The Indo-Afro Trinidadian Gap: An analysis of earnings differentials over time

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Abstract

Trinidad and Tobago has a diverse population of approximately 40% East Indian and 40% African. The remaining consists of Syrian/Lebanese, Chinese, Indigenous, Portuguese, and mixed races. Following their enslavement, Africans were not provided monetary compensation or land while East Indian Indentured laborers were. Becker's model of taste-based discrimination says the wage differential will disappear over time because discrimination is costly. Darity's model of Stratification Economics tells us that initial conditions drive what we see today. To empirically test these, this study conducts Oaxaca decompositions in 1970 and 2000 to analyze the differences in outcomes between East Indians and Blacks. The results show that while East Indians performed worse than Blacks by approximately 6% by 2000, the gap between the two groups reduced over time. Furthermore, the differences due to differences in characteristics (university education, secondary education, age, marriage and being the head of the household) decreased significantly compared to differences explained by returns to these characteristics. This suggests that while a significant portion of the earnings differential changed because these characteristics were more similar between the groups, discrimination against East Indians may have also reduced over time.

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1. Introduction

This thesis builds primarily on work done by Coppin and Olsen (1998), which observed discrimination against Afro Trinidadians in the labor market. Firstly, my work aims to identify whether or not Afro Trinidadians are discriminated against when compared to their East Indian counterparts based on the groups' average earnings differentials. Secondly, I aim to investigate whether the groups' average incomes are converging or diverging with time and decompose causes for their movement in either direction. My primary hypothesis is that East Indians out earn Africans due to the advantage they had in their initial conditions, following the frameworks of Stratification Economics. Additionally, following the findings by Coppin and Olsen (1998), I predict that Black Trinidadians will be more discriminated against. Finally, I anticipate that the difference in the gap between the two ethnic groups will close over time due to less discriminatory practices in the labor market in the period of study (1970 to 2000).

My intent in comparing ethnically African Trinidadians to ethnically East Indian Trinidadians is to assess whether either group is discriminated against relative to the other, given the historical context outlined in the following chapter. The inclusion of other groups in some of the analysis will help to further my study of the ways the aforementioned groups are performing relative to the general Trinbagonian population, potentially informing policy aimed at alleviating income inequality. Using Stratification Economic frameworks, I will assess the effect of group identity on socioeconomic outcomes and the role of intergenerational transfers in intergroup inequality. By studying this evolution between ethnic groupings over time, we can assess whether Becker's theory of discrimination or Darity's Stratification Economics frameworks holds true.

In many ways, this project is very ambitious as it aims to compare two groups that have both historically been discriminated against in the market they occupy. This is because although

they are in the ethnic majority, they both earn significantly less compared to other ethnic groups. This means that its findings will likely not be as straightforward as those in other societies such as the United States, where the racial majority discriminates against racial minorities and out earns those minorities by a substantial amount due to systems of oppression. The nuanced differences within the context of this study are outlined in proceeding chapters.

2. Background, Context and Theory

2.1 Historical context

The history of racial groups' arrival in Trinidad and Tobago is a complex and multifaceted one that spans several centuries. The twin island nation has a rich history of migration and settlement that has contributed to the diverse racial and cultural makeup of the country today: 37.78% East Indian, 36.49% African descent, 16.17% mixed–other, 8.17% mixed–African/East Indian (Dougla), and the rest Syrian/Lebanese, Chinese, Indigenous, Portuguese, and racial others (Trinidad and Tobago Ministry of Planning and Sustainable Development, 2011). The islands were originally inhabited by several indigenous populations, including the Tainos and Kalinagos. The arrival of the Spaniards, followed by the British, French, and Dutch, marked the beginning of a change in the country's demographics. The first significant influx of the African enslaved to Trinidad and Tobago was in the late 16th century when the British took control of Trinidad and brought in large numbers of Africans to work on sugar and cocoa plantations (Williams, 1962).

Although slavery was abolished in 1833, former enslaved Africans were required to serve an extra 'apprenticeship' period, which ended in 1838 with full emancipation (Burns, 1954; Williams, 1962). Following emancipation, the British government recruited indentured laborers from India, China, and Portugal to work on plantations in Trinidad and Tobago (Bryan, 2004;

Vertovik, 1995; Williams, 1962). Although these workers were not officially classified as enslaved, they faced many of the same challenges as enslaved Africans, including poor working conditions and limited personal freedom. East Indian indentured laborers arrived in Trinidad between 1845 and 1917,[1] making up the largest single ethnic group in the country by the early 20th century. The Chinese and Portuguese indentured laborers arrived in smaller numbers with the Chinese becoming major merchants and investing in the then budding petroleum industry (Ho, 1989), and the Portuguese mainly working in agriculture and commerce.

East Indian indentured servants chose land at the end of their indentureship rather than return passage to India, resulting in their transition to peasant farming (Reddy, 2011) and eventual move into retail trade (Munasinghe, 2001). Former enslaved Africans, who had been in the Caribbean for much longer, were not compensated with money or land for their labor or treatment within institutional slavery and therefore, left plantations without any capital upon which they could build wealth (Kelly, 2022). By the mid 20th century, East Indians elevated their economic standing, composing most of the 'urban' middle class. They were able to do so because of the land and money to start businesses they received. At that time, Africans remained in the lower urban class (Brown, 2020).

During the 20th century, Trinidad and Tobago experienced significant immigration from other Caribbean islands, particularly from Barbados, Grenada, and St. Vincent. These immigrants were mainly of African descent and came to Trinidad and Tobago in search of work opportunities. In the decades following Trinidad and Tobago's independence in 1962, the country experienced immigration from Asia, the Middle East, and Latin America, further diversifying the national demographic. The legacy of slavery, however, continues to be felt in the country's social and

[1] East Indian Indentured laborers contracts lasted for 5-10 years on average

economic structures. Therefore, the ongoing struggle for racial equality and social justice in Trinidad and Tobago is rooted in the history of slavery and its legacy of inequality and oppression.

2.2 Contemporary race relations

In order to more fully understand the attitudes towards Afro and Indo Trinidadians in the country, it is important to outline the dynamics that emerged as all these racial groups came into contact. The term "colored people" was used throughout the Caribbean to refer to people mixed with European, African, and Indigenous ancestry. Historically, ‘coloreds’ have been seen as "better" than people of African or Indigenous descent due to their closer proximity to Whiteness. This history of mixing resulted in the perception that ‘race’ does not exist in the traditional definition of mutually exclusive, discrete biological categories (England, 2008).

The term creolization has been used to describe the national character of Trinidad and Tobago as a society that was created out of mixing many different racial groups and their cultures (England, 2008). On one hand, this concept has been promoted to create a more harmonious and inclusive society. On the other, it has downplayed the historical and ongoing impacts of racism and inequality. Moreover, this concept can be used to promote a colorblind approach to race relations that ignores the ways in which race and ethnicity continue to shape people's experiences in Trinidad and Tobago. In other words, the image of national unity through mixture (a multicultural society) competes with the image of the plural society where the country is neatly divided into different ethnic groups, living together but inhabiting different cultural, social, and political worlds (England, 2008).

Although race and ethnicity are commonly understood as two distinct categories, with these social contexts as well as the linguistic habits of Trinbagonians in mind, the terms race and ethnicity

are used interchangeably throughout this paper. Additionally, the terms Indo Trinidadians and East Indians as well as Afro Trinidadians, Africans and Blacks will be substituted for one another.

2.3 Douglarization in a Callaloo Nation: Discourses of Race and Mixing of Indo and Afro Trinidadians

2.3.1 Mixing and Mobility

During colonial times the strategy of racial mixing to achieve upward mobility created a complex system of racial accounting in which fractions were used to prove one's distance from African or Indigenous ancestry (Segal, 1993). This was true of the mixing of Africans and Whites, where mixing could mean moving one's children into another tier of society by 'whitening' them (England, 2008). Indo Trinidadians used their own notions of religious and caste purity to encourage endogamy, religious conservatism, and ethnic unity (England, 2008).

Prior to independence, non-whites had little or no voice in government affairs (Murrel, 2000). Today, White Trinidadians have mostly receded from the public stage, but not from economic power (Coppin and Olsen, 1998). A few European-Trinidadians migrated out of the country during the latter half of the twentieth century, primarily because they were losing their grip on political power with the rise of nationalism and independence (Murrel, 2000). Additionally, initial colonial hierarchies were challenged by the Black Power Movement of the 1970s; the entrenched ideas about the value of whiteness were challenged and replaced with a forceful valuation of Blackness (England, 2008).

That being said, Whites still hold substantial economic advantage in the country whose racial groups can be regrouped into White, 'Nearly-White' or Off-White', 'Mixed', Black or Negro, and Indian or East Indian (Camejo, 1971). Nearly White or Off-White is applied to immigrant

groups who have Europeanized features (skin, hair etc.), but are seen as less powerful economically and politically. This group seeks to maintain their 'ethnic' or cultural identity through Associations and by identifying with Whites.

2.3.2 Indo Afro Mixing

For Indo Trinidadians, creolization is not seen as the equal blending of races and cultures into one, but rather as a process of culture loss (Puri, 2004). Colonial ideologies of racial hierarchy contributed to a lack of integration with Afro Trinidadians. Following colonization, Indo Trinidadians were placed in an ambiguous position of being the inheritors of European high civilization, but simultaneously racially inferior to Whites (Khan, 2004). This led to the idea that Indo Trinidadians were culturally saturated and ethnically pure while Afro Trinidadians were viewed as culturally naked due to their cultures being forcefully stripped from them because of slavery (Segal, 1993).

The term ‘dougla’ is used to define someone who is a mix of both African and Indian. The dougla threatens to break down the structure of separation of two groups that has been strategic in the battle for economic resources and political patronage (Abraham, 2001).[2] The term has historically had a negative connotation of something not pure and not legitimate, a mongrel, or a ‘pot hound’ (Reddock, 1999), leading to a different kind of body than that of the ‘colored’ person. As with the mulata, the mestiza, and the chola of other parts of the world who are seen as a sign of the sexual availability of nonwhite women to white men, the dougla was seen as a manifestation that an Indian man or woman decided to violate the rules of endogamy, crossing over ‘to the African side’ (England, 2008).

[2] This concept is further discussed in section 2.51

Additionally, many Indo Trinidadians maintain the values of the caste system in India and liken darker skin to a lower socioeconomic status. Dougla Trinidadians occupy a unique position in the country's racial landscape as they negotiate their identity and cultural heritage in a society that still struggles with the legacies of colonialism and slavery. Because caste became less important than race as a marker of Indo Trinidadian identity in post-colonial times, the mixture that posed the most danger to Indo-Trinidadian constructions of purity was that between Indo and Afro Trinidadians. This is a form of continued discrimination against Blacks.

Unlike the United States, one drop of African (Black) or Indian blood does not currently make one African or Indian. Those who have less than one-quarter of either African or Indian are usually regarded as “too far physically and culturally from that side of the line to be considered a dougla” (England, 2008). All these things considered; younger generations are shown to be more tolerant of Indo-Afro mixing than those who came before them.

2.4 Theory

2.4.1 The Approach of Traditional Economics

Becker's (1957) taste-based model of discrimination posits that discrimination will naturally disappear in a market economy because it is inefficient and ‘irrational.’ The model suggests that discrimination can be driven by the preferences or "tastes" of individuals or groups, rather than by economic factors such as supply and demand. According to the model, some individuals may derive a sense of satisfaction or social status from being part of a particular group and may therefore choose to discriminate against other groups in order to maintain that sense of identity or belonging.

Becker’s model shows that prejudiced employers are willing to pay a financial penalty for not hiring employees of color. In this model, discrimination is not based on rational economic

calculations, but rather on irrational things such as prejudice, stereotypes, or cultural norms. Becker's model suggests that discrimination can have negative economic consequences since it can lead to inefficiencies in the labor market or reduce the productivity of firms that engage in discriminatory practices.

