

# A Simple Model of Group Conflict, Inequality, and Stratification

Brendan Brundage\* and Daniele Tavani†  
Colorado State University

Preliminary and Incomplete

September 21, 2022

## Abstract

We present a simple model of group conflict between a dominant and a marginalized group that formalizes several key insights of stratification economics (Darity, 2005): i) discrimination is a costly activity pursued by dominant groups in order to maintain their relative status; ii) however, not every member of the dominant group needs to fully engage in discriminatory effort. In other words, dominant group members can free ride on discriminatory actions taken by members of the same group; iii) marginalized group members have limited ability to counter discriminatory behavior; iv) discrimination is wasteful from a societal standpoint, but v) it persists because of the dominant group's interest in maintaining their relative power and of the costly and imperfect nature of anti-discrimination enforcement. In particular, we show that when the burden of proving discriminatory behavior falls on individuals in the marginalized group, discrimination will never be completely removed. Finally, through the introduction of a simple bequest motive in the preferences of the two groups' individuals, we show how racial income inequality reverberates into wealth inequality, and we discuss the role of reparations in mitigating such outcomes.

---

**Keywords:** Group Conflict, Stratification, Racial Inequality.

**JEL Codes:** D31, D63, D74.

---

\*Brendan.Brundage@Colostate.Edu

†Corresponding Author. Department of Economics, Colorado State University. 1771 Campus Delivery, Fort Collins, CO 80523-1771, United States. Email: Daniele.Tavani@Colostate.Edu.

# 1 Introduction

Stratification economics views racism and other forms of intergroup discrimination as a rational defense mechanism of the dominant group (Chelwa, Hamilton, and Stewart, 2022). The dominant group derives material and psychological benefits from *prejudicism*. Material benefits come in the form of intergenerational transfer of resources that is kept within a certain group. Individuals gain psychologically through identifying with certain groups, as well. Identifying with the dominant group gives someone a sense of entitlement for their supreme 'absolute' group positioning.

According to stratification economics, prejudicism is a purposeful action because it is useful in maintaining the position of a dominant group. This runs counter to other theories of discrimination. For example, Allport (1954) proposes that racism is a result of irrational stereotypes about a marginalized group. This irrational belief is born out of previous societies. Although it may be true that ideas of racism are due to previous ways of thought, it misses the vital point that there is purpose for intergroup prejudicism because it grants advantages to the dominant group. Allport's view also misses the historical beginning of specific forms of prejudicism by reducing it to 'previous ways of thought'. Eric Williams' seminal work *Capitalism and Slavery* (Williams, 2021) details the origin of racism in the New World. He argues that racism is the consequence of slavery, not the other way around. In this sense, racism was a purposeful action, in line with the view from stratification economics. Akerlof and Kranton (2000) sees group identification stemming from cultural differences, and Fang and Loury (2005) believe that some groups adopt behaviors that lead to them being 'unsuccessful'. From the perspective of stratification economics, both of these theories are wrong. Cultural differences exist and play a role in forming groups, but the real cause of racism is the many benefits to the dominant group. Fang and Loury (2005) make it seem like marginalized groups choose to be 'unsuccessful' and ignore the institutional barriers created by the dominant group that lead to their marginalization.

The beginning of stratification economics is associated with the contribution by Darity (2005), where he describes the main tenets of the field. We outline them here: 1) Intergenerational transfer of resources is the focus of inequality and power between groups 2) Material benefits to dominant group incentivize them to continue their behavior 3) Discrimination will likely persist 4) Individuals in the marginalized group might attain high skills, but this doesn't mean they move to the dominant group 5) Some individuals might behave counter to the proliferation of their group identity, but this doesn't stop discrimination. Although Darity (2005) is usually given credit for the start of the field, much research was done to lead up to its genesis. Veblen (1899) put forth the idea that people behave in emulation and comparison to one an-

other. Between-group comparisons are the most important for the psychology of an individual, second is within-group comparisons. The ‘psychological wage’ was coined by Du Bois (1992) to describe the social advantages given to even the poorest white workers because of their skin. Blumer (1958) argues that racial prejudicisms are about group positioning and the associated material advantages from this position. Labor market discrimination was described by Lewis (1985) as stemming from group identity. White people would rather give wages to those in their own group. Lastly, our two-stage model owes credit to Lewis (1985) in his description of intergroup discrimination in the form of making the marginalized group ‘non-competing’ in pre-market stage.

