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Keyword: Guyana, class-based inequality, ethnic income inequality, distributive justice

JEL Cassification: D31, D63, J15, N36

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1 Introduction

> *Cultural or racial attributes as such are of no intrinsic interest except insofar as individuals or social groups use them to maximize their respective socioeconomic or political positions in a particular society. It is therefore the social context in which individuals mobilize certain cultural or racial symbols to constitute themselves as members of an ethnic or racial group for the pursuit of socioeconomic or political objectives that gives ethnicity or race its special significance. The reverse is also true, however. Just as individuals may use their ethnic or racial identity to maximize their advantages, they may also abandon or deemphasize these identities in favor of other allegiances, such as class, if they perceive that their ethnic or racial allegiances are obstacles to the pursuit of their interests.*
>
> — Dupuy 1996:122, *Race and Class in the Postcolonial Caribbean*.

This paper utilises new survey data to present novel estimates of income inequality by class (1990-2021) and ethnicity (2006-2021) in Guyana. The focus on Guyana is advantageous because its entrenched identity-based politics provides a laboratory to test several theorems about class and ethnicity. While pro-ethnic voting eliminates the democratic imperative of periodic electoral turnover in that country (Khemraj 2019; Singh 1994; Premdas 1972), the People's Progressive Party Civic (PPP/C), predominantly supported by an ethnic majority of Indo-Guyanese, had lost the 2015 national elections for the first time since 1992. By 2015, a coalition of political parties assumed power, supported predominantly by Afro- and Mixed-Guyanese, and a critical mass of Indo-Guyanese. However, the PPP/C returned to power in the 2020 national elections.

The new dataset permits answers to questions relevant to Guyana and similar countries where identity politics is deep-rooted or emerging. Are incomes more unequally distributed by class or ethnicity, and how might one account for the observed trends? What is the nexus between class and ethnic conflict in the case of Guyana, and what are the key lessons for identity-based politics elsewhere? One established theorem is that ethnic-based politics serves economic elites or their class interest (Dupuy 1996; Mason 1995; Mars 1990; Mills 1987, Lewis 1985: 8-9; Sudama 1983; Hintzen 1983; Rodney 1981b; Bartels 1980; 1977; Despres 1975). Does the evidence validate this claim, and can intra-class rivalry account for inter-ethnic conflict? The dataset also presents an opportunity to evaluate three predictions formulated by Constantine (2021) about class and ethnic income inequality in Guyana: (i) Cross-ethnic voting emerges when the out-group (Afro-Guyanese) is weaker in economic terms. (ii) Electoral turnover through cross-ethnic voting increases ethnic income inequality within the capital-owning class in favour of Indo-Guyanese. The intuition is that electoral turnover raises the out-group's share of income and consumption expenditures,

which disproportionately benefits *rich* Indo-Guyanese as they own the larger share of capital. (iii) Electoral turnover increases and decreases class inequality within the Indo- and Afro-Guyanese communities, respectively, which follows logically from the previous hypothesis.

In this paper, the concept of class refers to income categories, which deviates from the more popular notion of class as a social force identified by its ownership of capital. The term is used as an expositional device to divide the population into three key groups, and a close mapping between capital ownership and income categories is not unexpected. In terms of ethnicity, the survey respondent chooses the ethnic identification that best describes her culture, that is, her heritage, religion, and customs.

The only comparable study is Constantine (2017), which presents the first time series of decile shares from 1960 to 2013. Constantine concludes that income is more concentrated in the top 50 percent of the population and that commodity price shocks, along with privatisation and economic restructuring, can explain the rise of the top half of the income distribution. However, this work has two limitations. First, it does not provide estimates of ethnic income inequality. Second, it utilises data from the Global Consumption and Income Project (GCIP), which constructs synthetic income profiles to estimate income inequality for non-survey years after the late 1990s (Lahoti et al. 2016). It follows that many of the GCIP estimates after 2000 rely on interpolation and extrapolation techniques.

The paper overcomes this limitation with new data as it utilises the Latin American Public Opinion Surveys (LAPOP) from 2006 to 2016 and the Guyana Labour Force Surveys (GLFS) from 2017 to 2021 to generate estimates of income inequality. These estimates are merged with GCIP's estimates of inequality in the 1990s to extend the survey-based dataset, though a data gap remains from 2000 to 2005. This gap coincides with significant political instability, crime, and relatively poor economic performance (Pasha 2020), which presents difficulties for interpolation and extrapolation techniques. The basic methodology calculates the midpoint of the monthly household income range identified by the survey respondent, which is net of taxes (GLFS) and accounts for all income sources, including remittances from abroad (LAPOP). Next, the paper estimates Lorenz curves by ethnic group and the overall population, then Gini indices and income share data: the top 10 percent, middle 40 percent, and bottom 50 percent of the population.

A common concern with the data is that income profiles are under-estimated given the large size of Guyana's underground economy (Thomas et al. 2011), and the literature finds strong evidence that the shadow economy increases income inequality in developing and transition economies (Saha et al. 2021; Berdiev and Saunoris 2019; Chong and Gradstein 2007). A related concern

is that survey data significantly under-estimates top incomes through under-reporting by respondents (Lustig 2020). In the case of the GLFS and the LAPOP surveys, the top income category is open-ended and reinforces this concern. It follows that the paper presents lower-bound estimates of overall income inequality and the top decile share. Also, the paper omits data on Chinese- and Portuguese-Guyanese due to inconsistent reporting in the GLFS.[1]

The main findings are as follows. First, the Gini index has consistently decreased in recent years, but this hides an enormous concentration of household income in the top 50 percent of the population. For example, the latter group accounts for an average of 75 percent of household income between 2006-2021, which exceeds its population share. Second, from the early 1990s to 2016, the middle class—the middle 40 percent of the population—accounted for a growing share of household income, which was more than 40 percent on average. However, this group experienced a drastic reduction in its income share by 2017. Third, the income share of the poorest 50 percent—the working class—exceeded the top 10 percent of the population by 2019, which reflects the consistent decline (increase) in the top decile share (bottom 50 percent). To appreciate the significance of this redistribution, consider that only in communist China and the Soviet Union was a similar result realised (Gouzoulis and Constantine 2020; Piketty et al. 2019; Novokmet et al. 2018). Fourth, there is higher class inequality within the Indo- and Indigenous-Guyanese communities compared to Afro- and Mixed-Guyanese as measured by the Gini index and income shares.

Fifth, the income differences among ethnic groups in each class violate the principle of distributive justice, as the data indicates that Indo- and Indigenous-Guyanese are over-represented in the top 10 percent of the population relative to Afro- and Mixed-Guyanese. In turn, the latter groups are over-represented in the bottom 90 percent of the population. Therefore, there are too few Indo- and Indigenous Guyanese in the middle and working classes, and distributive justice requires more representation of Afro- and Mixed-Guyanese in the top 10 percent of the population. Finally, notwithstanding persistent ethnic income inequality, as defined by the degree of representational inequality (Jayadev and Reddy 2011), there is a far greater unequal distribution of income within-ethnic groups and the overall population. For example, the poorest 50 percent of Guyanese accounted for an average of 25 percent of household income between 2006-2021, and this share of income is divided among the ethnic groups as follows: Indo- (7.9), Afro- (7.5), Mixed- (7.4), and Indigenous-Guyanese (1.3). Thus, identity politics has failed to provide an ethnic advantage to the majority working poor; only Indigenous-Guyanese—the smallest ethnic group—appear to

[1]These groups account for approximately 1 percent of the population.

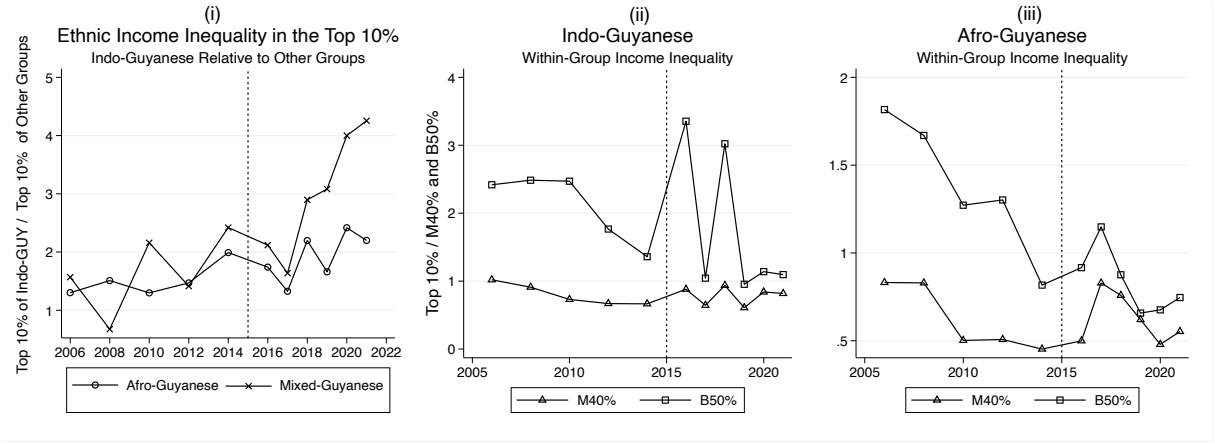
experience an ethnic disadvantage.

Curiously, Indo-Guyanese are under-represented in the bottom 90 percent of the population. Unlike Milne (1988)'s claim, this finding suggests that the goal is not ethnic dominance or hegemony *per se*, as this requires the inclusion of the working and middle classes, which implies the absence of class antagonism within the Indo-Guyanese community. However, the data indicates that class rivalry is present, evidenced by higher income inequality within this group relative to the Afro- and Mixed-Guyanese communities. But an alternative interpretation is possible; political calculus relating to social stability instead of class rivalry might explain why Afro-Guyanese are over-represented in the middle and working classes.

How does one reconcile the facts of class inequality with the experience of deep-rooted ethnic-based politics in Guyana? The answer to this question relates to the magnitude of ethnic income gaps in the top 10 percent of the population. Indo-Guyanese are over-represented in this group and accounted for an average of 12.7 percent of household income from 2006 to 2021, in contrast to the 7.5 percent appropriated by Afro-Guyanese, while Mixed- and Indigenous-Guyanese accounted for 6.4 and 3.2 percent of household income, respectively. These are sizeable income gaps relative to the bottom 90 percent of the population and indicate that ethnicity is a mobilisation tool to wage an intra-class conflict for ethnic dominance of the top 10 percent of the population. Several scholars have proposed political governance by an inter-ethnic elite cartel to arrest the intra-class conflict (Lowe 2013; Hinds 2010; Premdas 1995; Ramharack 1992; Lijphart 1969). But consociational democracy may institutionalise extreme class-based inequality if the new vision of democracy fails to extend the decision-making process to include the middle and working classes (Hinds 2008). It is also worth noting that relatively high ethnic income inequality in the top decile violates one of the doorstep conditions for consociational democracy (Lijphart 1996).

Figure A(i) documents the evolution of the share of household income that the top 10 percent of Indo-Guyanese accrues relative to the share of household income that the richest 10 percent of other ethnic groups appropriate. An index beyond 2 indicates extreme inequality, and it is evident that there is increasing dominance of Indo-Guyanese within the top 10 percent of the population. This evidence validates Constantine's first and second predictions. Indo-Afro ethnic income inequality peaked in 2014 on the eve of cross-ethnic voting and accelerated after the electoral turnover in 2015 (indicated by the vertical dotted line). This is strong evidence that ethnic income inequality or ethnic dominance is a conflict *within* the top income class. Figures A(ii) and A(iii) illustrate the income share of the top 10 percent as a ratio of the income share of the middle 40 and bottom 50 percent within the Indo- and Afro-Guyanese communities, respectively, and vali-

Figure A: Between- and Within-Group Income Inequality



date Constantine's third prediction about increases and decreases in income inequality within the respective communities after the 2015 electoral turnover. The predicted effect is more pronounced within the Afro-Guyanese community.