According to Becker, more non-discriminating employers enter the market – they have a competitive advantage – and consequently the wage differential disappears over time. Because the market squeezes out discriminating employers, this theory assumes that *a good education results in a good job, leading to gaining income and eventual accumulated wealth* - the *individual's* life trajectory. The reality of persisting discrimination in many societies suggests that the social and psychological benefits that individuals derive from discrimination may outweigh these economic costs.

2.4.2 Stratification Economics

While Becker minimizes the importance of discrimination in persistent inequalities over time, Stratification Economics, a theory developed by economist William Darity Jr. (2005), examines the impact of social hierarchies on economic outcomes. He posits that economic inequality is not solely the result of differences in individual abilities or choices but is also *shaped by structural factors* such as racism, sexism, and other forms of discrimination. Darity's theory argues that stratification is a crucial aspect of economic analysis and contends that conventional economic theories fail to account for the ways in which historical and current social hierarchies affect economic outcomes. Stratification Economics tells us that privilege is rational because it allows certain groups to maintain power over others. It says that group action and group identity play a large role in influencing economic outcomes, since intergenerational wealth transfers and structural racism perpetuate socioeconomic stratification.

According to Darity, there are three main forms of stratification: class, caste, and color. Class stratification is based on differences in income, wealth, and occupation. Caste stratification is based on social status and is typically associated with the Indian caste system. Color stratification refers to the ways in which race and ethnicity affect economic outcomes. These forms of stratification are interconnected and reinforce one another. To Darity, racial discrimination can lead to persistent disparities in income and wealth, which limit opportunities for education and other forms of social mobility. Similarly, class and caste systems can create barriers to economic advancement based on social status. To address these issues, Darity advocates for policies that directly address structural forms of inequality.[3] Darity's model, unlike Becker's, posits that discrimination leads to inequality that will persist over time. This is generally what is seen empirically. Based on the aforementioned logic, *generational wealth leads to continued income generation which leads to continued access to better education*. In other words, initial conditions drive what we see today.

2.4.3 Test of Theories

Both theories add an economic perspective to sociological research that has been conducted in the field of inequality. However, they provide very different empirical implications for what to expect. Darity tells us that original conditions of different populations matter for long term inequality; Becker tells us that they do not. All three of Darity's stratification forms (class, caste, and color) are relevant to our analysis of income inequality in Trinidad and Tobago, so we follow his approach in our discussion of outcome variables: wealth, income, and education.

[3] Examples of these are reparations for historical injustices, affirmative action programs, and universal basic income.

2.5 Race & Wealth

2.5.1 Politics

One of the primary sources of tension between Indo Trinidadians and Afro Trinidadians has been political competition. A large share of voters in Trinidad and Tobago still use ethnicity as a heuristic for vote choice. This is reflected in studies on motivated reasoning which show that voters affirm their own social identities by ascribing positive views to other group members (Khadan, Ruprah & Godinez-Puig, 2022). Citizens are therefore more likely to positively evaluate candidates that belong to the same groups as them (Bolsen et al., 2014; Fiske et al., 2007). The two largest political parties in the country, the People's National Movement (PNM) and the United National Congress (UNC), have tended to draw their support from Afro and Indo Trinidadians, respectively. This has often led to a perception that one community's gains are the other community's losses. Ethnic voting is indeed rewarded politically, as it increases the chance of finding public sector employment if their party wins (Khadan, Ruprah & Godinez-Puig, 2022). This is notable since public employment averaged 30% of total employment for the period 1999– 2014 (Khadan & Ruprah, 2019).

The PNM (the predominantly Black party) has been in power for 34 years, a significant portion of Trinidad and Tobago's existence post-independence. This is juxtaposed to the UNC's (the predominantly East Indian party) 10 years of political power distributed across the nation's sixty-one years of independence. Hence, the East Indians fit the description of Becker's "subordinate population" (Cross & Swarztzbaum, 1969) because of comparatively less political power. Although historians recognize this legacy of tension between Afro Trinidadians and Indo Trinidadians as an example of 'constructed ethnicity' encouraged by colonial policies and ideologies, these tensions are now understood as natural, and are potently mobilized by politicians

and cultural groups to gain state power and political patronage (Miller, 1994; Yelvington, 1995; Abraham, 2001).

2.5.2 Family- owned businesses

Other than political puissance, legacies of entrepreneurship are significant indicators of wealth in this society. Ascent into the business elite has historically occurred through inheritance of positions in family firms.[4] This condition is associated with 'market discrimination' since Afro Trinidadians have historically been excluded from business by being denied access to capital. Camejo (1971) finds that eligibility for decision-making or 'power' roles is limited to family members who are usually immediately admitted into the business elite through family ties. In the making of loans, some racial groups prefer to do business with members of their own group or with certain racial groups as opposed to others. Once more, we see that people perceive individuals as belonging to different racial groups based on color, nationality or ethnicity, religion, wealth, or "power" (Camejo, 1971). The Afro Trinidadian is then put in the most unfavorable position historically since fewer members of the population were inheritors of family-owned businesses.

2.6 Race & Income

2.6.1 Impacts on career outcomes

Most of the literature reports lower levels of remuneration in the labor market outcomes for Afro and Indo Trinidadians than for other ethnicities, with African descent Trinidadians being the most discriminated against. Coppin and Olsen (1998) found that these groups would benefit if they

[4] Alternatively, this is done by building up a firm on one's own account or being hired or promoted into an elite position (Camejo, 1971).

received the same rates of remuneration for their educational endowments as workers of other ethnicities. Racial discrimination in employment operates most probably in 'organizational discrimination,' specifically in the promotion and hiring of preferred groups by organizations. Thus, this has significant implications for the ascent into the business elite. Camejo (1971) finds that the whiter the person, the fewer formal qualifications were required of them in being hired into top or middle positions in private business organizations. This suggests possible discrimination in hiring people into topmost positions in the organizations that prefer Whites and "Off-Whites" who comprise most of the business elite and who control decision-making positions in private business organizations in the country. This indication of discrimination is also evident in promotion from middle to topmost positions.

2.6.2 Types of jobs

The literature also finds that the most frequented occupational category for East Indians is in unskilled, semi-skilled and agricultural work. As such, they comprise most of the manual labor workforce. Meanwhile, over half of Black people are in skilled and white-collar occupations which would include a considerable proportion in the minor grades of the Civil Service (Cross & Schwartzbaum, 1969).

Trinidad established its first oil refinery in 1917 and saw significant benefits during the oil boom of the late 70s to early 80s. The shift to a petroleum-based economy from agriculture saw the emergence of an Executive Managerial class thereby creating a 'new' upper class (Camejo, 1971) wherein Indo and Afro Trinidadian lawyers and doctors had to maintain values of the White upper class to become part of the 'high society' (Braithwaite, 1953). Economic competition has also played a role in the tensions between the two primary communities since Indo Trinidadians have been perceived as more economically successful than Afro Trinidadians, leading to accusations of

discrimination and unfair advantage. This has been compounded by the fact that Indo Trinidadians are thought to be more involved in the country's lucrative energy sector, which has been a source of both wealth and political power.

2.6.3 Discrimination in employment and entrepreneurship

According to Camejo (1970), members of the business elite who had progressed on their own merits as entrepreneurs saw disparities between proportions among the racial groups just as wide as those among inheritors. Camejo finds that Whites and “Off-Whites” who were recruited to top positions were no better off by formal educational standards than members of the other racial groups. Business elite who were first hired into those positions with low education were Whites. They find that Whites and Off-Whites are given preference over other racial groups in selection processes for middle and top positions, and promotion to elite positions. There was no indication, however, that Whites or Off-Whites had more 'experience' compared with other racial groups according to their first job in organizations.

2.7 Race & Education

2.7.1 Differential Importance of Education

Coppin and Olsen (1998) found that levels of education were lower for men than for women and that fewer than 50% of African and Indian men proceeded beyond the primary level. Employed East Indians were the least likely to have attained training and East Indian men were least attached to the formal labor market due seasonality in agricultural employment. East Indian men with university degrees were found to have the same rate of return as Black men. They also found that

'Other' Ethnicities had greater access to the limited number of places in the post-primary education system and, where they could not take advantage of this, still got high quality jobs.

Coppin and Olsen (1998) also found that education remunerates Indians better on average. East Indian boys were also much less likely to attain a secondary education. This is either because they have a lower propensity for jobs which require formal schooling or access to such jobs is less easy for them than for other workers in Trinidad. East Indian men also had the highest returns to institutional training, government sector employment and urban residence. East Indian girls were slightly over-represented in the total secondary school population compared to their male counterparts. This is potentially because East Indian girls are more likely to get educated to increase their marriage prospects. Cross & Schwartzbaum (1969) found that Black girls were the least likely to attain secondary education. This is likely due to there being fewer familial restraints than those imposed on Indian girls, more employment opportunities with low educational requirements (i.e., factories, offices, etc.) and possibly a greater reliance on Black girls' contributions to maintain and support the household. It is therefore clear that different ethnic groups perceive different values to education, with East Indians placing a greater emphasis on education as a means of social advancement due to their cultural heritage.

2.7.2 Location Matters

Another finding by Coppin, Addington, and Olsen (1998) was that living in a rural location is related to lower per capita educational investment. This then explains findings that show that East Indians are less likely to get an education since they mainly populate rural spaces. The larger Indian rural presence could potentially be due to their early acquisition of land and propensity to agricultural practices. Additionally, the common curriculum was shown to be less useful in rural environments than in the case of their urban counterparts. Rural students do not fare as well as their

urban and semi-urban counterparts in the attainment of free school places (Cross & Schwartzbaum, 1969). They tend to compensate for their failure to obtain positions in government and government-assisted institutions by enrolling in private schools. This tells us that the secondary school system favors those who spent most of their time in an urban environment and penalizes those who were raised in rural communities. Since the majority of East Indians reside in rural areas this exacerbates their educational frustrations.[5]

2.8 A path forward

Altogether, the previous literature has shown that Afro and Indo Trinidadians both have held historically disadvantaged positions when compared to other ethnicities in Trinidad and Tobago. However, cultural norms and practices have led to the ongoing perception that Afro Trinidadians are even more discriminated against at the societal level. We can use the tools provided by the Stratification Economics framework to study whether this discrimination can be seen with regards to the income earned by members of both groups. By outlining the historical context in which we are operating, conceptualizing the structures of race, and outlining the necessary theoretical approaches based on previous literature, we are able to set up the mechanisms upon which this paper is built. My work aims first to identify whether Afro Trinidadians are discriminated against when compared to their East Indian counterparts based on the groups' average earnings differentials. Secondly, it aims to investigate whether the groups' average incomes are converging or diverging with time and decompose causes for their movement in either direction.

[5] Whilst male members of the rural extended families are diverted towards the cane fields and supporting the family unit, girls are generally only given the alternative of attending school or remaining in the home (Cross & Schwartzbaum, 1969)

3. Methods and Data

3.1 Empirical Approach

The objective of this analysis is to explain ethnic earnings differentials between East Indian Trinidadians and Afro Trinidadians. I anticipate that East Indians out earn Africans due to the advantage they had in their initial conditions, following the frameworks of Stratification Economics. I predict that Black Trinidadians are more discriminated against based on the historical context outlined in Chapter 2. I also anticipate that the difference in earnings will converge over the years due to less discriminatory practices in the period studied. To determine these outcomes, we utilize multiple Oaxaca decompositions.

The Oaxaca decomposition is a statistical method used to analyze differences in the mean outcomes of two groups. It involves breaking down the differences in outcomes between groups into differences arising from two sources: variances due to differences in the characteristics (age, education, experience, and occupation) and variances due to differences in the *returns* to those characteristics (different wages or income for the same endowments) - also referred to as the “explained" and "unexplained" components respectively. The unexplained portion is where potential discrimination can be identified.

3.1.1 Earnings Regression

We start by estimating regression models for each group, using group characteristics as predictors of the outcome variable - log income. This is illustrated by the following equation:

$$logY = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots + \beta_n X_n + \varepsilon \quad (1)$$

Where β_0 is the intercept of the group, X_1 through X_n are the characteristics or independent variables that affect logY and β_1 through β_n are the coefficients or returns to those characteristics.