Today, there is an ample body of literature within the field of stratification economics. For an extensive overview of the field see Darity (2005; 2022) and Chelwa, Hamilton, and Stewart (2022). Much of the research has to do with racial relations in the USA, for good reasoning, but it can be applied to group relations in any country where discrimination is present. Places like Japan, Hungary, Brazil, India, and others have discrimination based on race, religion, caste, or class (Darity, 2022). Stratification economics could also be used to describe differences between countries and regions, which is related to the North-South dichotomy. Price (2003) explains the poverty felt by many nations in South as a direct result of colonialism.

Researchers have tested the hypotheses of stratification economics to see if discrimination is in fact a group phenomenon and if it still is relevant for today’s world. Price (2008) and Banerjee (2015) find that black communities have to wait longer for authorities after a natural disaster. Ards *et al.* (2015) conclude that there is an unequal access to credit based on race. Labor market discrimination between white and black individuals are persistent even at same education levels. At every level of education, there is a relatively constant 2 to 1 ratio between black and white unemployment Hamilton (2020). Jones and Schmitt (2014) argue that the recent unemployment rate for black graduates is higher than 12%. On the topic of education, Paul *et al.* (2016) discovers that due to lower incomes, black students need to borrow more money to finance their college education. In a study on the racial disparities from the impacts of the Great Recession, Famighetti and Hamilton (2019) find that increased barriers to home ownership have been placed for black families. Jemal *et al.* (2008) studies the relationship between race and mortality. They find evidence of racial differences in mortality outcomes, and this difference is amplified as education is increased. Lastly, Hamilton and Chiteji (2013) explain wealth gaps through bequests passed down generations. This list is not exhaustive of all the empirical research done within stratification economics, but it does highlight that group based discrimination is real and persistent in our society.

This paper aims at formalizing some of the above main tenets of stratification economics in a simple equilibrium model. Our starting point is the description of the Lewis (1985) book by

Chelwa, Hamilton, and Stewart (2022) in Section 3 of their paper:

Consistent with sociologist Blumer's (Blumer, 1958) perspective on group-based prejudice, stratification economics views race prejudice as largely a defensive reaction; a protective mechanism that is intentional in its preservation of social hierarchy. Prejudice works to enhance the relative position of the dominant group. Nobel Laureate Sir Arthur Lewis (Lewis, 1985), in his book *Racial Conflict and Economic Development*, described how dominant groups maintain their social hierarchy positioning by rendering subordinate groups noncompeting. He explains that in the pre-market stage, when individuals acquire skills and credentials to compete in the marketplace, the dominant group tends to use their power to limit subordinate group members access to such skills and credentials, so as to ultimately render them noncompeting at the market stage. According to Lewis, when members from subordinate groups are able to overcome premarket barriers and become competitive, dominant groups deploy new strategies in a second stage, called the market stage. The first strategy in the market stage is to change the credentialing criteria so as to favor their own attributes (i.e., changing the rules in the middle of the game); the second strategy is to simply discriminate against competing members of the subordinate group. The Lewis conception of rendering groups competing and noncompeting presents discrimination as a strategic behavior with the intent to preserve group-based social hierarchy. Likewise, to the extent that individuals have agency in determining or codifying their group-based identity, they are incentivized to invest in that identity similar to how a firm is incentivized to invest in a particular input in their production process. Hence, as the social value (or market price) of a group-based identity like Whiteness rises, so will an individual's incentive to invest in that identity. Hence, stratification economics analogizes own group identity investment/ divestment as a derived demand for the production of identity output itself, which garners economic return or sanction.

Our goal is then to outline a simple model capturing the following basic aspects of discrimination:

1. Discrimination is a purposeful activity pursued by dominant groups in order to maintain their relative status. In the present context, the implication is that dominant groups will be willing to spend effort in order to worsen the relative position of individuals in marginalized groups.
2. However, not every single member of the dominant group needs to be fully engaged in

discriminatory behavior. A dominant-group member can benefit of discriminatory activities by members of the same group, without having to necessarily discriminate. In other words, dominant-group members can *free ride* on past or current discriminatory activity by members of the same group and still improve their relative status over marginalized groups. Nevertheless, it must be the case that some discriminatory effort must have been spent for stratification to exist in society.

