Determinants of Income Inequality During the COVID-19 Pandemic in South Africa

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Abstract: The COVID-19 epidemic has caused significant social disruption, particularly in South Africa. To contain the pandemic, the South African government implemented many lockdowns. This has resulted into income losses for individuals and firms, with vulnerable populations being most affected. This study used two comprehensive Waves (Wave 1 and Wave 2) of the COVID-19 pandemic in South Africa. The study was assessed from household level data gathered by DataFirst based on the National Income Dynamics Survey from 2020-2021. The results showed that there was a greater income inequality between females than amongst males. This implies that men had a better chance of continuing with work and earning an income than females during the Covid-19 pandemic. The study found that majority of people especially in rural areas do not have saving, investment or any form of emergency funds. Financial illiteracy also contributed to people living in rural areas not having saving and investments for unforeseen circumstances.

Keywords: COVID-19; income inequality; financial literacy

JEL Classification: According to the JEL Classification System

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1. Introduction

Both industrialized and developing nations have faced significant health and economic issues because of the COVID-19 epidemic. The African continent was predicted to bear the highest health, social, and economic consequences because of its underdeveloped health systems, lack of physical space to stop the virus' spread, and large populations already living below the poverty line (Magalasi, 2021). The economic impacts of the first few waves of the pandemic were immense, and it was substantially greater later, with over a million COVID-19 cases and hundreds of millions of people subjected to economic lockdowns (Berman, 2020). The shutdown of numerous enterprises and large-scale layoffs of workers were among the early consequences of the pandemic (Berman, 2020). While the COVID-19 crisis affects everyone, not everyone is affected in the same manner. The crisis is bringing issues of income inequalities into focus because poorest among the poor are experiencing larger economic losses (Hill & Narayan, 2020). Governments imposed varying degrees of lockdown measures to stop the virus' spread. Additionally, the demand for many goods and services decreased as people took their own precautions to prevent disease. This resulted in precipitous drops in output, employment, and income.

The impact on household income and consumption may be lessened by policies that protect those most directly impacted by the crisis, whether through automatic stabilization (such as unemployment benefits or lower taxes paid due to job loss and/or decline in market incomes) or discretionary measures (such as income subsidies or tax rebates). While the whole world was impacted by the worldwide coronavirus pandemic (COVID-19), not everyone was equally impacted. With a decline in productivity in 95% of nations in 2020, the pandemic caused the biggest global economic disaster since the Great Depression (Narayan et al., 2022). With an estimated 97 million extra people living in severe poverty in 2020 due to the pandemic and the resulting economic crisis, global poverty has grown for the first time in over 25 years (Narayan et al., 2022). Examining the dynamics of poverty in recent years was crucial given the South African economy's dismal performance, which includes falling per capita earnings and rising unemployment since around 2010. Numerous recent studies in this area have focused on data from 2015 and do not look at poverty, inequality, and human development—the three interconnected facets of wellbeing (Gumede, 2021).

2. Literature Review

In both developed and developing countries, poverty and inequality have coexisted for decades, and despite several initiatives, progressed toward eradicating this issue is still elusive (Triegaardt, 2006). The inability to achieve the basic needs deemed

reasonable by society's standards is known as poverty (Foundation et al., 2014). The price of food and other goods, social standards, and the quantity that the state or market provides in terms of commodities and services defined the cost of a minimal quality of life in every given civilization (Foundation et al., 2014). On the one hand, South Africa was among the most unequal nations in the world, if not the most so. This created a dilemma. In fact, the most current data showed that poverty was increasing from 2011 after nearly two decades of consistent decreases, and there was no reason to believe that the poorest South Africans will experience a reversal of their fortunes in the years to come. Half of all South Africans still lived in poverty (Francis & Webster, 2019). Inflation is still high compared to the developed world, economic growth has stalled, and the jobless rate is still rising approaching 30% (Francis & Webster, 2019). It is impossible to foresee how the COVID-19 epidemic will affect inequality, even though it is clearly negative. Thus far, the epidemic has revealed and made South Africa's inequality worse (Francis et al., 2020). In South Africa, the COVID-19 epidemic has brought attention to and exacerbated inequality. On the one hand, the gap between the affluent and the poor is growing, unemployment is rising, and labor displacement is consolidating. However, in comparison to the Global North, South Africa, like much of the Global South, has had a high level of informality, which has consequences for the pandemic's impact and response structure (Francis et al., 2020).