In other words, X is a vector of characteristics, β is a vector of returns to these characteristics, and logY is logarithmic earning. This is a standard earnings equation that we run separately by group.

3.1.2 The Oaxaca Decomposition

To perform the Oaxaca decomposition, we estimate the group-level differences in mean outcomes by subtracting the outcome of one group from the outcome of the other group. For ethnic groups B and I (Black and East Indian respectively), the earnings differential is given by:

$$log\ \hat{Y}_I - log\ \hat{Y}_B = \hat{\beta}_I X_I - \hat{\beta}_B X_B \quad (2)$$

This difference in means between the two groups can be decomposed into the portion explained by cross group differences in characteristics and the portion explained by cross group differences in returns to those characteristics. In order to do this we essentially add 0 in the form of ($ß_B X_I -$ $ß_B X_I$) to the right hand side of equation (2) to get to equation (3):

$$log\ \hat{Y}_I - log\ \hat{Y}_B = (\hat{ß}_I X_I - \hat{ß}_B X_B) + (\hat{ß}_B X_I - \hat{ß}_B X_I) \quad (3)$$

We can redistribute terms in the first and second expression on the right-hand side:

$$log\ \hat{Y}_I - log\ \hat{Y}_B = (\ _B X_I - \hat{ß}_B X_B) + (\hat{ß}_I X_I - \hat{ß}_B X_I) \quad (4)$$

To separate the differences in characteristics from the differences in returns to those characteristics, we can further rearrange the above equation into:

$$log\ \hat{Y}_I - log\ \hat{Y}_B = \hat{ß}_B(X_I - X_B) + X_I(\hat{ß}_I - \hat{ß}_B) \quad (5)$$

The first term on the right-hand side of equation (5) is the value of the advantage in endowments possessed by group I; the portion of the earnings differential 'explained' by differences in characteristics. The second term evaluates the difference between how group I's equation would value the characteristics of group B and how B's equation actually values their characteristics; the

portion of the earnings differential 'explained' by differences in returns to characteristics. Intuitively, this could also be seen as:

$$log\ \hat{Y}_I - log\ \hat{Y}_B = \hat{\beta}_I(X_I - X_B) + X_B\ (\hat{\beta}_I - \hat{ß}_B) \quad (6)$$

The difference in the predicted outcomes when each group is afforded the same labor market returns is the portion of the difference that can be attributed to differences in the group characteristics. The remaining difference in means is the difference in outcomes due to varied returns to those characteristics. This is often interpreted as discrimination or other forms of differential treatment. These decomposition techniques are employed here to determine the amounts of the ethnic earnings differential resulting from differences in the mean characteristics across ethnic groupings, and from different market valuations of those characteristics (potential discrimination).

3.1.3 A more detailed decomposition

The tables outlined in section 4.5 push the Oaxaca decomposition further: not just whether differences are explained by differences in characteristics or by differences in returns to characteristics, but we are able to specify differences in *which* characteristics or differences in returns to *which* characteristics are contributing most to earnings differentials. The portion attributed to differences in characteristics is:

$$\beta_B(X_I - X_B) = \beta_{University_B}(University_I - University_B) + \beta_{Secondary_B}(Secondary_I - Secondary_B) + \beta_{Age_B}(Age_I - Age_B) + \beta_{Agesq_B}(Agesq_I - Agesq_B) + \beta_{Married_B}(Married_I - Married_B) + \beta_{Head_B}(Head_I - Head_B) \quad (7)$$

The portion attributed to differences in returns to characteristics is:

$$X_I(ß_I - ß_B) = University_I\ (ß_{University_I} - ß_{University_B}) + Secondary_I\ (ß_{Secondary_I} - ß_{Secondary_B}) + Age_I\ (ß_{Age_I} - ß_{Age_B}) + Agesq_I\ (ß_{Agesq_I} - ß_{Agesq_B}) + Married_I\ (ß_{Married_I} - ß_{Married_B}) + Head_I\ (ß_{Head_I} - ß_{Head_B}) \quad (8)$$

3.1.4 The Blinder- Oaxaca

This study will assess the change of mean income differences between the two groups (Black and East Indian) over time, done separately by gender to account for ways that men and women could be differentially impacted according to their ethnic group. This will be done twice: once in 1970 and again in 2000. In this case, the method is referred to as the "Blinder-Oaxaca decomposition" or "BO decomposition" which aims to explain the differences in mean outcomes between two groups across different time periods.

The simplest decomposition of change is a subtraction of the decomposition components of the original Oaxaca at time *u* from the components at time *t* and is defined by Kröger, H., & Hartmann, J. (2021) as the Simple Subtraction Method (SSM).[6] With these two decompositions, we isolate which differences in income exist due to personal characteristics and which can potentially be attributed to discrimination. Given our two groups *I* and *B* for which we have data for two points in time, *t* and *u* with *t* > *u*, the change in the outcome difference between the two groups and between the two points in time is given by:

$$\Delta logY = \Delta logY_t - \Delta logY_u \tag{9}$$

Changes in outcome differences between two groups and two points in time can be expressed as the difference of group differences over time:

$$\Delta logY = (E(logY_t^{\ I}) - E(logY_t^{\ B})) - (E(logY_u^{\ I}) - E(logY_u^{\ B})) \tag{10}$$

We can rearrange these terms so that:

[6] The approach has attracted criticism because it does not estimate the unique contribution of coefficient changes and changes in the variable distributions over time. The coefficient differences at each time point are weighted by the mean distribution of the endowments at their respective time and, because the endowments likely change over time, the coefficient effect captures these changes.

$$\Delta logY = E(logY_t{}^I) - E(logY_u{}^I) - (E(logY_t{}^B) - E(logY_u{}^B))$$

$$\Delta logY = \Delta logY^I - \Delta logY^B \quad (11)$$

This can be further broken down into:

$$\Delta logY = (\Delta logY_t{}^I - \Delta logY_u{}^I) - (\Delta logY_t{}^B - \Delta logY_u{}^B) \quad (12)$$

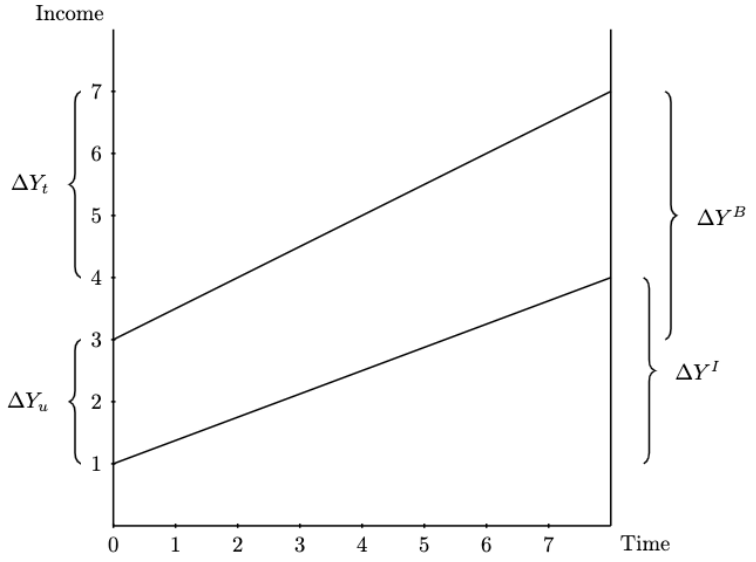
To isolate the different effects of characteristics and returns over time, Equation (17) takes equations (10) and (11) and breaks them down even further.

$$(\Delta Y_t^I - \Delta Y_u^I) - (\Delta Y_t^B - \Delta Y_u^B) = \underbrace{(C1_t - C1_u)}_{Intercept} + \underbrace{(C2_t - C2_u)}_{Coefficient} + \underbrace{(C3_t - C3_u)}_{Endowment} \quad (13)$$

The difference between each C1 is the intercept change, between each C2 is the coefficient change and between each C3 is the endowment change. The interpretation of the intercept effect is grouped with the coefficient effect to create the portion that is explained by differences in returns to characteristics (potential discrimination). This method is further illustrated in Figure 1. The difference between group I and group B is represented by the change in Y at time t and u respectively. In addition to the difference between I and B, the change in each group over time is represented by Y^I and Y^B.[7]

[7] This follows methods used by Hayfron-Benjamin (2023)

Figure 1: **The Change between Afro and Indo Trinidadians over time**



Note: This is done using methods from Kröger, H., Hartmann, J. (2021)

The changes associated with differences due to different endowments can be interpreted as the part of the change in the gap that is due to changes in the characteristics of each group over time. The change associated with differences in the coefficient is the change in the gap that is due to differences in the returns to characteristics of each group over time. By running these two decompositions, we extrapolate information on potential contributors to a convergence or divergence between group outcomes.[8]

3.2 Data

The data used to analyze ethno-racial inequality are from the 1970, 1980, 1990, 2000 and 2011 Trinidad and Tobago censuses. It is a 10% sample accessible via IPUMs International (Minnesota Population Center 2021). I build upon data and methods used by Addington Coppin & Reed Neil Olsen (1998), which employed 1993 Continuous Sample Survey of the Population

[8] This study uses the Stata implementation of the Blinder-Oaxaca decomposition created by Ben Jann (2008)

(CSSP) data for Trinidad and Tobago to investigate the determinants of earnings by ethnicity. My use of Census data improves on this because it allows me to have access to more information regarding quality of dwelling, amenities, basic demographics, education, employment, and income as shown in Table 1. These would offer better insight into differences in the qualities of life in the population. Additionally, the data from the census facilitates exploration of issues in ethnic earnings differentials

Appendix table 1 contains the names and definitions of the variables that will be employed in this study. The data set, comprising workers with non-zero earnings during the survey period, contains 69,349 individuals in 1970; 104,402 in 1980; 111,687 in 1990; 111,833 in 2000; and 115,108 in 2011. Of importance to the analysis of human capital earnings models are variables such as education, training, and experience. Demographic, industry, and occupation variables also help to illuminate important aspects of these groups[9].

Blacks and East Indians account for approximately 84% of total workers, with the remaining 16% comprising individuals from the other ethnic groups. Like Coppin and Olsen (1998), this study will utilize the category 'Other' to encompass White, Syrian/Lebanese, Chinese, mixed, and others since these have traditionally been associated with higher social status than Africans and Indians in Trinidad and Tobago. Moreover, given the larger African and Indian proportions in the data, aggregating all other individuals into this composite group improves on the estimation.

The first dependent variable of interest in my study is going to be total income. This will be used as a general measure of economic success and is recorded as non-zero income in order to account for discrimination towards people who actually work or earn income. I am using income

[9] Beyond human capital measures, other variables in the model include demographic measures such as geographic location of the dwelling and occupation categories which will help in my analysis.

because the Census data on wealth is not as explicit and measuring income gives insight into the future possibilities for individuals within each demographic.

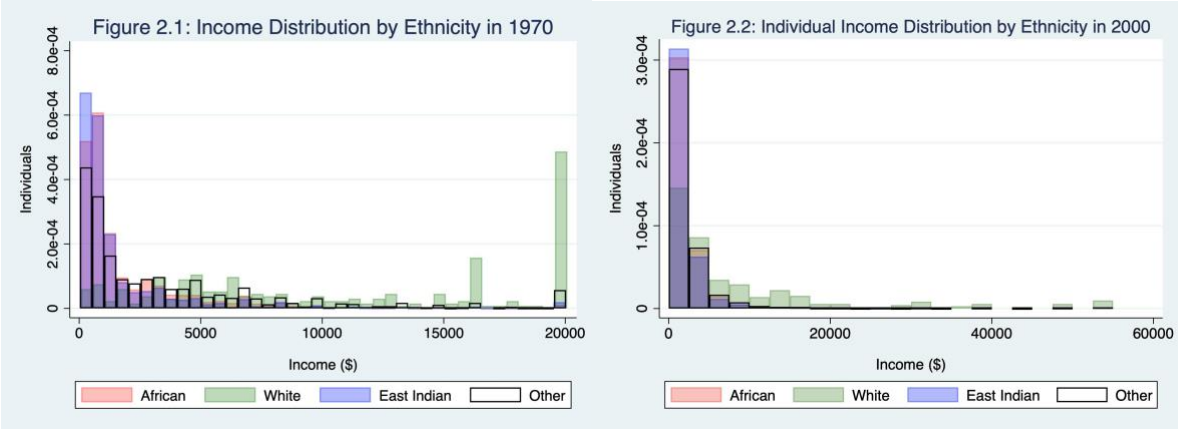
The second dependent variable that I will investigate is log income. This will give me insight into the percentage difference in incomes of each group. The amenities group was created by conglomerating dummy variables associated with access to electricity, running water, telephone, internet, automobile, hot water, air conditioning, computer, washing machine, refrigerator, television, radio, pool and yacht. These variables give us a better idea of the quality of life afforded to individuals of each group. This was built on the methods used by Monique D. A. Kelly (2022) that used amenities as an indicator of economic well-being[10].