3. Discriminated groups have limited or no ability to counter discriminatory behavior. In other words, dominant groups exercise discriminatory power over marginalized groups, but the opposite is not true.
4. Discrimination not only leads to inequality, but is also wasteful from a societal standpoint. Yet, it persists because of the dominant group's goal of maintaining their relative status and because of imperfect enforcement of anti-discriminatory practices.

To our knowledge, the theoretical model proposed in this paper is original, although the concepts are derived from Lewis (1985). Other theoretical models of stratification economics have been proposed in the literature, but they focus on somewhat different aspects than ours. In Stewart (1997), racial identity is a commodity that is produced. Depending on the specific racial identity, externalities from this production can be positive or negative. A key aspect of this model is that when groups are formed, each group is incentivized to become the dominant one. Darity, Mason, and Stewart (2006) use the tools of evolutionary game theory to analyze wealth accumulation and racial disparities. An individual can choose to maintain their race, switch racial identity, or become independent of race. The result is three possible equilibria, one where everyone is independent of race, one where everyone belongs to racial groups, and a mixed one.

Conversely, we model the choice of skill acquisition through investment in 'human capital' in the *non-market* phase of the life of economic agents; and the resulting market income for two groups of individuals. We assume that the dominant group has the power to restrict the ability to, or reduce the effectiveness of, the marginalized group's investment in education. Our results correspond with the main tenets of stratification economics as outlined by Darity (2005). Equilibrium is characterized by persistent income inequality between the dominant and marginalized group. Such inequality is inefficient in the Pareto sense: a benevolent planner would spend no effort in discriminatory activities. We then carry a policy exercise in which the burden of proving discriminatory behavior falls upon individuals in the marginalized group. The main result of this exercise is that even in this case discrimination will not be completely removed, given the limited resources that are available to marginalized group members because of stratification-driven inequality in incomes. Finally, we study a simple extension of the model

with an individual bequest motive that provides a link from income to wealth inequality, and we discuss the role of reparations in this context.

## 2 Model

Consider a society composed of two groups,  $M$  (for marginalized) and  $D$  (for dominant). Individuals in both groups live for two periods: a *pre-market* period, when they invest in skills that determine their market income, and a *market* period, where their investment becomes income.

Importantly in what follows, an individual in group  $D$  can inflict economic harm by engaging in discriminatory activities against individuals in group  $M$ , but the reverse is not true. Discriminatory effort by group  $D$ -individuals has the goal of making  $M$ -individuals *non-competitive* in a market setting. Yet,  $D$ -individuals can benefit from discriminatory activity by members of the same group without having to bear the full cost of discriminatory activities themselves.

### 2.1 Individuals in the Marginalized Group

An individual  $j = 1, \dots, Q$  in group  $M$  chooses how much to invest in acquiring skills in the pre-market phase of her life in order to increase her income (become competitive) in the market phase. Market income is denoted by  $y_j^M$  and is a function of  $h_{j,M}$ , which denotes effort provided in acquiring a marketable skill by individual  $j$  in group  $M$ . However—and this is crucial—the  $M$ -individual's market income can be affected by the total discriminatory effort  $d \in [0, 1]$  by group  $D$ . Thus, we postulate a function  $y_j^M(h_{j,M}; d)$  that describes the skill-acquisition technology for an individual in group  $M$  as a function of her own investment and the discriminatory effort by the other group. We make the following assumptions:

1.  $y_j^M(0, d) = 0$  (No-free lunch).
2.  $\partial y_j^M / \partial h_{j,M} > 0$  (Productive investment);  $\partial^2 y_j^M / \partial h_{j,M}^2 < 0$  (Strict concavity).
3.  $\partial y_j^M / \partial d < 0$  (Economic harm from discrimination).