2.1. The Relationship Between Growth and Poverty Alleviation

The persistent problem of poverty in emerging nations has led many to doubt the efficacy of economic expansion and development as a means of alleviating poverty. The lack of convergence in living standards across countries is really one of the main unresolved issues in development and growth economics. In response to these opinions, other scholars shown that poverty reductions are positively correlated with economic growth, and that openness and prudent macroeconomic management are linked to both increased growth and poverty reductions (Roemer & Gugerty, 1997). Many economists think that economic expansion lowers poverty since it helps almost all of a nation's residents, but not evenly (Roemer & Gugerty, 1997). The shift (or lack thereof) in the income distribution reflects the degree to which these benefits are received by different groups. If economic progress raises everyone's income in a society by the same amount, the distribution of income will remain same. Poverty affects economic growth in several ways. These include consumption levels and standards that are insufficient for physical and nutritional well-being, safe and healthy living, knowledge and skill acquisition, childcare and protection, and the improvement of future generations' welfare (Bourne, 2009). Additionally, poverty can lead to irregular work schedules and a reduced ability to work for lengthy periods of time when it results in health issues and energy deficiencies (Bourne, 2009).

2.2. The Impact of Lockdown Policies on Economic Activities

In a pandemic, the goal of public policy is to reduce the number of fatalities while making the fewest sacrifices in other areas (Fosco & Zurita, 2021). One of the most pressing concerns is the preservation of jobs and livelihoods. A lockdown may be beneficial, but it has one major drawback: it prevents many people from working. Lower productivity, income loss for the most vulnerable people (mostly independent contractors and informal workers), and lower expenditure for those without insurance, savings, or eligibility for government assistance programs are the immediate repercussions (Fosco & Zurita, 2021). In the United States, the distributional effects of pandemic crises were compared to those resulting from the global financial crisis (Shibata, 2020). The data found that during recessions, young and less educated personnel were always disproportionately affected, while women and Hispanics were disproportionately affected (Shibata, 2020). Workers with lower incomes suffered more than those with higher incomes, indicating that the two recessions had a major distributional impact (Shibata, 2020). In terms of inequality, they discovered that a large drop in high-income persons spending in mid-March, resulted in an expansion of low-income unemployment claims in wealthy regions. Additionally, children in high-income regions see a brief decline in online learning before rapidly rebounding, while children in low-income areas continue to perform 50% below baseline levels for a considerable amount of time (Atolia et al., 2021).

It was estimated that the pandemic-related unemployment reduced household income by 7% on average throughout the population, with those who lost their jobs suffering much greater losses (Doorley et al., 2020). While less expensive than pre-budget initiatives, the impact of Budget 2021 followed a similar pattern, with above-average benefits for the bottom two-fifths of the income distribution and lower-than-average gains for those at the top (Doorley et al., 2020). Income inequality would have risen dramatically if these reforms had not been made. COVID-19 related policies also helped to keep poverty rates stable, but there was a chance that once these benefits are removed, these indices will skyrocket (Doorley et al., 2020).

3. Methodology

3.1. Data and Sources

This research study's data extraction and analysis will be predicated on two extensive waves (waves 1 and 2) of household-level data collected by DataFirst: National income dynamics survey (NIDS) from 2020-2021. The NIDS is a stratified survey of a nationally representative sample of 8,157 households drawn from the nine (9) provinces in South Africa. The survey can produce accurate estimates for both rural and urban regions, as well as for the national and provincial levels.