4. Results

4.1 Graphical Analysis

In order to more fully investigate whether discrimination exists between Indo and Afro Trinidadians, a series of graphical analyses across both years were constructed. These provide a visual representation of earnings dynamics across both years and between ethnic groups.

[10] A limitation to the data is that the variables recorded were not consistent across each year. For example, there was no account for years of schooling in 1970, making it difficult to determine experience in that year. Employing potential experience, measured by post-schooling years (age minus years of education minus 5), is used for years other than 1970 since actual years of experience in the workforce was not recorded. Another limitation arose because the number of hours and months worked was not recorded in 2000, making it impossible to account for it in my final regressions. Finally, although income was reportedly collected in all of the years, the data for income was only publicly available for the years 1970 and 2000. As a result, these will be the years on which my analysis is focused.
A possible critique of my approach is that I am not looking far back enough in my analysis, with my data stopping at 1970. I will not go further back than 1970 because in addition to a lack of available data in years prior, Trinidad and Tobago is a relatively new nation state, having only gained its Independence from Britain in 1962. Therefore, this analysis will be more representative of outcomes to citizens of the nation when they were able to govern themselves.



Figures 2.1 and 2.2 show the distribution of income by ethnicity for the 2 years. This gives us a better idea visually of which groups are most represented in different socioeconomic strata in this society. Figure 2.1 shows that in 1970, a significant portion of Whites made up persons in higher income brackets while the rest of the population, most significantly Afro and Indo Trinidadians, occupied the lowest income brackets. Figure 2.2 shows that this outcome shifts by the year 2000. The distribution is skewed right where most of the population, including Whites, occupy lower income brackets. Of those that occupy higher income brackets, Whites still make up the majority. This could potentially be due to the progression of less discriminatory practices in the private sector as Trinidad continued to be a more self-governing nation. It could also be a result of the outward migration of Whites in the latter half of the 20th century due to their lower levels of political control following independence. Blacks and East Indians are within the lower intervals of income earnings in both years, with East Indians being slightly more represented in the lowest earnings intervals than Afro Trinidadians. Further understandings of these findings would be drawn from a more detailed visualization of the actual median income earnings of groups across both years.

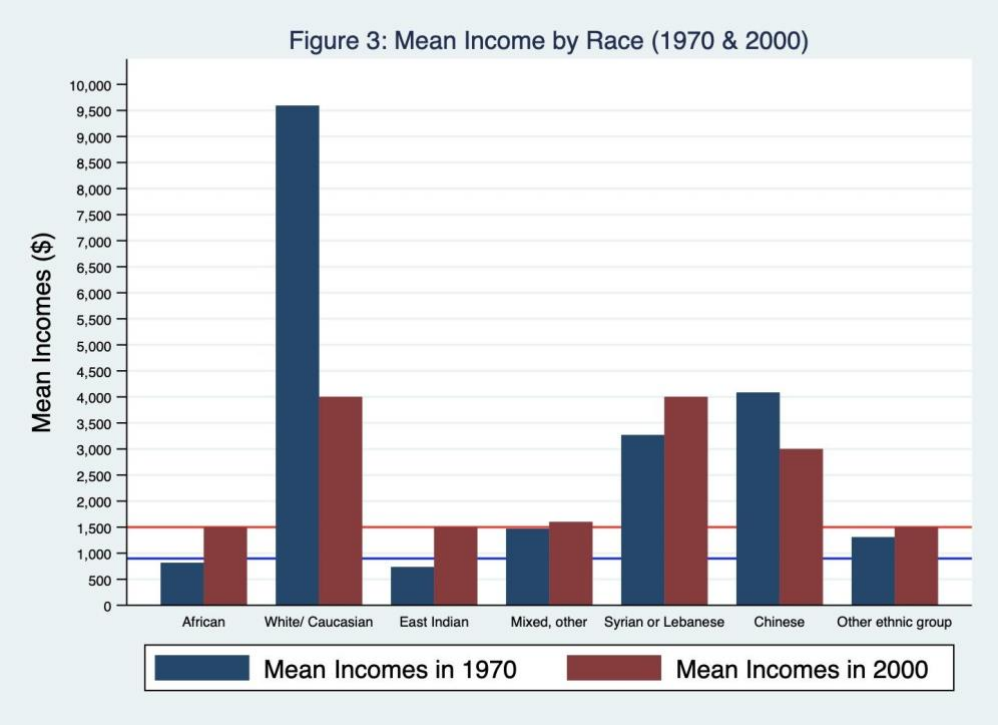
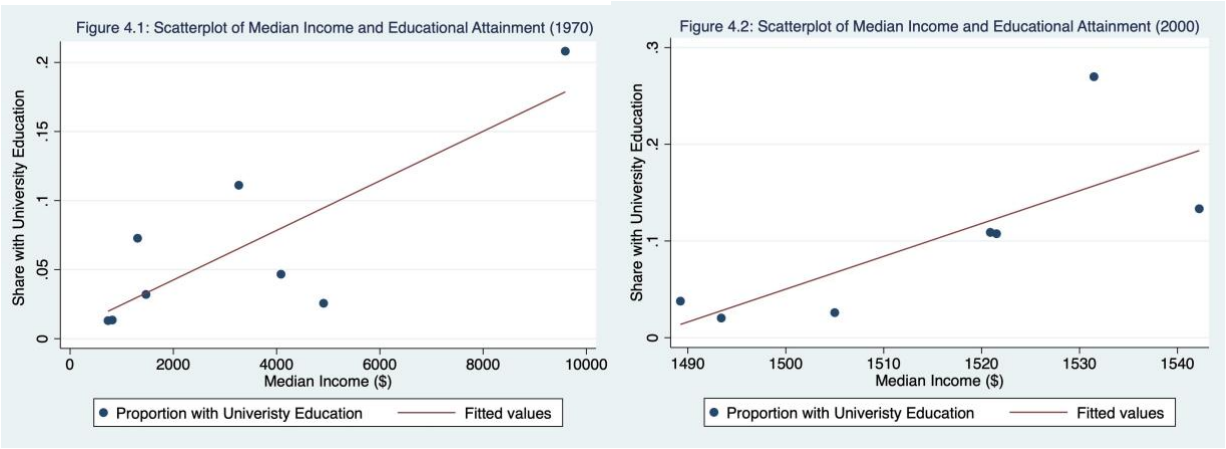


Figure 3 builds on Figures 2.1 and 2.2 by further disaggregating mean incomes by racial groups to paint a clearer picture of evolutions over time. The mean outcomes in 1970 in Figure 3 further sheds light on the outcome seen in 2.1 where White substantially out earn all other members of the population. Both Black and East Indians fall below the overall median income level (represented in red), with Blacks out earning East Indians only slightly. It reiterates that the far-reaching advantage by Whites in 1970 becomes less dramatic by 2000 due to their outward migration (Murell, 2000). Both Blacks and East Indians see higher mean household income earnings than they did 30 years prior, with each of them earning just about the overall median household income for the entire group. This potentially suggests that less overtly discriminatory practices may have led to slightly greater income equality over time. The fact that the median income for Whites, Syrians and Chinese rise significantly above the overall median household income level suggests that there still might be some level of discrimination occurring in the labor market. This outcome potentially supports Darity's theory of Stratification Economics since the

aforementioned ethnic groups are those that have historically held wealth due to continued ownership of business and other assets.

Another view of this result of the Stratification Economics framework is painted by showing the relationship between income and educational attainment in Trinidad and Tobago.



Figures 4.1 and 4.2 show the trends across income and educational attainment for 1970 and 2000 respectively. This gives us visual insight into how much university completion generally affects income and how that has changed over the 2 time periods. From both figures, we see a positive linear relationship between income and university completion. They demonstrate that mean income and university education are positively correlated in both years. This could either be an indication that higher education leads to higher income (and greater wealth over time) or that greater wealth results in higher familial income, resulting in better educational opportunities and outcomes for the individual.

With figures 2, 3 and 4 all taken together, one could draw the conclusion that the idea posed in the Stratification Economics model positing the perpetuation of inequality due to generational wealth transfers holds when we compare other groups to East Indian and Black. However, our initial prediction (that East Indians would out earn Blacks) was incorrect.

4.2 Descriptive Statistics

A further analysis of the data allows us to gain insight into the conclusions drawn from our graphical analysis. Our study focuses mainly on Black and East Indian populations, but we initially compare these groups to other racial categories in order to paint a complete of racial dynamics and their subsequent outcomes in Trinidad and Tobago.[11] Table 1 shows the mean values of variables of interest, separated by ethnic group and gender.[12]

Table 1: Variable Mean Values by Race/Ethnicity and Gender (1970 to 2011)

	Black Men	East Indian Men	Other Men	Black Women	East Indian Women	Other Women
Total Income	2367.57	2221.03	3814.72	1915.97	1834.15	2666.87
	(3643.5)	(3387.4)	(5972.8)	(3177.6)	(3388.1)	(4775.2)
Log Income	7.26	7.22	7.56	7.03	6.98	7.29
	(0.990)	(0.980)	(1.173)	(1.009)	(1.003)	(1.059)
Hours Worked	43.86	43.00	45.17	42.11	41.98	41.85
	(11.88)	(11.73)	(11.80)	(13.60)	(13.01)	(10.66)
Experience	24.10	22.74	21.39	24.53	23.91	22.24
	(20.32)	(18.59)	(19.35)	(20.96)	(19.49)	(20.08)
Unemployed	0.084	0.076	0.074	0.057	0.032	0.049
	(0.277)	(0.264)	(0.262)	(0.233)	(0.176)	(0.217)
Public Sector	0.24	0.17	0.17	0.17	0.09	0.12
	(0.429)	(0.375)	(0.373)	(0.377)	(0.286)	(0.327)
Private Sector	0.32	0.35	0.37	0.23	0.16	0.26
	(0.467)	(0.476)	(0.483)	(0.423)	(0.368)	(0.439)
Self Employed	0.12	0.17	0.14	0.04	0.05	0.05
	(0.326)	(0.376)	(0.347)	(0.207)	(0.212)	(0.215)
Agriculture	0.03	0.08	0.04	0.00	0.01	0.01
	(0.163)	(0.278)	(0.189)	(0.0662)	(0.109)	(0.0723)
Power	0.016	0.009	0.012	0.002	0.001	0.002
	(0.124)	(0.0964)	(0.110)	(0.0454)	(0.0293)	(0.0475)
Years of School	9.90	9.40	10.75	10.12	8.81	10.75
	(8.404)	(7.340)	(7.269)	(7.837)	(6.900)	(6.760)
University	0.020	0.025	0.047	0.022	0.018	0.036
	(0.141)	(0.156)	(0.212)	(0.148)	(0.133)	(0.186)
	(0.141)	(0.156)	(0.212)	(0.148)	(0.133)	(0.186)
Secondary	0.36	0.36	0.48	0.41	0.36	0.52
	(0.480)	(0.480)	(0.500)	(0.493)	(0.480)	(0.500)
Primary	0.49	0.41	0.37	0.44	0.37	0.34
	(0.500)	(0.492)	(0.482)	(0.497)	(0.483)	(0.475)
Age	38.95	37.07	37.18	39.50	37.67	37.88
	(17.58)	(15.85)	(17.26)	(18.41)	(16.42)	(18.02)
Head of Household	0.55	0.54	0.50	0.28	0.15	0.22
	(0.498)	(0.498)	(0.500)	(0.448)	(0.357)	(0.414)
Married	0.27	0.39	0.30	0.25	0.39	0.28
	(0.445)	(0.488)	(0.458)	(0.431)	(0.489)	(0.449)
Amenities	4.52	4.67	4.88	4.77	4.91	5.17
	(2.393)	(2.449)	(2.566)	(2.338)	(2.383)	(2.475)
Observations	58255	62682	28370	57667	60390	30062

mean coefficients; sd in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[11] African Female's lowest returns to education concurs with earlier work done by Cross and Schwartzbaum (1969) which found that African girls had more employment opportunities with low educational requirements.