To sharpen our conclusions, we assume the following Cobb-Douglas functional form:

$$y_j^M(h_{j,M}, d) = Ah_{j,M}^\alpha (1 - d)^{1-\alpha} \quad \alpha \in (0, 1), \quad A \in (0, 1) \quad (1)$$

where  $A$  is a positive productivity parameter, restricted to be within the unit interval for model consistency (see equation 9 below). We also postulate that individual  $j$  in group  $M$  begins her

life with assets  $w_j^M$ , possibly inherited. Assume that decision-making in the pre-market stage of one's life does not involve a decision on consumption and saving (more on this later). The total income of an individual in group  $M$  is therefore  $w_j^M - h_{j,M} + y_j^M(h_{j,M}; d)$  and what is basically equivalent to a participation constraint in contract theory requires that human capital investment makes the person at least indifferent between investing or not. In other words, it must be true that

$$w_j^M - h_{j,M} + y_j^M(h_{j,M}, d) \geq w_j^M \quad (2)$$

which reduces to  $y_j^M \geq h_{j,M}$ . The choice faced by individual  $M$  is to invest in  $h_{j,M}$  to maximize market income. Assuming the participation constraint to be binding, we find the following reaction function relating skill investment to discriminatory spending by the other group:

$$h_{j,M}(d) = h_M(d) = (\alpha A)^{\frac{1}{1-\alpha}} (1 - d) \quad (3)$$

which is equal across the  $j$  individuals in group  $M$  and linearly decreasing in  $d$  given the assumption on technology: more discriminatory efforts by the dominant group reduce skill investments by the marginalized group members. This captures Lewis's point about the ability of dominant groups to limit access by subordinate groups to ultimately make them non-competitive at the market stage. The corresponding market income for an individual in group  $M$  as a function of group  $D$ 's discriminatory effort is:

$$y_j^M(d) = y^M(d) = \alpha^{\frac{\alpha}{1-\alpha}} A^{\frac{1}{1-\alpha}} (1 - d) \quad (4)$$

By construction, every  $M$ -individual spends the same amount on skill-acquisition and earns the same income.

## 2.2 Individuals in the Dominant Group

An individual  $i = 1, \dots, N$  in the dominant group is not discriminated against. Thus, under the assumption of no differences in talents between groups, the technology transforming skills  $h_{i,D}$  into market income  $y_i^D$  is simply  $y_i^D(h_{i,D}) = Ah_{i,D}^\alpha$ . The participation constraint for this person, who starts with initial assets  $w_i^D$ , requires that

$$w_i^D - h_{i,D} - d_i + y_i^D(h_{i,D}) \geq w_i^D \quad (5)$$

which reduces to  $y^D \geq h_D + d$ . Individual  $\{i, D\}$  chooses  $h_{i,D}$  and  $d_i$  so as to maximize her market income  $y_i^D$  while *minimizing* the market income of the marginalized group, subject to the participation constraint above. This captures the point that discrimination is purposeful

and aimed at creating (or perpetuating) economic the dominant group's economic advantage. It will imply that, in equilibrium, dominant groups will earn higher income over marginalized groups.

We now turn to the free riding issue in discriminatory activity. We suppose that total discriminatory effort by group  $D$  is a weighted average of the discriminatory effort by its members. In particular, we assume that

$$d \equiv d_i^\eta d_{-i}^{1-\eta} \quad (6)$$

with the usual game-theoretic notation. The problem faced by an individual in group  $D$  is:

$$\begin{aligned} \max_{\{h_{i,D}, d_i\}} & -y^M(h_M, d_i; d_{-i}) \\ \text{s. t.} & y^D(h_{i,D}) \geq h_{i,D} + d_i \end{aligned} \quad (7)$$

The choice of human capital investment gives:

$$h_{i,D} = (\alpha A)^{\frac{1}{1-\alpha}} \quad (8)$$

while at an interior solution, the extent of discriminatory effort (see Appendix A) is :

$$\begin{aligned} d_i &= \left( \frac{1-\alpha}{\alpha} \right) h_i \\ &= \left( \frac{1-\alpha}{\alpha} \right) (\alpha A)^{\frac{1}{1-\alpha}} \end{aligned} \quad (9)$$

equal across all the  $i$  individuals in the dominant group. Note that the choice of discrimination effort increases in the productivity parameter  $A$ . The implication is that the dominant group must allocate more discriminatory effort as the members of the marginalized group becomes more productive. Accordingly, the model predicts that efforts toward racial stratification increase as the productivity —or, more generally, the prominence— of the marginalized group increases.