This work also presents compelling evidence of the class and cross-ethnic origins of the recent political changes in Guyana (Ghany 2020). By 2012, income was redistributed from the bottom 90 percent of the population to the top decile, which might partly explain the diminution of the PPP/C to a minority government status in the 2011 national elections. Also, the top 10 percent of Indo-Guyanese had consistently lost income share until 2014, and the same holds for the middle class within the Indo- and Afro-Guyanese communities. These facts underline a multi-ethnic economic discontent within the upper class and may account for the cross-ethnic voting observed in the 2011 and 2015 national elections. A new government composed of multi-ethnic political parties was elected in 2015 but acted against its class and cross-ethnic origins. For example, the coalition government terminated several state-owned sugar estates in 2016, which reduced the share of household income appropriated by the poorest 50 percent of Indo-Guyanese. It also imposed several value-added tax measures in 2017 that specifically targeted the middle class and dramatically reduced its share of household income across ethnicities. These adverse distributional changes may account for the passage of a no-confidence motion against the government in 2018 and its electoral defeat in 2020.

Further, the paper finds weak evidence that economic growth leads to more equal outcomes, irrespective of how income inequality is measured. The tentative conclusion is that fiscal policy is the main explanation of the observed trends, which is consistent with the evidence across space and time, including small states in the Caribbean (McIntyre et al. 2021; McManus et al. 2021;

Gouzoulis and Constantine 2021; Brinca et al. 2020). The income share of the poorest 50 percent increased during the market reforms of the early 1990s when taxes were steeply progressive and public sector minimum wages increased by 264 percent; after 2006, much of the dynamics of the working poor relate to changes in public sector employment. During the 1990s, the income share of the middle 40 percent increased because of the elimination of price controls, the sale of government shares in public enterprises, and other tax measures in the 2000s. This trend was reversed after 2016 when water, private health care, and education were subject to a value-added tax. The paper finds that the dynamics of the top decile do appear to track the changes in pro-business tax policy and the extensive privatisation in the 1990s, notwithstanding the under-reporting of top incomes in survey data.

The main contribution of this paper is that it presents novel estimates of class and ethnic income inequality in Guyana; and closely relates to the works of Gafar (2004; 1998), which document the ethnic distribution of poverty and consumption expenditures in Guyana. Gafar utilised the Living Standard Measurement Study/Household Income and Expenditure Survey conducted during 1992-1993, and the Living Conditions Survey completed in 1999. His 1998 study documents the following poverty rates as measured by the headcount index: Indo- (33.7), Afro- (43), Mixed- (44.7), and Indigenous-Guyanese (87.5). By 1999, the poverty rates were as follows: Indo- (31.3), Afro- (28.8), Mixed- (44.4), and Indigenous-Guyanese (86.5). This is a substantial change in the ethnic distribution of poverty in favour of Afro-Guyanese—the ethnic group with the lowest poverty rate (Gafar 2004)—compared to the 1993 survey results. Also, Gafar demonstrates that 20 percent of Afro-Guyanese were in the top quintile of the consumption distribution, while only 11 percent were Indo-Guyanese. He notes that the greatest increase in consumption expenditures was in the Afro-Guyanese community between 1993-1999 and contends that significant wage increases in the public sector account for the new ethnic distribution of poverty and consumption. This follows because Afro-Guyanese were predominant in the public sector. However, the government of Guyana had privatised several state-owned enterprises in the late 1990s that disproportionately benefited Indo-Guyanese (Constantine 2017). Furthermore, by 2014, this group had dominated all the categories of employment, including public sector employment (Constantine 2021). Therefore, this paper presents an update on the degree of ethnic income inequality by utilising income data instead of consumption outlays, and provides the first time series of its kind from 2006 to 2021. This is a modest contribution to the literature that undertakes country-level studies on class and ethnic income inequality (Khalid and Yang 2021; Gethin et al. 2021; Alvaredo et al. 2021; Akee et al. 2019; Darity and Nembhard 2000; Henry 1989).

The remainder of the paper is organised as follows. Section 2 describes the data sources and outlines the paper's methodology. Section 3 presents the basic facts of class inequality and section 4 provides the estimates of ethnic income inequality. Section 5 presents concluding remarks.

2 Data Sources and Methodology

This paper relies on three different sources of data: (i) The LAPOP survey (2006-2016), (ii) The GLFS (2017-2021), and (iii) The GCIP database (1990-1999).

Vanderbilt University conducts the LAPOP survey in association with the University of Guyana until 2008 and the Development Policy and Management Consultants since 2010. The surveys have a national probability design, and the 2002 population census informs the sample distribution for the survey years between 2006-2010. Further, the sample distribution is updated to reflect population changes in the 2012 national census for all surveys after 2010. The LAPOP sample size varies by survey year and ranges from 1209 survey respondents in 2016 to 2366 in 2008. Further, LAPOP's income concept refers to the monthly income of the households (including remittances from the rest of the world) and the income of all working adults and children. One limitation of this data is the income concept since it is ambiguous about whether it refers to pre- or post-tax income. However, the inclusion of remittances from family members in the rest of the word indicates that the respondent is encouraged to identify all *take-home* pay or net income. Also, surveys from 2006 to 2010 have 11 income categories as opposed to 17 for surveys between 2012-2016. It is worth highlighting that the ethnic distribution of the survey population in 2008 is significantly different from the 2002 national census. For example, the survey reports the population shares of the four main groups as follows: Indo- (23.6), Afro- (17.4), Mixed- (48.15), and Indigenous-Guyanese (10.4), which are in stark contrast to the 2002 census (G.B.O.S 2016: 5), where Indo-, Afro-, Mixed-, and Indigenous-Guyanese are 43.43, 30.23, 16.74, and 9.14, respectively. Finally, all survey data are publicly available online, and the interested reader is encouraged to visit www.vanderbilt.edu/lapop for the dataset and further details.

The GLFS is undertaken quarterly by the Guyana Bureau of Statistics in collaboration with Sistemas Integrales Ltd and the International Labour Organisation. It is a nationally representative survey that covers approximately 4000 households each quarter, and the 2012 national census informs the sample frame. This paper utilises the first quarterly surveys from 2017 to 2021, and the income concept refers to post-tax income. Also, there are 12 income categories in survey years 2017 and 2021, 11 in survey years 2018 and 2020, and the 2019 survey presents 10 income

categories. At the time of data compilation and analysis, the datasets were publicly available but are now subject to official request at statisticsguyana.gov.gy. Readers are invited to visit this source for an outline of the questionnaire and additional details on sampling strategies.

The methodology the paper applied to the raw data is outlined as follows: (i) The income range each survey respondent identifies is adjusted to reflect the mid-point of that income category. This approach applies to the overall survey population and each ethnic survey population. (ii) These adjustments simplify the estimation of Lorenz curves for each ethnic group and the overall population. Then, the paper derives estimates of Gini indices and decile shares by population and ethnicity. (iii) Next, estimates of income inequality within ethnic groups are population-weighted to reflect the distribution of overall income by ethnicity, which permits between-group comparisons. (iv) Finally, the paper estimates the degree of representational inequality by the difference between each ethnic group's share of income (say, in the top 10 percent) and its overall population share. The basic idea is that there is perfect representational equality when this difference is zero.

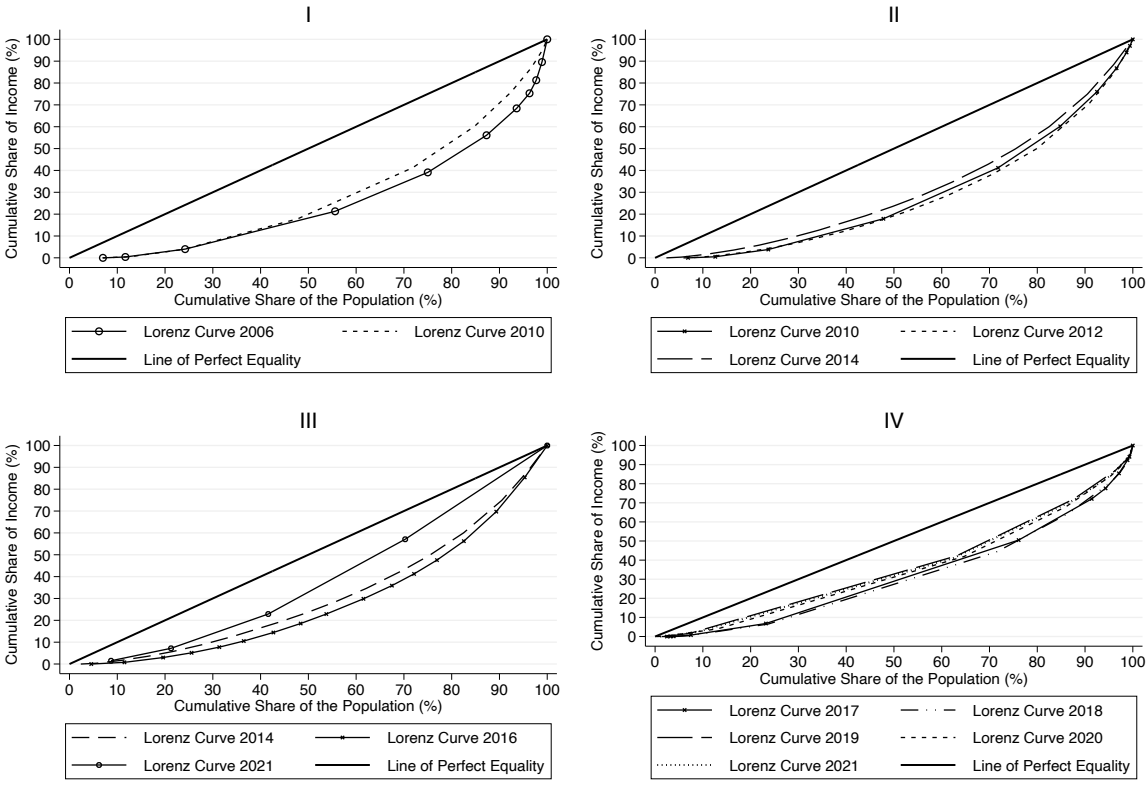
The GCIP database is compiled by Lahoti et al. (2016) and is available at gcip.info. It utilises household survey data from several sources, including the World Bank's Povcalnet database, which hosts several Guyana-based surveys. These include the Living Conditions and Poverty Surveys in 1992, 1999, and 2006; and the Household Income and Expenditure Surveys in 1992 and 2006. Based on these surveys, GCIP estimates several indices of income inequality and constructs synthetic consumption and income profiles through interpolation and extrapolation for missing survey years. Given the concern with data reliability, the paper only uses inequality estimates from 1990-1999.

3 Class Inequality

Lorenz curves show the cumulative share of income that corresponds to different sections of the population, for example, the top 10 percent. Figure 1 documents the Lorenz curves for the period 2006-2021, where quadrants I-III utilise data from the LAPOP surveys, and quadrant IV reproduces data from the GLFS.

The line of perfect equality demonstrates that each individual earns the median income or that N percent of the population earns N percent of household income. It follows that the size of the gap between the line of perfect equality and the Lorenz curve determines the extent of income inequality. Quadrant I compares the periods of 2006 and 2010, and it is transparent that income distribution significantly improves for the top half of the population. This gain is reversed in 2012,