3.2. Model Specification

To evaluate the COVID-19 distributional patterns, microdata from home surveys is used to simulate possible income losses at the household level to determine the distributional implications. Because the explanatory components' quantity and type are arbitrary, the analysis gains considerable flexibility not possible with conventional decomposition techniques (Manna & Regoli, 2012). Where incomes are ordered so that Y1 ≤ Y2 ≤ Y3 ≤…… ≤Yn Gini-coefficient is computed as:

$$I \text{ gini } (Y) = \frac{2}{n^2 \mu} \left(i - \frac{n+1}{2} \right) Y_i \qquad \qquad 1$$

Where Yi is the income of the ith family, µ is the distribution mean, and n is the number of observations. This measure of income inequality satisfies the decomposability axiom if the income sub-vectors overlap, but it does not satisfy the Pigou-Dalton transfer principle, income scale independence, principle of population, anonymity, or symmetry.

3.2.1. Regression-Based Decomposition

To decompose the socioeconomic determinants of income inequality during the COVID-19 pandemic the regression-based decomposition approach developed by Shorrocks (1982) and following the method used by Oyekale et al. (2006) will be used. The average per-person income for a region may be found using per capita income, which can also be used to assess the population's standard of living and quality of life. For this purpose, we follow the decomposition method.

Suppose an income equation is defined:

$$Y = X\beta + \varepsilon \qquad \qquad 2$$

The decomposition components for each regression variable will then be directly calculated using the income flow. The shares look like this:

$$s(X^m, Y) = \hat{\beta}^m \left(\frac{\sum_{i=1}^{n} a_i(Y) X_i^m}{I(Y)} \right) for \; m = 1, \dots . M \qquad \qquad 3$$

Since the decomposition in equation 3 is linear in the estimated parameters, the standard errors may be calculated. This allows one to obtain the standard error (.).

$$\left(s(X^m, Y) \right) = (\widehat{\beta})^m \left(\frac{\sum_{i=1}^{n} a_i(Y) X_i^m}{I(Y)} \right) \qquad \qquad 4$$

Under the assumption of homoscedastic error, $var \; \varepsilon = \frac{\varepsilon}{2} \; for \; all \; i$, and

$$\left(s(\varepsilon, Y) \right) = \left(\frac{\varepsilon}{2} \sum_{i=1}^{n} \left(\frac{a^i(Y)}{I(Y)} \right)^2 \right) \qquad \qquad 5$$

Like how standard errors are interpreted in OLS regression analysis, the standard error gives confidence ranges for the estimated contributions to the mean values of the aggregate inequality indices. Inequality indicators that may be expressed as a weighted sum of earnings were then taken into consideration for application.

$$I(Y^k, Y) = \sum_{i=1}^{n} a_i(Y)Y_i \qquad 6$$

The variance and squared coefficient of variation, the Theil indices, and the Gini coefficient are just a few of the typical indices that may be expressed in this manner. The following is a straightforward expression for source k's proportionate contribution to total inequality:

$$s(Y^k, Y) = \frac{\sum_{i=1}^{n} a_i(Y)Y_i^k}{I(Y)} \qquad 7$$

thus, by construction, the total of the k proportionate contributions will equal one. The proportionate share of inequality for source k may be decomposed as the Gini decomposition given the criterion for obtaining equation 1, and this can be represented as follows:

$$S_{Gini}(Y^k) = \frac{\sum_{i=1}^{n}\left(i - \frac{n+1}{2}\right)Y_i^k}{\sum_{i=1}^{n}\left(\frac{n+1}{2}\right)Y_i} \qquad 8$$

The breakdown is expressed as follows regarding the coefficient of variation:

$$I_{CV}(Y) = I_{Var}(Y)\mu^2 = \frac{1}{n\mu^2}\sum_{i=1}^{n}(Y_1 - \mu)Y_i = \frac{var(Y)}{\mu^2} \qquad 9$$

$$S_{CV}(Y^k) = S_{Var}(Y^k) = \frac{\sum_i(Y_i - \mu)Y_i^k}{\sum_i(Y_i - \mu)Y_i} = \frac{Cov(Y^k, Y)}{Var\ Y} \qquad 10$$

3.2.2. Shapley Poverty Decomposition Method

To analyze the contribution of income growth and redistribution to poverty dynamics during the COVID-19 pandemic the Shapley poverty decomposition method will be used. The three components of poverty in the two eras can be used to represent how poverty varies over time for decomposable poverty metrics such as incidence, intensity, and inequality among the poor (Aristondo & Onaindia, 2020). We must first assume a function that depends on a few determinants in order to perform the Shapley decomposition approach (Aristondo & Onaindia, 2020). The process next entails calculating the associated marginal change and assessing the influence of each determinant by successively removing each contributing variable.

