ij} - x_{(l)ij}$

II. Case Two: One Universal Constraint

$$\mathrm{MAX}_{\{x_{nij}\ \geq\ 0\}} \qquad \mathrm{U} = \gamma\upsilon\prod_{SP=1} U_{SP}^{\ \theta(SP)}$$

Subject to $\quad \mathbf{X} \leq \boldsymbol{\varepsilon}$

Further, let: $\boldsymbol{\varepsilon} = \sum_{SP=1} E_{SP} + \mathbf{e}$

$$E_{SP} = \sum_{i=1}\sum_{j=1} E_{ijSP} + \mathbf{e}_{SP}$$

$$E_{ijSP} = E_{x(n)ijSP} + \sum_{i=1}\sum_{j=1} p_{x(l)}\, e_{x(l)ij} + e_j \quad \textit{for all } n = 1,2,..,E \neq l$$

$$E_{x(n)ijSP} = \sum_{n=1} p_{x(n)}\, e_{x(n)ijSP}$$

such that $\quad \boldsymbol{\varepsilon} = \sum_{i=1}\sum_{j=1}\sum_{n=1} p_{x(n)}\, e_{x(n)ijSP} + \sum_{i=1}\sum_{j=1} p_{x(l)}\, e_{x(l)ij} + \mathbf{e}^*$

where $\quad \mathbf{e}^* = \mathbf{e} + \sum_{SP=1} \mathbf{e}_{SP} + \sum_{i=1}\sum_{j=1} e_j$

Further, let: $\mathbf{X} = \sum_{i=1}\sum_{j=1}\sum_{n=1} P_{x(n)j}\, x_{(n)ij} + \sum_{i=1}\sum_{j=1} p_{x(l)j}\, x_{(l)ij}$

where $\quad P_{x(n)\,j} = p_{x(n)}\left(1+\delta_{xjg} + \sum_{q=1} t'_{qx(n)}\right)$

$$P_{x(E)} = \eta(\mathrm{B})$$

Therefore, the decision becomes:

$$\mathrm{MAX}_{\{x_{nij}\ \geq\ 0\}} \qquad \mathrm{U} = \gamma'\prod_{SP=1}\left[\prod_{j=1}\left(\prod_{i=1}\left(\prod_{n=1}\left(x_{nij} - s_{x(n)ijSP}\right)^{\alpha(n)'}\right)\right)\right]$$

subject to $\quad \sum_{i=1}\sum_{j=1}\sum_{n=1} P_{x(n)j}\, x_{(n)ij} + \sum_{i=1}\sum_{j=1} p_{x(l)j}\, x_{(l)ij} \leq \sum_{i=1}\sum_{j=1}\sum_{n=1} p_{x(n)}\, e_{x(n)ijSP} + \sum_{i=1}\sum_{j=1} p_{x(l)}\, e_{x(l)ij} + \mathbf{e}^*$

Let: $\quad \sum_{i=1}\sum_{j=1}\sum_{n=1} p_{x(n)}\, e_{x(n)ijSP} + \sum_{v=1}\sum_{i=1}\sum_{j=1} w_v h_{vij} = \sum_{i=1}\sum_{j=1} W_{ij}$

where $\quad w_v = p_{x(l)}$

$$h_{vij} = e_{x(l)ij} - x_{(l)ij}$$

III. A Model of Wealth

Let:

$$W_{ij} = (1 - g - \Sigma_{q=1} t_{q\,I}) I_{ij} + A_{ij} + (1 - g)(\Sigma_{q=1} S_{qij} + C_{ij}) - G_{ij}$$

$$I_{ij} = \Sigma_{v=1} \boldsymbol{w'_v}\, \boldsymbol{h'_{vij}}$$

$$\boldsymbol{w'_v} = \boldsymbol{w_v} - \delta_{w(v)jg} - \Sigma_{q=1} t'_q$$

$$\boldsymbol{h'_{vij}} = \boldsymbol{h_{vij}} - \delta_{h(v)jg}$$

$$A_{ij} = [\, A_{0ij} (1 - g - \Sigma_{q=1} t_{q\,A(0)}) + \Sigma_{a=1} N_{(1,a)ij} (R_i, M_i)(1 - g - \Sigma_{q=1} t_{qN(1,a)})$$

$$+ \Sigma_{m=1} \gamma_{\pi(m)ij}\, \pi_{Z(m)ij} (1 - g)\,] (1 + \gamma_{\rho ij}\, \rho)(1 - \Sigma_{q=1} t_{q\rho})$$

$$+ \Sigma_{b=1} N_{(2,b)ij} (R_i, M_i)(1 - g - \Sigma_{q=1} t_{qN(2,b)}) - G_{\rho ij} - \delta_{Ajg} (\rho, A_{0ij})$$

$$A_{0ij} = A_{0ij} (x_{n\,0}, \gamma w_{(0)ijF}\, W_{0F} (I_0(w_0, h_0, S_0), A_0(A_{(-1)}, N_0(R_0, M_0), \gamma_{0\pi(m)}\, \pi_{0Zm}), t_{0q}, \delta_{0g}, \gamma_{0\rho}), R, M)$$

$$\pi_{Z(m)ij} = (P_{Z(m)j}\, Z_{mij} + \Sigma_{q=1} S_{qZ(m)ij} - \Sigma_{d=1} \boldsymbol{P_{Z(m,d)j}} \boldsymbol{X_{Z(m,d)ij}}) (1 - \Sigma_{q=1} t_{q\,\pi(m)})$$

$$\boldsymbol{P_{Z(m)\,j}} = \boldsymbol{p_{Z(m)}} (1 - \delta_{Z(m)jg} + \Sigma_{q=1} t'_{qZ(m)})$$

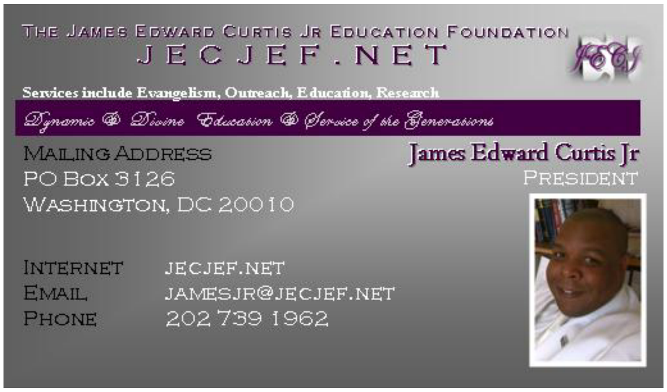
$$Z_{mij} = \gamma_{Zmij} \Pi_{d=1} \boldsymbol{X_{Z(m,d)ij}}^{\beta(d)}$$

$$\boldsymbol{P_{Z(m,d)\,j}} = \boldsymbol{p_{Z(m,d)}} (1 - \delta_{Z(m,d)jg} - \Sigma_{q=1} t'_{qZ(m)})$$

$$\boldsymbol{X_{Z(m,d)ij}} = \boldsymbol{x_{Z(m,d)ij}} - \delta_{Z(m,d)jg}$$

where

S is subsidies,
g is the tithe,
G is offerings,
q is governments,
C is social capital, i.e. food and medications from societal organizations,
ρ is the rate of return,
γ is the knowledge on scaling the rate of return, i.e. the 1996-97 INVESCO case study,
d is inputs,
N_1 is appreciative,
N_2 is non-appreciative


The James Edward Curtis Jr Education Foundation
JECJEF.NET
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I. Admin Determination *Appproved Ceremony Participant* II. Financing, *self*, III. Post-Ceremony Enhancement of Institute/Job Placement Rating, *Good*, IV. Post-Ceremony Memior *Archived/Published,*

01. Ceremony Assessment *a portion of the $200.00 cash paid for Academic Admin & Instruction, Resident Fee & Student Services*
02. Ceremony Contact, i.e. Emergencies *JAMES E CURTIS SR, resident of Arlington VA, Choctaw County AL, and/or PG County MD*
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10. Student Previous Employment, # (202) 718-7796
11. Student Schooling ABD, Economics, OSU 2002, PhD Candidate, OSU 2000.
12. Student Checklist for Graduating Curtis Jr (2019) describes 'The Doctoral Conferment Ceremony' with the Duties of the Dean's Office/DGS,

The Conferment Ceremony Committee of the Conferment Ceremony Candidate (optional) may include 3-5 (representatives) of the doctoral studies commitee,

I. _____ (1) THE DATE OF SATISFACTORY DOCTORAL STUDIES, (2) THE DOCUMENT, FROM IIII.5.2-5.3, (3) THE NAME OF THE INDIVIDUAL, (4) SCHOOLING (NAME) OF THE INDIVIDUAL.

ii. _____ (1) .... / ..../ .... (2) .... (3) .... (4) ....

iii. _____ (1) .... / ..../ .... (2) .... (3) .... (4) ....

iv. _____ (1) .... / ..../ .... (2) .... (3) .... (4) ....

V. _____ (1) .... / ..../ .... (2) .... (3) .... (4) ....

Vi. _____ (1) .... / ..../ .... (2) .... (3) .... (4) ....

(1.00) The Conferment Ceremony is a degree conferment celebration for those who have received PhDs

I.00. (The administration, 1. a representative of the Dean, 2. a representative of the DGS, of the program Institute/University)

I.10. _____ (contact 1. a representative of the Dean, 2. a representative of the DGS, 3. Office of Ceremonies, (4.The Office of the Ordination, or 5. The Office of the President)

I.20. 'Honorary degrees recognize those who have made profound and enduring contributions to scholarship, culture, and improved quality of life in society at large.

I.30. Achievements of national or international significance deserve priority consideration. It is important that recipients be persons of great integrity.

1.40. the choices (made) reflect our values as an institution.

1.50. There are some necessary restrictions to be considered

1.51._____ In accordance..., "No degree shall ever be conferred in consideration of the payment of money or the giving of property of whatsoever kind." RCW 28B.20.130

I.52. _____ Declared candidates running for public office are not appropriate nominees for honorary degrees.

I.53. _____ Honorary degrees may not be conferred in *absentia* .'

II. 'Titles of degrees (and color of graduation hood) available for conferral' (Ceremony2019, 2020, 2021).

II.10.a. _____ Honorary Doctorate of Divinity, H.D.D. II.10.b. _____ Scarlet White, Hood

II.20.a. _____ Honorary Doctorate of Education, H.E.D. II.20.b. _____ Blue White, Hood

II.30.a. _____ Honorary Doctor of Laws , D.L. II.30.b. _____ .... Hood

II.40.a. _____ Honorary Doctorate of Philosophy, H.Ph.D. II.40.b. _____ Blue, White Yellow, Hood

II.50.a. _____ Honorary Doctorate of Philosophy, H.Ph.D.RS. II.50.b. _____ Blue Red White Yellow, Hood

III. Process for nominations

III.10. _____ 'Nominations for candidates may come from a variety of sources

III.20. _____ submitted (to 1. a representative of the Dean , 2. a representative of the DGS, 3. Office of Ceremonies, (4.The Office of the Ordination, or 5. The Office of the President)

III.30. _____ (optional) Consultation with respective college councils or departmental faculties *is recommended* .

III.40. _____ (optional) Nominations *should* be submitted ... at least *5 months* in advance of the ... registration for the confernment ceremony, I.e. commencement.

III.51. _____ give a brief summary of the individual's accomplishments and ... additional material in support of a nomination'

III.52. _____ i.e. _____ 01. Admissions Application/Certificate of Graduation, _____(Application for) rare Employment (opportunity)/evidence of accomplishment as an Entrepreneur,

III.53. _____ i.e. _____ 03. c.v./ resume, _____ 04.oral/written dissertation proposal/defense, 05.1 _____ publication, working paper, _____ 06.5 recommendation,_____ 07 transcript,

a brief biography of the person

IV. Review, selection and notification

IV.1. _____ the (certificate printer), hereinafter, the Board of Regents, will provide the certificate to the degree recipient, a representative of the confernment ceremony & VP/President.

(1.1 The Conferment Ceremony) is held twice every year

(1.123) _____ the Winter Conferment Ceremony (is usually) in late January

(1.1235)_____ the Spring Conferment Ceremony (is usually) in late.May.

(1.20) _____ ... residents recognize the day... in the morning and during the Conferment Ceremony.

(1.3) The first Conferment Ceremony at Uppsala University was held in the year 1600.

(1.4) At the ... ceremony, the new PhDs receive their symbols of honour

(1.51) _____ a (cap), (1.52) _____ gown, (1.53) _____ hood, (1.54) _____ tassel, and (1.55) _____ the degree

(2.00) The festivities continue into the evening, with a banquet ...

(2.1) ... people usually take part in the ... Banquet − the new PhDs, jubilee doctors, and honorary doctors ...., invited honorary guests, ...

(2.2) Upcoming conferment ceremonies:

(2.31) _____ 5 January 2018, (2.32) _____ September 2018

(2.33) _____ 1 January 2019, (2.34) _____ August 2019

(2.35) _____ January 2020, (2.36) _____ May 2020

(2.37) _____ 29 January 2021, (2.38)_____ 28 May 2021

(3.00) REGISTRATION FOR THE CONFERMENT CEREMONY

(3.10) _____ Have you defended your thesis...?

(3.12) _____ Have you satisfactorily completed all course work and other equivalent requirements for a doctoral degree?

(3.25) _____ Do you want to get your degree conferred upon you during the University's stately Conferment Ceremony?

(3.35) _____ The registration for the Spring Conferment Ceremony opens on 1 March and closes on 1 April.

(3.45) _____ (The registration) For the Winter Conferment Ceremony the registration opens on 1 October and closes on 1 November.

(4.00) VOCABULARY, BRIEF CONFERMENT CEREMONY

i. Absens meaning absent. Some jubilee doctors are unable to take part in the Conferment Ceremony but are ... celebrated in their absence.

ii. ... conferment language is either (English) Swedish or Latin, as the promoter chooses.

iii. Conferment resister is ...a PhD recipient...(does not) take part in the... Ceremony...not included in the program. ... voluntariy.

iv... a (written) confirmation of the rights accruing to those ...awarded their PhD degrees, ... with ... colors of the relevant faculty.

v. Doctor on the basis of completed examinations ... is the gist of the official Swedish term for ... Latin doctor ... iuvenis, pl doctores iuvenes,

vi. Doctoral hat symbolises freedom but also power. It is black ... .

The theology hat (is often different).

The other faculties feature a gold (I.e trim), encasing the (color of the) faculty symbol...is given out at the ...Ceremony ..

vii. Honorary doctorate... doctorate honoris causa is a distinction...(bestowed) upon individuals (incorporated) in...the...research (network).

viii. Jubilee doctor a title earned by individuals who received...(a) doctoral degree...earlier...The 1st jubilee doctors were awarded...in 1804.

Ix. Laurel wreath. (and/or the hood) The wreath (hood) is bestowed by the promoters (administrator) at the 'philosophical' faculties.

x. The podium (i.e. stage)...symbolises the sacred mountain (of) Greek gods ...impression (of) endowed with right(s) (of) academic teacher

xi. Promotor (i.e. appointee of The Office of the Ordination, The Office of the President) is the...person conferring the doctoral degree.

xii. Promovendus/a the Latin term used in Swedish for ... 'promoted', as it is termed in Swedish, that is, to have a doctoral degree conferred

xiii. promotus/a is the term used for the person after the degree has been conferred, pl promoti.

xiv. Ringing of the bell (and/or choir, musical perfeformance)... for ten minutes on Conferment days (twice a year).

xv. university press is a system of higher education correspondence, including _____ i. afministtrative applications & announcements, ______ ii. archiving, book publications, _____ iii. conference attendance, hosting, volunteering, ______ iv.. editorial boards,, EFPPS reseach journal publication, reviewers, _____v. Internet hosting, distant learning,

_____ vi. educator materials, _____ vii. prizes, i.e. JECJEF NOBEL PRIZE _____1. Advocacy _____ 2. Charity _____ 3. Economy _____ 4. Music _____5. Religion, & _____ Who's Who,

_____ viii. Post-Ceremony list of degree recipients. and Post Doctoral Fellows.

(5.49) |WARDROBE| ATTIRE

(5.491)Conferment Act

(5.492) _____ Promovendi (those to receive degrees) ... Formal attire, ... with ... tie and ... vest ....

(5.493) _____ If a national/folk costume is worn, it must be of the formal variety.

(5.494) _____ Guests and spectators Participants in the procession wear formal attire

(5.495) _____For spectators not participating in the procession there is no dress code.

(5.497) _____ Banquet Formal attire for all

(6.) Contact the University, igri@jecjefuniversity.org.

(6.5719) _____ Find researchers & staff (opportunities that enhance the impression of the institute)

(6.7) After-Care from The Office of the President, i.e. Alumni Affairs.

This is an annual description, guided by (2.2), (2.31)-(2.38), (3.35), (3.45), of your status, I. Address Info , II. Title(s), & III. University Institute support needed and/or provided.

VI.51. _____ I.e. a letter on personal stationary, newsletter article, or statement of business, household or personal condition, or

VI.52. _____ i.e. _____ 01. Admissions Application/Certificate of Graduation, _____(Application for) rare Employment (opportunity)/evidence of accomplishment as an Entrepreneur,

VII.53. _____ i.e. _____ 03. c.v./ resume, _____ 04.oral/written dissertation proposal/defense, 05.1 _____ publication, working paper, _____ 06.5 recommendation,_____ 07 transcript,

I. Admin Determination *Appproved Ceremony Participant* II. Financing, *self*, III. Post-Ceremony Enhancement of Institute/Job Placement Rating, *Good*, IV. Post-Ceremony Memior *Archived/Published,*

01. Ceremony Assessment *a portion of the $200.00 cash paid for Academic Admin & Instruction, Resident Fee & Student Services*
02. Ceremony Contact, i.e. Emergencies *JAMES E CURTIS SR, resident of Arlington VA, Choctaw County AL, and/or PG County MD*
03. Student Applicant Name JIMMY JAMES E CURTIS JR
04. Student Applicant Program(s) Masters Programs, Doctoral Programs
05. Student Date of Birth February 14, 1973
06. Student E-mail Address jamesjr@jecjef.net
07. Student E-mail Address, Alt. james214197@gmail.com
08. Student Previous Address 3321 GA Ave NW 3126, Washington DC 20010
09. Student Previous Employment PRA, Education Foundation, (202) 739-1962
10. Student Previous Employment, # (202) 718-7796
11. Student Schooling ABD, Economics, OSU 2002, PhD Candidate, OSU 2000.
12. Student Checklist for Graduating (continued from 1 OF 2)

Curtis Jr (2019) describes 'The Doctoral Conferment Ceremony' with the Duties of the Dean's Office/DGS,

(1.00) The Conferment Ceremony is a degree conferment celebration for those who have received PhDs,

I. Academic class work	Candidacy transferred/transcript transcription complete
Academic class work, GPA	Candidacy transferred/transcript transcription complete
Advisor	Candidacy transferred/external-JCH
Advisor, evidence of advising,	Candidacy transferred/external-comments from JCH
Committee, oral proposal	Candidacy transferred/transcript transcription
Committee, written proposal	Candidacy transferred/comments received, optional
Dissertation, oral presentation,	Candidacy transferred/seminar presentation proxy
Dissertation, written presentation	Candidacy transferred/2003 Dissertation draft composed
Education Foundation fee payment	paid in full/$200.00 cash paid at time of application
Industry competitiveness	strong
Industry competitiveness, evidence	2 top 25 grad program admissions w/ no diverse history
Job Market Paper	Candidacy transferred/externally distributed
Job Market Presentations, optional	Candidacy transferred/Research I interview offers received
Job Placement, optional	selected/selection accepted for grad religious studies
PhD certificate, optional	schedule postponed
PhD certificate presented, optional	schedule postponed
Recommendation	JEC recommendation on file
Recommendation, industry, optional	
Writings archive	briefcase, compact discs, floppy disks, hard drives, online
Writings archive, conferences	Austin, Denver, DC, Chicago, Columbus, San Francisco
Writings archive, published, optional	contributions to FDIC books, Dept of Research and Statistics
Writings archive, storage	electronic paper versions/printed paper versions out of place

13. Student Supplementary Credentials I. Education Information of James E Curtis Jr

2000.................................... Dissertation, committee proposal, oral, Department of Economics, OSU
2000.................................... Dissertation, committee proposal, written, Department of Economics, OSU
2001.................................... Dissertation, oral defense, proxy, Department of Economics, OSU
2002.................................... Dissertation, written defense, Department of Economics, OSU

Employment Information of James E Curtis Jr

1991.................................... Laws & Economics Intern, USA, General Services Administration, WDC
1992-1996........................ Finance Intern, summer, COMSAT, Bethesda, MD
1996-1997........................ Economist Assistant, USA, FDIC, WDC
1998-2001.......................... Macroeconomics/Microeconomics, Money & Banking, TA, D Economics, OSU
1999.................................... Economics Intern, Economic Development Division, ODOD, Columbus, OH
2000-2001.......................... Applied Econometrics Instructor, Economics, OWU, Delaware, OH
2000-2001.......................... Tutor, Department of Economics, OSU
2000-2001.......................... Tutor, M.BA. Education, School of Business, OSU
2000.................................... Grad Studies Committee Member, faculty/elected grad student, Economics, OSU
2000-2002.......................... Grant Recipient, Journal of Money Banking & Credit, OSU
2000-2002........................ Grant Recipient & Research Supervisor, Department of Economics OSU
2000-2002........................ Grant Recipient & Research Supervisor, Dissertation Grant, USA, NSF
2001.................................... Graduate Foundations in Economics Instructor, Executive Education, OSU
2001.................................... Intermediate Microeconomics Instructor, Department of Economics, OSU
2002.................................... Econometrics TA, Econometrics, Economics, University of Colorado, Denver, CO
2002.................................... Fundamentals of Graduate Econometrics, GTA, AEA Summer Program

Employment Fields of Study and Research Fields of Competencies, Exams, Completed by James E Curtis Jr

Economic History, 1999, Ph.D. pass of field exam, faculty, Department of Economics, OSU
Economic Theory, Macroeconomics, 1998 M.A./Ph.D. pass of qualifier exam, faculty, Department of Economics, OSU
Economic Theory, Microeconomics, 1998 M.A. pass of qualifier exam, faculty, Department of Economics, OSU
Economic Theory, Microeconomics, 1999 Ph.D. pass of qualifier exam, faculty, Department of Economics, OSU
Macroeconomics/Monetary Economics, 1999 Ph.D. pass of field exam, faculty, Department of Economics, OSU
Applied Econometrics, 2001, approved by Steven Cosslett, Ph.D., Econometrics faculty, Department of Economics
Applied Labor Economics, 2001, approved by John C Ham, Ph.D., Labor Economics faculty, Department of Economics
Economics Education, 1998-2000 undergraduate education, approved by Belton Fleisher, Ph.D., Economics
Economics Education, 2001 M.BA. education, approved by Ken Brevoort, Ph.D. & admin, Executive Education, OSU
Economics Education, 2002 graduate education, approved by Charles Becker, Ph.D., Ken Brevoort, Ph.D., Economics

CHAPTER 3. Economic History & Labor, 1850-1870

Dr. James Curtis Jr. PhD
Director & Senior Fellow, Internet Graduate Research Institute

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Leon Litwack (1961) and Ira Berlin (1974) provide the most comprehensive historical accounts of free blacks in the north and south, respectively. This paper attempts to build upon their successes by presenting a national study that combines the legal, demographic and economic experiences of free blacks, with an extended analysis of antebellum wealth inequality. In doing so, I propose the asymmetry hypothesis, which is an investigation of the link between the social conditions and economic outcomes of free blacks relative to whites. For the empirical portion of the study, I employ cross -sectional variables from the IPUMS samples. This paper finds that economic differences between free blacks and whites were intertwined with asymmetrical social constraints. While the legal and social status of free blacks was significantly better than slaves, their status did not equal that of whites. Yet free blacks did attempt to overcome the social conditions by structuring their households to provide a basic foundation for *the pursuit of happiness* .