Figure 1: Lorenz Curves: 2006-2021



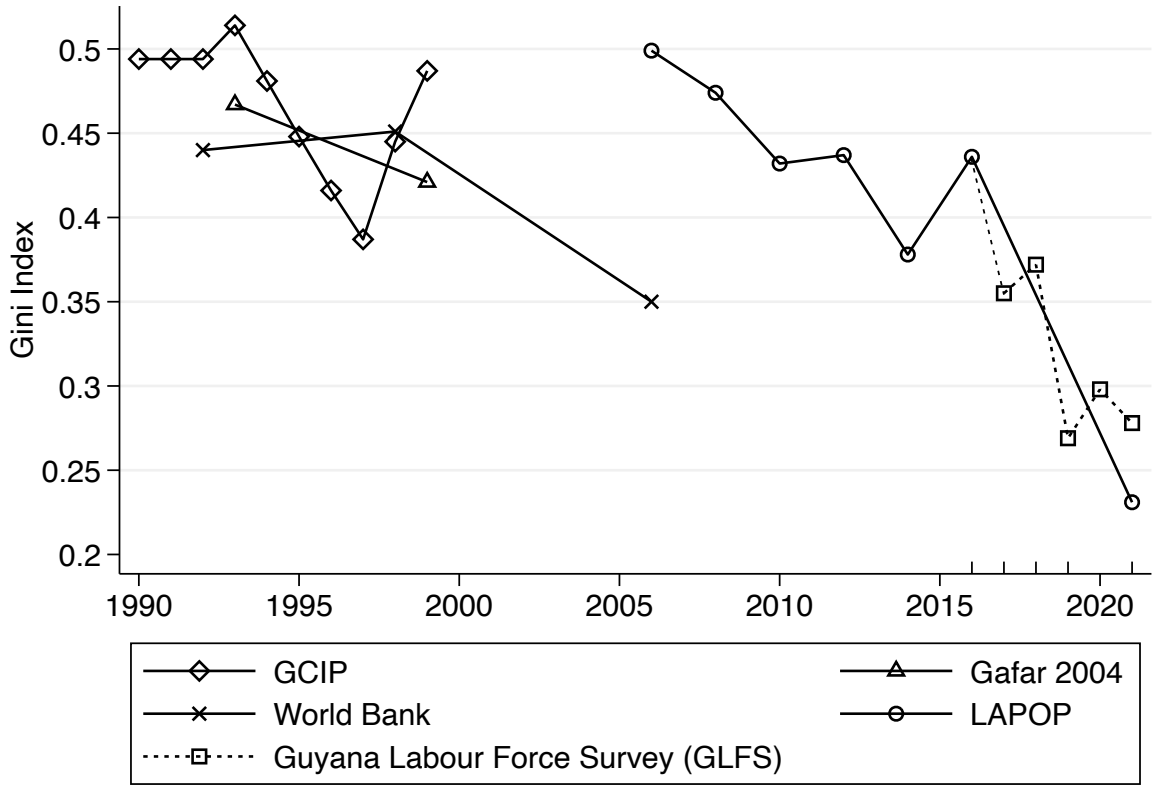
Notes: LAPOP Surveys (Quadrants I-III); Guyana Labour Force Surveys (Quadrant IV).

where the corresponding Lorenz curve shifts outward relative to 2010, as shown in Quadrant II. The year 2014 marks the first period of Lorenz dominance, where household incomes are more equally distributed throughout the population, and 2016 records a negative Lorenz dominance; see Quadrant III. This regress is followed by a positive Lorenz dominance in 2021, and the magnitude of the improvement is larger than the Lorenz dominance in 2014.

Quadrant IV presents insights into the missing survey years: 2017-2021. It is transparent that the 2018 Lorenz curve pivots downwards at the bottom 75 percent of the population, which indicates that incomes are more unequally distributed at this end of the population distribution. However, 2019 exhibits a significant reduction in income inequality as the Lorenz curve shifts closer to the line of perfect equality (Lorenz dominance). Finally, there was higher and lower income inequality in 2020 and 2021, respectively.

Figure 2 shows evolution of the Gini indices from 1990-2021, and the gap between 2000-2005 reflects the missing survey years. The Gini index is a summary measure of the distribution of

Figure 2: Evolution of the Gini Index: 1990-2021



Notes: GCIP, LAPOP, & GLFS utilise income data, while the World Bank and Gafar (2004) employ data on consumption expenditures.

income that ranges between *zero* and *one*, where the former indicates that each individual earns the median income—there is perfect equality. In contrast, if one individual accounts for the entirety of household income, the Gini index assumes a value of one, which underlines maximum income inequality. GCIP, LAPOP, and the GLFS represent the most consistent and complete series since these employ actual income data. This is unlike the Gini estimates by Gafar (2004) and the World Bank (G.O.G 2011b), which measure consumption inequality.

Focusing on GCIP, LAPOP, and the GLFS estimates only, income inequality decreased in the early 1990s as measured by the Gini index, but there were also rapid increases in that indicator during the late 1990s. Figure 2 also compares consumption and income inequality in 2006, where the former is lower. This result is consistent with the steady gains in poverty reduction since 1992, as is carefully documented by (G.O.G 2011b). Unlike the late 1990s, the LAPOP estimates track a downward trajectory and indicate a trend decrease in income inequality between 2006-2021. Two survey years deviate from the trend—2010-2012 and 2014-2016—where the Gini index increased,

and this effect was more pronounced between 2014-2016. Further, as is evident in the illustration, there is a significant reduction in the Gini index from 2016 to 2021, which may be related to intermittent survey years, COVID-19 relief, and electoral turnover. The GLFS estimates fill the gap between 2016 and 2021 and reinforce the trend decrease in income inequality. However, the periods of 2017-2018 and 2019-2020 are notable years of increases in the Gini index.

It is worth comparing the 2021 estimates: LAPOP (0.231) and GLFS (0.278); while these Gini indices are similar, I utilise the GLFS estimates in the remainder of the article. The rationale for this choice is related to the considerable truncation of the income categories in the 2021 LAPOP survey. Unlike the GLFS and previous LAPOP surveys, there are only five income categories in the 2021 LAPOP survey, which compresses the overall income distribution. This may explain why the LAPOP Gini estimate is modestly lower than the GLFS Gini index.

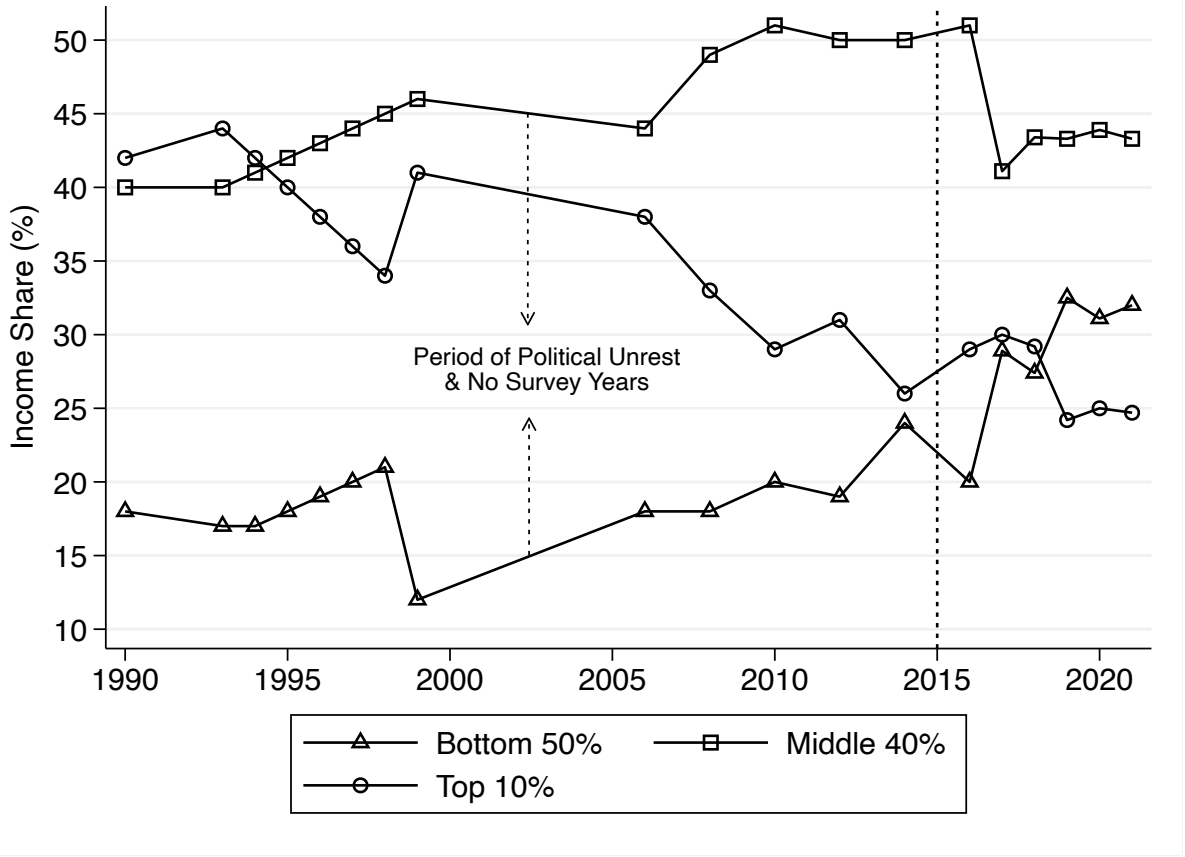
3.1 Trends in Income Shares: 1990-2021

The dynamics of the Gini index lead to four questions: (i) What explains the rapid reduction and increase of the Gini index during the 1990s? (ii) What accounts for the downward trend of the Gini index since 2006? (iii) How does one interpret the rise of the Gini index in 2010-2012 and 2014-2016? and (iv) What might explain the short-lived but notable increases in the Gini index since 2017? To answer these questions, I need to evaluate the evidence on the dynamics of the distribution of income among the three key sections of the population: the top 10 percent, the middle 40 percent, and the bottom 50 percent of the population.

Figure 3 tracks the evolution of income shares, and the vertical dotted line in 2015 indicates the first electoral turnover since 1992. It is evident that there is a significant concentration of income in the top half compared to the poorest 50 percent of the population. For example, the poorest 50 percent accounted for an average of 18 percent of household income during the 1990s, approximately 20 percent between 2006-2014, and an average of 29 percent for the remainder of the period. While this evolution marks a significant improvement, the bottom half of the population still earns a share of income substantially below its population share.

From 1990 to 1998, the middle 40 and bottom 50 percent of the population accounted for a higher share of household income, while the reverse holds for the top decile. These changes unambiguously indicate a reduction in income inequality and explain why the Gini index decreased in the early 1990s. Further, a considerable decrease in the income share of the poorest half of the population and a comparable increase in the income share of the richest 10 percent (see Figure 3)

Figure 3: Trends in Income Shares: 1990-2021



can account for the rapid rise of the Gini index in 1999. Evidently, the magnitude of these adverse distributional changes exceeds the distributional gains that accrued to the middle class between 1998-1999.

By 2006, income inequality had reduced; most notably, there was a steep decline in the top decile share. Even the income share of the poorest 50 percent had increased by 2006, and the middle class accounted for an income share that approximated its population share. These trends explain the downward trajectory of the Gini index after 2006. But what accounts for the rise of the Gini index in 2010-2012? Figure 3 presents a forceful answer: the income share of the top 10 percent increased at the expense of the bottom 90 percent of the population. How about the rise of the Gini index between 2014-2016? It is evident that there was a redistribution of income from the bottom half to the richest 50 percent of the population.

Recall that the periods of 2017-2018 and 2019-2020 are years of notable increases in the Gini index. Figure 3 documents a sizeable reduction in the income share of the middle class in 2017

and a comparable increase for the bottom 50 percent in that year. A careful examination of the illustration reveals that the hollowing out of the middle class is larger than the gains at the bottom half of the population, and it is well established in both theory and evidence that the Gini index is more sensitive to changes at the middle of the distribution (Palma 2014; Atkinson 1970). A higher Gini index between 2019-2020 is also consistent with a redistribution of income from the bottom half to the top 50 percent of the population.

These trends are also of interest because the dominant political party (PPP/C) became a minority government in 2011 and lost the snap election in 2015. It follows that economic discontent may partly explain the election of the minority government and subsequent electoral turnover. Scrutiny of Figure 3 shows that the minority government responded to the distributional discontent in preparation for the polls in 2015. For example, the poorest 50 percent accounted for a higher share of household income at the expense of the richest 10 percent of the population between 2012-2014, while the income share of the middle class remained unchanged. It is worth noting that the distributional gains of the poorest 50 percent were significant, as this class exceeded its peak income share in 1998. Despite these distributional changes, the minority government lost the 2015 election, which underlines the political importance of the economic status of the middle class, as this group peaked in 2010. Interestingly, the coalition government also managed to increase income inequality as evidenced by the sizeable increase (decrease) of the Gini index (in the income share of the bottom 50 percent of the population) in 2016. This may partly explain the passage of a no-confidence motion against the coalition government in 2018 and its electoral defeat in 2020.