[12] The ethnic/ racial groups are broken down into Black, East Indian, and Other. The 'Other' category encompasses White, Syrian/Lebanese, Chinese and mixed since these have traditionally accorded higher social status than Africans and Indians and aggregating them together improves our estimation given the smaller nature of their population sizes. The ethnic/racial groups are further separated by gender

4.2.1 Mean Observations for Men

Black Men out earned East Indian Men ($2367.57 compared to $2221.03). These numbers analyzed at a logarithmic level show us that on average, Black men earn 4% more than East Indian men. An analysis of employment variables shows us that Black men work the most hours a week than all other ethnic/ gender groups (they are surpassed only by Other men) at 43.86 hours a week. Black men are also most likely to have work experience of the whole group at 24.1 years on average, but they are also more likely to be unemployed than their East Indian counterparts. This is notable since it reveals potential discrimination against Black men who are potentially more qualified but less likely to find employment.

An analysis of variables relating to the types of jobs occupied by ethnic/ racial groupings shows that Black men are more likely to work in the public sector than their East Indian counterparts who are more likely to be hired privately. This potentially speaks to greater ease of finding government employment due to Black people's advantage politically[13]. Of the entire group, East Indian men are most likely to be self-employed, which could be due to the group's higher likelihood of inheritance of family-owned businesses.[14] A closer look at individual and household demographics tells us that Black men are older on average than their East Indian and Other counterparts. This may then account for the greater level of potential experience these groups have as discussed above.

[13] This follows the findings of Ruprah Khadan & Godinez-Puig (2022) which revealed that ethnic voting is indeed rewarded politically, as it increases the probability of voters finding public sector employment

[14] Likely because of their initial conditions which led them to move into retail trade (Munasinghe, 2001)

4.2.2 Mean Observations for Women

Black Women out-earned East Indian Women ($1915.7 to $1834.15) on average. Their lowest average monthly earnings among the three ethnic groupings might be a manifestation of the extent of Indians' attachment to the wage labor market (Coppin & Olsen 1998). In logarithmic terms, Black women earn 5% more than their East Indian counterparts across all of the years (1970 to 2011). East Indian women are the least likely to be unemployed, again pointing towards potential discrimination against Black women who have more experience and more schooling but are still less likely to be employed.[15] An analysis of variables relating to the types of jobs occupied by particular ethnic/ racial groupings shows that East Indian women are least likely to work in both the public and private sectors, which could be the result of practices where East Indian women are more likely to work in the home. Black women are least likely to be self-employed, potentially pointing to the risk-averse nature of the group that is culturally expected to take care of the home while working[16]. This seems to be supported by the fact that a third of the Black working women in the sample were heads of household; this compares with 15 percent for their East Indian counterparts and 22 per cent for their Other counterparts.

4.2.3 Mean Observations Overall

Overall, Table 1 reiterates that the mean total incomes of the groups shows us that, in accordance with the figures discussed in section 4.1, relative to Black and East Indian Trinidadians, Others earn more. Additionally, Black people earn more than East Indians on average. That being said, their higher level of experience and education may account for their higher income earnings

[15] This aligns with Coppin and Olsen's (1998) findings that East Indians had a lower propensity to jobs which require formal schooling

[16] Conclusions about East Indian and Black women's average propensity to different sectors of jobs are based on the findings from Coppin and Olsen, 1998.

relative to East Indians. This may also be because East Indians tend to populate rural areas in Trinidad and Tobago so they tend to pursue the different types of labor (agriculture vs corporate jobs).[17] Taking our learnings from Figures 4.1 and 4.2 into consideration, Black men and women's higher average years of schooling might also account for their higher earnings in relation to their East Indian counterparts.

All these variables considered allow us to have a more detailed understanding of racial and gender average outcomes and possible contributors to income earnings differentials observed. While the discussed differences between the Other group and both Afro and Indo Trinidadians are extremely notable, for the purposes of this paper, our primary focus is between the Black and East Indian populations. Using the Oaxaca decomposition, we can determine more concretely which factors contribute most to income differentials.

4.3 A Closer Look at Income Differentials

Table 2: Comparing Income across Race and Gender

	MEN			WOMEN		
	Black	East Indian	Difference	Black	Indian	Difference
1970						
Total Income	2037.47	1851.03	-186.44	1770.61	1453.54	-317.07
Log Income	7.02	6.85	-0.17	6.82	6.61	-0.21
2000						
Total Income	2532.23	2332.17	-200.06	1958.16	1885.26	-72.90
Log Income	7.39	7.33	-0.06	7.09	7.03	-0.06

Table 2 breaks down our observations from Table 1 more concretely, with a close focus on income gaps between the two groups. We see that for both men and women, Black Trinidadians out earn East Indian Trinidadians. This goes against our initial hypothesis that East Indians would

[17] This is again a manifestation of their inheritance of land following their indentureship period and eventual move into peasant farming (Munasinghe, 2001 & Reddy 2011).

out earn Black Trinidadians due to the initial conditions discussed. We can use our decompositions to make sense of this outcome. The raw income gap between Black and East Indian women was greater than that for men in 1970 while in the year 2000, the raw gap between the men's groups was larger than that of the women's. Additionally, the raw gap increased for men while it decreased for women from 1970 to 2000. When these differences are looked at from a logarithmic level, the percentage difference in income is much higher for women than men in 1970 (-21% compared to -17%) while it is similar for the two groups in 2000 (-6%). These logarithmic outcomes point to potential lower levels of income inequality between the two groups across both years. Performing the Oaxaca decomposition across both years will allow us to determine whether this is the case as well as whether discrimination is at play, helping to answer whether our 2nd and 3rd predictions were correct.

4.4 Multivariate Analysis: Regression

To perform the Oaxaca decomposition, we must first run regressions following equation (1) for both groups. Tables 4 and 5 present the results of ordinary least squares regression estimations of earnings on education (university and secondary), work type (public sector, private sector and self-employed) and individual demographics (age, head of household and married). This is done for the logarithm of worker's earnings in 1970 and 2000 respectively. The model is estimated separately for each of the four gender/race groupings. The first column shows the estimated model for the full population.

Table 3: OLS Regression of Human Capital Earnings by Ethnicity and Sex (1970)

	Full Sample	Black Men	East Indian Men	Black Women	East Indian Women
University	2.141***	1.844***	2.212***	1.610***	2.157***
	(0.063)	(0.121)	(0.155)	(0.166)	(0.283)
Secondary	1.151***	0.835***	0.992***	0.741***	0.948***
	(0.020)	(0.035)	(0.043)	(0.043)	(0.079)
Public Sector	0.919***	0.825***	1.064***	1.440***	0.895***
	(0.058)	(0.092)	(0.106)	(0.131)	(0.217)
Private Sector	0.290***	0.199*	0.509***	0.193	-0.097
	(0.057)	(0.091)	(0.103)	(0.128)	(0.206)
Self Employed	0.299***	0.079	0.756***	-0.243	-0.124
	(0.062)	(0.102)	(0.110)	(0.148)	(0.231)
Age	0.011***	0.007***	0.016***	0.008***	0.007*
	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)
Head of household	0.161***	0.219***	0.136**	-0.145***	-0.129
	(0.020)	(0.034)	(0.043)	(0.043)	(0.083)
Married	0.372***	0.410***	0.227***	0.203***	0.168*
	(0.018)	(0.030)	(0.040)	(0.039)	(0.067)
Constant	5.521***	5.814***	5.179***	5.700***	5.926***
	(0.060)	(0.096)	(0.110)	(0.134)	(0.215)
Observations	13097	4353	3409	1999	754

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.4.1 Men's regression analysis for 1970

Table 3 shows the regression described in equation (1) for the year 1970. As expected, we see that university education is associated with higher log income for all groups at a statistically significant level. Remarkably, East Indian men saw much greater returns to university than Black Men (2.212 vs 1.844) at the statistically significant level. East Indian men also saw greater returns to secondary school education than their Black counterparts. Additionally, East Indian men saw greater returns to public sector work than Black men. East Indian men saw significantly higher returns to private sector work than Black men (a difference of .31) and East Indian men also benefited from extremely higher returns to owning their own businesses than Black men (a difference of .677). In fact, the return for East Indian men was even higher than the return to the

full sample, which includes White and White adjacent racial groups. This result is unsurprising given the mean results in table 2 which reveal that East Indian men are more likely to be self-employed while both groups of women were less likely to embark in entrepreneurial endeavors.

That East Indian men saw almost double the returns to age as members of the other groups indicates that they benefit substantially more from being older in the labor market. Black men saw the highest returns to income in terms of being the head of the household and being married gave Black men the highest returns to income of the whole group. This tells us that married Black men benefit more in the wage market than married East Indian men.[18] All of these taken together suggest that despite their higher 'Constant' term, Black men may be discriminated against compared to their East Indian counterparts given their lower returns to most of the dependent variables in 1970.

4.4.2 Women's regression analysis for 1970

East Indian women also saw greater returns to Secondary school education than their Black counterparts (a difference of .207). Black women saw greater returns to public sector[19] work than East Indians who actually received negative returns to private sector involvement compared to a positive return for Black women.[20] Both groups of women saw negative returns to entrepreneurship, with Black women seeing the lowest returns of the whole group, supporting their potential aversion to entrepreneurship in the first place. Both groups of women also had very similar, small returns to their age and negative returns to income due to being the head of the household. This concurs with their lower likelihood of being heads of the household in Table 1. It

[18]This follows the idea posited by Coppin and Olsen (1998) that employers pay married workers more than their counterparts in common law unions if the former are perceived to be more stable workers. It is possible that Black men see higher returns because the Black population is generally more inclined to common law relationships, therefore married Black men were perceived as even more stable than their East Indian counterparts in the year 1970.

[19] Likely due to the political advantage held by Black people

[20] This could potentially be due to East Indian women's higher propensity to get an education to increase marriage prospects rather than enter the workforce.

is notable, however, that although Black women see the lowest returns to being the head of their household, they are more likely than their East Indian counterparts to do so. This again speaks to the culture of Black women being expected to provide for the home even when it is detrimental to their success, and potential discrimination against Black women with regards to their household head status.

4.4.3 Men's regression analysis for 2000

Table 4: OLS Regression of Human Capital Earnings by Ethnicity and Sex (2000)

	Full Sample	Black Men	East Indian Men	Black Women	East Indian Women
University	1.409***	1.130***	1.297***	1.527***	1.584***
	(0.026)	(0.062)	(0.054)	(0.059)	(0.071)
Secondary	0.499***	0.365***	0.416***	0.611***	0.684***
	(0.010)	(0.020)	(0.017)	(0.024)	(0.027)
Public Sector	0.604***	0.510***	0.478***	0.673***	0.865***
	(0.015)	(0.030)	(0.028)	(0.033)	(0.041)
Private Sector	0.307***	0.258***	0.246***	0.202***	0.426***
	(0.013)	(0.028)	(0.024)	(0.030)	(0.034)
Self Employed	0.243***	0.162***	0.206***	0.093*	0.345***
	(0.015)	(0.032)	(0.026)	(0.041)	(0.040)
Age	-0.004***	-0.007***	-0.005***	-0.001	0.004***
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Head of household	0.288***	0.328***	0.285***	0.117***	0.046
	(0.010)	(0.023)	(0.021)	(0.023)	(0.028)
Married	0.292***	0.249***	0.243***	0.214***	0.206***
	(0.009)	(0.021)	(0.019)	(0.022)	(0.024)
Constant	6.631***	6.994***	6.800***	6.466***	6.077***
	(0.022)	(0.047)	(0.039)	(0.053)	(0.059)
Observations	40137	8727	11348	6888	5615

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4 reveals that in the year 2000, East Indian men again saw higher returns to a University and Secondary education compared to Black men. Remarkably, the results from Tables 1, 3 and 4 taken together show that Indian men have less education but get higher returns to that education than Black men in both years. Moreover, while Black men saw greater returns to working

in both the public and private sector East Indian saw significantly higher returns to owning their own businesses, pointing to potential discrimination in entrepreneurship against Blacks.