The overall shift in the Pα class of poverty metrics is as follows:

$$\Delta P = P(\mu_{t+n}, L_{t+n}, Z) - P(\mu_t, L_t, Z) \qquad 11$$

This represents the change in poverty, Pα Δ, which was broken down into the components of growth (G) and redistribution (D), which are as follows:

$$G = P(\mu_{t+n}, L_t, Z) - P(\mu_t, L_t, Z) \qquad 12$$

$$D = P(\mu_{t+n}, L_{t+n}, Z) - P(\mu_{t+n}, L_t, Z) \qquad 13$$

On the other hand, when mean income is maintained constant, equation 13 determines the marginal impact of redistribution. Equation 12 illustrates how a change in mean income with a steady distribution has a marginal impact. The average of these two impacts is as follows:

$$G = \frac{1}{2}[P(\mu_{t+n}, L_t, Z) - P(\mu_t, L_t, Z)] + \frac{1}{2}[P(\mu_{t+n}, L_{t+n}, Z) - P(\mu_t, L_t, Z)] \qquad 14$$

$$D = \frac{1}{2}[P(\mu_t, L_{t+n}, Z) - P(\mu_t, L_t, Z)] - \frac{1}{2}[P(\mu_{t+n}, L_{t+n}, Z) - P(\mu_{t+n}, L_{t+n}, Z)] \quad 15$$

4. Results and Discussion

4.1. Income Inequality Based on Gender

Table 1. Income inequality based on gender of respondents of the study

Group	Gini Index	Population Share	Income Share	Absolute Contribution	Relative Contribution
Wave 1					
0: male	0.5885	0.6799	0.5698	0.2280	0.3656
	0.0162	0.0080	0.0203	0.0133	0.0210
1: Female	0.6522	0.3201	0.4302	0.0898	0.1440
	0.0173	0.0080	0.0203	0.0069	0.0104
Wave 2					
0: Male	0.5117	0.6850	0.5560	0.1949	0.3412
	0.0118	0.0089	0.0169	0.0097	0.0176
1: Female	0.6207	0.3150	0.4440	0.0868	0.1520
	0.0123	0.0089	0.0169	0.0057	0.0091

The results in Table 1 were computed to show how respondents of the survey were affected by income inequality based on their gender. Table 1 shows that during the pandemic, there was a greater income inequality among females with a Gini index of 0.6522 than males with a Gini index of 0.5885. During Wave 2, the Gini index based on per capita income of females was 0.6207, which was a decrease from Wave 1. This implies that more females were employed and had an income in Wave 2. There was a 0.0768 Gini index per capita of females between Wave 1 and Wave 2 of the COVID-19 pandemic. Gini index based on per capita income for males in Wave 2 was 0.5117, which was a decline compared to Wave 1 when it was 0.5885. There was a difference of 0.0315, which implies that there was a decrease in the number of males that were employed in Wave 2.

4.2. Income Inequality Decomposition According to Sources

Table 2. Wave 1 income inequality decomposition according to sources of income

Wave 1					
Group	Gini index	Population share	Income share	Absolute contribution	Relative contribution
Income from employment	0.6009	0.2981	0.4893	0.0876	0.1361
Income from a business	0.7633	0.0302	0.0506	0.0012	0.0018
Government grants	0.4275	0.3854	0.1723	0.0284	0.0441
Money from friends/family	0.6495	0.0386	0.0176	0.0004	0.0007
Other	0.7826	0.0041	0.0052	0.0000	0.0000
Household had no income	0.6771	0.0368	0.0163	0.0004	0.0006
Pension	0.5508	0.0200	0.0341	0.0004	0.0006
Population	0.6441	1.0000	1.0000	0.6441	1.0000

The breakdown of income inequality by income sources is shown in Tables 2 and 3 for wave 1 and wave 2 respectively. This shows that inequality slightly decreased between Wave 1 and Wave 2. The Gini index shows the distribution of income within a given population. The category "Other" had a higher Gini index of 0.7826, this category means that some individuals had other sources of income e.g., an informal business, savings and/or investments. Greater inequality is indicated by a high Gini index, where a higher percentage of the population's total income goes to few individuals.