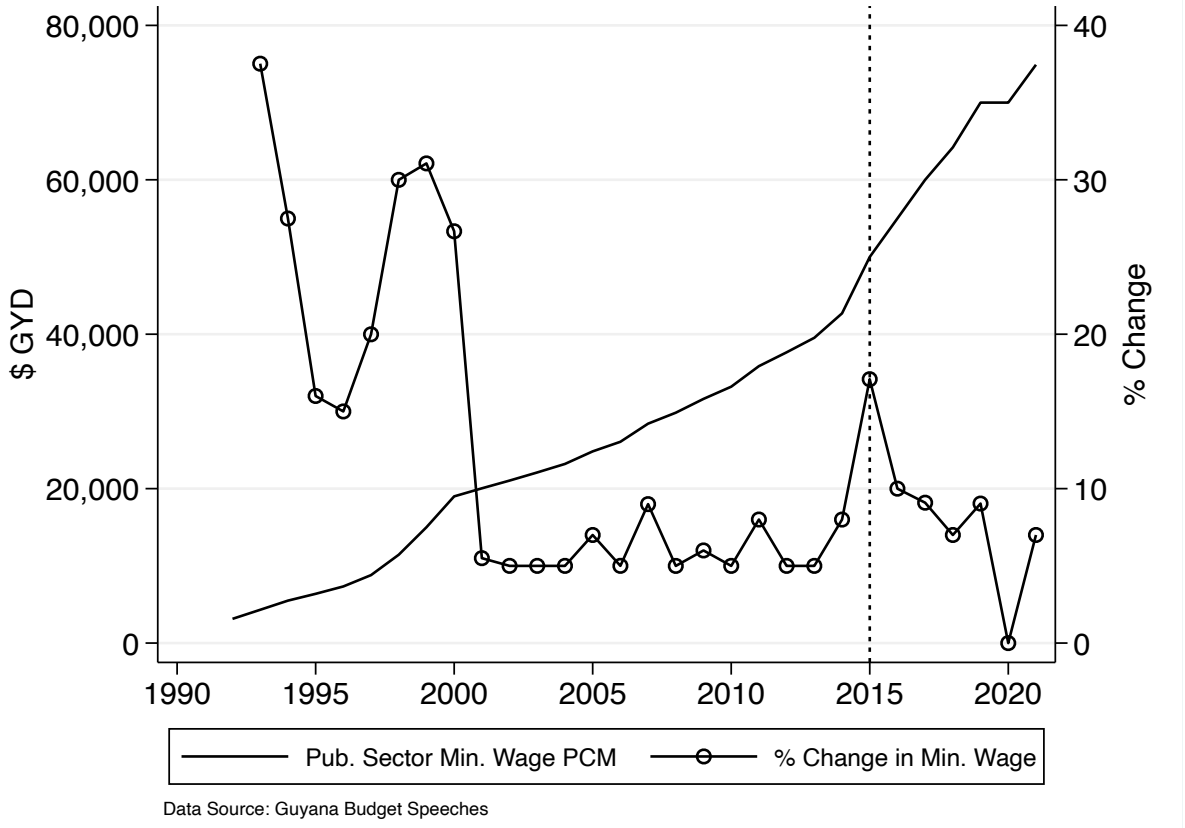
3.2 Accounting for the Dynamics of Class Inequality

3.2.1 The 1990s

So far, I have answered the key questions that emerged from the dynamics of the Gini index. But a careful examination of the evolution of income shares begs further questions. What explains the rise of the bottom 90 percent of the population at the expense of the top decile between 1990-1998? The answer to this question relates to how the government of Guyana had undertaken several redistributive measures during the IMF-guided structural adjustment programme.

Figure 4 shows the evolution of the public sector minimum wage per calendar month quoted in Guyana dollars; and its annual percentage change (right-axis). It is evident that the highest annual percentage change in the public sector minimum wage occurred over the period under consideration. In fact, the public sector minimum wage increased by 264 percent between 1992-

Figure 4: Public Sector Minimum Wage Per Calendar Month: 1992-2021



1998. Moreover, the government implemented a Social Impact Amelioration Program to provide income support to low-income households (G.O.G 1993). These were significant changes in policy and are important explanations for the rise in the income share of the poorest 50 percent of the population.

The removal of price controls on agricultural produce is another key ingredient of the economic structuring, which generated material increases in profit incomes for a newly emerging middle-class (Thomas 1997). Further, there were waivers on consumption taxes and duties on agricultural inputs for small farmers since 1993. Also, tax holidays were abolished by 1994, and a steeply progressive purchase tax was levied on imported vehicles (G.O.G 1994; 1993). For example, the purchase tax was 5 percent on vehicles with a cylinder capacity under 1500cc, but 70 percent on vehicles within the range of 2000cc-3000cc. The consistent rise of the middle class is also accounted for by the government's sale of its shares in Demerara Distillers LTD to 4,300 applicants in 1995 (G.O.G 1995). This sale alone created owners of capital overnight.

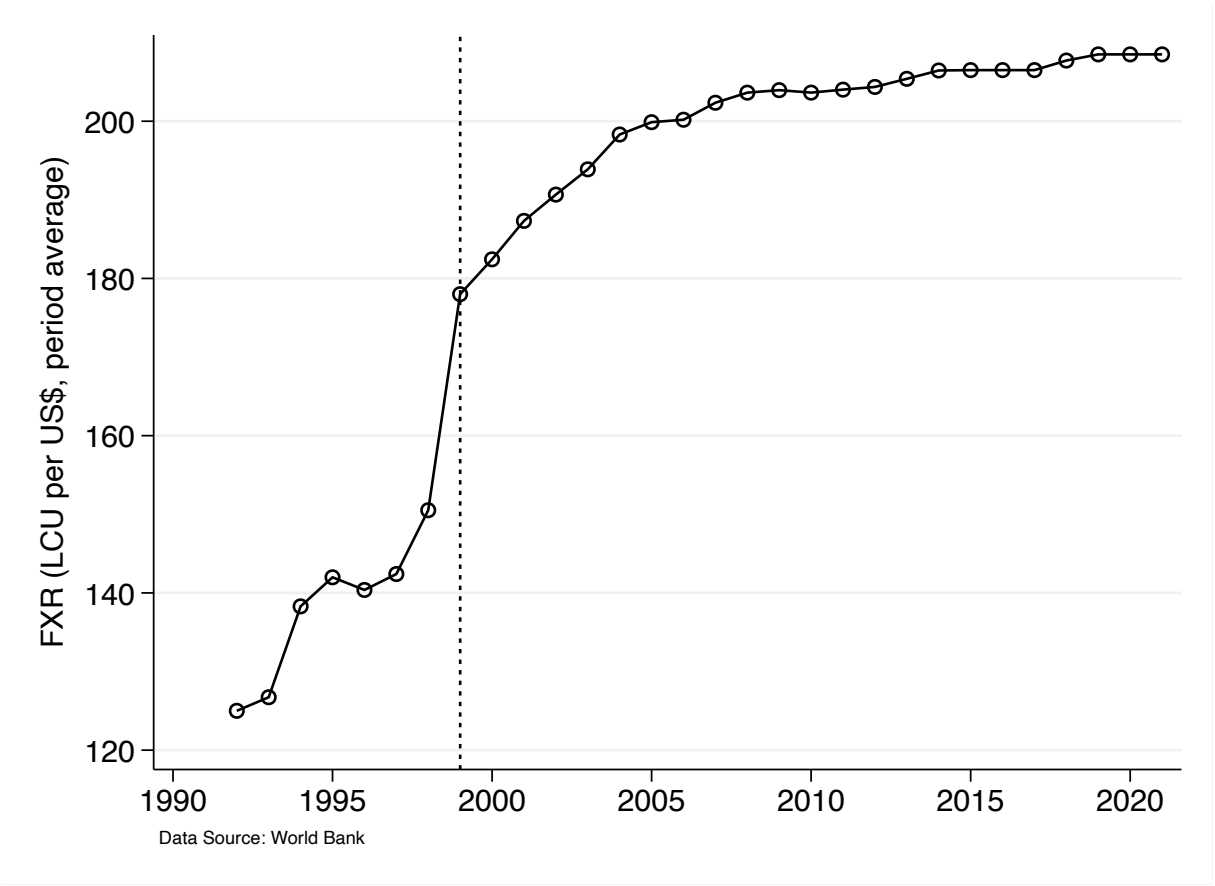
Several measures affected the top decile. The government had imposed a 2 percent minimum tax on gross receipts for firms exceeding a certain size to ensure big businesses pay their fair share—this minimum tax applied even if firms showed accounting losses (G.O.G 1994). Also, a 15 percent withholding tax was imposed on the interest income from loans and government securities. When these tax measures are juxtaposed with the redistributive policies discussed earlier, they serve as a compelling explanation for the persistent decline in the top decile share.

What accounts for the rapid and substantial increase in the income share of the top 10 percent between 1998-1999? Typical of structural adjustment programmes, the government of Guyana had privatised several of its state-owned enterprises in the late 1990s (G.O.G 1999; 1998). This is one explanation for the rapid rise of the top decile share. The second explanation relates to the withdrawal of several redistributive tax measures: (i) Tax holidays were re-introduced, (ii) The withholding tax on interest income was withdrawn, and (iii) The minimum tax of 2 percent on gross receipts was abolished. Further, unlike the early 1990s, *large-scale companies* were the main beneficiaries of exemptions from consumption tax and import duties on key inputs (G.O.G 1998). By 1998, several industrial estates were established, and new policies promoted top incomes. For example, the mortgage financing act provided tax benefits to banks that expanded mortgage credit.

Two factors can explain the reduction in the income share of the bottom 50 percent of the population by 1999: (i) Fiscal contraction that led to the loss of approximately 6,000 public sector jobs (ILO 2006), and (ii) Significant devaluation of the nominal exchange rate. Figure 5 presents convincing evidence of the latter channel, as it shows a sizeable devaluation of the Guyana dollar in 1999 (indicated by the vertical dotted line). The idea that a nominal devaluation increases income inequality is well established in both theory and evidence (Cravino and Levchenko 2017; Krugman and Taylor 1978). The main channel relates to the pass-through of higher import prices in local currency units to consumers, which lowers real wages. This effect is more pronounced for lower-income households as they spend a larger share of their income on consumer goods and services. Given the loss of public sector employment and the devaluation of the Guyana dollar, it is unsurprising that the poorest 50 percent of the population experienced a reduction in their share of household income by 1999.

One insight from this presentation is that the dynamics of income inequality in the 1990s had little to do with personal choices like work effort or labour productivity, schooling, or thrift. This is especially true between 1998-1999. The point is that public policy matters.

Figure 5: Evolution of the Nominal Exchange Rate: 1992-2021



3.2.2 Recent Dynamics of Class Inequality

The task of this sub-section is to account for the evolution of class inequality since 2006. One striking result of the recent dynamics is that the poorest 50 percent accounts for a higher share of household income compared to the top decile. What explains this recent change? Also, the trend decline in the top decile share is unmistakable and requires an explanation. Moreover, given the political and economic importance of the middle class, I must explain the rise and subsequent peak in its income share in 2010, its recovery in 2016, and its collapse in 2017. Two questions remain about the recent dynamics of class inequality: What accounts for the fall in the income share of the bottom 90 percent of the population in 2012? and How might the dynamics of the bottom half be explained?

By 2006, the government of Guyana had signed a five-year agreement with the teachers' union on wage increases and non-wage benefits. Subsequently, the rate of inflation rate was 14 percent

in 2007, and the government responded in the following ways: (i) Flour (a staple) was purchased and sold at subsidised prices, (ii) Public sector wages were increased across the board, and (iii) There was a temporary cost of living adjustment for those on low incomes (less than GYD 50,000 PCM), which became permanent (G.O.G 2010; 2009; 2007). Overall, the public sector minimum wage increased by approximately 30 percent between 2006-2010 (Figure 4). These measures are potential explanations for the rise of the middle class and the poorest 50 percent of the population relative to the top decile over the corresponding period.

What accounts for the peak in the middle class' income share in 2010, and what explains its decline by 2012? Guyana did not escape the global financial crisis that started in 2007 as the Colonial Life Insurance Financial (CLF) Group was liquidated in 2010 (G.O.G 2010). This adverse wealth shock can undermine labour's wage bargaining power in the private sector and establish an upper limit for the middle class' income share. Moreover, the electricity subsidy for a regional town (Linden) was withdrawn in 2012 and adversely affected approximately 10,363 households (G.O.G 2012; 2011a).

Several factors may explain the striking redistribution of income from the bottom 90 percent to the top decile over the same period (Figure 3). First, the corporate tax rate was reduced for the first time in 2011 since 1993, which is non-trivial given that dividends paid to individuals resident in Guyana are non-taxable (G.O.G 1994). Second, 99 privately-owned firms were utilised to provide training and internet access to support the government's One Laptop per Family initiative, which supports top incomes. Third, there was a significant boost in wholesale and retail enterprises when 60 percent of imports were liberalised due to the Economic Partnership Agreement with the European Union in 2011 (G.O.G 2011a). Overall, these factors contribute to the relative rise of the top 10 percent of the population between 2010-2012.