Black men saw greater negative returns to their age in 2000 than East Indian men, pointing towards potential discrimination against them. Being the head of the household once again benefited Black men more than East Indian men at the statistically significant level. Finally, once more we see that Black men benefit the most out of the entire group to being married[21]. This points to the likelihood that being married is associated with "being more stable" more so for Black men than their East Indian counterparts (Coppin & Olsen, 1998).

4.4.4 Women's regression analysis for 2000

East Indian women once again have higher returns to university and secondary education. Combined with the results from previous tables, we see that, although East Indian women have less education, they get higher returns to that education than both Black men and women in both years. East Indian women also saw greater returns to working in the public sector and more than double the return to private sector participation. This could potentially speak to the progression of women's rights over the 30-year period and East Indian women's move into the workforce following their educational attainment. A big difference from 1970 is that East Indian women now benefit the most from owning their own businesses at a return of 0.345. This is much higher than that of Black women (0.093).

The only group that saw positive returns to age was East Indian women at the statistically significant level pointing towards possible greater discrimination towards older workers (other than East Indians) in general. Black women now benefit more from being the head of the household and

[21] This is potentially because being married in the Black community is less common than all other communities, where Black people typically engage in common law relationships if documented at all (Coppin, 1998).

from marriage than their East Indian counterparts. This speaks to potential advantages Black women receive for being married compared to their East Indian counterparts. With all these findings revealed, it stands to test which of these factors are the most significant contributors to observed income differentials by constructing Oaxaca decompositions in both years.

4.5 Decompositions

Having completed the regressions for both Afro and Indo Trinidadians for both years, we can now run a Oaxaca decomposition to investigate the sources of the differences in income across groups. This will be done by comparing East Indian men to Black men, and East Indian women to Black women. Table 5 shows the Oaxaca decomposition of the earnings differential for the year 1970. Building on the regressions shown in Table 3, It breaks down the differences in outcomes between two groups into differences arising due to *differences in the characteristics* and differences arising due to *differences in the returns to those characteristics*. The lowest panel of the table helps us in further understanding the nature of potential discrimination.

4.5.1 Men in 1970

Table 5: Decomposition of East Indian/ Black Log Earnings Differentials by Gender in 1970

	Men		Women	
Overall				
East Indian	6.849***	(376.13)	6.608***	(163.89)
Black	7.019***	(442.41)	6.824***	(263.30)
Raw Difference	-0.170***	(-7.03)	-0.216***	(-4.52)
Explained by Differences in Characteristics	-0.0301	(-1.90)	-0.0548	(-1.82)
Explained by Differences in Returns	-0.140***	(-6.10)	-0.162***	(-3.93)
Explained by Differences in Characteristics				
University	-0.00409	(-0.74)	-0.000188	(-0.01)
Secondary	-0.0203*	(-2.14)	-0.0463	(-1.83)
Age	-0.277***	(-7.26)	-0.140**	(-2.76)
Age squared	0.243***	(7.02)	0.115*	(2.52)
Head of household	0.000470	(0.67)	0.00409	(0.91)
Married	0.0279**	(3.28)	0.0130	(1.59)
Explained by Differences in Returns				
University	0.00307	(1.28)	0.00393	(0.89)
Secondary	0.0244*	(2.31)	0.0277	(0.93)
Age	-0.263	(-0.64)	-0.593	(-0.89)
Age squared	0.307	(1.43)	0.233	(0.70)
Head of household	-0.0234	(-0.60)	0.0485	(1.48)
Married	-0.112***	(-4.37)	-0.0428	(-1.33)
Constant	-0.0750	(-0.40)	0.161	(0.49)
Observations	7762		2753	

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Firstly, looking at the results of men, the "Overall" section (panel 1) reveals that East Indian men had 17% lower income relative to Afro Trinidadian men. This concurs with the findings presented in Table 2. Only 3% of this difference is explained by differences in characteristics. Hence, just based on their characteristics, if East Indian men and Black men got the same returns to their respective characteristics (i.e., if they were treated the same in the labor market), the earnings of East Indian men would be only 3% lower than those of Black men. This is the expression on the left-hand side of equation (7). In reality, their earnings are 17% lower, with the remaining 14% difference explained by differences in returns to the characteristics- the majority of the earnings differential. This is the expression on the left-hand side of equation (8). This is what occurs when they are treated differently for having the same endowments. This is what economists

typically refer to as discrimination: people who look alike but are treated differently. These results say that most of the earnings difference is due to labor market discrimination.

We can construct a closer analysis of these observations by looking at panel 2. We observe that there is a negative impact on income with regards to secondary schooling of 2%. This tells us that if East Indian men had the same returns as Black men, the difference in their characteristics would result in income that is 2% lower. This means that, because Black men are more likely to have completed secondary school, and because secondary school is a valuable credential in labor markets, Black men earn 2% more. At the same time, differences in age of the two groups account for an overall -3% difference in log income. This incorporates the full nonlinear effect of age on income by including the effects of both age *and* age squared. East Indians' characteristics with regards to marriage would lead to a higher income of 2.7% at a significant level. This is a noticeable positive impact that reflects East Indians' higher likelihood of marriage. The impact of university and being head of the household is negligible in terms of the amount explained by characteristics for men.

Turning to the final panel, we can assess the role of differences in returns to characteristics. It reveals that secondary education has a +2.44% effect, showing that East Indian men have greater returns to secondary education. This is notable since they are less likely to have this education. Being the head of the household has a smaller -2.34% effect, indicating that East Indian men benefit less from being the heads of their household when compared to Black men with the same characteristics. University education and age do not seem to have significant effects on the income differential. Marriage accounts for the largest amount of the earnings differential explained by differences in returns at -11% at the statistically significant level. This is the most remarkable outcome of this table since it indicates that if both Black and East Indian men were equally likely

to be married, Blacks would benefit substantially more given their higher returns to marriage. This is more than three quarters of the 'discrimination' portion of the 14% income gap. This result suggests that East Indian men are discriminated against by not getting as significant a benefit to being married.

4.5.2 Women in 1970

Turning our attention to income differences among women, East Indian women have income that is -21% compared to Afro Trinidadian women. Like the men, only a small portion of this is explained by differences in characteristics: 5.5% attributable to differences in characteristics with the remaining 16.2% attributable to differences in returns to the characteristics. Panel 2 shows us that secondary education results in a -4.6% difference, meaning that if East Indian women had the same returns as Black women, they would earn significantly less given their lower average years of schooling. Age has a significant -3% effect on income, indicating that East Indian women with the same returns as Black women would receive less on average because they are younger. University education, marriage and being the head of the household all have negligible effects on the income gap due to differences we see. Therefore, the largest portion of the income difference due to characteristics is due to their varied rates of secondary school completion as the highest level of educational attainment. This makes intuitive sense since, according to Table 1, East Indian women are less likely, compared to Black women, to have attained a secondary school education.

When looking at the last panel for women, the amount explained by differences in returns, we observe that East Indian women who are more educated receive 2.77% more than Black women with the same endowments. Significantly, age has an overall -36% effect, meaning that East Indian women the same age as Black women receive 36% less given their varying returns. This is the largest result of all the controls. Marriage has a -4.28% impact telling us that East Indian women

who are married benefit less than Black married women due to the differences in their returns to marriage. Being the head of the household yields a positive outcome of 4.85% - East Indian women who are the heads of their household are likely to earn more than Black women who are the head of their households given the differences in their returns.

4.5.3 1970 Overall

The key takeaway of Table 5 when coupled with the results of Table 1 reveals that although East Indians are most likely to be married, they generally see lower returns to marriage than their Black counterparts. Almost all the income difference for men is due to differential treatment of East Indian married men compared to married Black men. For women, the largest portion of the difference is due to differential treatment by age older East Indian women compared to older Black women. Interestingly, schooling has almost no effect for either group. Overall, Table 5 reveals potential discrimination towards East Indians in 1970 since nearly all the substantial earnings differential for both gender groups is explained by differences in the returns to their characteristics. We can perform a similar analysis for the year 2000.

4.5.4 Men in 2000

Table 6: Decomposition of East Indian/ Black Log Earnings Differentials by Gender in 2000

	Men		Women	
Overall				
East Indian	7.326***	(842.97)	7.029***	(538.58)
Black	7.386***	(736.42)	7.088***	(616.77)
Raw Difference	-0.0598***	(-4.51)	-0.0591***	(-3.40)
Explained by Differences in Characteristics	0.0660***	(9.11)	0.00597	(0.58)
Explained by Differences in Returns	-0.126***	(-9.98)	-0.0651***	(-4.22)
Explained by Differences in Characteristics				
University	0.000417	(0.15)	-0.00895	(-1.67)
Secondary	-0.00735*	(-2.39)	-0.0178*	(-2.44)
Age	-0.161***	(-10.13)	-0.0541***	(-4.65)
Age Squared	0.212***	(11.61)	0.0658***	(5.15)
Head of household	-0.00549***	(-3.97)	-0.00241	(-0.68)
Married	0.0274***	(7.79)	0.0235***	(6.87)
Explained by Differences in Returns				
University	0.00483**	(2.59)	0.00480	(1.66)
Secondary	0.0139	(1.27)	0.0549**	(3.11)
Age	0.128	(0.69)	-0.590**	(-2.61)
Age squared	-0.0716	(-0.77)	0.310**	(2.65)
Head of household	-0.0271	(-1.28)	-0.0213	(-1.37)
Married	-0.0140	(-1.24)	0.0129	(1.12)
Constant	-0.159	(-1.76)	0.164	(1.46)
Observations	20075		12503	

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We now turn our attention to the more recent data, investigating earnings differentials in the year 2000. Table 6 shows detailed decomposition of the earnings differentials in the year 2000. First, the most striking result is that income gaps between East Indians and Africans closed substantially in the thirty years between 1970 and 2000, dropping from approximately 20% to only 6%. In the year 2000, East Indians had 5.9% lower income relative to Afro Trinidadians in both gender groupings. While the gaps are of the same size – about 6% – we see a substantial difference in whether that gap is explained by different characteristics in the two racial groups or not. For men, the -6% gap is a combination of a +6.6% 'explained' portion and -12% 'unexplained' portion.

A closer look at panel 2 for men shows that, with respect to age, East Indian men would see a 5.1% benefit in their income if they had the same returns to their characteristics as Black men

since they are older. Marriage has a statistically significant +2.47% impact on income, meaning that since East Indians are more likely to be married, they would earn more if both groups had the same returns. Panel 3 reveals more drastic effects on the earnings differentials due to differences in returns. Age has an overall +5.64%, telling us that East Indian men the same age as Black men would benefit more due to their returns to age if they had the same returns. Secondary education has a larger positive impact of 1.39% on East Indian men's earnings. This tells us that if Blacks and East Indians had the same secondary school completion rates, East Indian men would earn 1.39% more because of their differences in returns to secondary education. The effects of university education, marriage and being the head of the household all had negligible impacts. Most notably, the effect of marriage on the income differential has gone down significantly over the 30-year period. Most significantly, the constant term of -15.9% suggests that East Indian men are discriminated against without any "real" characteristics when compared to Black men.