Table 3. Wave 2 income inequality decomposition according to sources of income

Wave 2					
Group	Gini index	Population share	Income share	Absolute contribution	Relative contribution
Income from employment	0.5768	0.3529	0.6352	0.1293	0.2114
Income from a business	0.7127	0.0388	0.0609	0.0017	0.0028
Government grant	0.3692	0.4894	0.2332	0.0421	0.0689
Money from friends/family	0.6206	0.0461	0.0211	0.0006	0.0010
Other	0.5514	0.0056	0.0041	0.0000	0.0000
Household had no income	0.8157	0.0463	0.0128	0.0005	0.0008
Pension	0.5251	0.0179	0.0307	0.0003	0.0005

| **Population** | 0.6115 | 1.0000 | 1.0000 | 0.6115 | 0.2854 |

Table 3 shows that there was a simultaneous increase in both Wave 1 and Wave 2 in the number of people that received income from employment and income from a business they owned. There was a decline in both waves in the number of people that received government grants, this includes the COVID-19 social relief grant of R350, child support grants, older persons grant (old age pension), the war veteran grant, the aid grant (for those living on social grants but in need of care), etc. The low number of people depending on government grant could be due to lack of sufficient information. Individuals in certain areas, e.g., rural areas might not have information qualifying criteria for these grants and the administrative procedures to receive the grants. South Africa has a high number of persons aged 16+ without the South African identity document (ID) and children younger than the age of 15 without birth certificates. The lack of legal documents prevents individuals from receiving government grants. There was an increase in the number of individuals that receive money from family/friends and those with other sources of income as compared to individuals receiving government grants in both waves of the pandemic. Wave 2 showed a higher number of households without income compared to Wave 1. Between Wave 1 and Wave 2, there was a slight difference in elderly people on the old age grant.

4.3. Regression-Based Inequality Decomposition

Table 4. Regression-based inequality decomposition by predicted income components (using the Shapley method) based on total income during Wave 1 of the COVID-19 pandemic

	Income Share	Absolute Contribution	Relative Contribution
Constant	0.210	0.000	0.000
Lockdown Compliance	-0.000	0.004	0.007
Chronic disease	-0.012	0.003	0.004
Tertiary education	0.308	0.194	0.302
Age	0.483	0.046	0.072
Household size	-0.169	0.027	0.042
Gender	0.164	0.058	0.090
Residual	0.000	0.309	0.480
Total	0.000	0.644	1.000

Table 4 above shows that during Wave 1 of the COVID-19 pandemic lockdown compliance, chronic diseases and household sizes had a negative effect of income share. The relative contribution ratio (RCR) is a quantitative metric used to assess the impact of multiple parameters on a given outcome. It estimates the contribution

of each parameter by analyzing the divergence caused by the absence of each parameter. Essentially, the more significant the parameter, the greater the divergence when it is absent. Table 4 above shows that compliance with the lockdown restrictions, having chronic disease, and household size were with negative coefficients. This implies that they were decreasing income inequality during the COVID-19 pandemic.

Table 4 above indicates that tertiary education had an income share of 0.308893, this implied that tertiary education was not decreasing income inequality during Wave 1 of the COVID-19 pandemic. Tertiary education had a high absolute contribution of 0.194555. This implied that the contribution of tertiary education to income inequality was significant. The highest value of absolute contribution was from residue (0.309658), which are other factors that were considered after the key factors were considered. Tertiary education had the second highest RCR (0.302045) during Wave 1, this meant that tertiary education was increasing income inequality in Wave 1. Age contributed the highest income share (0.483134) during Wave 1. Age had a positive coefficient thus increasing income equality. Ages has an absolute contribution of 0.046653, which meant that although it had a high contribution its ability to reduce income inequality was not significant and was not greater than that of tertiary education. The RCR value for age (0.072429) was the third highest value in Table 4. This implied that Age's contribution to income inequality brought about more divergence. The age contribution to the objective value was not enough to reduce income inequality.