### 3 Equilibrium

An equilibrium consists of a choice  $h_{j,M}$  that maximizes income for all  $j$  individuals in group  $M$  given  $d$ , and choices  $\{h_{i,D}, d_i\}$  that minimize the market income of group  $M$ -individuals and maximizes the market income of all the  $i$ - individuals in group  $D$ . The equilibrium value of skill investment by group  $M$  is found plugging (9) into (3) using the fact that  $d_i = d \forall i$ , and



is given by:

$$h_m^E = (\alpha A)^{\frac{1}{1-\alpha}} \left[ 1 - \left( \frac{1-\alpha}{\alpha} \right) (\alpha A)^{\frac{1}{1-\alpha}} \right] \quad (10)$$

We can then calculate the two groups equilibrium incomes and the extent of market income inequality due to active discriminatory practices by simply plugging in the choices of  $D$ ,  $h_M$  and  $h_D$  from equations (3), (8), (9). For an individual in group  $M$ , market income is given by

$$y^{E,M} = \alpha^{\frac{\alpha}{1-\alpha}} A^{\frac{1}{1-\alpha}} \left[ 1 - \left( \frac{1-\alpha}{\alpha} \right) (\alpha A)^{\frac{1}{1-\alpha}} \right]^{1-\alpha} \quad (11)$$

while for group  $D$ :

$$y^{E,D} = \alpha^{\frac{\alpha}{1-\alpha}} A^{\frac{1}{1-\alpha}} \quad (12)$$

Therefore, market income inequality between individuals in the two groups, measured as the ratio  $y^{E,D}/y^{E,M}$ , is:

$$\frac{y^{E,D}}{y^{E,M}} = \frac{1}{\left[ 1 - \left( \frac{1-\alpha}{\alpha} \right) (\alpha A)^{\frac{1}{1-\alpha}} \right]^{1-\alpha}} > 1 \quad (13)$$

## 4 Welfare

A benevolent planner chooses  $h_M, h_D, d$  to maximize the society's net total market income taking into account that all  $D$ -individuals allocate the same amount of effort to discrimination:  $\sum_{j=1}^Q (y_j^M - h_{j,M}) + \sum_{i=1}^N (y_i^D - h_{i,D} - d_i)$ . It is easy to verify that the welfare function is monotonically decreasing in the discriminatory effort  $d$ :

$$W = Ah_M^\alpha (1-d)^{1-\alpha} - h_M + Ah_D^\alpha - h_D - d \quad \text{with } \partial W / \partial d < 0 \text{ always,} \quad (14)$$

which implies that the planner chooses to allocate no resources to discriminatory activities. Consequently, the welfare-maximizing solution involves allocating the same amount of investment for the two groups:  $h_D^* = h_M^* = (\alpha A)^{\frac{1}{1-\alpha}}$ . It is also egalitarian:  $y^{*,D}/y^{*,M} = 1$ .

The same conclusion would be true if the two groups were assigned different weights in the welfare function, for instance reflecting their relative share of the economy's population, or if the welfare function was multiplicative instead of additive (including a generalized welfare function with geometric weights).

## 5 Anti-Discrimination Policy

In principle, the efficient allocation involving no discrimination could be achieved by introducing policies that make it harder for the dominant group to inflict economic harm to the marginalized group, thus lessening the strength of discriminatory efforts by group  $D$ . For example, with anti-discrimination effort by the government taking a value of  $\varepsilon \in [0, 1]$ , the market income of an individual in group  $M$  becomes  $y^M = Ah_M^\alpha [1 - d(1 - \varepsilon)]^{1-\alpha}$ , which eliminates the economic effects of discrimination when  $\varepsilon = 1$ . However, anti-discrimination policies are never fully enforced in real life, and this is enough for discrimination to persist in society. For now, assume  $\varepsilon \in [0, 1)$ : we will show below that there are economic reasons to expect that anti-discrimination efforts will fall short of removing inequality.