Figure 3 documents that the income share of the middle class remained unchanged in 2014, while there was a redistribution of income from the top decile to the poorest 50 percent of the population. It is worth reminding the reader that this is the period of the minority government, and there were national elections in 2015. Several policy initiatives can explain this redistribution: (i) The electricity subsidy was restored in Linden, (ii) A *national* minimum wage was instituted in 2013, (iii)The central government created 2,259 new jobs between 2012-2014 (G.B.O.S 2019), (iv) A policy of mortgage interest relief was enacted, which ensured that interest incurred on housing loans up to GYD 30 million was deductible from income tax, and (v) There was a reduction in the personal income tax rate and new micro-credit schemes (e.g. Women of Worth) (G.O.G 2014; 2013; 2011a). Given the short time period, it is not an exaggeration to suggest that these

are transformative policies. By 2014, the income share of the poorest half of the population had reached its highest level since 1998.

Following the electoral turnover in 2015, several factors can jointly account for the rise of the top half at the expense of the poorest 50 percent of the population by 2016. First, the coalition government retrenched 5,160 workers from the state-owned Sugar Corporation (Singh 2021). Second, two relatively large private sector firms also reduced their workforce: Barama and Demerara Timbers Limited (G.O.G 2016). Third, several labour-intensive sectors recorded negative growth rates in 2016: rice, forestry, construction, and manufacturing (G.O.G 2016). In sum, the losses in employment significantly reduced the income share at the lower ends of the distribution, as is demonstrated by Figure 3. Two key factors explain this sharp economic downturn: (i) A reduction in the size of the overall fiscal deficit, driven by a 39 percent reduction in capital expenditures in 2015, and (ii) The loss of the Venezuelan rice (export) market and the closure of the sugar estates. The latter is particularly adverse since the sugar sector has strong linkages with manufacturing and the non-tradable services sectors—for example, sugar processing, packaging, and distribution.

What might explain the rise of the top 50 percent of the population? Three policy initiatives stand out: (i) A reduction in the purchase tax on imported vehicles that are less than four years old, (ii) Income tax exemptions for musicians, and (iii) Several tax exemptions for *eligible* members of the armed forces, civil service, and indigenous communities (G.O.G 2016). Typically, these exemptions apply to the top of the income distribution.

Much had changed by 2016, and 2017 is no less redistributive. As Figure 3 shows, there is a substantial contraction in the income share of the middle class, a modest rise in the top decile share, and a considerable increase in the income share of the bottom half of the population. Two facts explain the latter result: (i) An increase in the central government workforce by 4,407 new workers between 2016-2017 (G.B.O.S 2019), and (ii) The increase in the public sector minimum wage by 19 percent over the same period (Figure 4). A suite of tax measures explains the sharp deterioration in the income share of the middle class (G.O.G 2017): (i) The value-added tax (VAT) was imposed on electricity receipts above GYD 10,000 PCM, water receipts over GYD 1,500 PCM, and private educational institutions for the first time in 2017. These measures specifically target the middle class, given the thresholds identified and the selection of private schooling institutions. (ii) The law on mortgage interest relief was amended to lower the loan threshold from GYD 30 million to GYD 15 million, which eliminated the tax benefit for first-time home buyers in the middle class, and (iii) The list of VAT-exempt items was expanded and all zero-rated items were eliminated with few exceptions. The impact of this policy was that it prevented middle-class-owned businesses

from claiming credits for the value-added tax paid on inputs, which reduced their net income.[2]

By 2019, the poorest 50 percent accounted for a higher share of household income (32.5 percent) relative to the top decile (24.2 percent), and only in communist China and the Soviet Union was a similar result realised. On the eve of the 2020 national elections—from 2018-2019—the public sector minimum wage increased by 16 percent (Figure 4), and the central government hired 5,316 new workers (Sharma 2019).[3] In that year, production decreased in the forestry and mining sectors (B.O.G 2020), particularly for large mining companies (G.O.G 2020), which is notable, as these are typically high-earning industries and may account for the reduction in the top decile share.

3.2.3 Proposed Interpretation: The Role of Fiscal Policy

Given the previous analytical narratives that explain the dynamics of class inequality, it is difficult to reconcile the decrease in income inequality with the Kuznets' process. Figure 6 summarises the growth-distribution tradeoff between 1990-2021. It illustrates the change in income distribution (Gini index and income share) given a one-unit change in the growth rate per capita.

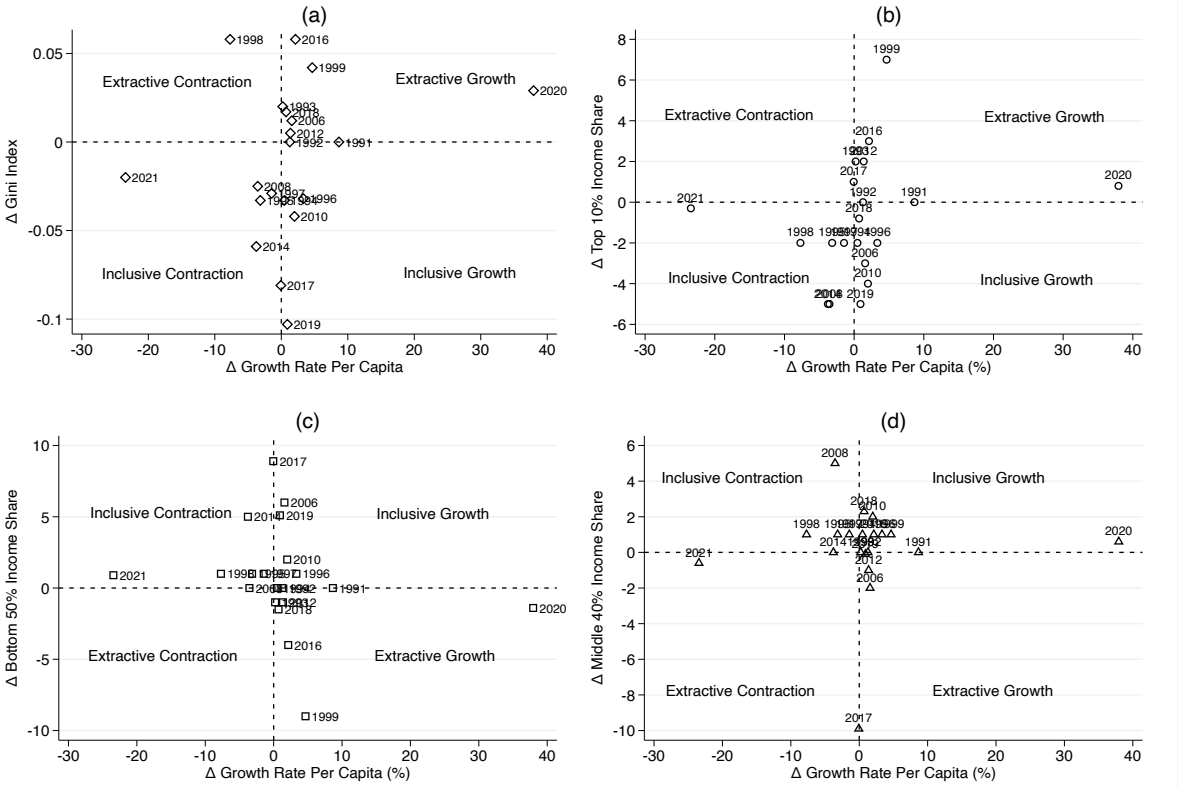
Figure 6a shows that approximately 31 percent of increases in economic growth are associated with a lower Gini index. The incidence of inclusive growth increases to 46 percent on consideration of the top decile (Figure 6b) but falls to 31 percent when the distribution indicator is the bottom half of the population (Figure 6c). The middle class records the highest frequency of inclusive growth—approximately 54 percent (Figure 6d)—which is consistent with the notable rise of the middle 40 percent of the population for much of the period. Altogether, the observations of inclusive economic growth appear to be weak and coincidental rather than reflect a growth process that purposefully provides for a more equitable distribution of economic advantages.

The role of fiscal deficits in reducing income inequality is well-developed in theory (Gouzoulis and Constantine 2019) and evidence (see the introduction for references), and the empirical illustration in Figure 7 reinforces this insight. The intuition is straightforward. If fiscal deficits raise the minimum wage, provide for social protection, and target groups with a higher marginal propensity to consume, et cetera, they increase (lower) the wage share in national income (profit share) due

[2]It is worth noting that the coalition government also extended the VAT to private health care and medical supplies. Moreover, the corporate and personal income tax rates were reduced and several tax measures were enacted for green investment in 2017 (G.O.G 2017).

[3]The Guyana Bureau of Statistics' data on employment by the central government ends in 2018 and at the time of writing there is no publicly available data on public sector employment after that year. The data quoted above is sourced from the Auditor General's Report, which raised concerns about actual staff numbers exceeding the budgeted estimates in 2019.

Figure 6: Growth-Distribution Tradeoff: 1991-2021

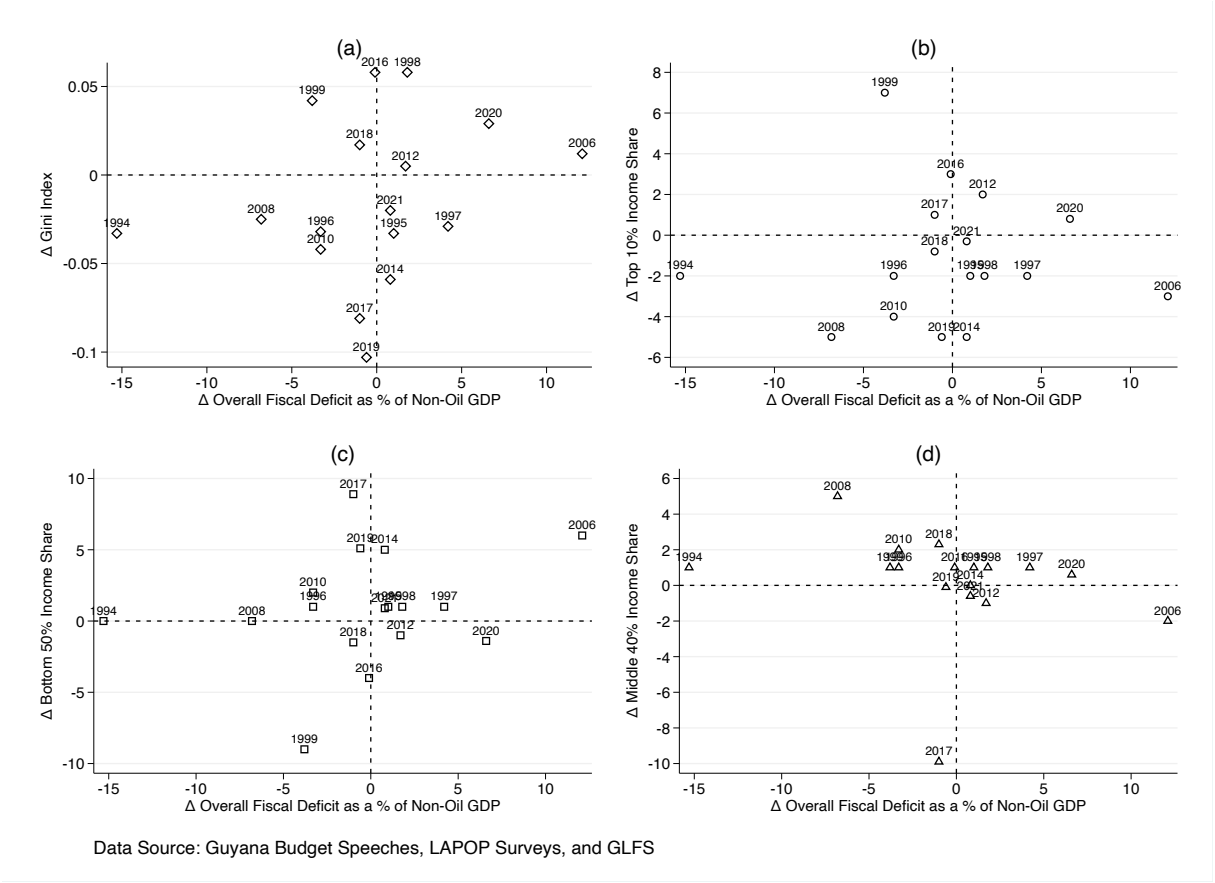


Data Source: Guyana Budget Speeches, LAPOP Surveys, and GLFS

to a larger multiplier, lower unemployment rate, and stronger labour power in wage negotiations. The incidence of inclusive fiscal deficits is 75 percent for both the top decile and the bottom 50 percent of the population (Figures 7(b-c)), which supports the basic intuition. Specifically, Figure 7(b) shows that 75 percent of the increases in the fiscal deficit are associated with decreases in the top decile share. In contrast, an increase in the fiscal deficit only reduces (increases) the Gini index (middle-class income share) 50 percent of the time (Figures 7(a), (d)). Overall, these results indicate that fiscal policy rather than economic growth is a far more compelling explanation for the dynamics of class inequality.