Key words: Constitution, government, free blacks, wealth inequality, economic discrimination, discrimination theory.

JEL Codes: H5 H7 C44 N4 N3 J7 B15 D31 D91 E21 H54 H73 I2 I3 J15 J18 J31 J71 K00 N11 N31 N41 N47 P16 Q10 R23 Z10

* James Curtis Jr is also the President of The James Edward Curtis Jr Education Foundation (JECJEF) and Director of The Office of Postdoctoral Research, PO Box 3126, Washington, District of Columbia 20010; Call (202) 739-1962; Email Director.IGRI@gmail.com, or jamesjr@jecjef.net .This paper is a revision of **Institutional and Agency Effects on the Status of Free Blacks:** Synthesizing Asymmetrical Laws and Social Conditions with Asymmetrical Economic Outcomes, Economic History and Labor", published 2018, 2019 IJHSSR.

This research was funded in part by the National Science Foundation under Grant SES 0096414. I would like to thank John Ham, Richard Steckel, Randall Olson, and Bruce Weinberg for their insightful comments. I would also like to thank participants in workshops and seminars at the Ohio State University in Columbus, OH, Howard University in Washington, DC, University of Michigan in Ann Arbor, MI, American Economic Association Pipeline Conference in Austin, TX, Western Economic Association International Meetings in San Francisco, CA, and the Social Science History Association meetings in Chicago, IL. Additionally, I would like to thank the department of economics at the Ohio State University for their generous financial support.

THE ECONOMIC ANALYSIS OF THE CONDITION OF FREE BLACKS IN THE UNITED STATES OF AMERICA COMPARED TO EX-SLAVES AND WHITE AMERICANS IN THE MID 19TH CENTURY

Several anecdotal studies on free blacks in the labor market show that the poor legal and social conditions made it difficult for free blacks to be economically competitive. For instance, free blacks had to compete with slaves, whites and immigrants for employment.

> "The preference of employers for white or slave labor forced free Negroes to underbid whites and work on the same terms as slaves. By accepting lower wages and longer hours, many free Negroes found employment, but they aroused the ire of white workingmen, who complained that free Negroes depressed their standard of living" (Berlin, p.229). Immigration put free Negroes in the same position: "The influx of Irish and German workers…speeded the exclusion of Negro freeman from many occupations. The competition free Negro workers faced from newly arrived immigrants in Baltimore was a typical example of how white immigrants limited the free Negro's opportunities" (p.231).

They tended to earn wages and income that were much less than whites. One local study shows that: "Racial prejudice relegated many free Negro workers to the meanest drudgery at the lowest pay…Even at these low levels of employment, free Negroes were often paid less than whites. The standard wage for day laborers in the Norfolk shipyards (for example) was one dollar, but free Negro workers rarely earned more than seventy-five cents a day" (Berlin, p.227).

But studying racial differences in factor market supply decisions and prices, as reflected in the literature on labor supply, wages and income, presents only a subset of the factors that determine the accumulation and storage of assets over the lifetime of black and white households. Therefore, this study will focus on differences in wealth between blacks and whites in the middle of the 19th Century.

Related Studies: A Review of the Literature on the Study of Free Blacks

The source of antebellum free black-white wealth differences has not studied. Researchers (e.g., Bodenhorn (1999), Eggert (1997), Hershberg (1997), Berlin (1974), Litwack (1961), Jackson (1939), and DuBois (1899)) and Philadelphia abolitionist society studies in 1849 and 1838 attempted to address free black-white wealth differences often using a piece-mill approach. Foremost, Leon Litwack (1961) and Ira Berlin (1979) provided a historical account for experience of northern and southern free blacks, respectively. After surveying past research efforts, compiling county records and compiling census manuscripts, Berlin found that free blacks in several states possessed more property over time. But these results are obscured by the aggregate measures of wealth. For instance, he found that the aggregate wealth of free blacks living in fifteen counties in Georgia nearly doubled between 1850 and 1860. But we do not know why their wealth increased because correlations with explanatory variables were not calculated.

Luther Jackson (1939) also analyzed the property and real estate wealth of free blacks in the South. He used tax books, deeds, orders, legislative petitions, agricultural manuscripts and census manuscripts from Virginia to show that the amount of property held by free blacks in 1830 tripled by 1860. Even though Jackson provided a brief statistical analysis, the inference of his study is limited to Virginia and he did not employ methods to explain what drove his observations.

Bodenhorn (1999a) used 1860 US census data to analyze southern wealth differences among darker and lighter free blacks. Based on censored quantile regression results using data from Maryland, Virginia, North Carolina, Kentucky and Louisiana, mulattos had wealth advantage to darker free blacks. Similarly, Bodenhorn (1999b) employs data stature of darker and lighter free blacks. He also found that mulattos had an advantage to darker free blacks when analyzing stature data from Virginia. While Bodenhorn did employed modern statistical analyses, inference from this study is limited to several states.

Some research has also been conducted on free black wealth in localities within Pennsylvania. Gerald Eggert (1997) linked US Census records of blacks in Harrisburg, Pennsylvania from 1850-60 to estimate property values of free blacks. He found stagnant wealth among a large percentage of the population but growth among those who did not migrate. However, his study did not compare results to migrants and was limited to one locality. Theodore Hershberg (1997) employed abolition society data on the socioeconomic conditions of free blacks in Philadelphia to show that real and personal wealth fell ten percent between 1838 and 1847.

Similarly, W. E. B. Dubois (1899) used these records and tax receipts to show that free blacks in Philadelphia often held less property than whites. However, Hershberg and Dubois do not use the analytical tools needed to fully explain their results. Their studies lack a full description of the data collection procedures in their research. To analyze the link between these social conditions and economic outcomes of free blacks, I employ wealth and cross-sectional variables from the 1850, 1860 and 1870 Integrated Public Use Microdata Samples (IPUMS).

Descriptive Statistics: An Analysis of the IPUMS Data Employed for the Study of the Economic Condition of Free Blacks in United States of America, Compared to Ex-slaves and White Americans

This study uses data from the Integrated Public Use Microdata Sample (IPUMS). IPUMS data are based on national representative samples and supplemental over-samples of minorities from the population schedules of the US census manuscripts. The US conducted its first census in 1790 and its first modern census in 1850. By 1850, the census had improved such that we can now investigate the past with new insights. Modern census data is a rich set of cross-sectional, individual-level data on American families and individuals.

> Magnuson (1995a) and Steckel (1991) recommend that researchers pay careful attention to enumeration the procedures before investigating this data. Magnuson reports that the U.S. Census is not a “pure reflection of general societal trends”(p. 11). The census is composed of questions, which have and have not persisted over time. Between 1790 and 1840, the unit of enumeration was the household, based on given set of characteristics, i.e. Colored-Male-Over Age 16. The 1850 U.S. Census was considered the first modern Census when the unit was changed to the individual. Magnuson also noted that a proposed slave schedule would have collected extensive information on the ancestors of modern-day African Americas. In 1840, Congress formed the Census Board that unsuccessfully recommended a slave schedule for the 1850 U.S. Census--which would have included the names of slaves, birthplace of slaves and number of children (Magnuson 1995a, p.19).

> Steckel reminds us that the original purpose of the US census was for taxa tion and US House of Representatives appropriations. However, a “growing desire for statistical information, curiosity about society, and heightened interest in international and regional comparisons led to expanded collection by the federal census” (Steckel 1991, pp.582-83). Steckel suggested that the likelihood of error increases as early census data is more disaggregated. He noted that under-enumeration, over-enumeration and misreporting are errors that affect the quality of census data and led to the creation of the Census Bureau. Some of these errors may be attributed to the poor training of early enumerators and lower quality of early census administration. He found that larger households, lower-educated persons and persons with poor English-language skills tended to be omitted from the census. Steckel (1991) provided several examples of underenumeration in census data collected on blacks. He recommended using census comparisons, census matching, and consistency checks to evaluate errors and improve the quality of samples from the early census.

This study analyzes US census samples from the 1850-70. These census manuscripts contain responses to important socioeconomic inquiries including age, sex, color, marriage status, literacy, whether the individual attended school during the year, occupation, state or country of birth, value of real estate, and value of personal estate (1860 and 1870 only).

> Real estate value was enumerated based on guidelines specified in the Circular to Marshals. It specified that "under heading 8 insert the value of real estate owned by each individual enumerated. You are to obtain the value of real estate by inquiry of each individual who was supposed to own real estate, be the same located where it may, and insert the amount in dollars. No abatement of the value is to be made on account of any lien or encumbrance thereon in the nature of debt" (Magnuson 1995b, p347) Personal estate value was also enumerated based on guidelines that specified "Personal estate is to be inclusive of all bonds, stocks, mortgages, notes, live stock, plate, jewels, or furniture, but exclusive of wearing apparel" (p.349)

Economists have conducted an extensive amount of research based on national samples from the early US census manuscripts (see e.g. Ferrie 1999, 1994; Steckel 1990; Becker and Tomes 1986 and Soltow 1975, 1972). The sample studied in this paper was restricted to heads of households. Investigating the wealth from a random sample of household heads is more productive than investigating a random sample of individuals. Wealth is often used to purchase durable goods and durables are more likely to benefit the entire household rather than one individual in a household. Furthermore, census enumerators tended to sum up the wealth of a household and report it under the head of household. The final sample includes a 1-in-100 random sample from the 1850-70 censes and supplemental samples of 1-in-50 blacks in 1860 and 1870. The racial breakdown of the pooled sample is 21,416 blacks and 154,569 whites.

> Prior to 1865, blacks were not only stratified by skin color--black and mulatto--but they also functioned based on heterogeneous legal rights. Blacks were either bounded in slavery or free, contingent on appropriate documentation. The 1850 and 1860 IPUMS samples only include free blacks. As reported earlier, no detailed individual-level data is available on slaves. Thus, averages of wealth and property holding in the descriptive statistics were weighted based on (*i*) the size of the free black population relative to slave population in 1850 and 1860 and (*ii*) the assumption that slaves had no personal and real estate. Blacks were 15.7 percent of the US population in 1850 and 14.2 percent of the population in 1860 (Cramer 1997). But free blacks represented 11.9 percent and 11.0 percent of the black population, respectively. The unweighted averages in 1850 and 1860

represent the experience of (*i*) the average free black and (*ii*) the average black if slaves were freed earlier.

The decade before the Civil War was a ripe environment for economic prosperity. Thomas Weiss (1992) found that Gross Domestic Product (GDP) grew by 1.96 percent between 1850 and 1860--higher than any other decade in the pre-war era. He suggested that although perishable output and shelter were the primary components of the gain, residual output also increased significantly. The residual was "the portion of output beyond apparent basic necessities…this was the output needed for industrialization, and of course provided as well the discretionary items that are the fruits of economic progress. In this light, Americans were advancing in style" (Gallman, p.30).

Macroeconomic Factors Impacting the Experience of Free Blacks in the United States of America

The decade immediately before the Civil War was a ripe environment for economic prosperity among free blacks.

"The industrial revolution in the United States was well underway by the 1850's but the end points of the time period were not marked by unusual prosperity or depression. Gold discoveries and growing agricultural exports to Europe contributed to economic growth from the late 1840's to the middle of the decade. The upswinght was halted by the Panic of 1857, a financial convolution from which recovery was substantially complete by 1860" (Steckel 1990, p.374).

After making state-level adjustments to agricultural labor force, Weiss (1992) found the growth of Gross Domestic Product (GDP) was higher in the decade before the Civil War than any other decade in the period. Table 7b shows that perishable output and shelter were the primary components of the gain. But the residual increased significantly. The residual was "the portion output beyond apparent basic necessities…this was the output needed for industrialization, and of course provided as well the discretionary items that are the fruits of economic progress. In this light, Americans were advancing in style" (Galman, p.30).

Table 7a. Average Annualized Rates of Growth of Per Capita Gross Domestic Product and Components (1840 Prices)

Decade	Growth in GDP	Perishable Output	Non-Perishable Output			
			Shelter	Home Manufacturing	Farm Improvements	Residual
1800-10	0.52	0.24	0.53	-0.03	1.80	1.16
1810-20	0.27	0.00	0.83	-0.01	-0.63	0.85
1820-30	0.72	0.23	2.16	-0.16	-1.01	1.65
1830-40	1.15	0.22	2.20	-0.46	-0.70	2.74
1840-50	0.93	0.44	-0.75	0.42	0.81	2.02
1850-60	1.96	1.58	0.96	-0.41	-2.12	3.10

Source: Information collected and compiled by James Curtis Jr (2002) from Gallman (p. 31)

The Descriptive Statistics of the IPUMS Data Employed to Study Free Blacks in the United States of America

Tables 7b-1, 7c-2 and 7d-3 describe the means of the variables in the IPUMS sample:

Table 7b-1. The Sample Means of the IPUMS Data, 1850 through 1870

Wealth Ratio (to Whites)											
Personal Estate			0.148	(0.016)	0.048					0.97	0.79
Real Estate	0.128	(0.015)	0.140	(0.015)	0.029				0.98	0.97	0.79
Total Estate			0.143	(0.016)	0.035					0.97	0.79
Price-Adjusted Personal Estate			0.143	(0.016)	0.046					0.97	0.79
Price-Adjusted Real Estate	0.127	(0.015)	0.139	(0.015)	0.029				0.98	0.97	0.79
Price-Adjusted Total Estate			0.141	(0.015)	0.034					0.97	0.79
Personal Estate > 0			0.679	(0.075)	0.300					0.99	0.85
Real Estate > 0	0.366	(0.043)	0.440	(0.048)	0.122				0.99	0.98	0.81
Total Estate > 0			0.698	(0.077)	0.310					0.99	0.85
Farm ownership	0.225	(0.027)	0.267	(0.029)	0.473				0.98	0.98	0.88
Race Variables											
Black	1.000		1.000		1.000	-	-	-	0.022	0.032	0.217
Black	0.677		0.635		0.881	-	-	-	0.015	0.020	0.191
Mulatto	0.323		0.365		0.119	-	-	-	0.007	0.012	0.026
White	-		-		-	1.000	1.000	1.000	0.978	0.966	0.781
Other	-		-		-	-	-	-	-	0.002	0.002
Chinese	-		-		-	-	-	-	-	0.001	0.001
Indian	-		-		-	-	-	-	-	0.001	0.001
Schooling Variables											
Literacy	0.527		0.583		0.146	0.903	0.913	0.885	0.895	0.902	0.724
Occupation Variables											
Labor Force Participation	0.656		0.823		0.890	0.873	0.910	0.887	0.868	0.907	0.888
Unskilled	0.371		0.509		0.705	0.100	0.146	0.230	0.106	0.158	0.333
Skilled	0.166		0.191		0.071	0.218	0.233	0.227	0.217	0.232	0.193
White-Collar	0.018		0.019		0.009	0.085	0.107	0.119	0.083	0.104	0.095
Farmer	0.107		0.112		0.187	0.475	0.431	0.395	0.467	0.420	0.349
Student or Retired	-		0.001		0.000	0.000	0.002	0.009	0.000	0.002	0.007
Other	0.338		0.167		0.027	0.122	0.082	0.020	0.127	0.085	0.022

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Table 7b-2. The Sample Means of the IPUMS Data, 1850 through 1870

Slave state	0.528	0.525	0.908	0.286	0.255	0.249	0.291	0.263	0.391
Northeast	0.054	0.050	0.006	0.145	0.121	0.106	0.143	0.118	0.084
Mid-Atlantic	0.304	0.253	0.033	0.293	0.276	0.252	0.293	0.275	0.204
Midwest	0.113	0.153	0.052	0.263	0.320	0.361	0.260	0.314	0.294
Southeast	0.493	0.474	0.747	0.256	0.215	0.208	0.261	0.223	0.324
Southwest	0.035	0.050	0.161	0.031	0.040	0.041	0.031	0.040	0.067
West	0.001	0.019	0.002	0.012	0.028	0.032	0.012	0.030	0.027
Moved to Northeast	0.023	0.023	0.003	0.023	0.029	0.031	0.023	0.029	0.025
Moved to Mid-Atlantic	0.097	0.079	0.012	0.106	0.117	0.109	0.106	0.116	0.088
Moved to Midwest	0.102	0.118	0.037	0.210	0.244	0.251	0.208	0.239	0.204
Moved to Southwest	0.010	0.013	0.102	0.026	0.033	0.033	0.026	0.033	0.048
Moved to Southeast	0.006	0.006	0.006	0.025	0.026	0.027	0.025	0.025	0.023
Moved to West	0.001	0.016	0.002	0.009	0.025	0.029	0.009	0.025	0.024
Stayed in Northeast	0.031	0.028	0.003	0.123	0.092	0.075	0.121	0.089	0.059
Stayed in Mid-Atlantic	0.207	0.174	0.021	0.187	0.158	0.144	0.188	0.158	0.117
Stayed in Midwest	0.010	0.035	0.015	0.053	0.076	0.110	0.052	0.075	0.090
Stayed in Southwest	0.025	0.038	0.058	0.005	0.006	0.008	0.005	0.007	0.019
Stayed in Southeast	0.486	0.469	0.741	0.230	0.190	0.180	0.236	0.198	0.302
Stayed in West	-	0.002	0.000	0.004	0.004	0.003	0.004	0.005	0.003

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Table 7b-3. The Sample Means of the IPUMS Data, 1850 through 1870

Race:	Free Blacks			Whites			Overall		
Year:	1850	1860	1870	1850	1860	1870	1850	1860	1870
Region Variables (continued)									
Migrated to a different state	0.340	0.343	0.359	0.545	0.594	0.597	0.540	0.586	0.546
Migrated to a different region	0.241	0.255	0.162	0.398	0.474	0.479	0.395	0.467	0.411
Born in Northeast	0.035	0.038	0.004	0.174	0.134	0.108	0.171	0.130	0.085
Born in Mid-Atlantic	0.225	0.197	0.024	0.266	0.242	0.223	0.265	0.240	0.179
Birn in Midwest	0.012	0.037	0.020	0.058	0.084	0.120	0.057	0.083	0.099
Born in Southeast	0.682	0.669	0.886	0.325	0.274	0.254	0.333	0.286	0.391
Born in Southwest	0.026	0.041	0.063	0.005	0.007	0.009	0.006	0.008	0.021
Born in West	-	0.002	0.000	0.004	0.004	0.003	0.004	0.005	0.003
Born in other US Territory	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.000
Born in foreign country	0.019	0.015	0.002	0.168	0.256	0.282	0.165	0.248	0.222
Price Index									
Regional Price Index	88.45	93.53	158.32	90.15	97.46	149.86	90.11	97.34	151.69
Number of Observations	773	1,703	18,940	34,671	51,776	68,122	35,444	53,594	87,227

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Five years after emancipation, blacks made gains in the total wealth. Total wealth includes the value of personal and other wealth. The value of southern total estate was inflated by the value of slaves. Slave owners included the value of slaves in their personal estate.

On average, the value of black total wealth, adjusted by regional prices, was $124 in 1870 while whites held $3,548 in total estate. Total estate wealth grew by 47 percent between 1860 and 1870 among blacks while white total estate wealth fell 33 percent between 1860 and 1870. See the empirical results section for a complete discussion of black-white wealth differences.

Black-white differences in schooling and employment were also quite large in 1870. 14.6 percent of the black population was literate while 88.5 percent of the white population could read and write. While 89 percent of both, blacks and whites, were employed, occupation concentrations were different. In 1870, 70.5 percent of blacks had unskilled jobs, compared to 23 percent of whites. In contrast, 18.8 percent of blacks were either white-collar workers or farmers, compared to 53.8 percent of whites.

> White occupational concentrations changed quite dramatically between 1850 and 1870. The portion of white unskilled workers grew 46.2 percent between 1850 and 1860 and 57.3 percent between 1860 and 1870 while the portion of white-collar worker grew less dramatically during this period. The portion of white-collar workers grew 25.8 percent between 1850 and 1860 and 12.1 percent between 1860 and 1870. Simultaneously, the portion of white farmers fell 9.3 percent between 1850 and 1860 and 8.4 percent between 1860 and 1870. Naturally, this coincided with a continual decline in farm ownership among whites over the twenty-year period.

Blacks and whites were also different demographically in 1870. 18 percent of black households had female heads while only10.7 percent of white households had female heads. Similarly, only 71.6 percent of black household heads were married while 81.8 percent of white household heads were married. White households also had more residents, including children. Furthermore, the average age of the white household head, youngest child and oldest child is older than the average ages of the black household head, youngest child and oldest child, respectively. White demographics gradually changed over the twenty-year period. The number of persons in a household, number households with children and number of children all fell. Simultaneously, the number of white male and white married household heads fell. Among free blacks, the proportion that was male and married also fell between 1850 and 1860.