Gender had a positive income share (0.164677) which shows that income inequality based on gender was increasing. Men had better chances of being able to generate income either through employment or business ventures during Wave 1 of the COVID-19 pandemic than women. The advantage that men have over women in the labor force contributed to the rate of income inequality. The Absolute contribution of gender during wave 1 was 0.058389, this implied that gender contributed significantly to increasing income inequality. This could have been caused by an uneven distribution of wealth between men and women. The RCR value of 0.090649 for gender implied that gender has contributed to bringing about more divergence.

Table 5. Regression-based inequality decomposition by predicted income components (using the Shapley method) based on per capita income during Wave 2 of the COVID-19 pandemic

	Income share	Absolute contribution	Relative contribution
Constant	0.303315	-0.000000	-0.000000
Lockdown Compliance	-0.000393	0.002255	0.003948
Chronic disease	-0.005073	0.001161	0.002033

Tertiary education	0.265344	0.157172	0.275194
Age	0.483333	0.045002	0.078795
Household size	-0.258408	0.038079	0.066674
Gender	0.217314	0.084584	0.148100
Residual	0.000000	0.242877	0.425256
Total	0.000000	0.571130	1.000000

The absolute contribution indicates the total amount that a product, service or business unit contributes to covering fixed costs and generating a profit. It is expressed in absolute figures. Table 5 above shows that during Wave 2 of the COVID-19 pandemic tertiary education had a higher absolute contribution of 0.157172. This implied that tertiary education had the most effect on income generated. Chronic disease had the lowest absolute contribution of 0.001161, this could have been because there was a low number of people living with chronic diseases during wave 2, they had free access to health care thus their income was not affected greatly by the chronic disease. Residual refers to what remains after all other factors have been considered.

The relative contribution shows how much a component contributes in relation to the other variables that are accessible. An individual parameter's contribution to the objective value might be evaluated thanks to the RCR. It offers a distinct viewpoint for examining situations with various parameters. An RCR less than 1 indicates that the probability of success is lower. Table 5 above shows that lockdown compliance had the lowest relative contribution (0.003948). This implied that lockdown compliance had the lowest contribution to the objective value, thus decreasing income inequality. Tertiary education had the highest RCR value (0.275194). This meant that tertiary education was increasing income during Wave 2 of the COVID-19 pandemic.

Table 5 shows that during Wave 2 of the COVID-19 pandemic lockdown compliance, chronic disease and household size had a negative effect on income share. The negative effect implied that the decline in income was caused by the three factors. Complying with the lockdown regulations meant a loss of income for some. Participants with chronic diseases were at high vulnerability during the COVID-19 outbreak. This resulted in them spending more on medications and ensuring proper health care. The efficiency of a household's income is influenced by the number of members. A household with more members will require a higher income to sustain the whole household.

4.4. Income Growth and Redistribution to Poverty Dynamics During the COVID-19

This section presents how income redistribution and growth affected the dynamics of poverty during the COVID-19 pandemic using the Shapley poverty decomposition method. Accordingly, the extreme poverty threshold is based on the statistical mode of per capita income, which is the income distribution's apex. The first row of Table 6 indicates that there was extreme poverty. The national poverty line was used to determine the extent of poverty. The selection of reference houses in this case assumes that households with total expenditures that fall inside the food poverty threshold employ "survival foods" and, consequently, skip certain necessary food items to meet their non-food requirements. During Wave 1 there was a negative effect (-0.070) on the redistribution of income under the Datt and Ravallion approach and -0.064 in Wave 2. This means that income growth increases poverty while income redistribution decreases poverty.