Still, it is difficult to prove in a rigorous way that fiscal deficits have the right magnitude and directional effect on income inequality, given the large number of missing survey years. But the *timing* and orders of *magnitude* regarding changes in tax policy, public sector minimum wages, electricity subsidy, and public sector employment do not seem unreasonable as key explanations of the observed trends.

Figure 7: Fiscal Deficit and Income Distribution: 1994-2021

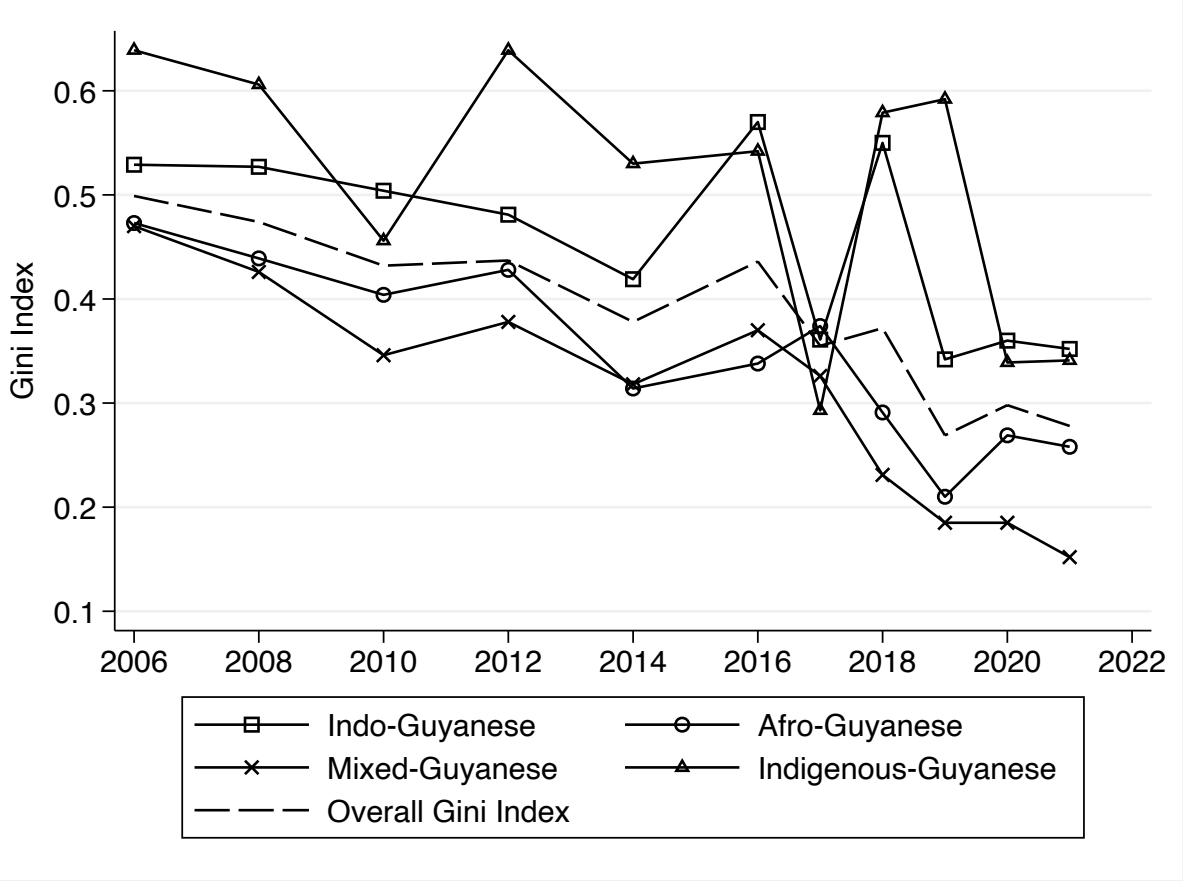


Based on the evidence and the analytical narratives, the period between 1990-2014 is principally a middle-class story under the governance of the PPP/C. In contrast, the coalition government's distributive policy is partial to the working class, evidenced by the drastic contraction in the income share of the middle class and the fact that the bottom 50 percent of the population accounted for a higher share of income than the top decile by 2019. Do the distributional changes that coincide with electoral turnover suggest that the contest for state power is a conflict between the middle and working classes? What role might one ascribe to the top 10 percent of the population? Is this group a benign observer of the apparent middle-class–working-class conflict or a beneficiary? It may be coincidental that the top decile share was at its lowest in 2014 on the eve of electoral turnover rather than indicative of a causal mechanism. Further probing is required, specifically, on the extent and dynamics of class inequality within ethnic groups, which may influence the propensity of ethnic voting and the prospects of electoral turnover.

3.3 Class Inequality Within Ethnic Groups

I estimated the Lorenz curves by ethnicity to measure the extent of class inequality *within* ethnic groups. Figure 8 documents the evolution of ethnic Gini indices for the four main groups: Indo-, Afro-, Mixed-, and Indigenous-Guyanese.

Figure 8: Gini Index by Ethnicity: 2006-2021

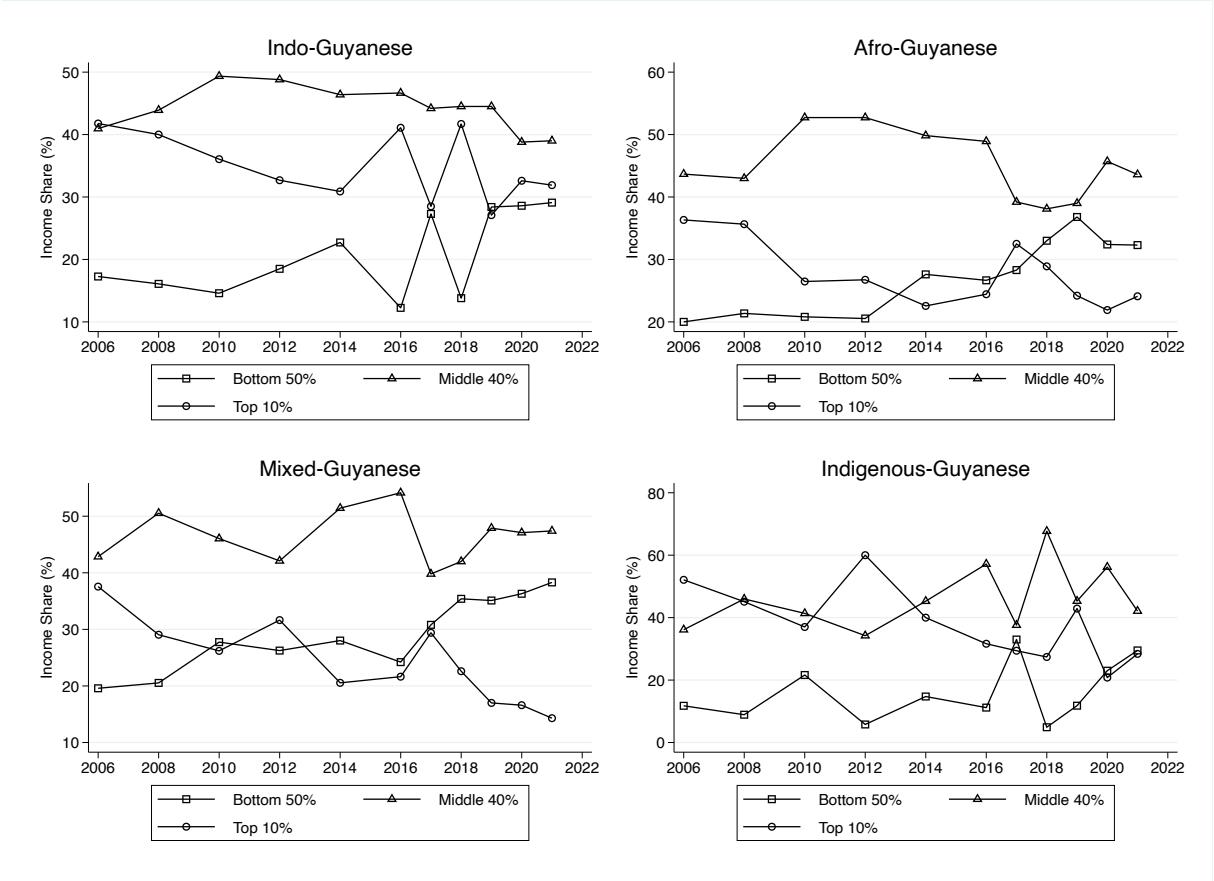


Several observations are worth noting. First, incomes are more unequally distributed within the Indigenous- and Indo-Guyanese communities since their Gini indices are consistently higher than the overall Gini index. The reverse holds for the Mixed- and Afro-Guyanese ethnic groups. Second, the ethnic Gini indices closely track the downward trend of the overall Gini index, which underlines a trend of less income inequality within all ethnic groups. Third, there is a remarkable similarity in trends between Mixed- and Afro-Guyanese. Fourth, Mixed-Guyanese enjoy the lowest income inequality for most of the review period and is the only group to record a trend decrease in the Gini index since 2016. Finally, 2017 stands out because it marks the period when

the Afro-Guyanese's Gini index exceeds the overall Gini coefficient; and the reverse holds for the Indo- and Indigenous-Guyanese's Gini indices.

To explain these trends, I employ the ethnic Lorenz curves to estimate the share of household income that accrues to the top decile, middle class, and the poorest 50 percent in each ethnic group. A careful examination of Figure 9 shows that income is more concentrated in the top 10 percent within the Indo- and Indigenous-Guyanese communities compared to the groups of Afro- and Mixed-Guyanese.

Figure 9: Trends in Income Shares within Ethnic Groups: 2006-2021



The average top decile share by ethnic group is as follows: Indigenous- (37.7), Indo- (34.9), Mixed- (24.2), and Afro-Guyanese (27.6). This partly explains why incomes are more unequally distributed within the Indigenous- and Indo-Guyanese communities. Interestingly, the poorest 50 percent of Indo-Guyanese account for a lower average share of income (20.78) compared to Mixed- (29.3) and Afro-Guyanese (27.25). More strikingly, the Indo-Guyanese middle-class accounts for the lowest average share of income (44.2). Thus, ethnic voting guarantees Indo-Guyanese political

dominance and higher income inequality within the ethnic group.

This finding suggests that *class interest* of the top decile is pursued by means of ethnic voting or ethnic group solidarity. In other words, ethnic-based politics is not necessarily functionally independent of class interests, that is, the top 10 percent of the (Indo-Guyanese) population. Are middle- and working-class Indo-Guyanese aware that their ethnic vote is also a vote for higher intra-group class inequality? This evidence indicates that it is a little more than a coincidence that the top decile share was at its lowest in 2014 on the eve of electoral turnover. In fact, Figure 9 shows that Indo-Guyanese is the only ethnic group with a consistent decline in its top decile share until 2014 and is also the only group with the largest increase in its top decile share in 2016; the year after electoral turnover. It follows that cross-ethnic political support may have purchased a higher income share for Indo-Guyanese economic elites. Consider the period after 2016 for further evidence: except for the top 10 percent of Indo-Guyanese, there is a trend decline in the top decile share of all other ethnic groups. This is supporting evidence that there may be a *causal* relationship between the trend decline of Indo-Guyanese's top decile share and electoral turnover.

A complete analysis requires an examination of the middle class. Figure 9 documents a trend decrease in the income share of the middle 40 percent of Indo-Guyanese from 2010 to 2014, and middle-class Afro-Guyanese is the only other group with a comparable experience. Therefore, the shrinking of the Indo- and Afro-Guyanese middle classes—the two larger ethnic groups—may have also contributed to electoral turnover. One way to evaluate this claim is to consider the dynamics after 2015: the middle classes' income share between 2014-2016 had increased for all groups except Afro-Guyanese. The latter result is curious since Afro-Guyanese are the principal supporters of the coalition government, but consistent with the evidence that the politically dominant group—Afro-Guyanese in this case—experiences higher intra-group class inequality.