Regional differences were also quite large in 1870. The only dramatic regional differences among whites prior to 1870 were changes in the western and foreign-born population. 12 percent of whites lived in west in 1850. This portion of the population grew by 129 percent between 1850 and 1860 and 12 percent between 1860 and 1870. Additionally, Joseph Ferrie reports that the portion of white foreign-born population grew by 52 percent between 1850 and 1860 and 10 percent between 1860 and 1870 (1999). 1850 and 1860 free blacks were regionally different than whites and all blacks in 1870. Only one-in-two free blacks lived in slave states, with the remaining plurality living in the Mid-Atlantic. More than one-in-three free blacks lived in urban areas between 1850 and 1860—significantly larger than whites and all blacks in 1870. One-in-three free blacks were also born outside of the southeast region in 1850 and 1860. Furthermore, 34 percent of free blacks migrated to a different state in 1850 and 1860 and over seventy percent of these migrants migrated to a new region. Only one-in-four whites lived in former slave states while nine out of ten blacks lived in former slave states. As a result blacks were more likely to live in rural areas than blacks (86.3 percent of blacks to 71.8 percent of whites). This occurred because whites were more regionally mobile than blacks. 35.9 percent of blacks migrated from their birth state and 45 percent these migrants reside in a new region. However, 59.7 percent of whites migrated from their birth state and 80 percent of these migrants changed regions. The key regional difference may be that only 11.4 percent of blacks were born outside the Southeast while the largest birth segment among whites was foreign-born (28.2 percent). Joseph Ferrie conducts a thorough analysis of the immigrant experience during this period (1999).

Five years after emancipation, blacks, on average, held $71 in real estate wealth while whites held $2,437. These estimates are consistent with the estimates of Soltow (1972; 1975). Although Soltow (1972) only collected a sample of 393 non-whites in 1870, he found their average wealth was $73, compared to $2,661 among whites. Soltow (1975) found similar differences in free black and white wealth using a sample of 151 blacks. He conducted one of the first in-depth studies of mid-nineteenth century wealth accumulation patterns using the census population schedules. Note that these schedules were originally are stored on microfilms. He spun the microfilm half-turns to collect random, cross-sectional samples from 1850-1870. He found that average black wealth in 1870 was $74 while average white wealth in $2,691.

Given that blacks held only 2.9 percent of the average white real estate wealth in 1870--up from the 1.5 percent in 1850 and 1860, the fact that the growth of real estate wealth favored blacks over this time period may not be surprising. Among blacks, average real estate wealth, adjusted by regional prices, grew by 28 percent between 1850 and1860 and 33 percent between 1860 and 1870. Among whites, price adjusted real estate wealth also grew by 28 percent between 1850 and 1860 but fell by 25 percent between 1860 and 1870. This white wealth recession was primarily due to the losses incurred by the southern whites after the Civil War.

Property-holding patterns were similar to real estate wealth patterns. Only 6.7 percent of blacks in 1870 held property (or a positive value of real estate wealth) while 54.6 percent of whites held property in 1870. The growth in black property-holders outpaced the growth of black real estate wealth. Blacks property holders grew 17 percent between 1850 and 1860 and 148 percent between 1860 and 1870. Among whites, property holders grew by five percent between 1850 and 1860 and fell two percent between 1860 and 1870. Overall, the ratio of black to white property holders was 12.2 percent in 1870, up from 4.3 percent in 1850 and 4.8 percent in 1860.

Blacks made similar gains in the total estate. Total estate includes the value of personal estate and real estate. The value of southern total estate was inflated by the value of slaves. Slave owners included the value of slaves in their personal estate. On average, the value of black total estate wealth, adjusted by regional prices, was $124 in 1870 while whites held $3,548 in total estate. Total estate wealth grew by 47 percent between 1860 and 1870 among blacks while white total estate wealth fell 33 percent between 1860 and 1870. Black total estate holders (or blacks possessing a positive value of total estate wealth) grew by 265 percent to 23.5 percent in 1870 while white total estate holders fell by 9.6 percent to 75.8 percent in 1870. Overall, the ratio of black to white total estate wealth was 3.5 percent while the ratio of black to white total estate holders was 31 percent in 1870.

These descriptive statistics document the general improvements in the condition of the average black relative to the average white after the abolition of slavery.

Economic Theory: The Economic Expectations before Investigating Evidence in the Data

The Study of Wealth. Wealth is the accumulation of material resources that have market value for current or future consumption. Furthermore, savings, initial wealth and the compounded rate of return on the invested savings and initial wealth determine wealth. The following section describes universal and group-based expectations, based on economic theory, in the areas of economic growth (including wealth, property and savings), economic inequality, and comparative economic outcomes. Wealth, property, and measures of classical economic choice characteristic will be employed to measure outcomes, compared to expectations.

Economic Growth and the Parabolic Property Ownership Expectations. To analyze the relationship between age and property, I employ methods developed by Lee Soltow (1975). He expected the old to hold more property than the young : He found that plots of individuals holding property across age groups shows a "very rapid rise in the probability of ownership in the first 10 years of adulthood with a tapering affect appearing thereafter" (Soltow, p.28). He suggests that this concavity was affected by the income and savings decisions and distribution of the population.

Soltow used estimates of non-property-holders to develop a parabolic model of property holding over different age rages. This theoretical parabolic behavior is based on an assumption that proportion of non-property-holders is fixed across age groups. Soltow expects that 79.3 percent of thirty year-olds who did not hold property in their twenties will not hold property for the same reason as the 79.3 percent who did not hold property when they were in their twenties:

> "The .793 is a quantification of the importance of all those characteristics inhibiting ownership, such as lack of knowledge of available land or credit, inability to speak or write English or possibly read any other language, unwillingness to accept the obligations of ownership, inability to save because of low income or high consumption, legarthy because of sickness or poor health, and so on. If quantification of .79 were to operate for the group from age 30 to 39, one would expect the .793 of the property-less at age 30 to remain property-less. Thus, $1-(.793)^2$ would own property in the 30-39 group" (Soltow, 1972, p.30).

> "The strength of America's system, as seen by nineteenth century writer, was that an individual had the opportunity to improve his position over time. This opportunity meant that he was not placed in a fixed position in society. He might have had to work hard, but he could expect betterment in his wealth status. We can capture this phenomenon by studying the participation rate (proportion of men who held property) of peoples of different ages in a given year. Sure this rate, as measured by (real estate holding) or (total estate holding) must be higher for the

> old than for the young....If the majority of individuals in the economy are to experience betterment in economic position during their lifetimes, more and more should rise above the level of being poor, above some minimum wealth amount" (p.27).

Economic Growth and the Linear Growth in Wealth Expectations. To analyze the relationship between age and wealth, I employ additional methods that were first employed by Soltow (1975). He plotted age-wealth coordinates and expected a positive relationship: "Material betterment dominated the economic thinking men. Those with wealth expected to have more each year as they grew older; accumulation was a sign or index of recognition of an individual's past economic activities. Wealth mirrors the past better than income since the pleasures of past consumption may be forgotten. It is only saving from past income that is now reflected in one's wealth" (Soltow, 1975, p.69).

Soltow did, in fact, observe a linear relationship between estate values and age. The parabolic effect of age on property holding was not present when observing average wealth at different ages. "The group average rises strongly from 20-29 to 30-39 and then has its greatest thrust in going from 30-39 to the 40-49 group. The average tapers off but continues to rise rather surprisingly into old age. There is certainly no strong parabolic effect, as can be seen in...the proportion of men with property" (p.70). He also suggested that the stability of the 1850 pattern was "proof that the age patterns were established decades before the 1850 and the concepts of economic betterment must have been pervasive" (Soltow, 1975, pp.74-75).

Economic Growth and the Savings Rate Expectations. Finally, I use the method proposed by Soltow (1975) to analyze savings using wealth annualized at each age. Soltow used the differences in wealth at each age to observe the continuity of savings that continued through old ages.Furthermore, Soltow found the average annual savings rate was about 5 percent. This was obtained by [1] averaging the increase in wealth per age groups 20-69 or 90 percent of the adult male population {(582+804+311+303)/4 =500}, [2] annualizing the average increase per age group or decade {500/10=50}, and [3] dividing the average annual increase in wealth by the average wealth in 1850 {50/1001=.05}. Note that this finding of 5 percent is the average for individuals. Since households possess more wealth than individuals, this rate is expected to much be smaller in the forthcoming empirical analysis. "The difference between in wealth levels from one year to the next gives an index of saving for a year" (pp.71-72).

Classical Characteristic Premium Expectations.*Schooling.* Jacob Mincer (1974) described a direct relationship between schooling and earnings:

> “it is equally correct to say that the distribution of earnings is determined by the distribution of accumulated human capital and of rates of return to human capital investment or that the distribution of earnings is determined by the distribution of ability and opportunity. Or, putting it in a causal hierarchy, the distribution of accumulated human capital is a proximate determinant of the distribution of earnings, and is treated that way in

this study. In turn, ability and opportunity determine the distribution of human capital. (Mincer 1974, p.138)"

Skill. Classical economic theory suggests workers are paid their additions to production. This produces an expectation of higher wages for higher skilled workers and lower wages for lower skilled workers. Holding constant the intertemporal rate of return to saved wages, holding constant differences in initial wealth, and holding constant the number of working hours (see James Curtis Jr, December 2002), it is reasonable expect higher wealth among higher skilled employees.

<u>Convergence to Equality Expectations</u>. To measure economic inequality and compare differences in economic outcomes, I analyze differences in differences in mean wealth between blacks and whites, and property ownership between blacks and whites. The following ratios measure differences in wealth and differences in property ownership among two comparison groups to obtain comparative returns to classical characteristic choices. Foremost, the **comparative wealth ratio** is

$$[W_{X\,J\,T}/W_{X\,J'\,T}] \;/\; [W_{X'\,J\,T}/W_{X'\,J'\,T}]$$

where $W_{X\,J\,T}$ is the mean wealth of the members of group J who made investment X at time T.

The comparative wealth ratio ignores differences in wealth levels and measures the return to classical characteristic choices among groups. For instance, the ratio measures the schooling premium for blacks relative to the schooling premium for whites. If the ratio is less than one, then blacks with many years of schooling may have lower levels of wealth relative to whites with proportional years of schooling, and, thus, the returns to schooling among whites outpace the returns to schooling among blacks, in terms of wealth.

Similarly, the **comparative property ownership ratio** is

$$[\rho_{XJT}/\rho_{XJ'T}] \;/\; [\rho_{X'JT}/\rho_{X'J'T}]$$

where ρ_{XJT} is the percentage of the members of group J who own property and made investment X at time T.

The comparative property ownership ratio can be interpreted the same as the comparative wealth ratio. The comparative property ownership ratio measures the impact of classical characteristics on property ownership of group J to the impact of classical characteristics of property ownership of group J'. For instance, the ratio measures the schooling premium of blacks relative to the whites. If the ratio is less than one, then blacks with many years of schooling may own less property relative to whites with proportional years of property, and, thus, the returns to schooling among whites with many years of schooling outpace the returns to schooling among blacks with proportional years of schooling, in terms of property ownership.

Motivations for Multivariate Analysis. To observe of combined effect of laws, demography and economic geography of the economic outcomes of whites and blacks, I employed standard minimization of the sum of squared errors and conducted non-linear multivariate analysis on the logarithmic total wealth of whites and blacks in 1860 and 1870. Previous papers provide theoretical motivation for econometric modeling choices, which are similar to this presentation. Logarithmic wealth is regressed against proxy variables for earnings and savings, proxy variables for initial wealth, and household formation variables. Including slave state-free state residency variables and regional residency variables could lead to multicolinearity, due to possible endogeneity. The directions of the predictions of estimated coefficients, which are statistically significant at a 95 percent level of significance, were summarized in the results section.

RESULTS

The Mid 19th Century Skill and Wealth of Whites and Blacks in the United States of America

Table 9a shows that white-collar free black possessed nominal total wealth amounts of $2,278 in 1860--largest among any skill category.

Table 9a. Mid 19th Century Skill and Mean Wealth of Whites and Blacks

[redacted]												
Type of Wealth	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers
BLACKS												
Real Estate	57	137		725	85	360	1,091	1,015	29	133	1,236	102
Other					79	106	1,187	1,025	25	57	632	128
Total					164	467	2,278	2,040	54	190	1,868	230
Adjusted for Regional Prices												
Real Estate	63	155		802	89	377	1,074	1,042	19	86	795	67
Other					83	115	1,192	1,054	16	37	409	81
Total					172	492	2,266	2,096	35	122	1,204	148
Sample Size	315	100	14	83	917	276	33	191	13489	1211	173	3547
WHITES												
Real Estate	174	583	3,020	1,704	268	857	3,736	2,768	871	1,152	5,150	3,022
Other					196	455	3,451	1,888	381	490	3,590	1,014
Total					464	1,313	7,187	4,656	1,252	1,642	8,740	4,035
Adjusted for Regional Prices												
Real Estate	191	644	3,357	1,900	275	875	3,853	2,893	582	771	3,451	2,053
Other					207	473	3,643	2,051	252	326	2,383	681
Total					481	1,348	7,496	4,944	834	1,097	5,834	2,734
Sample Size	3,534	7,497	2,936	16,468	7,717	11,928	5,517	22,301	15,932	15,184	8,137	26,886
BLACK TO WHITE RATIO												
Real Estate	0.33	0.24		0.43	0.32	0.42	0.29	0.37	0.03	0.12	0.24	0.03
Other					0.40	0.23	0.34	0.54	0.07	0.12	0.18	0.13
Total					0.35	0.36	0.32	0.44	0.04	0.12	0.21	0.06

[redacted]

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Using the 1860 wealth ratios in Tables 9a, total wealth among white-collar free blacks was approximately the same as the total wealth of free black farmers (or $2,040) in 1860. But skilled blacks had twenty percent (or $467) and unskilled free blacks only had ten percent (or $164) of the total wealth held by free black farmers in 1860.

Tables 9a through 9c show that the relative total wealth advantage of white-collar free blacks was also observed using real estate and other forms of wealth for measuring differences among occupational skill groups within the free black community in 1860. However, free black farmers held a higher proportion of white wealth and property than free blacks in any other occupations.

When ignoring differences in levels, free blacks earned a higher premium to farming than whites. Overall, the agricultural economy forced free black farmers to own some amount of wealth and property that ultimately exceeded the average wealth of most other professions except white-collar workers. But, since farming land was in rural areas, more free blacks could not realize these economic benefits due to *social isolation* and vigorous enforcement of fugitive slave laws that often occurred in these areas21. 21 See note 11. See Appendix G for complete analysis.

The Mid 19th Century Skill and Wealth of Blacks: A Comparison among Black Americans over Time

Wealth differences favored white-collar blacks before and after emancipation. Table 9a shows that white-collar free black possessed nominal total wealth amounts of $2,278 in 1860--largest among any skill category. Using the 1860 wealth ratios in Table 9a, total estate wealth among white-collar free blacks was approximately the same as the real estate wealth of free black farmers ($2,040) in 1860 while skilled blacks had twenty percent ($467) and unskilled free blacks only had ten percent ($164) of the total wealth held by free black farmers in 1860. Tables 9a through 9c shows that the relative total wealth advantage of white-collar free blacks was also observed using real estate and other forms of wealth for measuring differences among occupational skill groups within the free black community in 1860.

As might be expected, however, Table 9b shows that free black farmers held more real estate property than free blacks in other occupational skill groups in 1860.

Table 9b. Mid 19th Century Skill and Mean Property Ownership of Whites and Blacks

	[redacted]				[redacted]				[redacted]			
Type of Property	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers	Unskilled	Skilled	W. Collar	Farmers
BLACKS												
Real Estate	0.14	0.25		0.54	0.17	0.28	0.27	0.60	0.04	0.16	0.29	0.14
Other					0.53	0.57	0.70	0.89	0.14	0.23	0.45	0.48
Real Estate or Other					0.55	0.62	0.73	0.91	0.16	0.31	0.51	0.51
Sample Size	315	100	14	83	917	276	33	191	13489	1211	173	3547
WHITES												
Real Estate	0.19	0.40	0.50	0.71	0.24	0.40	0.55	0.78	0.33	0.40	0.54	0.76
Other					0.64	0.74	0.84	0.94	0.48	0.60	0.78	0.89
Real Estate or Other					0.68	0.77	0.87	0.96	0.56	0.67	0.82	0.92
Sample Size	3,534	7,497	2,936	16,468	7,717	11,928	5,517	22,301	15,932	15,184	8,137	26,886
BLACK TO WHITE RATIO												
Real Estate	0.76	0.63		0.76	0.71	0.71	0.50	0.77	0.11	0.41	0.53	0.18
Other					0.82	0.78	0.83	0.95	0.29	0.39	0.57	0.54
Real Estate or Other					0.82	0.80	0.84	0.95	0.28	0.46	0.63	0.55

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

Table 9b shows that unskilled free blacks held approximately 30 percent of real estate property held by free black farmers (per hundred free black framers and unskilled workers). Skilled and white-collar workers held 50 percent of the real estate property held by free black farmers (per hundred free blacks framers, skilled workers and white-collar workers). Table 9b shows that the relative real estate wealth advantage of free black farmers was also observed using other forms of wealth and total wealth for measuring differences among occupational skill groups within the free black community in 1860.

By 1870, white-collar free blacks made significant advances relative other free blacks with other occupational skills. Table 8f shows that white-collar free black possessed nominal real estate wealth amounts of $1236 in 1870--largest among any skill category. Using the 1870 wealth ratios in Table 9c, real estate wealth among white-collar free blacks was significantly greater than the real estate wealth of free black farmers ($102) in 1870. Additionally, skilled blacks held 130 percent ($133) while unskilled free blacks only had thirty percent ($29) of the real estate wealth held by free black farmers in 1860. Table 9c shows that the relative real estate wealth advantage of white-collar blacks was also observed using other forms of wealth and total wealth for measuring differences among occupational skill groups within the ex-slave community in 1870. Similarly, white-collar blacks often held more real estate property than blacks in other occupational skill groups in 1870. Table 9c shows that the ratio of unskilled blacks to black farmers who held real estate property was 0.3 (per hundred black farmers and unskilled workers).

Table 9c. Mid 19th Century Comparative Wealth Ratios and Comparative Property Ownership Ratios of Whites and Blacks, Based on Skill

	All Blacks			Whites			*Black-White Ratio*		
	1850	1860	1870	1850	1860	1870	*1850*	*1860*	*1870*
i) Unskilled/Farmer Mean Wealth Ratio									
Real Estate	0.1	0.1	0.3	0.1	0.1	0.3	*0.8*	*0.9*	*1.0*
Other		0.1	0.2		0.1	0.4		*0.8*	*0.5*
Total		0.1	0.2		0.1	0.3		*0.8*	*0.8*
ii) Skilled/Farmer Mean Wealth Ratio									
Real Estate	0.2	0.4	1.3	0.3	0.3	0.4	*0.6*	*1.2*	*3.4*
Other		0.1	0.5		0.2	0.5		*0.5*	*0.9*
Total		0.2	0.8		0.3	0.4		*0.9*	*2.1*
iii) White-Collar/Farmer Mean Wealth Ratio									
Real Estate		1.0	11.9	1.8	1.3	1.7		*0.8*	*7.1*
Other		1.1	5.0		1.8	3.5		*0.6*	*1.4*
Total		1.1	8.1		1.5	2.1		*0.7*	*3.8*
iv) Unskilled/Farmer Mean Property-Holding Ratio									
Real Estate	0.3	0.3	0.3	0.3	0.3	0.4	*1.0*	*0.9*	*0.6*
Other		0.6	0.3		0.7	0.5		*0.9*	*0.5*
Total		0.6	0.3		0.7	0.6		*0.9*	*0.5*
v) Skilled/Farmer Mean Property-Holding Ratio									
Real Estate	0.5	0.5	1.2	0.6	0.5	0.5	*0.8*	*0.9*	*2.2*
Other		0.6	0.5		0.8	0.7		*0.8*	*0.7*
Total		0.7	0.6		0.8	0.7		*0.8*	*0.8*
vi) White-Collar/Farmer Mean Property-Holding Ratio									
Real Estate		0.5	2.1	0.7	0.7	0.7		*0.7*	*2.9*
Other		0.8	0.9		0.9	0.9		*0.9*	*1.1*
Total		0.8	1.0		0.9	0.9		*0.9*	*1.1*

Source: Information collected, calculated and compiled by James Curtis Jr (2002); IPUMS

However, the ratio of skilled blacks to black farmers who held real estate property was 1.2 (per hundred blacks farmers and skilled workers), and the ratio of white-collar blacks to black farmers who held real estate property was 2.1 (per hundred blacks farmers and white-collar workers). Table 9c shows that the relative real estate wealth advantage of free black farmers was also diluted to approximately that of black farmers using other forms of wealth and total wealth for measuring differences among occupational skill groups within the black community in 1870.

The Mid 19th Century Skill and Wealth: A Comparison of White and Black Americans over Time

A black farmer premium was observed when comparing average wealth of free blacks to average wealth of whites by occupational skill before emancipation. Using wealth means in Table 9a, free black farmers had 37 percent of the average white farmer real estate wealth, 54 percent of the average white farmer other wealth, and 44 percent of the average white farmer total wealth in 1860—approximately equal or higher proportions than any other free black occupation. The free black farmer advantage relative to white farmers was observed when analyzing other and total measures of wealth.

The free black farmer premium was even clearer when observing the ratio of free black to white property holders by occupational skill. The ratio of free black farmer property holders (per hundred free black farmers) to white farmer property holders (per hundred white farmers) was 0.77 for real estate wealth holders, and 0.95 for other and total wealth holders in 1860. Even though white-collar free blacks had nominal advantages it was diminished when comparing their wealth to whites, possibly due to the lack of opportunity to serve white clients and limits to serve lower income free blacks, causing a reduced wealth potential of white-collar free blacks relative to white-collar whites.

By 1870, black white-collar workers had a wealth advantage when observing the ratio of black to white average real estate wealth and property holders. Using wealth means from Table 9a, 1870 white-collar blacks held 24 percent of the real estate wealth, 18 percent of other wealth and 21 percent of total wealth held by white-collar whites. This was larger than the black proportion of white wealth held by unskilled workers, skilled workers and farmers.

Similarly, using the percentage of property holders in Table 9b, the ratio of white-collar black property holders (per hundred white-collar blacks) to white-collar white property holders (per hundred white-collar whites) was 0.53 for real estate property holders, and 0.57 for other property holders and 0.63 for total property holders in 1860.

Using the *comparative wealth ratio* for real estate wealth, we can ignore the absolute differences in black and white real estate wealth and ascertain the occupational skill advantages in the presence of wealth constraints. In 1860, since the ratio in Table 9c was less than one when comparing unskilled, skilled and white and white-collar workers to farmers, for all measures of wealth, whites had a higher return to unskilled, skilled and white-collar occupations relative to farming than blacks. By 1870, since the ratio was near equal or greater than one for all measures of wealth, black skilled and white-collar workers had a higher to farming than whites.

Similar results were obtained using the *comparative property ownership ratio* for real estate property in Table 9b. In 1860, since the ratio was less than one when comparing unskilled, skilled and white-collar workers to farmers, for all measures of property holding, whites had a higher return to these occupations relative to farming than blacks. By 1870, since the ratio was greater than one for all measures of wealth, black white-collar workers had a higher to farming than whites.