4.5.5 Women in 2000

For women, almost none of the -6% gap is explained by differences in characteristics. Panel 2 shows that the effect of age on income is a net +1.44% (6.58%- 5.14%) at a statistically significant level with regards to differences in characteristics. This tells us that if East Indian women had the same returns as Black women to their age, they would receive more because they are older on average. The amount explained by marriage is positive at the statistically significant level (2.35%), telling us that East Indian women benefit from being likely to be married on average. There are negligible explained differences due to characteristics of university, secondary and being the head of the household for women.

The entire negative income gap is explained by differences in the returns to East Indian women compared to Black women in the year 2000. Panel 3 again reveals that the amount explained

by returns to secondary education is +5.49% at a statistically significant level. This tells us that if East Indian women had the same propensity to secondary education as Black women, they would benefit from 5.49% higher income given their higher returns to secondary education. Age has the largest effect on earnings differential since it results in an overall -28% (31%- 53%) difference in the earnings between East Indian and Black Women. This aligns with similar findings in the year 1970 shown in Table 6. This means that East Indian women the same average age as their Black counterparts receive less income due to their returns to age. University, marriage and being the head of the household all have negligible effect on the earnings differential observed compared to age and secondary education.

4.5.6 2000 Overall

The key takeaway of Table 6 is that age is the most influential contributor to earnings differentials due to differences in returns for both men and women in the year 2000. Over the 30-year period, marriage was less of a contributing factor for both groups, leading to the assumption that there is less of a correlation between being married and earning more income for Black men and women. Overall, the earnings differential between East Indians and Afro Trinidadians, though still negative, reduced significantly for both groups over the 30-year period. A decomposition of both decompositions is performed in Table 7 to help us further understand these evolutions over time.

4.5.7 Men across both years

Table 7: Combined Oaxaca Decomposition of East Indian/ African Log Earnings Differentials by Gender from 1970 to 2000

	Both		Men		Women	
Overall						
East Indian	0.422***	(23.15)	0.477***	(23.06)	0.421***	(10.05)
Black	0.297***	(19.95)	0.367***	(18.83)	0.264***	(9.30)
Raw Difference	0.125***	(5.43)	0.110***	(4.12)	0.157**	(3.06)
Expl. by Diffs. in Characteristics	0.0823***	(5.36)	0.0962***	(5.91)	0.0607*	(1.97)
Expl. by Diffs. in Returns	0.0431	(1.91)	0.0137	(0.53)	0.0966*	(2.08)
Expl. by Diffs. in Characteristics						
University	0.000161	(0.03)	0.00451	(0.75)	-0.00876	(-0.61)
Secondary	0.0301**	(3.11)	0.0130	(1.28)	0.0284	(1.18)
Age	0.0717*	(2.37)	0.116**	(2.83)	0.0862	(1.69)
Age squared	-0.00572	(-0.19)	-0.0310	(-0.77)	-0.0491	(-1.04)
Head of Household	-0.0120***	(-5.10)	-0.00596***	(-3.66)	-0.00650	(-1.25)
Married	-0.00199	(-0.26)	-0.000475	(-0.05)	0.0105	(1.10)
Expl. by Diffs. in Returns						
University	0.000873	(0.37)	0.00176	(0.67)	0.000867	(0.29)
Secondary	-0.00574	(-0.40)	-0.0106	(-0.67)	0.0272	(0.77)
Age	0.230	(0.58)	0.391	(0.77)	0.00220	(0.00)
Age squared	-0.265	(-1.26)	-0.379	(-1.39)	0.0772	(0.23)
Head of Household	-0.0277	(-1.09)	-0.00373	(-0.08)	-0.0697*	(-2.04)
Married	0.0903***	(4.13)	0.0983***	(3.75)	0.0558	(1.56)
Constant	0.0204	(0.11)	-0.0845	(-0.37)	0.00317	(0.01)
Observations	297426		297426		297426	

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7 compares the Oaxaca done in 1970 with that which was done in 2000. This is done for both gender grouping as well as for both groups together in order to understand the evolutions of the two groups collectively over time. It shows us how much of the change in differences in income between groups Blacks and East Indians and between 1970 and 2000 is due to changes in the groups' characteristics versus returns to those characteristics.

For men, we see that the raw difference is 11%, meaning that the gap decreased by 11 percentage points from the year 1970 to the year 2000 (this difference is also reflected in Table 3). Of this decrease, 9.6 percentage points were due to a decrease in differences due to differences in characteristics while only 1.36 percentage points were a result of a change in returns to the same characteristics. Panel 2 tells us that University education had a very low positive change to closing

this gap while Secondary education had a slightly higher positive change. These tell us that Black and East Indian men generally are seeing more similar characteristics in terms of education over time. The amount explained by characteristics is largely seen in age which has an overall positive effect of 8.5%, meaning that Blacks and East Indians are likely seeing more similar characteristics in terms of age over time. Marriage and being the head of household, however, had a negative negligible effect on income with regards to differences in group characteristics over time. This tells us that the large effects of marriage are mainly seen in the treatment of married men and women over time.

The third panel shows that marriage saw the largest and most significant effect of 9.83%, meaning that a change in the attitudes towards marriage had the most significant effect in reducing inequality between the ethnicities with regards to the differences in returns each group received. As stated in the analysis of Table 7, this once again shows that the returns to marriage Black men has decreased over time. Overall, age had a +1.2 (39.1-37.9) percentage point effect on the earnings differential change over time. This means that attitudes towards age actually helped to decrease the gap between the ethnic groups for men over time. University, secondary education and being the head of the household had negligible impacts on the changes in income inequality observed between the years.

4.5.8 Women across both years

For women, we see that the gap decreased by 15.7%. Of this 15%, 6.07% was due to a change in the amount explained by characteristics. This means that East Indians and Black women likely had more similar characteristics. Much of the decrease in the gap, 9.66%, was due to a change in the amount explained by differences in returns to those characteristics. This means that Blacks

and East Indians saw an even greater convergence with regards to attitudes towards their characteristics than a change in their actual characteristics.

A closer look at panel two tells us secondary education had a positive impact of 2.94% in closing the gap. Hence, the earnings differentials because of secondary school completion between the two groups went down. Age had an overall positive effect on closing the gap of 3.71%. This suggests that both groups of women saw more similar characteristics in terms of age over the years. University, marriage and being the head of household had negligible negative effects on the gap across the years.

Panel 3 reveals Secondary education accounts for +2.72 percentage points of the overall +9.66% impact on the earnings gap between the years due to differences in returns. This means that Black and East Indian women likely saw more similar returns to education over time, following the logic outlined in equation (10). Age had the largest impact of a positive overall effect of +7.94% in closing the income gap. This tells us that for women, East Indian and Black Trinidadians are treated more similarly for their ages over time. Marriage has a +5.58% impact on the income gap, meaning that married East Indian and African women are seeing more similar returns. Finally, being the head of the household actually increased the gap most significantly of the amounts explained by differences in returns at -6.97%. This indicates that when it comes to being the head of the household, Black and East Indian women see increasingly different returns with Black women seeing lower returns to being the head of the household.

4.5.9 Across both years overall: understanding changes in the decomposition.

Overall, Table 7 tells us that the raw difference in income between the two groups decreased by 12.5 percentage points (as indicated in panel 1 of column 1). Most of this is explained by changes in differences in characteristics (8.25%) while the rest is explained by changes in the differences in

returns to those characteristics (4.31%), pointing to a decrease in discriminatory practices. This means that the income gap closed because characteristics converged (about ⅔ of the reduction) and because returns converged (the remaining ⅓ of the reduction). Of the amount explained by characteristics, age had the greatest impact of closing the gap (6.6%) because women of the two ethnic groups saw a convergence in their mean ages. Of the amount that was explained by difference in returns to characteristics, the largest impact was made by Marriage at 9.0%, mainly because the attitude towards married Black men aligned more with the attitudes toward married East Indian men over time. In other words, they saw more similar returns to marriage. Ultimately, Table 7 reveals that there was a convergence in the income gap in the thirty years between 1970 and 2000, with marriage and age being the two most notable contributors to men and women respectively. Surprisingly, although it is commonly thought that differences in education contribute to income differentials,[22] it played little to no factor in closing this gap compared to marriage. These results are interesting because it may point to less discrimination over the years since the change explained by differences in characteristics was positive.[23]

5. Implications and Conclusions

Our analysis found that in 1970, a significant portion of Whites made up persons in higher income brackets while the rest of the population, most significantly Afro and Indo Trinidadians, occupied the lowest income brackets in both years. My primary hypothesis was that East Indians would out earn Africans due to the advantage they had in their initial conditions, following the frameworks of Stratification Economics. This was proven to be incorrect since East Indians were slightly more represented in the lowest earnings intervals when compared to Afro Trinidadians.

[22] This follows Becker's theory that better education leads to more earnings and thus more wealth.
[23] This result was especially true for women.

Specifically, Black Trinidadians out earn East Indian Trinidadians in both gender categories. When these differences are looked at from a logarithmic level, the percentage difference in incomes is much higher for men than women in 1970 (-21% compared to -17%) while it is the same for the two groups in 2000 (-6%). This was mainly due to differences in the type of jobs occupied by Blacks and East Indians respectively.[24]

Additionally, following the findings by Coppin and Olsen (1998), I predicted that Black Trinidadians would be more discriminated against. The result of this is ambiguous because of the impact of marriage. The outcomes to marriage were surprising but are sensible considering Copping and Olsen's (1998) findings that married workers are seen to be more stable. Considering that Black people are more likely to be in common law relationships, those who do marry see significantly higher returns. Therefore, on one hand, East Indians were discriminated against for not receiving high returns to being married compared to their Black counterparts, while on the other hand, Black people who were married were treated very differently compared to Black people who weren't. This suggests that Black people benefited more from conformation to traditionally acceptable practices (such as marriage) while East Indians weren't as impacted. Further research could be done here in order to further understand this finding.

My last hypothesis was that the difference would converge over the years due to less discriminatory practices in the period studied. This was correct since the raw difference in income between the two groups collectively decreased by 12.5%. Most of this is explained by changes in differences in characteristics (8.2%) while the rest is explained by changes in the differences in returns to those characteristics (4.3%). Of the amount explained by characteristics, age had the greatest impact of closing the gap (6%) because women of both ethnic groups saw a convergence

[24] Much of this was due to differences in political power which gave Blacks an advantage over East Indians following Independence. This impacts the Stratification Economics framework since it shifts the "conditions" of both groups.

in their mean ages. Of the amount that was explained by difference in returns to characteristics, the largest impact was made by marriage at 9.03%, mainly because the attitude towards married Black men aligned more with those of married Indian men over time.

Ultimately, there was a convergence in the income gap between the 2 years with marriage and age being the two most notable contributors to men and women respectively. My decomposition shows that relative incomes between East Indians and Afro Trinidadians have changed at a .1% significance level. Overall, both the effects explained by differences in characteristics and difference in returns contributed positively to closing the gap over time. This shows that East Indian Trinidadians may be discriminated against less, primarily because they have more characteristics that allow them to earn more.

The Oaxaca decomposition can help researchers identify the relative contribution of different factors to group-level disparities in outcomes and shed light on potential sources of discrimination or other forms of unequal treatment. Future research could take my findings a step further by assessing the evolutions of income inequality between these two groups and the 'Other' category which out earned both groups by a significant amount. Due to data limitations, I was unable to assess the impact of being Dougla on these evolutions. This could be a viable avenue for further research for more recent years. Finally, it would be worthwhile to expand this type of analysis to include more gender groupings, helping to push this research outside of the traditional gender binary.

Altogether, Becker's taste-based model, Darity's Stratification Economics and the Oaxaca decomposition all provide ways of understanding inequality and discrimination. In the context of Trinidad and Tobago, it is evident that inequities persist with regards to Afro and Indo Trinidadians compared to members of other ethnic groups. This tells a clearer story of persistent inequality that

aligns more closely with the concepts outlined in Stratification Economics. The story of what occurs between Afro and Indo Trinidadians, as this paper showed, is not as straightforward.