It is important to identify the distributional origins of the 2015 electoral turnover because it permits the reader to appropriately discern the roles of class and ethnicity in Guyana's political economy. Based on the weight of the evidence, class interest of the top 50 percent of Indo- and Afro-Guyanese explains the 2015 electoral turnover. But how might one account for the coalition government's electoral defeat in 2020? The answer may also relate to class interest. A careful study of Figure 9 demonstrates that the coalition government had substantially reduced the income share of the top 50 percent of Afro-Guyanese after 2016 to accommodate their working-class members. Further, given the electoral importance of the Indo-Guyanese middle class, it is curious that their income share was also depressed between 2016-2020. On consideration of these larger ethnic groups, the coalition government decidedly moved against its class origins, which may

partly explain its electoral defeat in 2020.

Why are Mixed-Guyanese privileged to have the lowest class inequality, and what explains the continuous decline in the ethnic Gini indices? Figure 9 shows that Mixed-Guyanese is the only ethnic group to have its working-class account for a higher income share than its top decile in 2010 and more consistently since 2014. Moreover, unlike all other ethnic groups, the top decile share of Mixed-Guyanese had consistently deteriorated since 2017, which indicates that the income share of the bottom 90 percent of Mixed-Guyanese increased during the tenure of the coalition government. This remarkable change in income distribution explains why Mixed-Guyanese have the lowest level of class inequality. One explanation for the persistent decline of the ethnic Gini indices relates to the success of the working classes across all groups. In 2019, the income share of the bottom 50 percent of Indo-Guyanese was higher than its top decile; the same holds for Afro-Guyanese in 2014 and more consistently since 2018, and Indigenous-Guyanese in 2017 and 2020. The rise of the poorest half of the population is no small accomplishment.

Figure 9 documents the similarities between Mixed- and Afro-Guyanese. First, there is a comparable degree of income concentration in 2006 within both groups. Second, their middle classes accounted for a decreasing share of household income between 2008-2012. Third, both groups experienced a redistribution of income from the top 10 percent toward the bottom 90 percent since 2017; although the Afro-Guyanese middle class had stagnated between 2017-2019. However, there is one noteworthy difference: the evidence suggests that Afro- and Mixed-Guyanese are *substitutes* in the dynamics of income distribution. For example, there is an inverse relationship in the income share of both middle classes for much of the period.

The year 2017 is unique because it marks the period when the Afro-Guyanese's Gini index exceeds the overall Gini coefficient. The Afro-Guyanese panel in Figure 9 presents a clear explanation: there is a substantial contraction in the income share of the middle class from 2016 to 2017, and there are modest increases in the income share of the top decile and bottom 50 percent in that year. Further, recall from Figure 8 that the Gini indices of the Indo- and Indigenous-Guyanese communities were lower than the overall Gini index in 2017. Figure 9 presents evidence of a redistribution of income in favour of their working classes (bottom 50 percent), which explains this result.

One tempting conclusion is that the evidence in Figure 9 verifies that ethnic politics is an independent driver of Guyana's political economy. It is transparent that the rise of the working class under the coalition government is also consistent with the emergence of the poorest 50 percent of Mixed- and Afro-Guyanese. But the same holds for Indigenous-Guyanese since 2018. It is also

worth highlighting that the Indo-Guyanese working class accounted for a higher share of income than its top decile under the coalition government in 2019. I posit that it is more than a coincidence that the poorest half of the Guyanese population also exceeded the top decile share in that year (Figure 3).

Admittedly, the case of Indo-Guyanese is less clear-cut, given the rapid contractions of their working class' income share in 2016 and 2018. But recent evidence by Constantine (2021) strengthens the claim that ethnic politics serves the class interests of economic elites. Constantine utilises the LAPOP surveys between 2006-2016 to compute the ethnic distribution of employment in Guyana. His work identifies two key findings. First, Indo-Guyanese—the larger ethnic group—have not dominated the various categories of employment before 2014, except for the category of *Owner or Partner in a Business*. Second, only in 2014 have Indo-Guyanese dominated *all* employment categories. If ethnic politics serve an independent function, then *consistent* ethnic-group dominance should be observed, but the facts are to the contrary.

What were the class implications of Indo-Guyanese group dominance in 2014? Figure 9 documents that the income share of the poorest 50 percent of Indo-Guyanese was at its highest in that year, which is consistent with lower intra-group class inequality (Figure 8). Unless this is the aim of the top 10 or 50 percent of Indo-Guyanese, ethnic-group dominance undermines the class interest of economic elites. The intuition is that group dominance requires an accommodation of the working class, which contradicts the purpose of intra-group class conflict.

4 Income Distribution Between Ethnic Groups

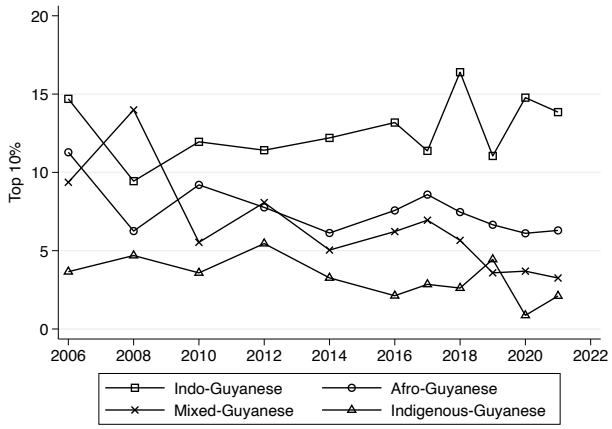
Thus far, I have presented the stylised facts on class inequality within the overall population and each ethnic group. The task of this section is to establish the facts of income distribution *between* ethnic groups.

Figure 10 illustrates the share of *overall* household income that accrues to each ethnic group in each class. For example, Figure 10a documents that Indo-Guyanese consistently account for the largest share of income that accrues to the top 10 percent of the overall population, and Afro-, Mixed-, and Indigenous-Guyanese closely follow. Afro- and Mixed-Guyanese track each other in terms of the share of household income that accrues to their top decile—consistent with their ethnic Gini indices. Both groups have a downward trend except for 2012, 2016 for Mixed-Guyanese, and 2016 for Afro-Guyanese. Further, a close examination of Figure 10 shows that the magnitude of group differences between Indo- and Afro-Guyanese is sizeable for the top 10 percent compared

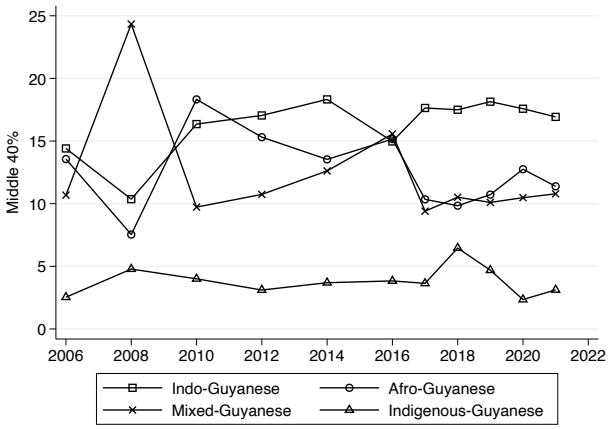
to any other income category.

Figure 10: Trends in Income Shares between Ethnic Groups: 2006-2021

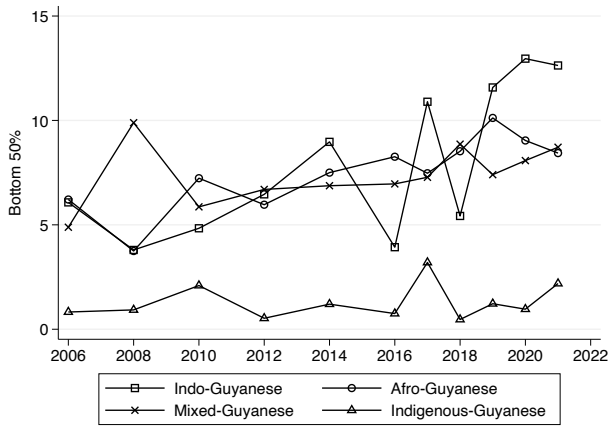
(a) Top 10 Percent



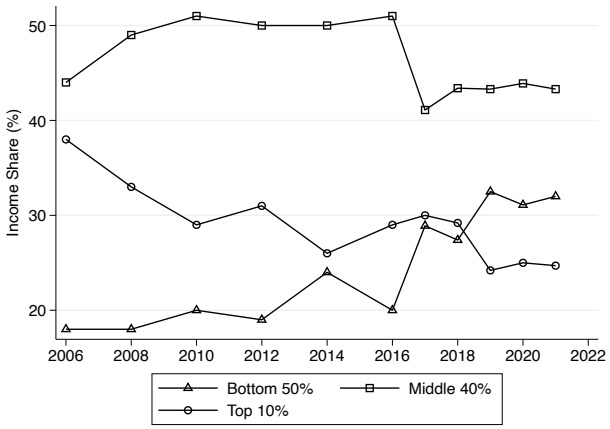
(b) Middle 40 Percent



(c) Bottom 50 Percent



(d) Overall Income Distribution



The ethnic distribution of the middle 40 percent is significantly different (Figure 10b). There is a wide gap in income concentration between Indigenous-Guyanese and all other ethnic groups. Moreover, the middle classes in the Indo-, Afro-, and Mixed-Guyanese communities accounted for approximately the same share of household income in 2016. This is unexpected, given the different population shares among these groups. Further, it is striking that the middle classes in the Mixed- and Indo-Guyanese communities accounted for an increasing share of household income between 2010-2014, while the reverse holds for Afro-Guyanese over the same period. There is no appreciable trend in the Indigenous-Guyanese middle class. Figure 10b also documents

a substantial contraction in the income share of Afro- and Mixed-Guyanese middle classes between 2016-2017; and a modest rise and stabilisation of the Indo-Guyanese middle class since 2016. Given the facts, electoral turnover in 2015 had changed little as it relates to the ethnic stratification of the top half of the population. However, it had expanded the ethnic income gaps in the middle class and the top 10 percent of the population.

An evaluation of Figure 10c reveals smaller inter-group differences in the bottom 50 percent of the population, except for Indigenous-Guyanese. In short, there is a remarkable similarity in the income shares of the Afro-, Mixed-, and Indo-Guyanese working classes, notwithstanding differences in population shares. Also, excluding Indigenous-Guyanese, there is an upward trend in the income share of all working classes. Unlike the top 50 percent of the population, Indo-Guyanese do not consistently account for the largest share of income in the working class. Only in 2014, 2017, and from 2019; have Indo-Guyanese accounted for the largest share of income.

Figure 10d reproduces the distribution of household income among the three income groups to provide for sharp comparison. Several conclusions follow: (i) The rapid reduction in the income share of the middle class is primarily a story about Mixed- and Afro-Guyanese. (ii) The triumph of the working class in 2019 is consistent with the growth of the Indo- and Afro-Guyanese working classes, particularly the former. Also, the deterioration of the Indo-Guyanese working class between 2014-2016 explains the sharp contraction in the income share of the bottom 50 percent over that period. (iii) While the top decile share has a downward trend, Indo-Guyanese are growing apart from the rest in this group, which implies a rising ethnic concentration of income in the top 10 percent of the population.

What do these facts imply about the roles of class and ethnicity in Guyana's political economy? I have outlined the case in the previous sub-section that class interests may explain Guyana's recent political dynamics: the PPP/C's minority government in 2011, its electoral defeat in 2015, and its return to political power in 2020. It is difficult to reconcile these political changes and *cross-ethnic voting* with the evidence that Indo-Guyanese persistently account for the largest share of income in the top 50 percent of the population. It is worth reminding the reader that inter-group income differences have *increased* in support of Indo-Guyanese between 2015-2021, even in the bottom 50 percent of the population. It follows that ethnic income inequality has a weaker explanatory power of Guyana's recent electoral dynamics.