As the mode of production in the United States of America evolved away from overt slavery, the question many economists still seek an answer to is: how to grow the economy, in a manner that stabilizes sovereignty and seemingly comparative advantage in social standards, for the maximum amount of time, with minimum exploitation of labor. The answer is hypothetically in the technology sector, although I speculate that the questionable security of complex, minimally-investigated, modern technology, with language comprehension restricted to a sub-set of skilled programmers, has bolstered 21st century investments in security labor among firms, governments and citizenry.

Non-Linear Least Squares Multivariate Analysis of Logarithmic Total Wealth of Whites and Blacks in 1860 and 1870

Logarithmic wealth is regressed against proxy variables for earnings and savings, proxy variables for initial wealth, and household formation variables. Results, which had a 95 percent level of significance, are summarized below.

<u>Savings, Schooling and Skill</u>. *Savings*. Results show higher, statistically significant, diminishing increases in wealth savings with age among whites, compared to blacks, in 1860 and 1870. *Schooling*. Similarly, results show higher returns to schooling, for whites relative to blacks, in 1860 and 1870, holding all other variables constant; however, these results were not statistically significant for free blacks in 1860. *Skill*. Farmers had statistically significant higher levels of wealth relative to other professions in 1860 and 1870, with the exceptions of white student-retirees in 1870 and black white-collar professionals in 1870.

CONCLUSIONS

Free black constraints to generating wealth were observed when analyzing differences in the returns to all of the optimal wealth-generating choices. Changing states and regions, was one of the crucial steps for free blacks to accumulate significant amounts of wealth. Yet entrance laws and barriers, in the form of bond requirements, prevented free blacks from having a full range of residential and, as a result, economic opportunities. In sum, asymmetrical legal and social constraints, rooted by a contradiction between the dominant interpretation of the Constitution and state laws, led to asymmetrical economic experiences among free blacks and whites during the antebellum period. Furthermore, the intertemporal expectation of converging wealth experiences is severely dampened, not only by initial wealth deficits in the free black community, but also by intertemporal social and legal constraints on economic choices to overcome these deficits.

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2003 – 2018	Assistant Director of Operations, Bookkeeper, President, Project Director, Researcher, JECJEF
2001 – 2018	Information Technology Manager and Internet Design Intern, JECJEF
2005 – 2010	Nonprofit Manager/Intern Supervisor, CUM, Washington, DC
1999	Intern, Tax Analyst, Economic Development Division ODOD, Columbus, OH
1998 – 2002	Instructor, universities in Columbus OH, Delaware OH & Denver, CO
1996 – 1997	Economist Assistant, Department of Research and Statistics, FDIC, Washington, DC
1992-1995	Intern/Financial Analyst, INROADS, COMSAT, Bethesda, MD
1991 Summer	Intern/Legal Analyst, Office of Ethics and Civil Rights, GSA, Washington, DC

The Summary of the Recent Entrepreneur Manuscripts of James E Curtis Jr

2013-2019 Corporate Jurisprudence of Education Foundation, JECJEF organizational charts
2012-2019 501(c)3/Tax Exemption, USA, application and approval, JECJEF
2012-2019 Articles of Incorporation, USA and USA DC, application and approval, JECJEF
2003-2019 Potential Business Plan ®, Technical Notes ® to the Potential Business Plan ®
2011-2019 Strategic-Divine Resources ®
2001, 2012-2019 Trade Name, USA DC, USA PG County MD & USA State of MD, application and/or registration approval, Education Foundation
2001, 2012-2019 Trade Name, Better Business Bureau, registration, Education Foundation
1990-2019 Education Foundation, JECJEF

The Summary of the Recent Information Technology Management of James E Curtis Jr

1992-2018 Hardware, computer desktop, Dell, Gateway, Hewlett-Packard, Macintosh, and Sun.
1992-2018 Hardware, computer laptop, ACER, Compaq, Dell, IBM, Leveno, Macintosh.
1992-2018 Hardware, computer storage, 1000 gigabyte storage, floppy disk, RW CD/DVD, USB, Scandisk.
1992-2018 Hardware, multifunction printer, Brother, Canon, Hewlett Packard, Xerox.
1992-2018 Hardware, printer accessories, 11x17 printing, laminators, photo printing.
1992-2018 Software ,accounting and bookkeeping, Microsoft Excel, and QuickBooks.
1992-2018 Software, antivirus, AVG and MacAfee.
1992-2018 Software, data transfer, 1and1, File Zilla, FTP, jZip, Microsoft Explorer, Outlook.
1997-2018 Software, database programming, Gauss, E-views, Microsoft Excel, SAS, SPSS, STATA.
1992-2018 Software, domain, 1and1/jecjef, AT&T, Geocities, Office Live, Netzero, OSU Units, Yahoo!.
1992-2018 Software, email accounts, Comcast, Google, MyWay, Netzero, OSU Units.
1992-2018 Software, email entrepreneur, 1and1/jecjef, AT&T, Geocities, Office Live, Yahoo!.
1992-2018 Software, email management, 1and1/jecjef, Geocities, Office Live, Outlook, Yahoo!.
2001-2018 Software, graphic arts, 123certificate, Cyberlink, Real, Movie Maker, Microsoft Publisher.
2001-2018 Software, internet design, 1and1/jecjef, Geocities, Microsoft Office, Office Live, Yahoo!.
1992-2018 Software, internet search, Chrome, Explorer, FTP, Google, JSTOR, LexisNexis, Netscape.
2001-2018 Software, internet video, 1and1/jecjef, Microsoft Movie Maker, Office Live, Yahoo!, YouTube.
1992-2018 Software, office, Corel WordPerfect, Lotus, Microsoft Office and Microsoft Works, PDF.

Colleges Research Institutions & Universities, Certificates and Degrees of James E Curtis Jr

5th Phase Distinctions of James E Curtis Jr, designing a graduate program, institute & university
2017-12-31 *Honorary Doctorate of Philosophy, career award,* Education, Education Foundation
2017-12-31 *Honorary Executive Master of Arts, career award,* Education Administration, Education Foundation
2017-12-31 *Honorary Doctorate of Philosophy ,career award ,* Political Science, Education Foundation
2017-12-31 *Honorary Doctorate of Philosophy ,career award,* Sociology, Education Foundation
2017 *JECJEF Prize in Charity, career award*
2014-04-09 *Honorary Doctorate of Laws, career award,* Laws, Education Foundation
2014 *JECJEF Prize in Advocacy, career award*
2013 Founder, The James Edward Curtis Jr Education Foundation/JECJEF University
2012 Founder, Internet Graduate Research Institute, IGRI
2012-12-31 *Honorary Doctorate of Philosophy, career award,* Interdisciplinary Studies, Education Foundation
2012 *JECJEF Prize in Economics, career award*

4th Phase Distinctions of James E Curtis Jr, The Post-Doctoral Studies of James E Curtis Jr
2011 - 2017 Doctoral Programs, Education, Laws, Political Science, Sociology, Education Foundation
2011 - 2017 Executive Master of Arts Programs, Education Administration, Education Foundation
2011 - 2012 Doctoral Program, Interdisciplinary, Accountancy Economics History Laws, Education Foundation
2003-2010 *Honorary Post-Doctoral Researcher, & sabbatical,* Education Foundation

3rd Phase Distinctions of James E Curtis Jr, The Ph.D. of James E Curtis Jr
2003-12-31 *Doctorate of Philosophy,* Ph.D., Economics, Education Foundation
2003 Doctoral Program, Economics, Education Foundation,*transfer courses, exams, defenses, OSU*

2nd Phase Distinctions of James E Curtis Jr, The Ph.D. Program of James E Curtis Jr
2002 Doctoral Program, Ph.D. Written Defense, Proxy, Ohio State University/OSU, Columbus, OH
2001 Doctoral Program, Ph.D. Oral Defense, Proxy, OSU, Columbus, OH
2000 Doctoral Program, Ph.D. Oral Proposal, OSU, Columbus, OH
2000 Doctoral Program, Ph.D. Written Proposal, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Economic History, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Macro/Monetary Economics, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Microeconomics, OSU, Columbus, OH
1998 Doctoral Program, Ph.D. Program Exam Pass, Macroeconomics, OSU, Columbus, OH
1997 - 2003 Doctoral Program, Economics, 3.37 GPA, courses, OSU, Columbus, OH
1997 - 1998 Master of Arts Program,*Master of Arts* , Economics, OSU, Columbus, OH

1st Phase Distinctions of James E Curtis Jr, The Pre-Doctoral Programs of James E Curtis Jr
1997-Summer Pre-Doctoral Program, Economics, American Economic Association/Univ. of Texas, Austin, TX
1996-Autumn Pre-Doctoral Program, Mathematics for Economists, Univ. of Maryland, College Park, MD

1995 International Studies, parliamentary government of Israel and Tel Aviv University, Israel
1994-Summer Certificate, Management, Harvard School of Business/INROADS, Boston, MA

1991 – 1996 *Bachelor Degree* , Economics &*Bachelor Degree* , Political Science, Howard /transfer from Rutgers

1990-2019 Founder Owner President, Education Foundation

1990-Summer Pre-Undergraduate Program, Mathematics, UDC, Washington, DC
1989 – 1991 Pre-Undergraduate Program Degree,*Diploma* , Calvin Coolidge/transfer from Garfield

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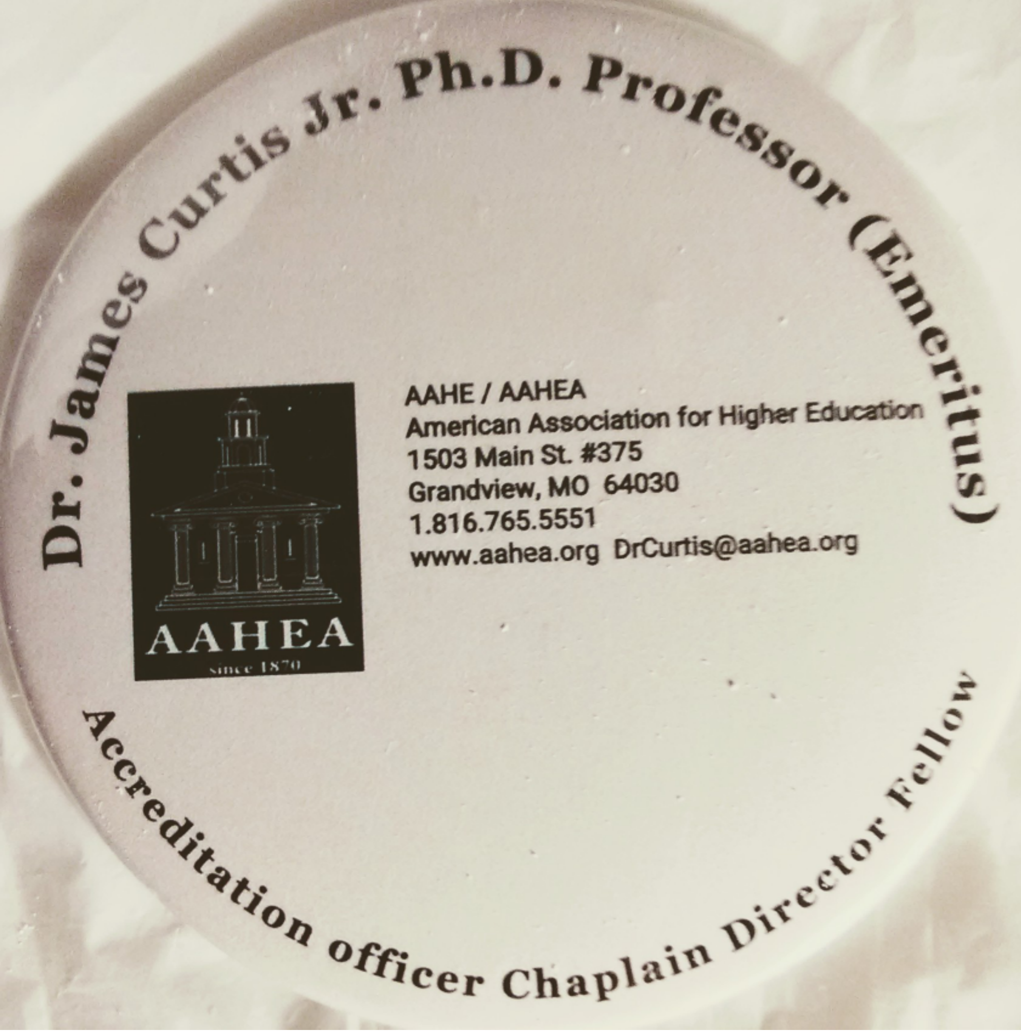
Community College (05.1)	Innovation Studies (11)	
Diversity (06)	Learning Communities (12)	

Optional (for each item check only one):

Gender: Female (02) Male (05)	Age: under 25 (01)	26-35 (02)	36-49 (03)	50-59 (04)	60 and up



(05.9)

Ethnicity/Race: American Indian/Alaska Native (01) | White, Non-Hispanic (03) | Hispanic (05.1)
Black/African-American (07) | Asian, Pacific Islander, South Asia (09) | Other (99)

Comments:____

CHAPTER 4. Wealth Discrimination Theory

Written by James Curtis Jr*

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One approach to analyzing inequality is to compare average economic choices from a classical theoretical framework. Another approach considers the impact of the formation of society, through statutes and institutions, on average economic outcomes. This paper studies the effects of slavery on black-white wealth inequality upon the emancipation of slaves in the US using historical data.

The purpose of wealth has varied from over time. From an economics perspective, wealth is the accumulation of resources that have market value and can be liquidated for present and future consumption. This study proceeds based on the most measurable assumption: households reside in a country with a mixed economy of markets and social planning, such that they have an incentive to accumulate material wealth for intertemporal household consumption and social influence. Becker (1957) and Arrow (1972) developed the most general theories of wage discrimination and favoritism. Oaxaca (1973) and Blinder (1973) have mechanized their theories for empirical analysis. While their findings are insightful, they cannot be directly applied to studying wealth differences since wealth is a complex combination of wages and other variables.

Finally, since unexplained differences in states that abolished slavery after the Civil War were 10 percent higher than unexplained effects in states that abolished slavery well before the Civil War and the magnitudes of the unexplained effects were similar over the long-run, we cannot reject the existence of a negatively bounded correlation between the duration of time from enslavement and the magnitude of unexplained differences in wealth.

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INTRODUCTION

Many individuals look to a higher source of power, such as the holiness expressed in the King James Version of the Holy Bible, for a source of direction (i.e., Genesis 1:1; Genesis 1:27; Exodus 20:2-17; John 1:1; Romans 3:23-25, 1 Corinthians 6:12a), strength (i.e., Philippians 4:6,13; Hebrews 11:1), purpose (i.e., Jeremiah 29:11; 1 Corinthians 13:13), and provision (i.e., Matthew 6:33, Philippians 4:11, Hebrews 11:6). Since the days of old, differences in creation existed, for instance, the Holy Bible reads "Servants be obedient" (Ephesians 6:5). But it also reads "ye Masters, do the same…knowing your Master also is in heaven; neither is there respect of persons with him". (Ephesians 6:9). Seemingly juxtapositional scriptures, as read, suggests the issue of inequality in provisions among creation is monitored by the divinity expressed in holy documents, such as the Holy Bible . This produces an incentive to derive robust explanations for experiential differences in observed phenomena among creation and recommendations for progress.

The following is a skeleton review of literature, with supplemental discussions in Appendix C; a definition and theory of economic discrimination, with supplemental discussions in Appendix A and Appendix B; econometrics; measurements of economic discrimination; regression decomposition results; conclusions; and references.

LITERATURE

Entering the 21st Century, Table 1 shows Blacks, Hispanics and women still have reduced labor market experiences relative to white men.

Table 1. Recent Labor Market Statistics Across Race, Ethnicity & Gender

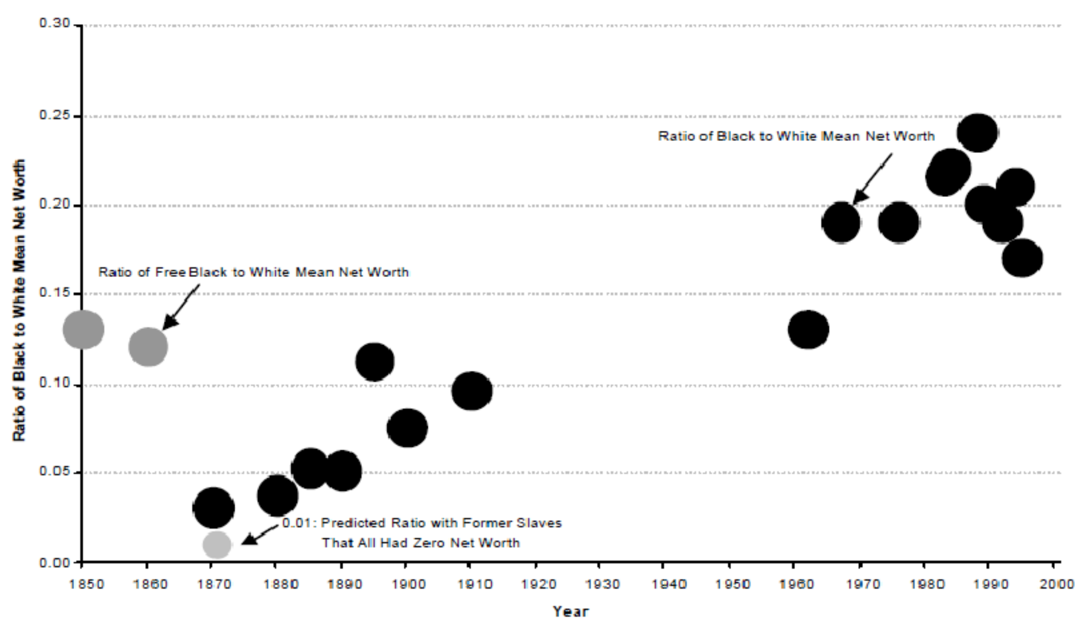
	Males			Females		
	White	Black	Hispanic	White	Black	Hispanic
1995 % of White Male:						
Hourly Wage	$ 19	66%	64%	65%	54%	58%
Annual Earnings	$36,200	65%	57%	57%	49%	43%
Weeks Worked	42	81%	91%	81%	74%	62%
Hours/Week Worked	38	79%	90%	73%	69%	58%
1997 Percentage:						
LFP Rate	78%	72%	84%	60%	64%	57%
Unemployment Rate	4%	9%	6%	4%	9%	8%
College Degree +	27%	13%	11%	22%	14%	10%

Source: Calculations from 1995 CPS data reported in Table 1 on page 3147 from Altonji and Blank, "Race and Handbook of Labor Economics edited by Ashenfelter and Card, 1999; Borjas, 1999, p. 343.

Modern economic progress is slowing for blacks relative to whites. Table 1 shows the unemployment rate of black males doubled the rate of white males and the unemployment rate of black females doubled the rate of white females. Juhn, Murphy and Pierce (1991) also show a slowdown in black-white wage convergence: in the Mid-1960's, Blacks earned 55% of white hourly wages; in the late 1970's: Blacks earned 70% of white hourly wages; and in the late 1980's, Blacks earned 70% of white hourly wages.

New evidence from James Curtis Jr in Figure 1 and Figure 2 demonstrates persistent black-white differences in wealth & homeownership. Figure 1 demonstrates convergence in wealth levels through most of the 20th century until the start of the 21st century, when stagnation in convergence is observed.

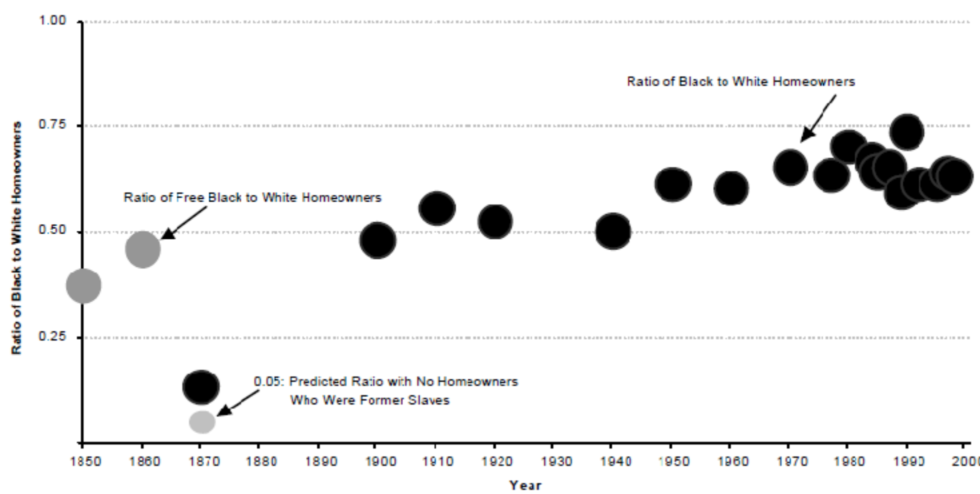
Figure 1. Ratio of Black to White Wealth/Net Worth, 1850-2000



Source: Metafile of Black-White Wealth Studies; 1850-70 IPUMS Data, James Curtis Jr

Furthermore, stagnation in homeownership convergence occurred upon the beginning of the 21st century.

Figure 2. Ratio of Black to White Homeowners, 1850-2000



Source: Metafile of Homeownership Studies; 1850-70 IPUMS Data, James Curtis Jr

Furthermore, Table 2 demonstrates observations by Melvin Oliver and Thomas Shapiro: large late-20th century differences in wealth among blacks and whites occurred across income groups.

Table 2. Wealth Across Income & Race

	White		Black	
Income Groups	Mean	Median	Mean	Median
As % of White	($ 000)	($ 000)	Ratio	Ratio
1983 Net Worth:				
Less than 10,799	$ 35	$ 11	0.25	0.01
10,800 – 24,999	53	29	0.35	0.15
25,000 – 49,999	77	50	0.42	0.36
More than 50,000	197	114	0.39	0.49
1983 Net Financial Assets:				
Less than 10,799	$ 14	$ 0	0.05	0.00
10,800 – 24,999	23	3	0.15	0.00
25,000 – 49,999	33	6	0.20	0.00
More than 50,000	126	37	0.25	0.18

Source: 1983-1984 CPS data reported in Table 6 on page 19 from Oliver and Shapiro, "Race and Wealth" in the Review of Black Political Economy, Spring 1989.