As more people participate in the workforce and start earning an income, their standard of living improves. This section demonstrates how the poor gain from economic expansion in areas where significant growth has occurred. In fact, economic expansion appears to be one of the best ways to fight poverty. Even if income distribution somewhat deteriorates, the impoverished do better in an economy that increases rapidly. Rapid economic growth over the 2 Waves of the coronavirus pandemic saw the per capita incomes of the population grow significantly.

Table 6. Decomposition of the growth and redistribution components of the FGT index fluctuation

	Wave 1				Wave 2			
	Estimate	STE	LB	UB	Estimate	STE	LB	UB
Datt and Ravallion approach: reference period t1								
Growth	0.003	0.007	-0.010	0.017	0.003	0.004	-0.005	0.012
Redistribution	-0.070	0.012	-0.095	-0.046	-0.064	0.010	-0.085	-0.044
Residue	0.034	---	---	---	0.004	---	---	---
Shapley Approach								
Growth	0.020	0.004	0.010	0.030	0.006	0.004	-0.003	0.015
Redistribution	-0.053	0.010	-0.074	-0.033	-0.062	0.009	-0.080	-0.043

During Wave 1 of the coronavirus pandemic lockdown, restrictions were enforced on the country. In the process, this resulted in many individuals becoming jobless. Some companies could no longer afford to pay salaries, as some employees lost their jobs through retrenchment, some were given salary cuts. Larger households suffered the most compared to smaller households. The level of education, employment type (permanent employment/temporary employment, part-time employment) and employment sector (essential services/non-essential services) determined the income received during the COVID-19 pandemic. Income was redistributed between the rich and poor. Income redistribution increased from Wave 1 to Wave 2. Along with an R400 million governmental contribution to a humanitarian assistance fund, an R350 monthly welfare benefit for the impoverished was instituted. This was the government's initiative to sustain the poor. The rich are often privileged, they have benefits such as insurances, savings and investments.

5. Conclusion

The study evaluated the factors that affected household income during the COVID-19 pandemic. The study found that black women were disadvantaged, the work force was dominated by white man. This had resulted in an uneven distribution of wealth based on race and gender. Black females did not have the relevant skills to allow them to be able to generate income for their household. The results showed that there was a greater income inequality between females than amongst males. This implies that men had a better chance of continuing with work and earning an income than females during the COVID-19 pandemic.

The COVID-19 pandemic limited economic activities, thus resulting in the closure of businesses and paid services. Decomposing income inequality based on the sources of income revealed that in the first wave income from a business had a higher Gini index, which resulted in greater inequality. As more people lose their jobs because of the pandemic, poverty increased. The results showed that most people received their income from employment and income from a business they owned in both Waves 1 and 2. While some businesses closed and/retrenched employees during the COVID-19 pandemic, companies offering essential services were able to keep operating and paying their employees. The closure of businesses had a negative impact on the economy. Majority of businesses, mostly SME businesses, found it hard to resume operations post COVID-19. There was a low Gini index in both Waves 1 and 2 of individuals that received grants from the government as their source of income, this means that the inequality rate was lower in this regard. Some people got creative with their ways of generating income, such as offering services virtually, online stores, content creation, online educational lessons.

The Shapley poverty decomposition method was used to assess the contribution of income growth and redistribution to poverty dynamics during the COVID-19 pandemic. Ideally, any measure of poverty should consider the prevalence, severity, and disparity of poverty among the impoverished. These three criteria are considered by most poverty measures. Based on this, policymakers will then be able to determine if an increase in poverty is caused by a rise in the number of impoverished individuals, an increase in the severity of those people, a rise in the disparity among them, or a combination of these factors thanks to these decompositions. When poverty rates decline, policymakers may conclude that there are no poverty-related issues in a nation, even if there may be more impoverished individuals receiving compensation from the other two factors. Income growth decreases poverty. The study found that majority of people, especially in rural areas, do not have saving, investments or any form of emergency funds. Financial literacy also plays a big role in preparing for unforeseen circumstances. Lack of knowledge and limited funds contributed to some people not having emergency savings.

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