The reaction function by group  $M$ , now a function of the total discrimination effort by group  $D$  and the anti-discrimination enforcement effort  $\varepsilon$ , becomes:

$$h_M(d; \varepsilon) = (\alpha A)^{\frac{1}{1-\alpha}} [1 - d(1 - \varepsilon)] \quad (15)$$

and the market income for an individual in group  $M$  is

$$y^M(d; \varepsilon) = \alpha^{\frac{\alpha}{1-\alpha}} A^{\frac{1}{1-\alpha}} [1 - d(1 - \varepsilon)] \quad (16)$$

The problem solved by a group- $D$  individual becomes: given  $\varepsilon$ ,

$$\begin{aligned} \max_{\{h_{i,D}, d_i\}} & -y^M(h_M, d_i^\eta d_{-i}^{1-\eta} (1 - \varepsilon)) \\ \text{s. t.} & y_i^D(h_{i,D}) \geq h_{i,D} + d_i \end{aligned} \quad (17)$$

which, given that the resource constraint is unchanged, gives the same choice of discriminatory effort as in (9). What changes is not the extent to which the dominant group will attempt to discriminate, but how effective the discrimination effort will be. Accordingly, in equilibrium we have that group  $D$ 's income is the same as (12), while market income for an individual in group  $M$  will be

$$y^{E,M}(\varepsilon) = \alpha^{\frac{\alpha}{1-\alpha}} A^{\frac{1}{1-\alpha}} \left[ 1 - (1 - \varepsilon) \left( \frac{1 - \alpha}{\alpha} \right) (\alpha A)^{\frac{1}{1-\alpha}} \right]^{1-\alpha} \quad (18)$$

and market income inequality is given by

$$\frac{y^{E,D}}{y^{E,m}(\varepsilon)} = \frac{1}{\left[ 1 - (1 - \varepsilon) \left( \frac{1 - \alpha}{\alpha} \right) (\alpha A)^{\frac{1}{1-\alpha}} \right]^{1-\alpha}} \quad (19)$$

which of course reduces to equality under  $\varepsilon = 1$ , that is under full enforcement of anti-discriminatory measures.

A reasonable question is then why anti-discriminatory measures are not fully enforced. A plausible answer may be that it is costly to do so, especially if the group (or individual) that is discriminated against has to incur into the legal or bureaucratic costs of proving that there was discrimination against itself or its members. Suppose that group  $M$  bears the cost (for example, the burden of the proof in legal cases) of ensuring enforcement, and suppose that such cost is strictly convex:  $c(\varepsilon) = \frac{1}{2}\varepsilon^2$ . A group  $M$ -individual will now solve:

$$\max_{\{h_M, \varepsilon\}} Ah_M^\alpha (1 - d(1 - \varepsilon))^{1-\alpha} - h_M - \frac{1}{2}\varepsilon^2 \quad (20)$$

The market income-maximizing choice of  $h_M$  is the same as (15) above. The perhaps striking result is that

$$\varepsilon = \left( \frac{1 - \alpha}{\alpha} \right) (\alpha A)^{\frac{1}{1-\alpha}} = d \quad (21)$$

which, despite being exactly equal to the discriminatory effort provided by group  $D$ , is not enough to ensure full enforcement of anti-discriminatory measures. In fact, we have that in equilibrium:

$$\begin{aligned} h_M &= (\alpha A)^{\frac{1}{1-\alpha}} \left\{ 1 - \left( \frac{1-\alpha}{\alpha} \right) \alpha^{\frac{1}{1-\alpha}} A^{\frac{1}{1-\alpha}} \left[ 1 - \left( \frac{1-\alpha}{\alpha} \right) \alpha^{\frac{1}{1-\alpha}} A^{\frac{1}{1-\alpha}} \right] \right\} \\ &= (\alpha A)^{\frac{1}{1-\alpha}} [1 - d(1 - d)] \end{aligned} \quad (22)$$

Thus, we find that, if the burden of proving discrimination is costly for the discriminated against, discrimination won't be eliminated despite the anti-discrimination effort coincides with the dominant group's extent of discriminatory effort.