Juhn, Murphy and Pierce (1991) observed a sustained gap among blacks and whites with college degrees: in 1965: 13.9 percent of whites, compared to 4.6 percent of blacks had college degrees, producing a 9.3 percent gap; in 1975: 19.7 percent of whites, compared to 7.4 percent of blacks had college degrees, producing a 12.3 percent gap; and in 1985: 25.2 percent of whites, compared to 13.4 percent of blacks had college degrees, producing 11.8 percent gap. Many researchers suggest these type of schooling gaps explain differences in measured economic outcomes. However, Table 3 demonstrates large black-white wealth differences even when controlling for schooling differences.

Table 3. Wealth Across Age, Income, Education & Race

Ratio of Black to White Wealth Across Income & Education Groups	Age of Head of Household: Under 35	35 - 54	55 - 64	Over 65
$5,000 in Family Income in 1967:				
High School Diploma	0.22	0.12	0.17	0.16
Some College	0.22	0.18	0.32	0.19
College Degree + *(less than 3% of blacks)*	0.53	0.44	0.62	0.56
$10,000 in Family Income in 1967:				
High School Diploma	0.25	0.14	0.20	0.18
Some College	0.25	0.21	0.36	0.22
College Degree + *(less than 1% of blacks)*	0.63	0.50	0.71	0.64
$25,000 in Family Income in 1967:				
High School Diploma	0.30	0.17	0.24	0.22
Some College	0.30	0.25	0.44	0.26
College Degree + *(less than 1% of blacks)*	0.73	0.61	0.86	0.77

Source: 1967 SEO data reported in Table 5 on page 376 from Terrell, "Wealth Accumulation of Black and White Families: The Empirical Evidence," Journal of Finance, 1971.

THE DEFINITION AND THEORY OF ECONOMIC DISCRIMINATION

Discrimination

Gregory Mankiw defines Discrimination as the offering of different opportunities to similar individuals who differ by color of skin, ethnicity, gender, age or other characteristic*(Mankiw, 1997, p. 408).*

Statistical Discrimination

Statistical Discrimination is making predictions about a person based on membership in a certain group*(Stockton,1999, p. 434), or*   using an individual's membership in a certain group as information on the individual's skill and productivity*(Borjas, 2000, p.357).*

Economic Discrimination [Practical Labor Market Discrimination]

Practical labor market discrimination is based on observed and quantified outcomes in the economy; wide disparity in income, earnings, and wage rates among a variety of demographic groups, classified by gender, color, ethnicity and other characteristics. The disparities are systematic, persistent and considered by most observers to be inequitable*(Cain, 1986, p. 694)*

Economic Discrimination [Theoretical Labor Market Discrimination]

Theoretical labor market discrimination is the analysis under what conditions will essentially identical goods have different prices in the competitive markets? Discrimination in the labor market takes labor services as the good in question and the wage rate as the price. Labor services are considered essentially identical if they have the same productivity in the physical or material production process; a consideration that excludes the effect of the laborer on the psychic utility (or disutility) of his or her coworkers or employers*(Cain, 1986, p. 695)*

Economic Discrimination [Becker definition of economic discrimination]

Gary Becker defines economic discrimination as the following: If an individual has a "taste for discrimination," he must act as if he were willing to pay something, either directly or in the form of reduced income, to be associated with some persons instead of others Different levels of discrimination against a particular group are associated with: [a] different levels of social and physical distance from that group [which is the sociological analysis] [b] different personality types [which is the psychological analysis], and [c] separate factors of production. All persons who contribute to the production process in the same way are put into one group, such as the sale of labor services [which as the economic analysis]*(Becker, 1957, p.14).*

Gary Becker presents a discrimination coefficient (d), which is defined as "tastes for discrimination" for different factors of production, employers and consumers The money costs of a transaction do not always completely measure net costs and a discrimination coefficient acts as a bridge between money and net costs *(Becker, 1957, p.14).* For instance, [a] A factor of production (or an employee) is offered a net money wage [w – d], [b] Employers pays a net rental rate of capital [r + d], or [c] Consumers pay a net commodity price [p + d]

Gary Becker also presents a market discrimination coefficient (MDC), which is the proportional difference in wage rates due to discrimination *(Becker, 1957, p.17)* . Consider the example of **imperfect substitutes,** where there are two groups, one and two, who are imperfect substitutes in the production process. Then, they may receive different wage rates even in the absence of discrimination [$w_1^* \neq w_2^*$]. A more general definition of the MDC sets the MDC equal to the difference between the ratio of two group's wage rates with discrimination [$w_1 \neq w_2$] and without discrimination *(Becker, 1957, p.17)* . Then: MDC = $w_1/w_2 - w_1^*/w_2^*$.

Also, consider the example of **perfect substitutes**. Suppose there are two groups, one and two, whose members are perfect substitutes in the production process. In the absence of discrimination and nepotism and if the labor market were perfectly competitive, their equilibrium wage rates would equal [$w_1^* = w_2^*$]. However, equilibrium wage rates with discrimination cause wages not to equal [$w_1 \neq w_2$] *(Becker, 1957, p.17)* . Then, MDC = $w_1/w_2 - w_1^*/w_2^* = w_1/w_2 - w_2^*/w_2^* = w_1/w_2 - 1$

We can rationally analyze labor market discrimination using economic theory, in the form of linear programming and the firm's optimization problem:

Equation 1a: A Presentation of the Arrow Model of Discrimination

- Consider the following model, formalized by Arrow (1972), where owners of firms seek to maximize their utility, which includes short-run profits & types of labor:

  - Let:
    - y = output produced by the firm
    - p_y = competitive market output price
    - K_o = fixed quantity of capital
    - r = competitive rental rate of capital
    - L_1 = labor demanded from group one
    - w_1 = wage paid to group one laborer
    - L_2 = labor demanded from group two
    - w_2 = wage paid to group two laborer
    - π = profit earned by the firm
    - U = utility from earning profits (+) and employing members of group one (+) and group two (-)

  - Firms choose L_1^* and L_2^* to:

$$\begin{array}{ll} \textit{Max} & U(\pi, L_1, L_2) \\ \textit{s.t.} & \pi = p_y y - rK_o - w_1 L_1 - w_2 L_2 \\ \textit{where} & y = f(K_o, L) \\ & L = L_1 + L_2 \\ & \partial U/\partial L_1 \geq 0 \ \ \textit{and} \ \ \partial U/\partial L_2 \leq 0 \end{array}$$

$$\Rightarrow \ \textit{Max}\ U(p_y f(K_o, L_1+L_2) - rK_o - w_1 L_1 - w_2 L_2, L_1, L_2)$$

Equation 1b: The First Order Condition of the Arrow Model of Discrimination for Group 1

- First Order Condition for group one (+):

$$\frac{\partial U}{\partial L_1} : \frac{\partial U}{\partial \pi}\left[\frac{\partial \pi}{\partial f} * \frac{\partial f}{\partial L_1} - \frac{\partial \pi}{\partial L_1}\right] + \frac{\partial U}{\partial L_1} = 0$$

$$\frac{\partial U}{\partial \pi}\left[(p_y)(MPL_1) - (w_1)\right] + \frac{\partial U}{\partial L_1} = 0$$

$$\left[(p_y)(MPL_1) - (w_1)\right] = - d_1$$

$$where \quad d_1 = \frac{\partial U}{\partial L_1} \Big/ \frac{\partial U}{\partial \pi} \geq 0$$

$$Given: \quad \left[(p_y)(MPL_1) - (w_1)\right] = - d_1$$

$$Then: \quad p_y MPL_1 = w_1 - d_1$$

$$For\ example: \quad 50 = 60 - 10$$

$$Thus: \quad Value\ of\ MPL_1 < w_1$$

Equation 1c: The First Order Condition of the Arrow Model of Discrimination for Group 2

- First Order Condition for group two (-):

$$\frac{\partial U}{\partial L_2} : \frac{\partial U}{\partial \pi}\left[\frac{\partial \pi}{\partial f} * \frac{\partial f}{\partial L_1} - \frac{\partial \pi}{\partial L_2}\right] + \frac{\partial U}{\partial L_2} = 0$$

$$\frac{\partial U}{\partial \pi}\left[(p_y)(MPL_2) - (w_2)\right] + \frac{\partial U}{\partial L_2} = 0$$

$$\left[(p_y)(MPL_1) - (w_2)\right] = - d_2$$

$$where \quad d_2 = \frac{\partial U}{\partial L_2} \Big/ \frac{\partial U}{\partial \pi} \leq 0$$

$$Given: \quad \left[(p_y)(MPL_2) - (w_2)\right] = - d_2$$

$$Then: \quad p_y MPL_2 = w_2 - d_2$$

$$For\ example: \quad 50 = 40 - (-10)$$

$$Thus: \quad Value\ of\ MPL_2 > w_2$$

Equation 1d: The Interpretation of the Arrow Model of Discrimination

- Wages - the discriminating firm offers wage rates s.t.:

  $$w_1 > \textit{value of marginal product of labor} > w_2$$

  $$i.e.\ \ 60 > \qquad 50 \qquad > 40$$

  or the discriminating firm offers members of group one a wage that exceeds the wage offered to members of group two even though the value of their marginal products are the same.

- Profits - Comparing profits from the discriminating firm (π_d) and non-discriminating firm (π^*),

  Given: $\pi = p_y y - rK_o - w_1 L_1 - w_2 L_2$

  $$p_y MPL_1 = w_1 - d_1 \textit{ where } d_1 \geq 0$$
  $$p_y MPL_2 = w_2 - d_2 \textit{ where } d_2 \leq 0$$

  Then:

  $$\pi_d = p_y y - rK_o - (p_y MPL_1 + d_1)L_1 - (p_y MPL_2 + d_2)L_2$$

  $$\pi^* = p_y y - rK_o - (p_y MPL_1 \qquad)L_1 - (p_y MPL_2 \qquad)L_2$$

  $$\pi_d - \pi^* = -(d_1 L_1 + d_2 L_2)$$

  $$-(\quad [+] \quad + \quad [-]\ )$$

  $$[-] \quad + \quad [+]$$

Equation 1e: The Profit Conditions of the Arrow Model of Discrimination

<u>Case 1</u>: No additional profits to discriminating ($\pi_d = \pi^*$)

In this case, $d_1 L_1 = - d_2 L_2$ and discrimination results in a transfer of resources from group two to group one *(Arrow, 1972, p. 188)*.

<u>Case 2</u>: Negative profits due to discriminating ($\pi_d < \pi^*$)

In this case, $d_1 L_1 > - d_2 L_2$ and discrimination not only results in a net transfer of resources from group two to group one, but also a loss to owners of firms due to relatively larger preferences in favor of group one and the additional costs associated with these preferences.

Case 3: Positive profits due to discriminating ($\pi_d > \pi^*$)

In this case, $d_1 L_1 < - d_2 L_2$ and discrimination not only results in a transfer of resources from group two to group one, but a transfer of resources from group two to owners of firms due to relatively larger disutility from employing group two and the lower costs associated with this larger disutility.

Note that competition may encourage group two workers to work elsewhere and ultimately result in zero or negative profits for the discriminating firm. But employers may actually gain in pecuniary terms by their discrimination. Any individual employer would gain by a reduction in discrimination, but it is at least plausible that employers collectively gain by discrimination *(Arrow, 1972, p. 189)*.

ECONOMETRICS

Definition of Econometrics

Econometrics "attempts to quantify economic reality and bridge the gap between the abstract world of economic theory and the real world of human activity....Econometrics allows us to examine data and quantify the actions of firms, consumers and governments" (Studenmund, p.3).

Economic theory

Economic theory tells us about the anticipated direction (+/-) of changes in the economic environment. For example, theory suggests: An increase in income increases demand for goods; An increase in price decreases demand for goods

Econometric modeling

Econometric modeling allows us to measure the specific amount, or the magnitude of the change.

Consider following example: Let: c* = [a/(a+b)] [I/p] *(from utility maximization);* Then, ln (c) = ln [a/(a+b)] + ln (I) – ln (p) such that the econometric or regression model is ln (c) = $B_o + B_1 * ln$ (I) – $B_2 * ln$ (p) + error

Simple Regression Model versus the Multivariate Regression Model

The simple regression model implies a dependent variable (c) is only explained by one independent variable, which is not realistic. For example, quantity (c) consumed is not just explained by price (p). The multivariate regression model implies a dependent variable (c) is explained by more than one independent variable, which is more realistic. For example, the combination of price (p) and income (I) explain quantity consumed (c).

Slopes (B_s)

The only difference between the simple and multivariate regression models is the calculation and the interpretation of the slope. The slope (B_k) from the multivariate regression model is the change in the dependent variable associated with a one-unit change in the independent variable, *holding constant the other independent variables in the equation*: ln (c) = B_o + B_1 * ln (I) + B_2 * ln (p) + error

When using logs of the dependent variable, a slope becomes the elasticity and units become percentages.

Hypothesis Testing

Hypothesis Testing are statistical tests, such as t-tests, on the accuracy of slopes calculated in an econometric model before accepting the results. In the way in which the FDA withholds approval of a new medication that has a side effect more frequently than expected, economists withhold "accepting" a calculated coefficient until it pasts certain statistical or hypothesis tests*(Studenmund, 1999, p.126).*

Sample Survey Data

A hypothetical survey is two questions to six families: How many meals does your family consume at restaurants per year? What is you annual family income? The hypothetical results of the survey are presented in Table 4.

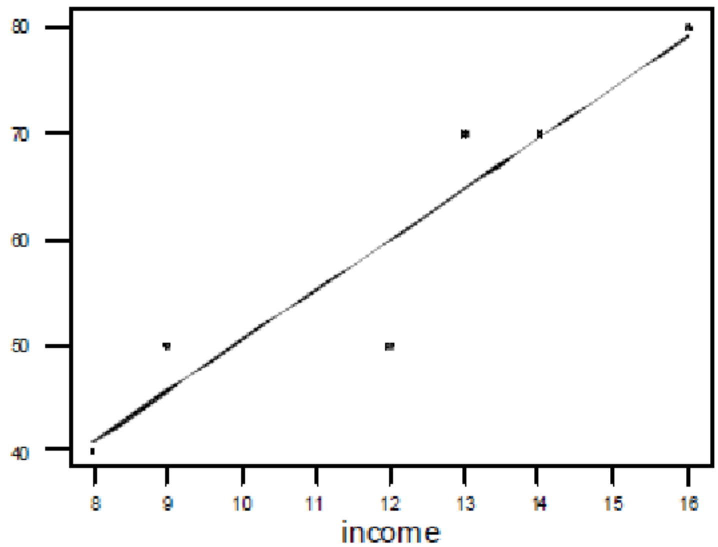
Table 4: A Hypothetical Survey of 6 Families, Annual Income and Restaurant Meals/Year

Family No.	No. of Restaurant Meals Per Year	Annual Income ($1000)
1	50	12
2	70	13
3	70	14
4	50	9
5	80	16
6	40	8

Least Squares

The line that "best fits" the data minimizes difference between the fitted line and the data. Let e_i be the difference between the one point on the line and one data point, then the smallest sum of e_i's seems to produce the best fitted line. But the smallest sum of e_i's can produce more than one estimate of the slope the line. Instead, by summing the square of each e_i, we can obtain one estimate of the slope. Hence, the line that “best fits” the data is a "least squares" regression line that minimizes the sum of squared error.

Figure 3. The Fitted Line from the Hypothetical Survey which Minimizes the sum of Squared Error



From utility maximization c* = [a/(a+b)] [I/p] such that *ln* (c) = *ln* [a/(a+b)] + *ln* (I/p). Normalizing the price to 1, and analyzing the data in levels produces c = B_o + B_1 I +error, where B_o is the y-intercept or "constant": The constant tells us how many restaurant meals that we would still consume if we have zero income (I=0). B_1 is the slope of the fitted line: The slope tells us the change in the number of restaurant meals consumed we could expect with a one unit change in the value of annual income.

Empirical Results

Empirical results are the output from the econometric model and statistical software (or calculations using a calculator), where c = 2.6 + 4.78 I and where estimated B_o = 2.6. Thus, we can predict that families will visit restaurants 2.6 times annually even if they have zero annual income. Estimated B_1 = 4.78. Thus, we can predict that the number of annual restaurant visits increase by 4.78 with one unit (one thousand dollar) increase in annual income.

MEASUREMENTS OF ECONOMIC DISCRIMINATION

We can apply these lessons from econometrics to measure economic discrimination. Ronald Oaxaca (1973) mechanized empirical analysis of economics discrimination even though we do not have direct data on preferences in favor of group one, or the disutilities of employing group two. Oaxaca (1973) used Becker's (1957) market discrimination coefficient to conduct regression decomposition, known as the Oaxaca decomposition. The market discrimination coefficient (MDC) can be analyzed in terms of wages and income when members of group one and group two are perfect substitutes. Given: MDC = $(w_1 - w_2)/w_2 = w_1/w_2 - 1$, then: *ln* (MDC) = *ln* (w_1) – *ln* (w_2). Differences in wealth can be analyzed using the MDC with additional theoretical considerations *(Curtis Jr, 2002).*

Using an econometric model for wages, income or wealth (w_i), then ln (w_1) = B_{o1} + $B_{11}Z_1$+$error_1$ and ln (w_2) = B_{o2} + $B_{12}Z_2$+$error_2$ where Z is a matrix of variables that determine wages, income or wealth. To form the regression decomposition, combine the log MDC and the econometric model.

Equation 2a: A Presentation of Regression Decomposition Based on the Arrow Theory of Economic Discrimination

- To form the regression decomposition, combine the log MDC and the econometric model such that:

Given: $ln\,(\text{MDC}) = ln\,(w_1) - ln\,(w_2)$

$$ln\,(w_i) = B_{oi} + B_{1i}Z_i + \text{error}_i$$

Then: $ln\,(\text{MDC}) = (B_{o1} + B_{11}Z_1 + \text{error}_1) - (B_{o2} + B_{12}Z_2 + \text{error}_2)$

$$ln\,(\text{MDC}) = (B_{o1} - B_{o2}) + (B_{11}Z_1 - B_{12}Z_2) + (\text{error}_1 - \text{error}_2)$$

Let: $B_{11} = B_{12} + (B_{11} - B_{12})$

$$Z_2 = Z_1 + (Z_2 - Z_1)$$

Then: $ln\,(\text{MDC}) = (B_{o1} - B_{o2}) + [B_{12} + (B_{11} - B_{12})]Z_1 - B_{12}[Z_1 + (Z_2 - Z_1)] + (\text{error}_1 - \text{error}_2)$

Equation 2b: The Interpretation of Regression Decomposition

Based on the Arrow Theory of Economic Discrimination

$$\text{Then:} \quad ln\,(\text{MDC}) = (B_{o1} - B_{o2}) + B_{12} Z_1 + (B_{11} - B_{12})Z_1 - B_{12} Z_1 + B_{12}(Z_2 - Z_1)] + (\text{error}_1 - \text{error}_2)$$

$$\text{Then:} \quad ln\,(\text{MDC}) = (B_{o1} - B_{o2}) + (B_{11} - B_{12})Z_1 + B_{12}(Z_2 - Z_1) + (\text{error}_1 - \text{error}_2)$$

where $(B_{11} - B_{12})Z_1$

= Unexplained differences in wages, income or wealth (due, in part, to discrimination)

where $B_{12}(Z_2 - Z_1)$

= Explained differences in wages, income or wealth (due to differences in skills)

REGRESSION DECOMPOSITION RESULTS

Empirical results of differences in economic outcomes between enfranchised groups and disenfranchised groups demonstrate significant unexplained differences in economic outcomes, even when controlling for classical choice characteristics.

Male and Female Wages

Oaxaca (1973) found 53 percent to 78 percent of wage differences among white males and white females in the United States were unexplained and 50 percent to 99 percent of wage differences among black males and black females in the United States were unexplained.

Black and White Wages

Determinants of gender and ethnic wages differences are comparable. Binder (1973) found 30 percent to 45 percent of wage differences among males and females in the United States were unexplained. Similarly, 20 percent to 35 percent of wage differences among blacks and whites in the United States were unexplained. Furthermore, Carlstom and Rollow (1998) found 37 percent to 39 percent of wage differences among blacks and whites in the United States were unexplained.

Carlstrom and Rollow (1998) also observed fair wage premium for blacks residing in non-southern states: they found 37 percent of wage differences among non-southern blacks and non-southern whites in the United States were unexplained, 44 percent of wage differences among southern blacks and southern whites in the United States were unexplained.

Nevertheless, this is preliminary evidence that the fair wage issue for females is, at least, proportional to the fair wage issue for blacks.

Black and White Housing Prices

Differences in the determinants of housing values were also observed and blacks and whites in the United States: 41 percent to 42 percent of differences in housing values among blacks and whites in the United States were unexplained*(Long and Caudill, 1992).*

Black and White Wealth

The analysis of differences in the determinants of the wealth by ethnicity is, at least as revealing or, more revealing than the analysis of wages and income. Becker (1957) and Arrow (1972) developed the most general theories of wage discrimination and favoritism. Oaxaca (1973) and Blinder (1973) have mechanized their theories for empirical analysis. While their findings are insightful, they cannot be directly applied to studying wealth differences since wealth is a complex combination of wages and other variables.

The purpose of wealth has varied from over time. From an economics perspective, wealth is the accumulation of resources that have market value and can be liquidated for present and future consumption. This study proceeds based on the most measurable assumption: households reside in a country with a mixed economy of markets and social planning, such that they have an incentive to accumulate material wealth for intertemporal household consumption and social influence. Appendix A contextualizes wealth regression decomposition results with models of grouped household decisions and social planner decisions. Appendix B contextualizes wealth regression decomposition results with models of a group-specific analysis of household wealth.

Most academic research has found that three out of every four US dollars of wealth held by white households represents the difference among blacks and whites in the United States which is unexplained. Blau and Graham (1990) found that 78 percent of differences in wealth among blacks and whites in the United States were unexplained in the late 20th Century. Similarly, Altonj, Doraszeski and Segal (2000) found that 70 percent to 94 percent of differences in wealth among blacks and whites in the United States were unexplained. Furthermore, Gittleman and Wolff (2000) found that 68 percent to 72 percent of differences in wealth among blacks and whites in the United States were unexplained.

James Curtis Jr (December 2002) confirms that the source of contemporary black-white wealth differences have historical roots: 82 percent to 86 percent of differences in wealth among blacks and whites in the United States were unexplained by classical choice characteristics in the mid-19th century. Curtis Jr (2002) also observed a quasi-fairness wealth premium for blacks residing in non-southern states (i.e. states which abolished slavery before mass emancipation of southern slaves or states which never officially instituted slavery as a social practice): 78 percent of differences in wealth among blacks and whites in the non-southern states in the United States were unexplained while 88 percent of differences in wealth among blacks and whites in former southern slave states in the United States remained unexplained by classical choice characteristics.