6. References

A Brief History of Race, Politics and Division in Trinidad and Guyana | Caribbean Quilt. Nov.2020. jps.library.utoronto.ca, https://jps.library.utoronto.ca/index.php/cquilt/article/view/34377.

Acock, Alan C. A Gentle Introduction to Stata, Revised Sixth Edition. Available from: VitalSource Bookshelf, (6th Edition). StataCorp LLC., 2022.

Alleyne, M. C. 2002. Construction and representation of race and ethnicity in the Caribbean and the world. Kingston: University of West Indies Press.

Akerlof, George A., and Rachel E. Kranton. "Economics and Identity*." The Quarterly Journal of Economics 115, no. 3 (August 1, 2000): 715–53. https://doi.org/10.1162/003355300554881.

———. "Introduction." In Identity Economics, 3–8. How Our Identities Shape Our Work, Wages, and Well-Being. Princeton University Press, 2010. https://www.jstor.org/stable/j.ctt7rqsp.3.

———. "Race and Minority Poverty." In Identity Economics, 97–110. How Our Identities Shape Our Work, Wages, and Well-Being. Princeton University Press, 2010. https://www.jstor.org/stable/j.ctt7rqsp.11.

Arrow, Kenneth J. "What Has Economics to Say about Racial Discrimination?" The Journal of Economic Perspectives 12, no. 2 (1998): 91–100.

Bailey, S. R., A. Saperstein, and A. M. Penner. 2014. "Race, color, and income inequality across the Americas." Demographic Research 31: 735–756.

Bahadoorsingh, Krishna. 1968. *Trinidad Electoral Politics: The Persistence of the Race Factor*. Special Series / Institute of Race Relations. London: Institute of Race Relations.

Becker, Gary S. 1971. *The Economics of Discrimination*. Edited by 2d edition. Economic Research Studies. Chicago, IL: University of Chicago Press. https://press.uchicago.edu/ucp/books/book/chicago/E/bo22415931.html.

Bissessar, A., & Guerre, J. (2013). Trinidad and Tobago and Guyana: Race and politics in two plural societies.

Lexington Books.

Blinder, A., 1973, 'Race Discrimination: Reduced Form and Structural Estimates', Journal of Human Resources, Vol.8, pp.436-55.

Blinder, Alan S. 1973. "Wage Discrimination: Reduced Form and Structural Estimates." *The Journal of Human Resources* 8 (4): 436–55. https://doi.org/10.2307/144855.

Braithwaite, L., 1953, 'Social Stratification in Trinidad: A Preliminary Analysis', Social and Economic Studies, Vol.2, Nos.2 and 3, pp.5-175.

Burns, A. 1954. History of the British West Indies. London: George Allen & Unwin.

Bryan, P. 2004. "The settlement of the Chinese in Jamaica: 1854–c.1970." Caribbean Quarterly 50

(2): 15–25. doi:10.1080/00086495.2004.11672230.

Camejo, A., 1971, 'Racial Discrimination in Employment in the Private Sector in Trinidad and Tobago: A Study of the Business Elite and the Social Structure', Social and Economic Studies, Vol.20, No.3, pp.294-317.

Clarke, Colin. 1991. "Society and Electoral Politics in Trinidad and Tobago." In *Society and Politics in the Caribbean*, edited by Colin Clarke, 47–77. St Antony's. London: Palgrave Macmillan UK. https://doi.org/10.1007/978-1-349-11987-5_3.

Coppin, Addington, and Reed Neil Olsen. 1998. “Earnings and Ethnicity in Trinidad and Tobago.” *The Journal of Development Studies* 34 (3): 116–34. https://doi.org/10.1080/00220389808422524.

Coppin, Addington, and Reed Neil Olsen. ‘Public vs. Private Sector Earnings Differentials in the Caribbean Region: Evidence from the Economy of Trinidad & Tobago’. The Journal of Developing Areas, vol. 40, no. 2, 2007, pp. 51–74. JSTOR, https://www.jstor.org/stable/4193030.

Cotton, J., 1988, 'On the Decomposition of Wage Differentials,' The Review of Economics and Statistics, Vol.70, pp.236-43.

Cross, M. and A. Schwartzbaum, 1969, 'Social Mobility and Secondary School Selection in Trinidad and Tobago', Social and Economic Studies, Vol.18, No.2, pp.189-207.

Darity, William. 2005. “Stratification Economics: The Role of Intergroup Inequality.” *Journal of Economics and Finance* 29 (2): 144–53.

———. 2009. “Stratification Economics: Context Versus Culture and the Reparations Controversy,” May. https://doi.org/10.17161/1808.20096.

Darity, William A., Darrick Hamilton, and James B. Stewart. 2015. “A Tour de Force in Understanding Intergroup Inequality: An Introduction to Stratification Economics.” *The Review of Black Political Economy* 42 (1–2): 1–6. https://doi.org/10.1007/s12114-014-9201-2.

Darity, William A., Patrick L. Mason, and James B. Stewart. 2006. “The Economics of Identity: The Origin and Persistence of Racial Identity Norms.” *Journal of Economic Behavior & Organization* 60 (3): 283–305. https://doi.org/10.1016/j.jebo.2004.09.005.

DeLeire, Thomas. ‘The Wage and Employment Effects of the Americans with Disabilities Act’. The Journal of Human Resources, vol. 35, no. 4, 2000, pp. 693–715. JSTOR, https://doi.org/10.2307/146368.

Drake, Sean J. 2019. “The Hidden Rules of Race: Barriers to an Inclusive Economy.” *Contemporary Sociology* 48 (2): 173–74. https://doi.org/10.1177/0094306119828696n.

England, S. 2008. “Reading the Dougla body: Mixed-race, post-race, and other narratives of what it means to be mixed in Trinidad.” Latin American and Caribbean Ethnic Studies 3 (1): 1–31.

Harewood, J., 1971, 'Racial Discrimination in Employment in Trinidad and Tobago', Social and Economic Studies, Vol.20, No.3, pp.267-93.

Hayfron-Benjamin, John. *Hidden Diversity: Measuring the Income Gap between African Americans and Nigerian Americans*. May 2023.

Heckman, J., 1979, 'Sample Selection Bias as a Specification Error', Econometrica, Vol.47, No.1, pp.153-61

“HISTORY OF THE PEOPLE OF TRINIDAD AND TOBAGO by Williams, Eric: Very Good Soft Cover (1962) First Edition. | Parnassus Book Service, Inc.” n.d. Accessed December 9, 2022. https://www.abebooks.com/first-edition/HISTORY-PEOPLE-TRINIDAD-TOBAGO-Williams-Eric/22770667340/bd.

Ho, C. 1989. “‘Hold the chow mein, gimme Soca’: Creolization of the Chinese in Guyana, Trinidad, and Jamaica.” Amerasia Journal 15 (2): 3–25.

“How Gary Becker Saw the Scourge of Discrimination.” n.d. The University of Chicago Booth School of Business. Accessed December 9, 2022. https://www.chicagobooth.edu/review/how-gary-becker-saw-the-scourge-of-discrimination.

http://fmwww.bc.edu/RePEc/bocode/o/oaxaca.html. Accessed 13 Apr. 2023.

Jann, Ben. 'The Blinder–Oaxaca Decomposition for Linear Regression Models'. The Stata Journal: Promoting Communications on Statistics and Stata, vol. 8, no. 4, Dec. 2008, pp. 453–79. DOI.org (Crossref), https://doi.org/10.1177/1536867X0800800401.
Kao, Grace, and Jennifer S. Thompson. 2003. "Racial and Ethnic Stratification in Educational Achievement and Attainment." Annual Review of Sociology 29 417–442, https://www.jstor.org/stable/30036974, accessed on 2022-11-19.
Kelly, Monique D. A. 2022. "Racial Inequality in the Anglophone Caribbean: Comparing the Cases of Jamaica and Trinidad and Tobago." *Journal of Ethnic and Migration Studies* 0 (0): 1–29. https://doi.org/10.1080/1369183X.2022.2044767.
Khadan, Jeetendra, Inder Ruprah, and Luisa Godinez-Puig. 2022. "Ethnic Cleavages and Vote Choice in Trinidad and Tobago." *Ethnopolitics* 0 (0): 1–31. https://doi.org/10.1080/17449057.2021.2023275.
Khadan, Jeetendra, and Inder J. Ruprah. 2019. "The Economic and Political Costs of Diversification as a Way Out of a Recession: The Case of Trinidad and Tobago." In *Development, Political, and Economic Difficulties in the Caribbean*, edited by Ann Marie Bissessar, 117–48. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-02994-4_7.
Khan, A. (2004) Callaloo Nation: Metaphors of Race and Religious Indentity among South Asians in Trinidad, Duke University Press, Durham, NC.
Kröger, H., & Hartmann, J. (2021). Extending the Kitagawa–Oaxaca–Blinder decomposition approach to panel data. *The Stata Journal*, *21*(2), 360–410. https://doi.org/10.1177/1536867X211025800
Latin American Public Opinion Project (LAPOP). 2012. AmericasBarometer for Trinidad and Tobago. www.lapopsurveys.org.
Latin American Public Opinion Project (LAPOP). 2014. AmericasBarometer for Trinidad and Tobago. www.lapopsurveys.org.
Minnesota Population Center. 2015. IPUM International: Trinidad and Tobago 2000 data. https://international.ipums.org/international/.
Munasinghe, V. 2001. Callaloo or tossed salad?: East Indians and the cultural politics of identity in
Trinidad. Ithaca, NY: Cornell University Press.
Oaxaca, R., 1973, 'Male-Female Wage Differentials in Urban Labor Markets', International Economic Review, Vol.9, pp.693-709.
Oaxaca, R. and M. Ransom, 1994, 'On Discrimination and the Decomposition of Wage Differentials', Journal of Econometrics, Vol.61, pp.5-21.
Reddy, M. 2011. "Challenging democracy: Ethnicity in postcolonial Fiji and Trinidad." Nationalism and Ethnic Politics 17 (2): 182–202.
Ryan, S., E. Greene, and J. Harwood. 1979. The confused electorate: A study of political attitudes and opinions in Trinidad and Tobago. St. Augustine, Trinidad: Institute of Social and Economic Research. University of the West Indies.
Segal, D. 1993. ""Race" and "color" in pre-independence Trinidad and Tobago." In Trinidad ethnicity, edited by K. Yelvington, 81–115. Knoxville, TN: University of Tennessee Press.
Sirathanapornpat, Naleenvali. 2022. "Hidden in Plain Sight: Economic Inequality in Asian America." Amherst College.

Trinidadian and Tobagonian Americans - History, Modern Era, The First Trinidadians and Tobagonians in America. https://www.everyculture.com/multi/Sr-Z/Trinidadian-and-Tobagonian-Americans.html#ixzz7yY8sivPm. Accessed 13 Apr. 2023.
Vertovec, S. 1995. “Indian indentured migration to the Caribbean.” In The Cambridge survey of world migration, edited by R. Cohen, 57–62. Great Britain: Cambridge University Press.

7. Appendix

Appendix Table 1: Variable Definitions

Variable	Definitions
Total Income	Total Income of Individuals
Log Income	Natural Logarithm of Total Income
Hours Worked	Number of hours worked per week
Experience	Years of potential job experience (age-yrschool-5)
Unemployed	1 if the individual is unemployed as a member of the labor force; 0 otherwise
Public Sector	1 if the individual works for the government; 0 otherwise
Private Sector	1 if the individual is employed by the private sector; 0 otherwise
Self Employed	1 if the individual is self employed; 0 otherwise
Agriculture	1 if the individual works in agriculture; 0 otherwise
Years of School	Total years of schooling
University	1 if individual’s highest educational attainment is university; 0 otherwise
Secondary	1 if individual’s highest educational attainment is secondary school; 0 otherwise
Primary	1 if individual’s highest educational attainment is primary school; 0 otherwise
Age	Age of individual
Head of Household	1 if the worker is the head of the household; 0 otherwise
Married	1 if person is married; 0 otherwise
Amenities	Includes access electricity, vehicle, airconditioning, refridgerator, pool and yacht all coded as 1s and 0s