## 6 Wealth Inequality

If members of the two groups end up with unequal incomes because of active discrimination by the dominant group, it is to be expected that such inequality will reverberate into wealth disparities and end up stratifying the society. Let us make this point in a very simple intergenerational altruism framework that builds on Galor and Zeira (1993). An individual in group  $r = \{M, D\}$  earns income  $y^r$  in the market stage of her life; and has utility defined over consumption  $c$  and bequests  $b$ :  $u^r(c_r, b_r) = \beta \ln c_r + (1 - \beta) \ln b_r$ ,  $\beta \in (0, 1)$ . Every individual has one parent and one child, so that population is constant and there is no issue of allocating bequests among several children. The budget constraint for this individual requires the allocation of consumption and bequests not to exceed the individual income  $y^r$ . Since the utility function

is Cobb-Douglas, the allocation of consumption and bequests is simply

$$c_r = \beta y^r \quad (23)$$

$$b_r = (1 - \beta)y^r \quad (24)$$

The amount bequeathed by a parent is nothing but the wealth inherited by an individual in the non-market stage of her life  $b_r = w_r, r = \{M, D\}$ . Accordingly, the extent of wealth inequality at the beginning of life is equal to income inequality in equation (13). Of course, this is extremely crude: in a more complicated model one would consider the role of compound interest in affecting the racial wealth gap which, in the real world, is much larger than the racial income gap.

## 6.1 Reparations (TO DO)

# 7 Conclusion

One central aspect of stratification economics is that it grounds racial inequality in group conflict and active discriminatory behavior by dominant group members. This paper is an attempt to formalize this insight and its consequences. While simple, we believe that our model has clear implications that can be used in order to address the issues arising with stratification-based inequality, its implications for income and wealth, and devise policies aimed at improving the position of marginalized groups.

## References

- Akerlof, G.A., and Kranton, R.E. 2000. "Economics and Identity" *Quarterly Journal of Economics* 115 (3): 715-53.
- Alexis, M. 1973. "A theory of labor market discrimination with interdependent utilities." *The American Economic Review* 63(2): 296-302.
- Allport, G. 1954. *The Nature of Prejudice*. Boston: Addison-Wesley.
- Ards, S.D., Steve Ha, I., Macas, J.L., and Myers Jr., S.L. 2015. "Bad Credit and Intergroup Loan Denial Rates." *Review of Black Political Economy* 42 (1-2): 19-34.
- Banerjee, L. 2015. "Of Disasters, Status, and Health." *Review of Black Political Economy* 42 (1-2) 111-33.

- Blumer, H. 1958. "Race Prejudice as a Sense of Group Position." *Pacific Sociological Review* 1 (1): 3-7.
- Chelwa, G., Hamilton, D., and Stewart, J. 2022. "Stratification Economics: Core Constructs and Policy Implications." *Journal of Economic Literature*, 60 (2): 377-99.
- Darity Jr., W. 2005. "Stratification Economics: The Role of Intergroup Inequality." *Journal of Economics and Finance* 29 (2):144-53.
- Darity Jr., W. 2022. "Position and Possessions: Stratification Economics and Intergroup Inequality." *Journal of Economic Literature*, 60(2), 400-426.
- Darity Jr., W., Mason, P., and Stewart, J.B. 2006. "The Economics of Identity: The Origin and Persistence of Racial Identity Norms." *Journal of Economic Behavior and Organization* 60 (3): 283-305.
- Du Bois, W.E.B. 1992. *Black Reconstruction in America 1860-1880*. New York: The Free Press, (Orig. pub.1935).
- Famighetti, C., and Hamilton, D. 2019. "The Great Recession, Education, Race, and Homeownership." *Economic Policy Institute, Working Economics Blog*, May 15. <https://www.epi.org/blog/the-great-recession-education-race-and-homeownership/>.
- Fang, H., and Loury, G.C. 2005. "Dysfunctional Identities' Can be Rational." *American Economic Review* 95 (2): 104-11.
- Galor, O., and Zeira, J., 1993. "Income distribution and Macroeconomics." *Review of Economic Studies*...
- Hamilton, D., and Chiteji, N. 2013. "Wealth." In *Encyclopedia of Race and Racism*, 2nd ed., edited by Patrick Mason, 259-65. Detroit, MI: Macmillan Reference.
- Hamilton, D. 2020. "The Moral Burden on Economists: Darrick Hamilton's 2017 NEA Presidential Address." *Review of Black Political Economy* 47 (4): 331-42.
- Jemal, A., Ward, E., Anderson, R.N. , Murray, T., and Thun, M.J. 2008. "Widening of Socioeconomic Inequalities in U.S. Death Rates, 1993-2001." *PLoS One* 3 (5): Article e2181.
- Jones, J., and Schmitt, J. 2014. *A College Degree is No Guarantee*. Washington, DC: Center for Economic and Policy Research.
- Lewis, W. A. 1985. *Racial Conflict and Economic Development*. Cambridge, MA: Harvard University Press.