Much like “the plight of the antebellum free black American, which, in hindsight, illuminated the path of the average black American after emancipation” (Curtis Jr, February 2002), the experience of blacks in non-southern states, as early as 1870, provided insight to the experience of the contemporary Americans of diverse experiences attempting achieve the pursuit of happiness.

CONCLUSIONS

Historical black-white differences in wealth were estimated using regression decomposition. This technique decomposes economic differences into the portion explained by differences in characteristics and the unexplained portion due to different returns to a set of characteristics (See, e.g., Blinder 1973 and Oaxaca 1973). Results confirm that we cannot reject that the claim that, when comparing the wealth of ex-slaves to the wealth whites, differences in wealth due to unexplained (or discrimination) effects dominate the portion due to classical characteristic differences.

Furthermore, the size and source of contemporary black-white wealth differences have historical roots: In 1870, at least 75 percent of white-black wealth differences were not explained by characteristic differences described by the classical model when employing the primary index. This is consistent with wealth decompositions of late twentieth century data that shows that three-quarters of white-black differences in wealth were unexplained (See, e.g., Blau and Graham 1990).

Finally, since unexplained differences in states that abolished slavery after the Civil War were 10 percent higher than unexplained effects in states that abolished slavery well before the Civil War and the magnitudes of the unexplained effects were similar over the long-run, we cannot reject the existence of a negatively bounded correlation between the duration of time from enslavement and the magnitude of unexplained differences in wealth.

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APPENDIX A

I. Agent-Specific Constraints

[1 $\mathrm{MAX}\{x_{nij} \geq 0\}$ $\mathbf{U} = \gamma_U \Pi_{SP=1} U_{SP}^{\theta(SP)}$

[2 *subject to* $X_{ijSP} \leq E_{ijSP}$

[3 *Let*: $U_{SP} = \gamma_{U(SP)} \Pi_{j=1} (\Pi_{i=1} u_{ij(SP)}^{\theta ij(SP)})$

[4 *such that* $\mathbf{U} = \gamma^* \Pi_{SP=1} [\Pi_{j=1} (\Pi_{i=1} u_{ij(SP)}^{\theta^*})]$

[5 *where* $\gamma^* = \gamma_U \Pi_{SP=1} \gamma_{U(SP)}$

$\theta^* = \theta_{ij(SP)} \theta_{(SP)}$

[6 *Further, let:* $u_{ijSP} = \gamma_{u_{ijSP}} \Pi_{n=1} (x_{(n)ij} - s_{x(n)ijSP})^{\alpha(n)}$

[7 *such that* $\mathbf{U} = \gamma' \Pi_{SP=1} [\Pi_{j=1} (\Pi_{i=1} (\Pi_{n=1} (x_{(n)ij} - s_{x(n)ijSP})^{\alpha(n)'}))]$

[8 *where* $\gamma' = \gamma_U [\Pi_{SP=1} \gamma_{U(SP)} (\Pi_{j=1} (\Pi_{i=1} \gamma_{u_{ijSP}}))]$

[9] $\alpha(n)' = \alpha(n) \theta_{ij(SP)} \theta_{(SP)}$

[10] *Further, let:* $E_{ijSP} = \Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + p_{x(l)} e_{x(l)ij} + e_{ijSP}$ *for all* $n = 1,2,..,E \neq l$

[11] *Further, let:* $X_{ij} = \Sigma_{n=1} P_{x(n)j} x_{(n)ij} + p_{x(l)j} x_{(l)ij}$

[12] *where* $P_{x(n)j} = p_{x(n)} (1 + \delta_{xjg} + \Sigma_{q=1} t'_{qx(n)})$

[13] $P_{x(E)} = \eta(B)$

Therefore, the decision becomes:

[14] $\mathrm{MAX}\{x_{nij} \geq 0\}$ $\mathbf{U} = \gamma' \Pi_{SP=1} [\Pi_{j=1} (\Pi_{i=1} (\Pi_{n=1} (x_{nij} - s_{x(n)ijSP})^{\alpha(n)'}))]$

[15] *subject to* $\Sigma_{n=1} P_{x(n)j} x_{(n)ij} + p_{x(l)j} x_{(l)ij} \leq \Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + p_{x(l)} e_{x(l)ij} + e_{ijSP}$

[16] *Further, let:* $\Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + \Sigma_{v=1} w_v h_{vij} = W_{ij}$

[17] *where* $w_v = p_{x(l)}$

[18] $h_{vij} = e_{x(l)ij} - x_{(l)ij}$

II. One Universal Constraint

[19] $\mathrm{MAX}\{x_{nij} \geq 0\}\ U = \gamma_U \prod_{SP=1} U_{SP}^{\theta(SP)}$

[20] *Subject to* $X \leq \varepsilon$

[21] *Further, let:* $\varepsilon = \sum_{SP=1} E_{SP} + e$

[22] $E_{SP} = \sum_{i=1} \sum_{j=1} E_{ijSP} + e_{SP}$

[23] $E_{ijSP} = E_{x(n)ijSP} + \sum_{i=1} \sum_{j=1} p_{x(l)}\, e_{x(l)ij} + e_j$ *for all* $n = 1,2,..,E \neq l$

[24] $E_{x(n)ijSP} = \sum_{n=1} p_{x(n)}\, e_{x(n)ijSP}$

[25] *such that* $\varepsilon = \sum_{i=1} \sum_{j=1} \sum_{n=1} p_{x(n)}\, e_{x(n)ijSP} + \sum_{i=1} \sum_{j=1} p_{x(l)}\, e_{x(l)ij} + e^*$

[26] *where* $e^* = e + \sum_{SP=1} e_{SP} + \sum_{i=1} \sum_{j=1} e_j$

[27] *Further, let:* $X = \sum_{i=1} \sum_{j=1} \sum_{n=1} P_{x(n)j} x_{(n)ij} + \sum_{i=1} \sum_{j=1} p_{x(l)j} x_{(l)ij}$

[28] *where* $P_{x(n)j} = p_{x(n)} (1 + \delta_{xjg} + \sum_{q=1} t'_{qx(n)})$

[29] $P_{x(E)} = \eta(B)$

Therefore, the decision becomes:

[30] $\mathrm{MAX}\{x_{nij} \geq 0\}\ U = \gamma' \prod_{SP=1} [\prod_{j=1} (\prod_{i=1} (\prod_{n=1} (x_{nij} - s_{x(n)ijSP})^{\alpha(n)'}))]$

[31] *subject to* $\sum_{i=1} \sum_{j=1} \sum_{n=1} P_{x(n)j} x_{(n)ij} + \sum_{i=1} \sum_{j=1} p_{x(l)j} x_{(l)ij} \leq \sum_{i=1} \sum_{j=1} \sum_{n=1} p_{x(n)}\, e_{x(n)ijSP} + \sum_{i=1} \sum_{j=1} p_{x(l)}\, e_{x(l)ij} + e^*$

[32] *Let:* $\sum_{i=1} \sum_{j=1} \sum_{n=1} p_{x(n)}\, e_{x(n)ijSP} + \sum_{v=1} \sum_{i=1} \sum_{j=1} w_v h_{vij} = \sum_{i=1} \sum_{j=1} W_{ij}$

[33] *where* $w_v = p_{x(l)}$

[34] $h_{vij} = e_{x(l)ij} - x_{(l)ij}$

III. A Model of Wealth

[35] *Let:* $W_{ij} = (1-g-\Sigma_{q=1} t_{q\,I}) I_{ij} + A_{ij} + (1-g)(\Sigma_{q=1} S_{qij} + C_{ij}) - G_{ij}$

[36] $I_{ij} = \Sigma_{v=1} \boldsymbol{w'}_m \boldsymbol{h'}_{kij}$

[37] $\boldsymbol{w'}_m = \boldsymbol{w}_k - \delta_{w(m)jg} - \Sigma_{q=1} t'_q$

[38] $\boldsymbol{h'}_{mij} = \boldsymbol{h}_{mij} - \delta_{h(m)jg}$

[39] *where* $A_{ij} = [\, A_{0ij} (1-g-\Sigma_{q=1} t_{q\,A(0)}) + \Sigma_{a=1} N_{(1,a)ij} (1-g-\Sigma_{q=1} t_{qN(1,a)})$

$+ \Sigma_{m=1} \gamma_{\pi(m)ij}\, \pi_{Z(m)ij} (1-g) \,] (1+ \gamma_{\rho ij}\, \rho)(1-\Sigma_{q=1} t_{q\rho})$

$+ \Sigma_{b=1} N_{(2,b)ij} (1-g- \Sigma_{q=1} t_{qN(2,b)}) - G_{\rho ij} - \delta_{Ajg} (\rho, A_{0ij})$

[40] $A_{0ij} = A_{0ij} (\boldsymbol{x}_{n\,0}, \gamma w_{(0)ijF}\, W_{0F} (I_0(\boldsymbol{w}_0 \boldsymbol{h}_0, S_0), A_0(A_{(-1)}, N_0(R_0, M_0), \gamma_{0\pi}\, \pi_{0Z}), t_{0q}\, \delta_{0g}, \gamma_{0\rho}))$

[41] $\pi_{Zij} = (P_{Zj}\, Z_{ij} + \Sigma_{q=1} S_{qZij} - \Sigma_{d=1} \boldsymbol{P}_{Z(d)j} \boldsymbol{X}_{Z(d)ij}) (1 - \Sigma_{q=1} t_{q\,\pi})$

[42] $\boldsymbol{P}_{Z\,j} = \boldsymbol{p}_Z (1 - \delta_{Zjg} + \Sigma_{q=1} t'_{qZ})$

[43] $Z_{ij} = \gamma_{Zij} \Pi_{d=1} \boldsymbol{X}_{Z(d)ij}{}^{\beta(d)}$

[44] $\boldsymbol{P}_{Z(d)\,j} = \boldsymbol{p}_{Z(d)} (1 - \delta_{Z(d)jg} - \Sigma_{q=1} t'_{qZ})$

[45] $\boldsymbol{X}_{Z(d)ij} = \boldsymbol{x}_{Z(d)ij} - \delta_{Z(d)jg}$

APPENDIX B

A Model of Wealth Favoritism

To understand the determinants of wealth by groups, consider the following wealth identity:

[1] $$W_{w,t} = exp\{(1 + i_w)W_{w,t-1} + (r_{w,t}h_{w,t} - p_t c_{w,t})\}$$

where $W_{w,t}$ represents the portfolio of wealth for members of group w, at time t=1…T ; $W_{w,t-1}$ represents the previous period portfolio of wealth for members of group w, at time t=0…T-1 ; i_w represents the average interest rate earned on previous period portfolio of wealth for members of group w, at time t=1…T; $r_{w,t}$ represents the wages for group w, at time t=1…T; $h_{w,t}$ represents the number of hours worked for members of group w, at time t=1…T; p_t represents prices for goods consumed at time t=1…T; and $c_{w,t}$ represents the goods consumed by members of group w, at time t=1…T; such that:

[2] $$W_{w,t} = exp\left\{\sum_{\tau=1}^{t}(1 + i_w)^{t-\tau}(r_{w,\tau}h_{w,\tau} - p_\tau c_{w,\tau}) + (1 + i_w)^t W_{w,o}\right\}$$

where $W_{w,o}$ are the initial assets of whites.

Now consider the wealth identity with discrimination or, more specifically, favoritism in favor of members of group w. Let $\delta_{k,w,\tau}$ represent the variable k favoritism coefficient for members of group w, at time τ=1…T, where $\delta_{k,w,\tau}$>0 for all variables, such that equation [2] becomes:

[3] $$W_{w,t} = exp\{\widetilde{W}_{w,t} + F_{w,t}\}$$

where

$$\widetilde{W}_{w,t} = \sum_{\tau=1}^{t}\left(1+\widetilde{i}_w\right)^{t-\tau}\left(\widetilde{r}_{w,\tau}\widetilde{h}_{w,\tau} - p_\tau\widetilde{c}_{w,\tau}\right) + \left(1+\widetilde{i}_w\right)^t \widetilde{W}_{w,o}$$

$$F_{w,t} = \delta_{i,w}\sum_{m=1}^{t-\tau}\sum_{s=1}^{t-\tau}\left(1+\widetilde{i}_w+\delta_{i,w}\right)^{t-m-1}\left(1+\widetilde{i}_w\right)^{s-1} \cdot$$

$$\cdot\left(\widetilde{r}_{w,\tau}\widetilde{h}_{w,\tau} + \widetilde{r}_{w,\tau}\delta_{h,w,\tau} + \delta_{r,w,\tau}\widetilde{h}_{w,\tau} + \delta_{r,w,\tau}\delta_{h,w,\tau} - p_\tau\left(\widetilde{c}_{w,\tau} + \delta_{c,w,\tau}\right)\right)$$

$$+\delta_{i,w}\sum_{m=1}^{t}\sum_{s=1}^{t}\left(1+\widetilde{i}_w+\delta_{i,w}\right)^{t-m}\left(1+\widetilde{i}_w\right)^{s}\left(\widetilde{W}_{w,o} + \delta_{W_o,w}\right)$$

$$+\sum_{\tau=1}^{t}\left(1+\widetilde{i}_w\right)^{t-\tau}\left(\delta_{r,w,\tau}\left(\widetilde{h}_{w,\tau}+\delta_{h,w,\tau}\right) - p_\tau\delta_{c,w,\tau}\right) + \left(1+\widetilde{i}_w\right)^t\delta_{W_o,w}$$

where tilda represents the variable in absence of discrimination such that $\widetilde{W}_{w,t}$ is group w in absence of discrimination (favoritism) at time τ=1…T, and $F_{w,t}$ is the difference between the observed wealth and wealth in absence of discrimination due to favoritism for members of group w at time τ=1…T. The following comparative static analysis shows what happens to wealth with an increase in discrimination, such that:

[4] $$\frac{\partial\, ln\, W_{w,t}}{\partial\delta_{r,w,\tau}} = \left[\sum_{\tau=1}^{t}\left(1+\widetilde{i}_w\right)^{t-\tau} + \delta_{i,w}\sum_{m=1}^{t-\tau}\sum_{s=1}^{t-\tau}\left(1+\widetilde{i}_w+\delta_{i,w}\right)^{t-m-1}\left(1+\widetilde{i}_w\right)^{s-1}\right]h_{w,\tau} \qquad > 0$$

$$[\ 5\ ]\quad \frac{\partial\, ln\, \boldsymbol{W}_{w,t}}{\partial \delta_{h,w,\tau}} = \left[\sum_{\tau=1}^{t} \left(1 + \tilde{i}_w\right)^{t-\tau} + \delta_{i,w} \sum_{m=1}^{t-\tau} \sum_{s=1}^{t-\tau} \left(1 + \tilde{i}_w + \delta_{i,w}\right)^{t-m-1} \left(1 + \tilde{i}_w\right)^{s-1} \right] r_{w,\tau} \qquad > 0$$

$$[\ 6\ ]\quad \frac{\partial\, ln\, \boldsymbol{W}_{w,t}}{\partial \delta_{c,w,\tau}} = - \left[\sum_{\tau=1}^{t} \left(1 + \tilde{i}_w\right)^{t-\tau} + \delta_{i,w} \sum_{m=1}^{t-\tau} \sum_{s=1}^{t-\tau} \left(1 + \tilde{i}_w + \delta_{i,w}\right)^{t-m-1} \left(1 + \tilde{i}_w\right)^{s-1} \right] p_{\tau} \qquad < 0$$

$$[\ 7\ ]\quad \frac{\partial\, ln\, \boldsymbol{W}_{w,t}}{\partial \delta_{W_o,w}} = \left(1 + \tilde{i}_w\right)^{t} + \delta_{i,w} \sum_{m=1}^{t} \sum_{s=1}^{t} \left(1 + \tilde{i}_w + \delta_{i,w}\right)^{t-m} \left(1 + \tilde{i}_w\right)^{s} \qquad > 0$$

$$[\ 8\ ]\quad \frac{\partial\, ln\, \boldsymbol{W}_{w,t}}{\partial \delta_{i,w,\tau}} = \sum_{\tau=1}^{t} \left(t - \tau + 1\right)\left(1 + \tilde{i}_B + \delta_{i,w}\right)^{t-\tau} \left(r_{w,\tau} h_{w,\tau} - p_{\tau} c_{w,\tau}\right)$$

$$+ \sum_{\tau=1}^{t} \tau \left(1 + \tilde{i}_w + \delta_{i,w}\right)^{\tau-1} W_{w,o} \qquad > 0$$

Equation [4] shows that the size of the increase in log wealth due to a unit increase in wage favoritism depends on the size of the rate of return, compounded through time, and the number of hours worked. Similarly, equation [5] also shows that the size of the increase in log wealth due to a unit increase in hours-worked favoritism depends on the size the wage rate and the compounded rate of return. Furthermore, equation [6] shows that the size of the reduction in log wealth due to a unit increase in consumption favoritism depends on the size of the price of commodity consumption and the compounded rate of return. Note that equation [7] shows that the size of the increase in log wealth due to a unit increase in initial wealth discrimination depends solely on the size of the compounded rate of return. Finally, equation [8] shows that the size of the increase in log wealth due to a unit increase in interest rate discrimination depends on the size of initial wealth, periodic savings, and the compounding rate of return.

A Model of Wealth Discrimination

Analogous to equation [2], we can write for blacks:

[9] $$W_{B,t} = exp\left\{\sum_{\tau=1}^{t}(1+i_B)^{t-\tau}(r_{B,\tau}h_{B,\tau} - p_\tau c_{B,\tau}) + (1+i_B)^t W_{B,o}\right\}.$$

where $W_{B,t}$ represents the portfolio of wealth for black, B, at time t=1…T ; $W_{B,t-1}$ represents the previous period portfolio of wealth for blacks, B, at time t=0…T-1 ; i_B represents the average interest rate earned on previous period portfolio of wealth for blacks, B, at time t=1…T; $r_{B,t}$ represents the wages for blacks, B, at time t=1…T; $h_{B,t}$ represents the number of hours worked for blacks, B, at time t=1…T; p_t represents prices for goods consumed at time t=1…T; and $c_{B,t}$ represents the goods consumed by blacks, B, at time t=1…T, and where $W_{B,o}$ is the initial assets of blacks.

Now consider the wealth identity with discrimination or, more specifically, pure discrimination in against members of group B. Let $\tilde{\delta}_{k,B,\tau}$ represent the variable k favoritism coefficient for members of group B, at time τ=1…T, where $\tilde{\delta}_{k,B,\tau}<0$ for all variables, such that equation [4] becomes[2]:

---

[2] Let $\tilde{\delta}_{k,B,\tau} = -\delta_{k,B,\tau}$ where $\delta_{k,B,\tau} > 0$

[10] $$W_{B,t} = exp\{\widetilde{W}_{B,t} + D_{B,t}\}$$

where

$$\widetilde{W}_{B,t} = \sum_{\tau=1}^{t}\left(1+\widetilde{i}_B\right)^{t-\tau}\left(\widetilde{r}_{B,\tau}\widetilde{h}_{B,\tau} - p_\tau\widetilde{c}_{B,\tau}\right) + \left(1+\widetilde{i}_B\right)^t \widetilde{W}_{B,o}$$

$$D_{B,t} = -\delta_{i,B}\sum_{m=1}^{t-\tau}\sum_{s=1}^{t-\tau}\left(1+\widetilde{i}_B - \delta_{i,B}\right)^{t-m-1}\left(1+\widetilde{i}_B\right)^{s-1} \cdot$$

$$\cdot\left(\widetilde{r}_{B,\tau}\widetilde{h}_{B,\tau} - \widetilde{r}_{B,\tau}\delta_{h,B,\tau} - \delta_{r,B,\tau}\widetilde{h}_{B,\tau} + \delta_{r,B,\tau}\delta_{h,B,\tau} - p_\tau\left(\widetilde{c}_{B,\tau} - \delta_{c,B,\tau}\right)\right)$$

$$-\delta_{i,B}\sum_{m=1}^{t}\sum_{s=1}^{t}\left(1+\widetilde{i}_B - \delta_{i,B}\right)^{t-m}\left(1+\widetilde{i}_B\right)^{s}\left(\widetilde{W}_{B,o} - \delta_{W,B}\right)$$

$$+\sum_{\tau=1}^{t}\left(1+\widetilde{i}_B\right)^{t-\tau}\left(-\delta_{r,B,\tau}\left(\widetilde{h}_{B,\tau} - \delta_{h,B,\tau}\right) + p_\tau\delta_{c,B,\tau}\right) - \left(1+\widetilde{i}_B\right)^t\delta_{W,B}$$

where tilda represents the variable in absence of discrimination such that $\widetilde{W}_{B,t}$ is group B in absence of discrimination at time τ=1…T, and $D_{B,t}$ is the difference between the observed wealth and wealth in absence of discrimination due to discrimination against members of group B at time τ=1…T. The following comparative static analysis shows what happens to wealth with an increase in discrimination, such that:

[11] $$\frac{\partial\, ln\, W_{B,t}}{\partial\delta_{r,B,\tau}} = -\left[\sum_{\tau=1}^{t}\left(1+\widetilde{i}_B\right)^{t-\tau} - \delta_{i,B}\sum_{m=1}^{t-\tau}\sum_{s=1}^{t-\tau}\left(1+\widetilde{i}_B - \delta_{i,B}\right)^{t-m-1}\left(1+\widetilde{i}_B\right)^{s-1}\right]h_{B,\tau} < 0$$

$$[12] \quad \frac{\partial \ln W_{B,t}}{\partial \delta_{h,B,\tau}} = - \left[\sum_{\tau=1}^{t} \left(1 + \tilde{i}_B\right)^{t-\tau} - \delta_{i,B} \sum_{m=1}^{t-\tau} \sum_{s=1}^{t-\tau} \left(1 + \tilde{i}_B - \delta_{i,B}\right)^{t-m-1} \left(1 + \tilde{i}_B\right)^{s-1} \right] r_{B,\tau} \quad > 0$$

$$[13] \quad \frac{\partial \ln W_{B,t}}{\partial \delta_{c,B,\tau}} = \left[\sum_{\tau=1}^{t} \left(1 + \tilde{i}_B\right)^{t-\tau} - \delta_{i,B} \sum_{m=1}^{t-\tau} \sum_{s=1}^{t-\tau} \left(1 + \tilde{i}_B + \delta_{i,B}\right)^{t-m-1} \left(1 + \tilde{i}_B\right)^{s-1} \right] p_{\tau} \quad > 0$$

$$[14] \quad \frac{\partial \ln W_{B,t}}{\partial \delta_{W_o,B}} = - \left[\left(1 + \tilde{i}_B\right)^{t} - \delta_{i,B} \sum_{m=1}^{t} \sum_{s=1}^{t} \left(1 + \tilde{i}_B + \delta_{i,B}\right)^{t-m} \left(1 + \tilde{i}_B\right)^{s} \right] \quad < 0$$

$$[15] \quad \frac{\partial \ln W_{B,t}}{\partial \delta_{i,B,\tau}} = - \sum_{\tau=1}^{t} (t - \tau + 1)\left(1 + \tilde{i}_B - \delta_{i,B}\right)^{t-\tau} \left(r_{B,\tau} h_{B,\tau} - p_{\tau} c_{B,\tau}\right)$$

$$- \sum_{\tau=1}^{t} \tau \left(1 + \tilde{i}_B - \delta_{i,B}\right)^{\tau-1} W_{B,o} \quad < 0$$

Equation [11] shows that the size of the decrease in log wealth due to a unit increase in wage discrimination depends on the size of the rate of return, compounded through time, and the number of hours worked. Similarly, equation [12] also shows that the size of the reduction in log wealth due to a unit increase in hours-worked discrimination depends on the size the wage rate and the compounded rate of return. Note that equation [13] shows that a unit increase in consumption discrimination can overstate wealth, especially if consumption is forced below subsistence. The size of this effect depends on the price of the commodity and the compounded rate of return from savings in each period

Furthermore, equation [14] shows that the size of the decrease in log wealth due to a unit increase in initial wealth discrimination depends solely on the size of the compounded rate of return. Finally, equation [15] shows that the size of the decrease in log wealth due to a unit increase in interest rate discrimination depends on the size of initial wealth, periodic savings, and the compounding rate of return.