Three additional points are worth noting. First, the relative rise of Indo-Guyanese in the top 50 percent of the income distribution since 2015 may have undermined Afro-Guyanese's political solidarity. Second, the higher variation in the income share of the poorest 50 percent of Indo-

Guyanese may have increased ethnic consciousness within the community.[4] The sum effect is a withdrawal of cross-ethnic voting and the electoral defeat of the coalition government. Third, the nexus between the Indo-Guyanese working class and ethnic consciousness underscores the point that the spear of ethnic rivalry targets the working poor. Thus, the adage, the ethnically divided working poor constitutes a class in themselves but are yet to act as a class for themselves.

4.1 Representational Inequality

The finding that Indo-Guyanese account for the larger share of income across the distribution is not particularly useful in understanding ethnic income inequality. Given the differences in population size, ethnic income equality does not imply equal outcomes among ethnic groups. Rather, it requires *perfect representational equality*, where each ethnic group accounts for a share of income equivalent to its share of the overall population.

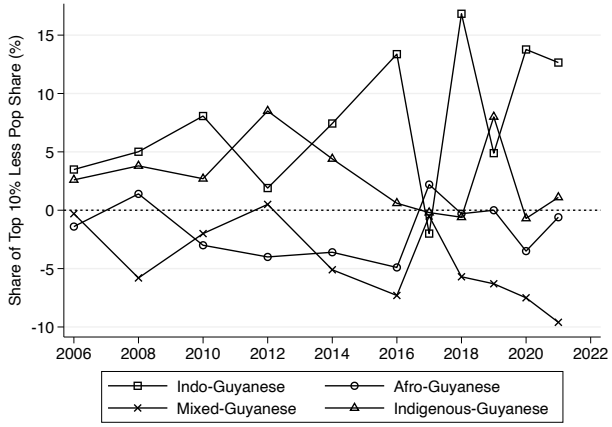
Figure 11 documents the extent of representational inequality by income category. The horizontal dotted line at zero indicates perfect representational equality, where an ethnic group's share of income, say at the top 10 percent, is equivalent to its population share. However, a positive number underscores the existence of representational inequality, where a particular ethnic group is *over-represented*, that is, its share of income exceeds its population share. Conversely, a negative number also underlines the presence of representational inequality, but in the case where a particular ethnic group is *under-represented*, that is, its share of income is below its population share.

Figure 11a depicts the magnitude of representational inequality in the top 10 percent of the overall population. The evidence shows that Indo-Guyanese are consistently over-represented in this group, and notable increases in representational inequality occurred between 2012-2016 and 2017-2018. Indigenous-Guyanese are also over-represented for much of the period, but near-perfect representational equality is evident in later years. Until 2017, Afro- and Mixed-Guyanese are under-represented in this income category, but the degree of representational inequality has significantly reduced for Afro-Guyanese in recent years. Interestingly, Mixed-Guyanese is the only group to experience increasing under-representation in the top 10 percent of the population since 2017. Ergo, ethnic income equality requires more Afro- and Mixed-Guyanese in the top 10 percent of the population relative to Indo- and Indigenous-Guyanese. Given this evidence, it is

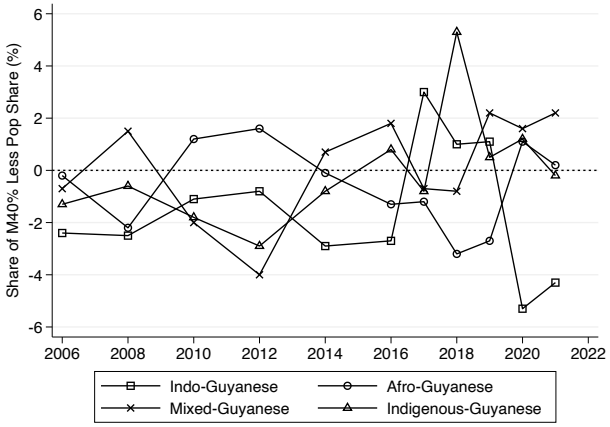
[4]This is related to the loss of employment predominantly in the Indo-Guyanese community after the closure of several sugar estates by the coalition government.

Figure 11: Representational Inequality: 2006-2021

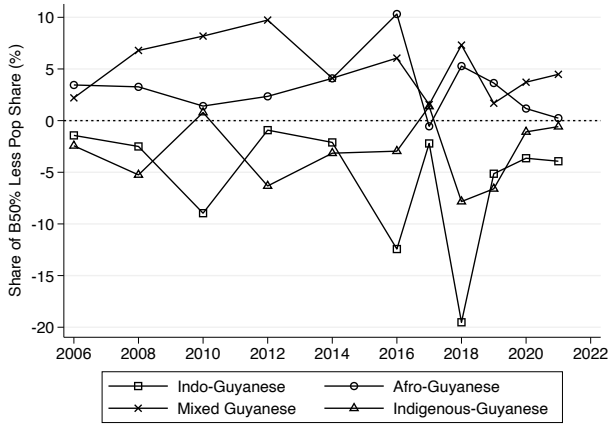
(a) Share of Top 10% Less Population Share



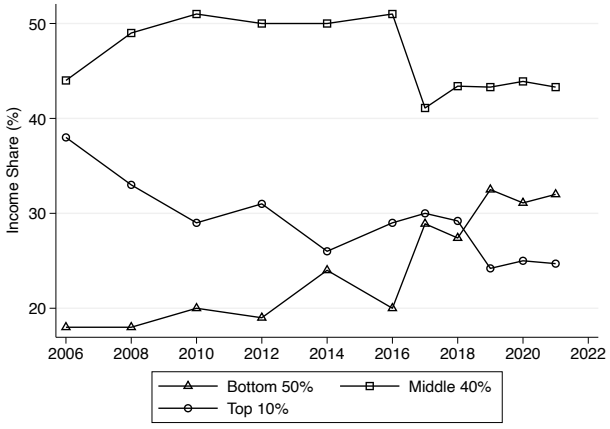
(b) Share of Middle 40% Less Population Share



(c) Share of Bottom 50% Less Population Share



(d) Overall Income Distribution



worth emphasising that the magnitude of inter-group income inequality highlighted in Figure 10a violates the principle of distributive justice.

It is transparent that Indo-Guyanese are consistently under-represented in the middle class (Figure 11b), barring the exceptional period between 2017-2019. The latter may explain why Indo-Guyanese have rebounded from the overall contraction of the middle class in 2016. Moreover, the increasing under-representation of Indo-Guyanese until 2016 might account for the equal income share observed among the three main groups in that year (Figure 10b). Indigenous-Guyanese are also under-represented until 2018-2021. Curiously, the over-representation of Mixed- and Afro-Guyanese in the middle 40 percent of the population are inversely related. For example, Afro-

Guyanese are over-represented between 2010-2012, while the reverse holds for Mixed-Guyanese. Overall, lower ethnic income inequality in the middle class requires more Indo-Guyanese and fewer Mixed-Guyanese.

There are similar but more pronounced results of representational inequality in the bottom 50 percent of the population (Figure 11c). It is evident that Afro- and Mixed-Guyanese are substantially over-represented between 2006-2016, and the same holds to a lesser extent in recent years. It follows that Indo- and Indigenous-Guyanese are consistently under-represented throughout the period. These results explain why Afro- and Mixed-Guyanese account for larger shares of household income compared to Indo- and Indigenous-Guyanese until 2014 (Figure 10c). It follows that more representation of these latter groups relative to others at the bottom half of the population distribution reduces ethnic income inequality.

The key conclusion is that Indo- and Indigenous-Guyanese are over-represented in the top 10 percent and under-represented in the bottom 90 percent of the population distribution, while the reverse holds for Afro- and Mixed-Guyanese. These findings indicate the following about class and ethnicity in Guyana: (i) The pursuit and preservation of ethnic dominance of the top decile *necessarily* engender ethnic income inequality. This follows by definition as the over-representation of Indo-Guyanese in the top 10 percent of the population implies representational inequality. (ii) Persistent ethnic politics in Guyana is the means to wage an *intra-class struggle* for ethnic dominance of the top 10 percent of the population. It follows that ethnicity is the platform of the intra-class conflict and undermines the dynamics of the conventional *inter-class contest*. (iii) Ethnic dominance of the top decile also implies higher intra-group class inequality. In other words, the over-representation of Indo-Guyanese in the top 10 percent of the population is only possible if other Indo-Guyanese are under-represented in the middle and working classes. (iv) This is so because the under-representation of the dominant group in the bottom 90 percent of the population is required to over-represent other ethnic groups for political stability and as evidence of inclusion. (v) However, the intra-class struggle has an inherent contradiction. The pursuit of ethnic dominance in the top decile undermines ethnic-group solidarity through the discontent of its middle and working classes—this contradiction is the class origin of third parties, cross-ethnic voting, and electoral turnover.

5 Conclusion

This paper utilises household survey data to present new estimates of income inequality across classes and ethnicities in Guyana. The key findings are that class inequality exceeds ethnic income differences; only in the top 10 percent of the population is ethnic income inequality extreme and increasing. Also, the paper finds no compelling evidence that economic growth leads to more equal outcomes, irrespective of how income inequality is measured. Finally, the paper tentatively concludes that fiscal policy is the main explanation of the inequality dynamics.

Overall, the findings underline the importance of policies and ideology for understanding inequality dynamics as recently argued by Piketty and Goldhammer (2020: ch 16), but also by earlier scholars in the case of Guyana (Misir 2010: 30-42; Williams 1991: 175-198; Hintzen 1997; Smith 1995; Hintzen and Premdas 1983; Sudama 1983; Bartels 1977). The evidence indicates that intra-class competition for ethnic dominance of the top 10 percent of the population can account for inter-ethnic conflict, as political entrepreneurs utilise a portfolio of strategies to invest in ethnic prejudice and rivalry (Premdas 1973). These include out-bidding within ethnic groups (Milne 1977) and references to historical narratives about past grievances (Williams 1989; Despres 1964), framed in thinly veiled ethnic-based epithets that were implanted and cultivated by the colonial class to serve its economic interests (Rodney 1981c; Bartels 1980; 1977). Also, the residential and occupational differences among ethnic groups do little to lower the political and economic returns to investing in ethnic prejudice and rivalry (Edwards 2020; Thomas 1988: 274, 283-284; Rodney 1981a: 178, Oxaal 1969), which the colonial authority constructed to protect their class interests (Thomas 1988: 272-277; Rodney 1981a: ch 4, 7; Rodney 1981b; Wagner 1975: 181-183, Cross 1971). In turn, these strategies formulate an ethnic ideology pregnant with hostility and suspicion, even conflict (Danns 1997; Premdas 1973; Rodney 1966), which serves as an instrument of political mobilisation to pursue intra-class competition. Since electoral politics is about maximising the electoral count, intra-class conflict is waged on the platform of ethnicity rather than gender, occupation, religion, or geography, as these split the ethnic voting block (Premdas 1973). Therefore, contemporary politicians utilise similar ethnic-based strategies employed by the planter class in the 19th Century (Rodney 1981a: xxiii-xxiv), which perpetuates a high tolerance for extreme income inequality since the latter does not automatically produce class-based ideology (Hall 1977: 177-178).

Identity politics and relatively high class-based inequality is alarming because Guyana is a newly emerging oil-exporting economy (IMF 2022). However, rapid economic growth in the boom

may moderate some of this alarm as Constantine (2021)'s model of ethnic income inequality predicts that it raises the income share of the Indo-Guyanese working class and the Afro-Guyanese economic elites. These distributional changes serve as an effective medium-term political strategy because they maintain ethnic rivalry within the working class and reduce political solidarity within the Afro-Guyanese community. Notwithstanding the medium-term political dividends, the long-run increase in class inequality within the Afro-Guyanese community will unmask the Matrix of ethnic inclusion for what it is; an upper-class inclusion relative to the working poor.

This work opens up four lines of investigation. First, more robust evidence on the key drivers of income inequality is still needed, and this involves several estimation strategies to address the data gap between 2000-2005. Second, related work requires income tax data to adjust the estimates of the top decile share, but such data are not yet available to researchers. Thus, more transparency is needed on income tax data to provide definitive estimates of the extent of income inequality over time. It is also worth highlighting the caveat that unwarranted ethnic wealth gaps may exist across ethnicities within the same income categories. This holds between white and black families in the USA as documented by Darity et al. (2018: 8-9). The third task of future research is to estimate the extent of wealth inequality by ethnicity in Guyana. Finally, the research agenda is to establish credible and sufficiently long data on inequality to present an objective accounting of the facts; and determine what they imply for economic theories of growth and distribution, public policy, the performance of politics, and the economy.

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