- Paul, M., Aja, A., Hamilton, D., and Darity Jr, W. 2016. “Making College Free Could Add a Million New Black and Latino Graduates.” *Dissent Magazine*, March 21. [https://www.dissentmagazine.org/online\\_articles/bernie-sanders-free-college-plan-black-latino-graduates](https://www.dissentmagazine.org/online_articles/bernie-sanders-free-college-plan-black-latino-graduates).
- Price, G. 2003. “Economics Growth in a Cross-Section of Nonindustrial Countries: Does Colonial Heritage Matter?” *Review of Development Economics* 7: 478-495.
- Price, G.N. 2008. “Hurricane Katrina: Was There a Political Economy of Death?” *Review of Black Political Economy* 35 (4): 163-80.
- Stewart, J.B. ed. 1997. *African Americans and Post-Industrial Labor Markets*. New Brunswick, NJ: Transaction Publishers.
- Veblen, T. 1899. *The Theory of the Leisure Class: An Economic Study of Institutions*. New York: Macmillan.
- Williams, E. 2021. *Capitalism and Slavery*. 3rd ed. Chapel Hill: University of North Carolina Press, (Orig. pub. 1944).

## A Optimization

The Lagrangian for an individual in group  $D$  is:

$$\mathcal{L} = -Ah_M^\alpha (1 - d_i^\eta d_{-i}^{1-\eta})^{1-\alpha} + \lambda(Ah_{i,D}^\alpha - h_{i,D} - d_i) \quad (25)$$

and the battery of Kuhn-Tucker first-order conditions —remembering that  $d \equiv d_i^\eta d_{-i}^{1-\eta}$ — is:

$$\begin{aligned} \alpha Ah_{i,D}^{\alpha-1} - 1 &\leq 0 \\ h_{i,D}[\alpha Ah_{i,D}^{\alpha-1} - 1] &= 0 \end{aligned} \quad (26)$$

$$\begin{aligned} (1 - \alpha)\eta Ah_M^\alpha (1 - d)^{-\alpha} d_i^{\eta-1} d_{-i}^{1-\eta} - \lambda &\leq 0 \\ d_i[(1 - \alpha)\eta Ah_M^\alpha (1 - d)^{-\alpha} d_i^{\eta-1} d_{-i}^{1-\eta} - \lambda] &= 0 \end{aligned} \quad (27)$$

$$\begin{aligned} Ah_{i,D}^\alpha - (h_{i,D} + d_i) &\geq 0 \\ \lambda[Ah_{i,D}^\alpha - (h_{i,D} + d_i)] &= 0 \end{aligned} \quad (28)$$

Equation (26) solves for  $h_{i,D} = (\alpha A)^{\frac{1}{1-\alpha}}$ , equal across all  $i$ 's; using this result and the budget constraint, we can solve for  $d_i$  as per equation (9) in the text. Using the fact that  $d_i = d_{-i} \forall i$ ,

repeated rearrangements and substitutions result in the following solution for the Lagrange multiplier  $\lambda$  in terms of given variables for dominant group members:

$$\lambda = \eta \left( \frac{1 - \alpha}{\alpha} \right) \left( \frac{h_M}{1 - (1 - \alpha) \alpha^{\frac{\alpha}{1-\alpha}} A^{\frac{1}{1-\alpha}}} \right)^\alpha (\alpha A)^{\frac{\eta - \alpha}{1 - \alpha}} \quad (29)$$

which is strictly positive under our assumptions and therefore justifies the focus on the interior solution of the problem throughout the paper.

The solution with the government's anti-discrimination effort  $\varepsilon$  is similar and omitted.