A Model of Relative Wealth

In theory, the average wealth of group *B* is some proportion of the average wealth of group *w*, such that,

[16]
$$\overline{W}_{w,t} = \left(\frac{1}{\phi}\right)\overline{W}_{B,t}$$

where $1/\phi$ is the theoretical proportion of wealth. If ϕ equals one, then the average wealth of group *B* is the same the average wealth of *w*. As ϕ goes to zero, the average wealth of *w* becomes infinity times the average wealth of group *B*. As ϕ goes to infinity, the average wealth of group *w* becomes an infinitesimal proportion of the average wealth of the average wealth of group *B*. Let $\phi = e^{-(\lambda\Gamma+\gamma\Lambda)}$, then,

[17]
$$\frac{\partial\overline{W}_{w,t}}{\partial\Gamma} = \lambda\phi\overline{W}_{B,t}$$

[18]
$$\frac{\partial\overline{W}_{w,t}}{\partial\Lambda} = \gamma\phi\overline{W}_{B,t}$$

such that,

[19]
$$\lambda = \sigma + \gamma$$

$$where\ \sigma = \phi\overline{W}_{B,t}\left(\frac{\partial\overline{W}_{w,t}}{\partial\Gamma} - \frac{\partial\overline{W}_{w,t}}{\partial\Lambda}\right)$$

APPENDIX C

Studies of Late 20th Century Data

Andrew Brimmer (1988) found that blacks held 7.2 percent of US aggregate income, but only 3 percent of US aggregate wealth in 1984. This large disparity in wealth have persisted throughout the twentieth century: Between 1940 and 1988, the black mean was 13 to 23 percent of white mean, and the black median 4 to 10 percent of white median (Wolff 1992). But the origin of these differences has not been researched. Several studies (See, e.g., Pennsylvania Abolitionist Society 1838, Society of Friends 1849, Dubois 1899, Jackson 1939, Soltow 1972, Soltow 1975, Berlin 1979, Higgs 1982, Spriggs 1984, Margo 1984, Hornsby 1989, Eggert 1997, Hershberg 1997, and Bodenhorn 1999) have addressed historical differences in wealth. However, their results are often limited by non-representative local samples, small samples, or descriptive analyses that do not employ potential explanatory variables.

Lee Soltow (1972; 1975) conducted one of the first in-depth studies of overall mid-nineteenth century wealth accumulation patterns using the census population schedules. Note that these schedules were originally stored on microfilms. He spun the microfilm half-turns to collect random, cross-sectional samples from 1850-1870. Soltow used Gini coefficients to find that black wealth was less equally distributed among blacks than white wealth among whites. He finds that "their inequality levels are strangely similar in the sense that a few held wealth" (Soltow, 1975, p.145). Note that Soltow employs a small sample of 393 non-whites (1975) and 151 blacks (1972) to calculate his results.

Studies of 19th Century and Early 20th Century Data

Several studies have analyzed the experience blacks prior to the mass emancipation of southern slaves. John Hope Franklin (1943), Leon Litwick (1961) and Ira Berlin (1974) provide comprehensive accounts of free blacks. Furthermore, Philadelphia Abolitionist Society (1838), Society of Friends (1849), Dubois (1899), Eggert (1997) and Hershberg (1997) provided original studies on free black wealth in localities within Pennsylvania. Also, Bodenhorn (1999) studied racial inequality by analyzing wealth differences among darker and lighter free blacks in Maryland, Virginia, North Carolina, Kentucky and Louisiana. But free blacks were only two percent of the US population at any given time period.

Several studies have analyzed black-white wealth differences among in the south well after emancipation. Robert Higgs (1982), Robert Margo (1984) and Anne Hornsby (1989) used tax records to analyze southern black-white wealth differences between 1865 and 1915. They found strong yet limited wealth grains among blacks after emancipation although their results are limited the southern economy. Researchers have also studied different aspects of white-black wealth differences using contemporary data For instance, several studies have focused on white-black wealth differences due to differences in inheritance (See, e.g., Kotlikoff and Summers 1981, Menchik and Jianakopolis 1997, Wolff 1998, and Altonji, Doraszelski and Segal 2000). Other studies have focused on white-black wealth differences due to differences in income, savings and preferences (See, e.g., Terrell 1971, Franklin and Smith 1977, Oliver and Shapiro 1989, Wolff 1992, Oliver and Shapiro 1997, Conley 1999, Keister 2000a, Keister 2001,and Wolff 2001). Additional studies have focused on white-black wealth differences due to differences in assets and homeownership (See, e.g., Terrell 1971, Birmbaum and Weston 1974, Brimmer 1988, Snyder 1989, Wolff 1992, Wolff 1998, Hurst, Luoh and Stafford 1998, Chiteji and Stafford 1999, and Keister 2000b).

Several studies attempt assess the dominant source of wealth and wealth differences. Kotlikoff and Summers (1981) produced a foundational study on aggregate wealth and found that intergenerational transfers were the most significant factor in wealth accumulation. Conely (1999) proposed that legal and class barriers were the source of black-white wealth differences.1. Blau and Graham (1990) produced a seminal study of racial wealth inequality using regression decomposition. After controlling for income and demographic variables, they found that 78 percent of the wealth gap remained unexplained in 1976.

These studies have made significant contributions to our understanding of economic discrimination in terms of modern wealth differences. This study will build upon their findings by analyzing white-black wealth differences directly after the Civil War and mass emancipation of southern slaves to obtain new insights into the historical and intertemporal dimensions of the white-black wealth gap.

James Curtis Jr (2002) Studies of 19th Century Wealth Using the United Stated Census

The 1870 census manuscripts contain responses to important socioeconomic inquiries including age, sex, color, marital status, literacy status, whether the individual attended school during the year, occupation, state or country of birth, value of real estate, and value of personal estate (other forms of wealth) for all individuals in a given household.

Real estate value was enumerated based on guidelines specified in the Circular to Marshals. It specified that "under heading 8 insert the value of real estate owned by each individual enumerated. You are to obtain the value of real estate by inquiry of each individual who was supposed to own real estate, be the same located where it may, and insert the amount in dollars. No abatement of the value is to be made on account of any lien or encumbrance thereon in the nature of debt" (Magnuson 1995, p347) Personal estate value (other wealth) was also enumerated based on guidelines that specified "Personal estate is to be inclusive of all bonds, stocks, mortgages, notes, live stock, plate, jewels, or furniture, but exclusive of wearing apparel" (p.349). For more on the quality of historical census data, see Wright 1900, Steckel 1991, and Magnuson 1995.

Note that sample includes the reported wealth of household heads. Enumerators only recorded the value of wealth if an individual had more than 100 dollars in nominal wealth. Furthermore, zero wealth is not equivalent to zero dollar-wages per hour, where one must account for the participation decision to obtain robust estimates. Instead, not having any initial wealth, savings, and assets leads to one possessing zero wealth.

CHAPTER 5. Wealth and Faith

James Edward Curtis Jr

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Wealth and Faith

ABSTRACT

For those who monitor relative wealth accumulation and are unmoved by divine empathy, a disincentive to increase the rate of full manumission is possible. Consider slavery as overt, formal constraints to zero or even negative wealth accumulation; and consider freedom of ex-slaves as the perception of overt lack of formal wealth constraints and yet the possibility of covert, hidden or informal constrained wealth accumulation controls (i.e. southern Jim Crow laws); and finally, consider full manumission as the uninhibited opportunity to accumulate wealth at rates of entities without a history of slavery or with a more limited history of slavery. This definition of full manumission probably includes the necessity of wealth transfers to the fully manumitted ex-slave in transition from slavery or free ex-slave to full manumission. Nevertheless, this negatively bounded correlation between duration of time from the end of enslavement and magnitude of unexplained differences in wealth suggests the magnitude in the unexplained portion of white-black wealth differences increases as the length of time from the real end of enslavement decreases. This posses another research question: what is the level and source of wealth accumulation differences among blacks with a long history of freedom/manumission and blacks with a short history of freedom/manumission. This investigation probably starts with the re-examination of the historical documentation of the former existence of free black, mulatto slave owners of black slaves. However, Jesus Saves!

Key Words: Slavery, Wealth, Inequity, Faith, The Holy Bible, Salvation, Jesus

JEL Codes: A1 A23 B1 C1 C2 C61 D31 D63 D9 E1 E2 F02 F3 F4 G00 G11 H1 H2 J00 J2 J3 J7 L2 L3 N00 N3 O00 O3 P00 Z1

Relief from Suffering Through The Birth of Jesus

Matthew 1:18-24 describes the birth of Jesus. Verse 23 states “they will call him Immanuel—which means, ‘God with us’." **Luke 2:1-7** describes the location of the birth of Jesus. Verse 6 states they “placed him in a manger, because there was no room for them in the inn.” **Luke 2:8-19** describes the angels which appeared before the shepherds regarding the birth of Jesus. Verse 20 describes the response of the shepherds and states “The shepherds returned, glorifying and praising God for all the things they had heard and seen.” The shepherds responded this way because Jesus paid the price for those in suffering. I, James Edward Curtis Jr, once wrote a draft of a dissertation concerning suffering, which the Bible suggests Jesus intended to save us from—suffering in the form of inequality, for instance, inequality between many white Americans and many black Americans, or, dare I suggest: inequality among the supposed suffering: inequality among black Americans.

Suffering in the Form of Inequality: Domination of Unexplained Effects

Some of my 2002 dissertation draft reads: “Researchers have a long-standing interest in understanding the causes and consequences of inequality. One approach to analyzing inequality is to compare average economic choices from a classical theoretical framework. Another approach considers the impact of the formation of society, through statutes and institutions, on average economic outcomes. This dissertation studies the effects of (both by investigating the effects of) slavery on black-white wealth inequality upon the emancipation of slaves in the US using historical… data…. Foremost, a theory of relative wealth is presented, where wealth is determined by group-specific wages, hours of work, consumption, and interest rates. Historical black-white differences in wealth were estimated using regression decomposition. This technique decomposes economic differences into the portion explained by differences in characteristics and the unexplained portion due to different returns to a set of classical characteristics….Results confirm that we cannot reject that the claim…when comparing the wealth of ex-slaves to the wealth (of) whites, (the portion of) differences in wealth due to unexplained…effects dominate the portion (of differences in wealth) due to classical characteristic differences.

Suffering in the Form of Inequality: Modern Differences Have Historical Roots

Furthermore, the size and source of contemporary (white-black) wealth differences have historical roots: In 1870, at least 75 percent of white-black wealth differences were not explained by characteristic differences described by the classical model when employing the primary index. This is consistent with wealth decompositions of late twentieth century data that shows that three-quarters of white-black differences in wealth were unexplained…(by classical characteristic differences).

Suffering in the Form of Inequality: Negative Correlation between Time and Magnitude

Finally, …unexplained differences (in white-black wealth) in states that abolished slavery (as a result of) the Civil War were 10 percent higher than unexplained effects in states that abolished slavery well before the Civil War….(Combining this 10 percent gap with persistent) magnitudes of the unexplained effects (in white-black wealth differences) … we cannot reject the existence of a negatively bounded correlation between the duration of time from enslavement and the magnitude of unexplained differences in (white-black) wealth.

(In other words, for those who monitor relative wealth accumulation and are unmoved by divine empathy, a disincentive to increase the rate of full manumission is possible. Consider slavery as overt, formal constraints to zero or even negative wealth accumulation; and consider freedom of ex-slaves as the perception of overt lack of formal wealth constraints and yet the possibility of covert, hidden or informal constrained wealth accumulation controls (i.e. southern Jim Crow laws); and finally, consider full manumission as the uninhibited opportunity to accumulate wealth at rates of entities without a history of slavery or with a more limited history of slavery. This definition of full manumission probably includes the necessity of wealth transfers to the fully manumitted ex-slave in transition from slavery or free ex-slave to full manumission. Nevertheless, this negatively bounded correlation between duration of time from the end of enslavement and magnitude of unexplained differences in wealth suggests the magnitude in the unexplained portion of white-black wealth differences increases as the length of time from the real[1] end of enslavement decreases.)

(This posses another research question: what is the level and source of wealth accumulation differences among blacks with a long history of freedom/manumission and blacks with a short history of freedom/manumission. This investigation probably starts with the re-examination of the historical documentation of the former existence of free black, mulatto slave owners of black slaves).

[1] Real end distinguishes formal announcements of the end of slavery (i.e. Emancipation Proclamation and free ex-laves) from the day the compensated, uninhibited capacity to accumulate wealth at levels of those without a history of slavery or more limited history/version of slavery begins (full manumission)

However Jesus Saves

Why do I say all of this? Because Jesus was born to save the whites and to save the blacks; Jesus was born to save the light-skinned black and to save the dark-skinned black; Jesus was born to save the men and to save the women; Jesus was born to save the poor and to save the rich; Jesus was born to save the faithless and to save the faithful. One writer wrote “At this time of year we think about the birth of the Savior. The events of His birth are of vital importance, yet we would do well to reflect also on His earthly ministry, sacrificial death, resurrection, ascension, and promised return.… Having lived a perfect life, (Jesus) died an awful death to pay the price for the sins of mankind.” (Richard De Haan, RBC Ministries, 2003)

There’s not a friend like Jesus, no not one (Oatman Jr, 1895).

APPENDIX

I. Agent-Specific Constraints

$$MAX_{\{x_{nij} \geq 0\}}\ U = \gamma_U \prod_{SP=1} U_{SP}^{\theta(SP)}$$

subject to $X_{ijSP} \leq E_{ijSP}$

Let: $U_{SP} = \gamma_{U(SP)} \prod_{j=1} (\prod_{i=1} u_{ij(SP)}^{\theta ij(SP)})$

such that $U = \gamma^* \prod_{SP=1} [\prod_{j=1} (\prod_{i=1} u_{ij(SP)}^{\theta^*})]$

where $\gamma^* = \gamma_U \prod_{SP=1} \gamma_{U(SP)}$

$\theta^* = \theta_{ij(SP)} \theta_{(SP)}$

Further, let: $u_{ijSP} = \gamma_{uijSP} \prod_{n=1} (x_{(n)ij} - s_{x(n)ijSP})^{\alpha(n)}$

such that $U = \gamma' \prod_{SP=1} [\prod_{j=1} (\prod_{i=1} (\prod_{n=1} (x_{(n)ij} - s_{x(n)ijSP})^{\alpha(n)'}))]$

where $\gamma' = \gamma_U [\prod_{SP=1} \gamma_{U(SP)} (\prod_{j=1} (\prod_{i=1} \gamma_{uijSP}))]$

$\alpha(n)' = \alpha(n) \theta_{ij(SP)} \theta_{(SP)}$

Further, let: $E_{ijSP} = \Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + p_{x(l)} e_{x(l)ij} + e_{ijSP}$ *for all* $n = 1,2,..,E \neq l$

Further, let: $X_{ij} = \Sigma_{n=1} P_{x(n)j} x_{(n)ij} + p_{x(l)j} x_{(l)ij}$

where $P_{x(n)j} = p_{x(n)} (1 + \delta_{xjg} + \Sigma_{q=1} t'_{qx(n)})$

$P_{x(E)} = \eta(B)$

Therefore, the decision becomes:

$$MAX_{\{x_{nij} \geq 0\}}\ U = \gamma' \prod_{SP=1} [\prod_{j=1} (\prod_{i=1} (\prod_{n=1} (x_{nij} - s_{x(n)ijSP})^{\alpha(n)'}))]$$

subject to $\Sigma_{n=1} P_{x(n)j} x_{(n)ij} + p_{x(l)j} x_{(l)ij} \leq \Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + p_{x(l)} e_{x(l)ij} + e_{ijSP}$

Further, let: $\Sigma_{n=1} p_{x(n)} e_{x(n)ijSP} + \Sigma_{v=1} w_v h_{vij} = W_{ij}$

where $w_v = p_{x(l)}$

$h_{vij} = e_{x(l)ij} - x_{(l)ij}$

II. One Universal Constraint **

$\mathbf{MAX}_{\{x_{nij} \geq 0\}}\ \mathbf{U} = \gamma_U \Pi_{SP=1} \boldsymbol{U}_{SP}^{\theta(SP)}$

Subject to $\mathbf{X} \leq \boldsymbol{\varepsilon}$

Further, let: $\boldsymbol{\varepsilon} = \Sigma_{SP=1} \boldsymbol{E}_{SP} + \mathbf{e}$

$\boldsymbol{E}_{SP} = \Sigma_{i=1} \Sigma_{j=1} \boldsymbol{E}_{ijSP} + \mathbf{e}_{SP}$

$\boldsymbol{E}_{ijSP} = \boldsymbol{E}_{x(n)ijSP} + \Sigma_{i=1} \Sigma_{j=1} \boldsymbol{p}_{x(l)}\, e_{x(l)ij} + e_{j}$ *for all n = 1,2,..,E ≠ l*

$\boldsymbol{E}_{x(n)ijSP} = \Sigma_{n=1} \boldsymbol{p}_{x(n)}\, e_{x(n)ijSP}$

such that $\boldsymbol{\varepsilon} = \Sigma_{i=1} \Sigma_{j=1} \Sigma_{n=1} \boldsymbol{p}_{x(n)}\, e_{x(n)ijSP} + \Sigma_{i=1} \Sigma_{j=1} \boldsymbol{p}_{x(l)}\, e_{x(l)ij} + \mathbf{e}^*$

where $\mathbf{e}^* = \mathbf{e} + \Sigma_{SP=1} \mathbf{e}_{SP} + \Sigma_{i=1} \Sigma_{j=1} e_{j}$

Further, let: $\mathbf{X} = \Sigma_{i=1} \Sigma_{j=1} \Sigma_{n=1} \boldsymbol{P}_{x(n)j} \boldsymbol{X}_{(n)ij} + \Sigma_{i=1} \Sigma_{j=1} \boldsymbol{p}_{x(l)j} \boldsymbol{X}_{(l)ij}$

where $\boldsymbol{P}_{x(n)\,j} = \boldsymbol{p}_{x(n)} \left(1 + \delta_{xjg} + \Sigma_{q=1} \boldsymbol{t'}_{qx(n)}\right)$

$\boldsymbol{P}_{x(E)} = \eta(\mathrm{B})$

Therefore, the decision becomes:

$\mathbf{MAX}_{\{x_{nij} \geq 0\}}\ \mathbf{U} = \gamma' \Pi_{SP=1} [\Pi_{j=1} (\Pi_{i=1} (\Pi_{n=1} (x_{nij} - s_{x(n)ijSP})^{\alpha(n)'}))]$

subject to $\Sigma_{i=1} \Sigma_{j=1} \Sigma_{n=1} \boldsymbol{P}_{x(n)j} \boldsymbol{X}_{(n)ij} + \Sigma_{i=1} \Sigma_{j=1} \boldsymbol{p}_{x(l)j} \boldsymbol{X}_{(l)ij} \leq \Sigma_{i=1} \Sigma_{j=1} \Sigma_{n=1} \boldsymbol{p}_{x(n)}\, e_{x(n)ijSP} + \Sigma_{i=1} \Sigma_{j=1}$
$\boldsymbol{p}_{x(l)}\, e_{x(l)ij} + \mathbf{e}^*$

Let: $\Sigma_{i=1} \Sigma_{j=1} \Sigma_{n=1} \boldsymbol{p}_{x(n)}\, e_{x(n)ijSP} + \Sigma_{v=1} \Sigma_{i=1} \Sigma_{j=1} \boldsymbol{w}_{v} \boldsymbol{h}_{vij} = \Sigma_{i=1} \Sigma_{j=1} \mathbf{W}_{ij}$

where $\boldsymbol{w}_{v} = \boldsymbol{p}_{x(l)}$

$\boldsymbol{h}_{vij} = e_{x(l)ij} - \boldsymbol{X}_{(l)ij}$

** Scriptures considering freewill, and scriptures considering fixed choices: *free will:* references to freewill offerings (*Leviticus 22:18,21,23; Leviticus 23:37-38; Numbers 15:2-3);* an author's speech: *(Psalms 119:108)*; a king's assessment of followers: (*Ezra 7:13); fixed choices:* fixed beginning of man: (*Genesis 1:26-27 versus Psalms 51:5)*; fixed end of man: (*Romans 3:23; 6:23; Revelations 20:12-15);* fixed government controls (shocks): *((a King's heart) Proverbs 21:1, (Pharaoh's heart)*

Exodus 7-14)

III. A Model of Wealth ***

Let: $\mathbf{W}_{ij} = (1-g - \Sigma_{q=1} t_{q\,l})\mathbf{I}_{ij} + \mathbf{A}_{ij} + (1-g)(\Sigma_{q=1} S_{qij} + C_{ij}) - G_{ij}$

$$\mathbf{I}_{ij} = \Sigma_{v=1} \boldsymbol{w'}_{m} \boldsymbol{h'}_{kij}$$

$$\boldsymbol{w'}_{m} = \boldsymbol{w}_{k} - \delta_{w(m)jg} - \Sigma_{q=1} t'_{q}$$

$$\boldsymbol{h'}_{mij} = \boldsymbol{h}_{mij} - \delta_{h(m)jg}$$

where $\mathbf{A}_{ij} = \Big[\, \mathbf{A}_{0ij} (1-g - \Sigma_{q=1} t_{q\,A(0)}) + \Sigma_{a=1} N_{(1,a)ij} (1-g - \Sigma_{q=1} t_{qN(1,a)})$

$$+ \Sigma_{m=1} \gamma_{\pi(m)ij}\, \boldsymbol{\pi}_{Z(m)ij} (1-g) \,\Big] (1+ \gamma_{\rho ij}\, \rho)(1-\Sigma_{q=1} t_{q\rho})$$

$$+ \Sigma_{b=1} N_{(2,b)ij} (1-g - \Sigma_{q=1} t_{qN(2,b)}) - G_{\rho ij} - \delta_{Ajg} (\rho, \mathbf{A}_{0j}) \,\Big]$$

$$\mathbf{A}_{0j} = A_{0j} (\boldsymbol{x}_{n\,0}, \gamma w_{(0)jF}\, \mathbf{W}_{0F} (I_0(\boldsymbol{w}_0 \boldsymbol{h}_0, S_0), A_0(A_{(-1)}, N_0, \gamma_{0\pi}\, \pi_{0Z}), t_{0q}\, \delta_{0g}, \gamma_{0\rho}))$$

$$\boldsymbol{\pi}_{Zij} = (P_{Zj} \mathbf{Z}_{ij} + \Sigma_{q=1} S_{qZij} - \Sigma_{d=1} \boldsymbol{P}_{Z(d)j} \boldsymbol{X}_{Z(d)ij}) (1 - \Sigma_{q=1} t_{q\,\pi})$$

$$\boldsymbol{P}_{Z\,j} = \boldsymbol{p}_{Z} (1 - \delta_{Zjg} + \Sigma_{q=1} t'_{qZ})$$

$$\mathbf{Z}_{ij} = \gamma_{Zij} \Pi_{d=1} \boldsymbol{X}_{Z(d)ij}^{\ \beta(d)}$$

$$\boldsymbol{P}_{Z(d)\,j} = \boldsymbol{p}_{Z(d)} (1 - \delta_{Z(d)jg} - \Sigma_{q=1} t'_{qZ})$$

$$\boldsymbol{X}_{Z(d)ij} = \boldsymbol{x}_{Z(d)ij} - \delta_{Z(d)jg}$$

*** Consider a divine kingdom with a holy economy, such that goods are priced according to supply (for instance, closeness to harvest and no non-competitive pricing (*Leviticus 25:15-17),* salvation price (confess Jesus and believe he was raised from death (*Romans 10:9);* a full range of tax adjusted price of goods *(Matthew 22:21; Ecclesiastes 5:9);* initial wealth, or inheritances (*Genesis 2:16-17; Proverbs 13:22a; Proverbs 19:14; Deuteronomy 28: 2,4; Deuteronomy 28:15,18);* the accumulation of wealth, through the will of GOD (*Deuteronomy 8:17-18; Ps. 44:1-3; Ecclesiastes 5:19);* arbitrary behavioral restrictions on the accumulation of wealth, for instance, righteousness and wisdom as a lower boundary for durable wealth (*2 Chronicles 1:11-12; Psalm 49:10; Psalm 112:2-3; Proverbs 5:1-2,10; Proverbs 13:11; Proverbs 8:17-18);* social capital including tithe (*Matthew 22:21; Leviticus 27:30,32)* and social capital including offerings (*Leviticus 1-7; Psalm 96:8);* the existence of labor (*Genesis 2:15);* minimum support for zero wages (*Leviticus 25:39; Exodus 1:10,13 versus. Exodus 3:10; Revelation 18:11-13);* minimum support for slavery, for instance, differing wage/servants from slaves *(Jeremiah 2:14-King James Version*; *Ephesians 6:5 versus Ephesians 6:9);* minimum support for group-based discrimination (*Exodus 1:10 versus Exodus 12:41); and* the existence of divine subsistence (*Leviticus 23:22, Philippians 4:11-12, Hebrews 11:6b)*

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Yitzhaki, Schlomo, “The Relation Between Return and Income,” Quarterly Journal of Economics, February 1987, pp. 77-95.

Yitzhaki, Shlomo, “The Relation Between Return and Income,” Quarterly Journal of Economics, February 1987, pp. 77-95.

Colleges Research Institutions & Universities, Certificates and Degrees of James E Curtis Jr

5th Phase Distinctions of James E Curtis Jr, designing a graduate program, institute & university

2017-12-31 *Honorary Doctorate of Philosophy, career award,* Education, Education Foundation
2017-12-31 *Honorary Executive Master of Arts, career award,* Education Administration, Education Foundation
2017-12-31 *Honorary Doctorate of Philosophy ,career award* , Political Science, Education Foundation
2017-12-31 *Honorary Doctorate of Philosophy ,career award,* Sociology, Education Foundation
2017 *JECJEF Prize in Charity, career award*
2014-04-09 *Honorary Doctorate of Laws, career award,* Laws, Education Foundation
2014 *JECJEF Prize in Advocacy, career award*
2013 Founder, The James Edward Curtis Jr Education Foundation/JECJEF University
2012 Founder, Internet Graduate Research Institute, IGRI
2012-12-31 *Honorary Doctorate of Philosophy, career award,* Interdisciplinary Studies, Education Foundation
2012 *JECJEF Prize in Economics, career award*

4th Phase Distinctions of James E Curtis Jr, The Post-Doctoral Studies of James E Curtis Jr

2011 - 2017 Doctoral Programs, Education, Laws, Political Science, Sociology, Education Foundation
2011 - 2017 Executive Master of Arts Programs, Education Administration, Education Foundation
2011 - 2012 Doctoral Program, Interdisciplinary, Accountancy Economics History Laws, Education Foundation
2003-2010 *Honorary Post-Doctoral Researcher, & sabbatical,* Education Foundation

3rd Phase Distinctions of James E Curtis Jr, The Ph.D. of James E Curtis Jr

2003-12-31 *Doctorate of Philosophy,* Ph.D., Economics, Education Foundation
2003 Doctoral Program, Economics, Education Foundation,*transfer courses, exams, defenses, OSU*

2nd Phase Distinctions of James E Curtis Jr, The Ph.D. Program of James E Curtis Jr

2002 Doctoral Program, Ph.D. Written Defense, Proxy, Ohio State University/OSU, Columbus, OH
2001 Doctoral Program, Ph.D. Oral Defense, Proxy, OSU, Columbus, OH
2000 Doctoral Program, Ph.D. Oral Proposal, OSU, Columbus, OH
2000 Doctoral Program, Ph.D. Written Proposal, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Economic History, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Macro/Monetary Economics, OSU, Columbus, OH
1999 Doctoral Program, Ph.D. Program Exam Pass, Microeconomics, OSU, Columbus, OH
1998 Doctoral Program, Ph.D. Program Exam Pass, Macroeconomics, OSU, Columbus, OH
1997 - 2003 Doctoral Program, Economics, 3.37 GPA, courses, OSU, Columbus, OH
1997 - 1998 Master of Arts Program, *Master of Arts*, Economics, OSU, Columbus, OH

1st Phase Distinctions of James E Curtis Jr, The Pre-Doctoral Programs of James E Curtis Jr

1997-Summer Pre-Doctoral Program, Economics, American Economic Association/Univ. of Texas, Austin, TX
1996-Autumn Pre-Doctoral Program, Mathematics for Economists, Univ. of Maryland, College Park, MD

1995 International Studies, parliamentary government of Israel and Tel Aviv University, Israel
1994-Summer *Certificate*, Management, Harvard School of Business/INROADS, Boston, MA

1991 – 1996 *Bachelor Degree*, Economics & *Bachelor Degree*, Political Science, Howard /transfer from Rutgers

1990-2019 Founder Owner President, Education Foundation

1990-Summer Pre-Undergraduate Program, Mathematics, UDC, Washington, DC
1989 – 1991 Pre-Undergraduate Program Degree, *Diploma*, Calvin Coolidge/transfer from Garfield

Religion, Certificate Programs & Transfer to Graduate Studies Degrees of James E Curtis Jr

5th Phase Distinctions of James E Curtis Jr, designing programs and divinity university

2014 *Honorary Executive Masters of Arts* , Religious Studies & Christian Baptist Missions Charter,
career award , Education Foundation & Internet Graduate Divinity University
2014 *Missionary Programs Pins* , The Enduring Faith Center program,
Philippians 4 13, Romans 10 9, St James, career awards
2014 JECJEF Prize in Music, *career award*
2014 JECJEF Prize in Religion,*career award*

4th Phase Distinctions of James E Curtis Jr, The Religion Degrees of James E Curtis Jr

2014 *Honorary Doctorate of Philosophy,* Religious Studies,
career award, Education Foundation & Internet Graduate Divinity University
2014 Founder, Internet Graduate Divinity University, IGDU,
an institute of the Education Foundation & JECJEF University
2013-12-31 *Honorary Doctorate of Philosophy,* Religious Studies,*career award*
2013-12-31 *Honorary Doctorate of Divinity,* Education Foundation,*career award*
2012 *Honorary Doctorate of Jesus Christ, career award*

3rd Phase Distinctions of James E Curtis Jr, Doctoral Programs of James E Curtis Jr

2010 April-2013 Doctoral Programs, Divinity, Education Foundation
2010 April-2013 Doctoral Programs, Religious Studies, Education Foundation
2010-2013 Doctoral Programs, Education Foundation & Internet Graduate Divinity University,
transfer courses, exam, defenses from Certificate Programs
2013 Doctoral Program, Ph.D. Written Defense, Proxy, Washington, DC
2011 Doctoral Program, Ph.D. Oral Proposal, Washington, DC
2011 Doctoral Program, Ph.D. Written Proposal, Washington, DC
2010 Doctoral Program, Ph.D. Oral Defense, Proxy, Washington, DC

2009 Founder, The Enduring Faith Center
2008 Doctoral Program, Ph.D. Program Exam Pass, Proxy, Washington, DC

2nd Phase Distinctions of James E Curtis Jr, Certification Programs of James E Curtis Jr

2007, 2010, 2012 Certificate Program, Religious Administration, Maryland
2005, 2010-2011 Certificate, Executive Employment, Religious Administration, JPGW, DC
2010 Certificate Program, Religious Administration, COZ, Laurel, MD
2009-2010 Certificate, Religious Administration, History, CEET/GMCHC, Washington, DC
2005, 2009 Certificate, Religious Administration, ABCOTS, Baltimore, MD
2006-2009 Certificate Program, Employment Executive, NCBC, Washington, DC
2008 Certificate Program, Religion, History, Christian Courses, online
2007-2008 Certificate/Ordination, NCBC, Washington, DC
2006 Certificate Program, Religious Administration, MBC, conference in MD
2005-2006 Certificate, Religious Administration, CUM, programs in Montgomery County & DC

1st Phase Distinctions of James E Curtis Jr, Pre-Doctoral Studies of James E Curtis Jr

2002 Autumn-2005 Pre-Doctoral Programs, Religion, Education Foundation, online & independent studies

Religion, Certificate Programs & Transfer to Graduate Studies
Graduate Student Advising, Research Assistants, and Research Grants of James E Curtis Jr

Curtis Jr, James E,*research success,* EF,/IGDU, $1,000 - $ 3,600 year, NCBC/SET repayments applied to Religious Studies Home Office & Religious Studies Research Grants, 2010-2018.

Religion, Certificate Programs & Transfer to Graduate Studies Working Papers of James E Curtis Jr

Curtis Jr, James E, "**An Approach to Biblical Entrepreneurship and Church Development**

Corporations", Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, http://jecjef.net/Research.html, January 1, 2018.

Curtis Jr, James E, “**An Approach to Biblical Economics and the Theology of Praise**”, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, http://jecjef.net/Research.html, July 10, 2010, edited December 27, 2017.

Curtis Jr, James E, “**The Enduring Faith Center, Chronological Memior of Church Formed by James Edward Curtis Jr**”, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, http://jecjef.net/Research.html, December 31, 2013, edited March 7, 2014.

Curtis Jr, James E, “**Wealth and Faith**”, Education Foundation Preliminary Paper Series Internet Graduate Divinity University, March 11, 2011.
Curtis Jr, James E, “Wealth and Faith,*Social Science Research Network* eJournal, March 11, 2011:
Social Science Research Network eJournal,*Business History, History of Industrial Organization* , Vol. 2, No. 40, December 1, 2011.
Social Science Research Network eJournal,*History of Finance, Editor’s Choice,* Vol. 2, No. 21, May 26, 2011.
Social Science Research Network eJournal,*Political Theory: History of Political Thought* , Vol. 4, No. 21, April 21, 2011.
Social Science Research Network eJournal,*History of Finance,* Vol. 4, No. 21, April 8, 2011.
Social Science Research Network eJournal,*Economic Inequality & The* , Vol. 6, No. 20, April 6, 2011.
Social Science Research Network eJournal,*Macroeconomics: Employment, Income & Informal Economy* , Vol. 4, No. 27, April 5, 2011.
Social Science Research Network eJournal,*Political Economy: Taxation, Subsidies & Revenue,* Vol. 4, No. 49, April 4, 2011.

Curtis Jr, James E *“Summary: The Compassionate Leader”*, **excerpts from The Enduring Faith Center**, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, August 3, 2010
Curtis Jr, James E *“Faithful, Yet Subject to Feuding”*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, May 19, 2010
Curtis Jr, James E *“Developing Hope Through Giving Thanks”*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, May 12, 2010
Curtis Jr, James E *“The Good News”*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University,

September 27, 2009
Curtis Jr, James E *"A Wholesome Objective"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, September 8, 2009
Curtis Jr, James E *"I am Growing in God"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, August 19, 2009
Curtis Jr, James E *"A Model of Faith-Based Analysis"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, March 27, 2009
Curtis Jr, James E *"Prayer"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, July 17, 2008
Curtis Jr, James E *"Worry"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, July 3, 2008
Curtis Jr, James E *"The Kings of Judah and Israel"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, April 22, 2008
Curtis Jr, James E *"Bible Fundamentals Diagnostics"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, April 10, 2008
Curtis Jr, James E *"Stewardship"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, April 4, 2008
Curtis Jr, James E *"Joy"*, excerpts from The Enduring Faith Center Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, March 20, 2008
Curtis Jr, James E *"Manhood"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, February 2, 2008
Curtis Jr, James E *"Service"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, January 31, 2008
Curtis Jr, James E *"Money"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, January 17, 2008
Curtis Jr, James E *"Birth of Jesus"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, November 28, 2007

Curtis Jr., James E *"Overcoming"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, October 22, 2007
Curtis Jr, James E *"Belief"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, October 15, 2007
Curtis Jr, James E *"Strength from God"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, October 8, 2007
Curtis Jr, James E *"Hope"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, September 24, 2007, Edited August 3, 2008
Curtis Jr, James E *"Suffering"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, September 10, 2007, Edited April 17, 2008
Curtis Jr, James E *"Evangelism"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, August 27, 2007
Curtis Jr, James E *"Faith"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, August 6, 2007
Curtis Jr, James E *"Love"*, excerpts from The Enduring Faith Center Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, July 30, 2007
Curtis Jr, James E *"Grace"*, excerpts from The Enduring Faith Center, July 23, 2007
Curtis Jr, James E *"Reconciliation"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, July 16, 2007
Curtis Jr, James E *"Rejecting God"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, July 2, 2007
Curtis Jr, James E *"Anxiety"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, June 25, 2007
Curtis Jr, James E *"God and Earth"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series/Internet Graduate Divinity University, June 15, 2007
Curtis Jr, James E with Steven E Tucker, *"How to Respond to Leadership"*, excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series Internet Graduate Divinity University, May 26, 2007
Curtis Jr, James E with CUM Richard Kunkler, David Author Surles, and Donald Taylor,

"Adam to Abraham", excerpts from The Enduring Faith Center, Education Foundation Preliminary Paper Series
Internet Graduate Divinity University, April 28, 2006

Religion, Certificate Programs & Transfer to Graduate Studies Presentations of James E Curtis Jr

2009-2019 Curtis Jr, James E, Religion Posters, Videos, **Issues 2-6, jecjef.net/faith** - online

Theology of Leadership

8/11/2010 Curtis Jr, James E, Part IV.2, EF/IDGU 2010, "Praying in the name of Jesus"
8/4/2010 Curtis Jr, James E, Part V, EF/IDGU 2010, "Compassionate Leadership"
10/28/2007 Curtis Jr, James E, Part IV.1, EF/IDGU 2010, "Birth of Jesus"
10/8/ 2007 Curtis Jr, James E, Part III, EF/IDGU 2010, "Strength from God"
7/ 2/ 2007 Curtis Jr, James E, Part II, EF/IDGU 2010, "Rejecting God"
5/26/2007 Curtis Jr, James E, Part I, EF/IDGU 2010, "How to Respond to Leadership"

Theological Character

7/ 22/2010 Curtis Jr, James E, Part X.2, EF/IDGU 2010, "Praise II: Breakthrough", mission, DC
7/20/2010 Curtis Jr, James E, Part X.1, EF/IDGU 2010, "Praise I: Stomp", mission, DC
6/30/2010 Curtis Jr, James E, Part III.2, EF/IDGU 2010, "Being Faithful", mission, DC
12/5/ 2009 Curtis Jr, James E, Part V.2, EF/IDGU 2010, "Developing Hope", mission, DC
8/14/2008 Curtis Jr, James E, Part III.1, represented, EF/IDGU 2010, "Faith", mission, DC
8/3/2008 Curtis Jr, James E, Part VIII, represented, EF/IDGU 2010, "Joy", mission, DC
7/ 24/2008 Curtis Jr, James E, Part V.1, represented, EF/IDGU 2010,"Hope" NCBC, mission, DC
7/17/2008, Curtis Jr, James E, Part IX, EF/IDGU 2010, "Prayer" , mission, DC
7/10,/2008 Curtis Jr, James E, Part I, represented, EF/IDGU 2010, "Grace" , mission, DC
3/20/2008 Curtis Jr, James E, Part VIII, EF/IDGU 2010, "Joy" , mission, DC
2/2/2008 Curtis Jr, James E, Part VII, EF/IDGU 2010, "Manhood" , mission, DC
2/14/2008 Curtis Jr, James E, Part II, represented, EF/IDGU 2010, "Love" , mission, DC
12/10/2007 Curtis Jr, James E, Part IV, represented, EF/IDGU 2010,

“Evangelism”, mission, DC
10/15/2007 Curtis Jr, James E, Part VI, EF/IDGU 2010, “Belief” , mission, DC
9/24/2007 Curtis Jr, James E, Part V.1, EF/IDGU 2010, “Hope” , mission, DC
9/19/2007 Curtis Jr, James E, Part III.1, represented, EF/IDGU 2010, “Faith”, mission, DC
9/2/2007 Curtis Jr, James E, Part I, represented, EF/IDGU 2010, “Grace”, mission, DC
8/ 27/2007 Curtis Jr, James E, Part IV, EF/IDGU 2010, “Evangelism”, mission, DC
8/6/2007 Curtis Jr, James E, Part III.1, EF/IDGU 2010, “Faith” , mission, DC
7/30/2007 Curtis Jr, James E, Part II, EF/IDGU 2010, “Love”, mission, DC
7/23/2007 Curtis Jr, James E, Part I, EF/IDGU 2010, “Grace” , mission, DC

Theological Businesses
12/12/2008 Curtis Jr, James E, Part II, represented, EF/IDGU 2010, “Service”, mission, DC
6/12/2008 Curtis Jr, James E, Part II, represented, EF/IDGU 2010, Service”, mission, DC
4/4/2008 Curtis Jr, James E, Part I.2, EF/IDGU 2010, “Stewardship” , mission, DC
1/31/2008 Curtis Jr, James E, Part II, EF/IDGU 2010, “Service” , mission, DC
1/17/2008 Curtis Jr, James E, Part I.1, EF/IDGU 2010, “Money” , mission, DC

Theological Counseling
8/7/2008 Curtis Jr, James E, Part IV, represented, EF/IDGU 2010, “Overcoming”, mission, DC
7/ 3/2008; Curtis Jr, James E, Part I.2, EF/IDGU 2010, “Worry” , mission, DC
4/17/ 2008 Curtis Jr, James E, Part III, represented, EF/IDGU 2010, “Suffering” , mission, DC
3/27/2008 Curtis Jr, James E, Part II, EF/IDGU 2010, “Reconciliation”, mission, DC
11/19/2007 Curtis Jr, James E, Part I.1, represented, EF/IDGU 2010, “Anxiety”, mission, DC
10/22/2007 Curtis Jr, James E, Part IV, EF/IDGU 2010, “Overcoming” , mission, DC
9/10/2007 Curtis Jr, James E, Part III, EF/IDGU 2010, “Suffering” , mission, DC
7/16/2007 Curtis Jr, James E, Part II, EF/IDGU 2010, “Reconciliation”, CUM, mission, DC
6/25/2007 Curtis Jr, James E, Part I.1, EF/IDGU 2010, “Anxiety”, CUM, mission, DC

Theological Education, H.D.D. Examination, H.Ph.D.RS. Examination
4/10/2008 Curtis Jr, James E, EF/IDGU 2010, “Bible Fundamentals Diagnostics”, mission, DC

2002-2007 Curtis Jr, James E, Religion Poster, **Issue 1,** *1C13 13,* **geocities.com/jecjr_educationfoundation**

Religion, Certificate Programs & Transfer to Graduate Studies Working Papers Acknowledgements of James E Curtis Jr

2010-2012, The following SSRN eJournals acknowledged the religion papers of James E Curtis Jr in the Top 10

Curtis Jr, James E Christian Religion
Curtis Jr, James E General, Ethics Morality Religion Spirituality Transcendence, [twice]
Curtis Jr, James E Journal of Christianity
Curtis Jr, James E Journal of Cognitive Science: Spirituality
Curtis Jr, James E Philosophy of Religion

Religion, Employment of James E Curtis Jr

2013-2019 Director, Internet Graduate Divinity University
2013-2019 Religion and Science Educator, Department of Religious Studies, JECJEF
2010-2019 Project Director, The Enduring Faith Center
2010 Receptionist offer, mission, DC
2007-2009 Instructor offer of Greek Mythology, Bible college classes at NCBC, DC
2007-2009 Religious Administration, Sunday mornings, NCBC, DC
2007-2009 Religion and Society Educator/Practitioner Intern, The Enduring Faith Center
2007-2009 Superintendent of Schools offer, Bible college classes at NCBC, DC
2005–2006 Programs Intern/Programs Senior Intern, mission in Montgomery County & DC

Religion, Info Technology Management of James E Curtis Jr

2007-2009 Computer Software, internet design, Church Web Works
2006-2009 Computer Software, database, Heart


The James Edward Curtis Jr Education Foundation
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Washington, DC 20010
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President
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Email JAMESJR@JECJEF.NET
Phone 202 739 1962